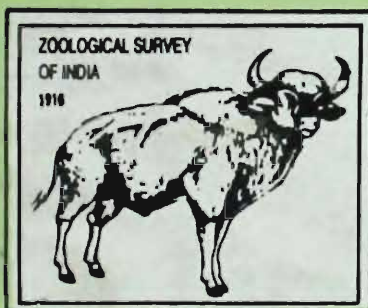


State Fauna Series 4

FAUNA OF MEGHALAYA

PART-5



Zoological Survey of India
Calcutta

State Fauna Series 4

FAUNA OF MEGHALAYA

PART - 5

INSECTA

Edited by
The Director
Zoological Survey of India, Calcutta



Zoological Survey of India
2000

CITATION

Editor-Director. 1999. *State Fauna Series 4 Fauna of Meghalaya Part-5 (Insects)*. i-iv, 1-666
(Published Director, Z.S.I., Calcutta.)

Published : June, 2000

ISBN : 81-85874-42-5

Project Co-ordinator
Dr. J. R. B. Alfred
(Director, Zoological Survey of India)

© Govt. of India, 2000

ALL RIGHTS RESERVED

- No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of the publisher.
- This book is sold subject to the condition that it shall not, by way of trade, be lent, re-sold, hired out or otherwise disposed of without the publisher's consent, in any form of binding or cover other than that in which it is published.
- The correct price of this publication is the price printed on this page. Any revised price indicated by a rubber stamp or by a sticker or by any other means is incorrect and should be unacceptable

PRICE

Inland : Rs. 1500/-
Foreign : \$ 100, £ 80

Published at the Publication Division, by the Director, Zoological Survey of India, 234/4 A. J. C. Bose Road, 2nd MSO Building, Nizam Palace (13th floor), Calcutta 700 020 after laser typesetting by Neat Point Photocomposers, Calcutta and printed by the Manager Govt. of India Press.

State Fauna Series - 4
Fauna of Meghalaya

Part 5

2000

Pages 1-666

CONTENTS

1. Insecta : Coleoptera : Adephaga : Caribidae 1-40
S. K. Saha and S. K. Halder
2. Insecta : Coleoptera : Cerambycidae 41-67
P. Mukhopadhyay and S. Biswas
3. Insecta : Coleoptera : Cucujidae : Laemophloeinae 69-75
P. Mukhopadhyay
4. Insecta : Coleoptera : Gyrinidae, Dytiscidae and Hydrophilidae 77-92
P. Mukhopadhyay, S. K. Ghosh, S. K. Saha and S. Biswas
5. Insecta : Coleoptera : Histeridae 93-113
S. K. Chakraborty and S. Biswas
6. Insecta : Coleoptera : Staphylinidae 115-160
D. N. Biswas and S. Biswas
7. Insecta : Coleoptera : Scarabaeidae : Cetoniinae, Dynastinae, Rutelinae 161-199
S. K. Chatterjee and S. Biswas
8. Insecta : Coleoptera : Coccinellidae 201-233
S. K. Chakraborty and S. Biswas
9. Insecta : Coleoptera : Chrysomelidae 235-381
C. R. Basu
10. Insecta : Coleoptera : Silvanidae 383-393
T. K. Pal and T. Sengupta
11. Insecta : Satysidae 395-419
D. P. Bhattacharya
12. Insecta : Lepidoptera : Non-malberry silkmths 421-435
of the family saturniidae – *I. J. Gupta*
13. Insecta : Lepidoptera : Butterflies of families Acroidea, 437-456
Amathusiidae, Libytheidae and Riodinidae – *I. J. Gupta*
14. Insecta : Pyralidae 457-512
D. P. Bhattacharya
15. Insecta : Coleoptera : Scarabaeidae : Scarabaeine 513-623
S. Biswas and A. K. Ghosh
16. Insecta : Coleoptera : Lathridiidae 625-630
T. Sengupta and S. Biswas

17. Insecta : Coleoptera : Meloidae 631-637
G. N. Saha and B. N. Das
18. Insecta : Coleoptera : Scolytidae 639-651
Nivedita Saha and P. K. Maity
19. Insecta : Coleoptera : Curculionidae 653-666
P. Mukhopadhyay and S. Biswas

INSECTA : COLEOPTERA : ADEPHAGA : CARABIDAE

S.K. SAHA AND S.K. HALDER

Zoological Survey of India, Calcutta 700 053

INTRODUCTION

Carabidae is one of the largest families of Order Coleoptera. Both genera and species are numerous and diversified and found in all zoogeographical regions of the world. Some more than twentyfive thousand species are known from the world of which about two thousand five hundred species are recorded from India. Indian carabids are represented by many palaeartic genera but not the species. Most of the species recorded from India are either endemic to India or extended to the countries of S. E. Asia, that is confined to Oriental Region

Regarding carabid fauna of Meghalaya concerned in this work, most of the species were originally described from other parts of India or other countries of S. E. Asia particularly Burma and subsequently recorded from the areas which are now under the state Meghalaya except two species, namely *Calosoma nigrum* Parry and *Pheropsophus krichna* Maindr., which are endemic to Meghalaya. No attempt has so far been done on carabid fauna of Meghalaya in particular except the works of Bates (1889) & 1892) which include the area now in Meghalaya along with other areas of India and Burma. The pioneer workers in this group who also described and/or recorded carabid species from the areas now in Meghalaya are MacLeay (1825), Dejean (1825-1837), Schmidt-Goebel (1846), Chaudoir (1852-1876), Motschulsky (1855) and Andrewes (1929-1947). Locality records of all the species are given in Catalogue of India Insects, Part-18. Carabidae (Andrewes 1930).

This work is based on the studies of 454 examples of Carabids collected by different survey parties both from Head Quarters, Calcutta and Eastern Regional Station, Shillong of Zoological Survey of India. Meghalaya material present in reference collection (Nat. Zool. Colln.) and material from other states, for the species whose Meghalaya materials were not available were also studied for sake of preparation of keys.

This is the first attempt for an comprehensive account of the carabid fauna of Meghalaya. 89 species under 52 genera, 21 tribes and two subfamilies including new records of one tribe, Licinini, two genera, *Diplocheila* Brulle and *Dolichoctis* Schm.-Goeb. and 12 species namely, *Scarites selene* Schm.-Goeb., *S. laticeps* Andrewes, *Diplocheila Polita* (F), *Chalaenius circumdatus* Brulle, *C. nepalensis* Hope, *Clivina costulipennis* Bates, *Pterostichus harmandi* Bates *Orthogonius atternans* (Wied.), *O. duplicatus* (Wied.) *O. hopei* gray, *Sinurus nitidus* Bates and *Dolichoctis striata* Schm.-Goeb. Keys to sub-families, tribes, genera and species from meghalaya are provided except some keys to genera and species to avoid repeatation of early works as mentioned above and also the works of the present senior author (Saha 1985 and 1992). Total distribution of all the species recorded from Meghalaya are given. For distribution within Meghalaya an attempt has been made to give districtwise distribution. The state of Meghalaya is now divided into seven districts, both Khasi Hills and Garo Hills are divided into three districts and Jayantia Hills as one district. The species for which detail

locality data within Khasi or Garo Hills are not available are shown under Khasi or Garo Hills the case may be.

SYSTEMATIC ACCOUNT : LIST OF TAXA

(Taxa marked with * are first time recorded from Meghalaya)

- Family **CARABIDAE**
- Subfamily A **CARABINAE**
- Tribe I **CARABINI**
- Genus 1. ***Calosoma* Weber 1801**
- Species 1. ***Calosoma nigrum* Parry 1845**
- Tribe II. **SCARATINI**
- Genus 2. ***Haplogaster* Chaudoir 1879**
- Species 2. ***H. ovata* Chaudoir 1879**
- Genus 3. ***Scarites* Fabricius 1775**
- Species 3. ***S. semirugosus* MacLeay 1855**
4. ***S. sulcatus* Oliver 1795**
- *5. ***S. selene* Schm.-Goet. 1846**
- *6. ***S. laticeps* Andrewes 1929**
- Genus 4. ***Thlibops* Putzeys 1867**
- Species 7. ***T. puncticollis* Gestro 1882**
- Genus 5. ***Clivina* Latreille 1802**
- Species 8. ***C. semicarinata* Putz. 1877.**
- *9. ***C. costulipennis* Bates 1892**
- Genus 6. ***Dyschirius* Panzer 1813**
- Species 10. ***D. constiictus* Andrewes 1929**
- Subfamily B. **HARPALINAE**
- Tribe III. **BROSCINI**
- Genus 7. ***Broscus* Panzer 1813**
- Species 11. ***B. punctatus* (Dejean 1828)**
- Tribe IV. **TRECHINI**
- Genus 8. ***Perileptus* Schaum 1860**
- Species 12. ***P. indicus* Jeann. 1923**
- Tribe V. **BEM BIDINI**

Genus 9. *Bembidion* Latreille 1802

- Species 13. *B. kara* Andrewes 1921
 14. *B. notatum* Andrewes 1922

Genus 10. *Tachys* Stephens 1828

- Species 15. *T. micraulax* Andrewes 1924
 16. *T. poecilopterus* Bates 1873
 17. *T. latissimus gracilis* Motch. 1862

Tribe VI. *LICININI

Genus 11. **Diplolchila* Brulle 1834

- Species 18. **D. polita* (F. 1972)

Tribe VII. HARPALINI

Genus 12. *Harpalus* Latreille 1802

- Species 19. *H. karennius* Bates 1892
 20. *H. indicola* Bates 1878

Genus 13. *Harpaliscus* Bates 1892

- Species 21. *H. birmanicus* Bates 1892

Genus 14. *Stenolophus* Latreille 1829

- Species 22. *S. smaragdulus* (F. 1798)

Genus 15. *Kareya* Andrewes, 1919

- Species 23. *K. edentata* (Bates 1892)

Genus 16. *Gnathaphanus* Macleay 1825

- Species 24. *G. orientalis* Dejean 1829

Tribe VIII. CHLAENIINI

Genus 17. *Chlaenius* Bonelle 1810

- Species 25. *C. birmanicus* Chaudoir 1876
 *26. *C. circumdatus* Brulle 1835
 27. *C. cambodensis* Bates 1889
 28. *V. pivyud* Vhsufoit 11856
 29. *C. bimaculatus* Dejean
 30. *C. xanthospilus* (Wied. 1821)
 *31. *C. nepalensis* Hope 1831

Tribe IX. OODINI

Genus 18. *Oodes* Dejean 1826

- Species 32. , *O. parallelus* Laferte 1851
33. *O virens* Wiedmen 1823
Genus 19. *Simosus* Chaudoir 1882
- Species 34. *S. lompros* Bates 1892
35. *S. nigriceps* (Wiedmen 1821)
Tribe X. PERIGONINI
Genus 20. *Perigona* Castlnau 1835
- Species 36. *P. plagiata* Putz. 1875
Tribe XI. AMARINI
Genus 21. *Amara* Bonelli 1810
- Species 37. *A. darjeelingensis* Putz. 1877
Tribe XII. PTEROSTICHINI
Genus 2. *Trigmotoma* Dejean 1828
- Species 38. *T. bhamoensis* Bates 1889
Genus 23. *Dicaelindus* Macleay 1825
- Species 39 *D. pernitidus* (Chaudoir 1882)
Genus 24. *Pterostichus* Stephens 1828
- Species 40. **T. harmandi* Tchitch
Tribe XIII. AGONINI
Genus 25. *Agonum* Bonelli 1810
- Species 41. *A. marginalis* (Wiedom) 1823
Genus 26. *Megalonychus* Chaudoir 1843
- Species 42. *M. birmaricus* Bates 1892
43. *M. cyanipennis* Bates 1892
Genus 27. *Larastema* Motschulsky 1864
- Species 44. *L. alutacea* Motschulsky 1864
Genus 28. *Colpodes* MacLeay 11825
- Species 45 *C. cruralia* Chaudoir 1878
Genus 29. *Dicranoncus* Chandoir 1850
- Species 46. *C. buchanani* Hope 1831
47. *D. quadridens* (Motschulsky 1956)
Tribe XIV. DRYPTINI
Genus 30. *Dasera* Hope 1838

- Species 48. *D. nepalensis* Hope 1831
 49. *D. geniculata* Klug
 Genus 31. *Drypta* Latreille 1796
- Species 50. *D. flavipes* Wied
 51. *D. sideria* Bates 1892
 Tribe XV. GALERITINI
 Genus 32. *Galerita* Fabricius 1801
- Species 52. *G. orientalis* Schm.-Goeb. 1846
 Tribe XVI. ODOCANTHINI
 Genus 33. *Odocantha* Paykull 1798
- Species 53. *O. tetraspilota* (Schm.-Goeb. 1846)
 Genus 34. *Ophionea* Klug 1821
- Species 54. *O. nigrofasciata* Schm-Goeb, 1846
 55. *O. indica* (thunb. 1748)
 Tribe XVII. HELLUONINI
 Genus 35. *Creagris* Neitner 1857
- Species 56. *C. binoculus* Bates 1892
 Tribe XVIII. ORTHOGONINI
 Genus 36. *Orthogonius* MacLeay 1825
- Species 57. *O. mellyi* (Chaudoir 1850)
 58. *O. opacus* Schm.-Goeb. 1846
 *59. *O. alternans* (Wied. 1823)
 *60. *O. duplicatus* (Wied. 1819)
 *61. *O. hopei* Gray
 Tribe XIX. TETRAGONODERINI
 Genus 37. *Tetragonoderus* Dejean 1829
- Species 62. *T. arcuatus* Dejean 1829.
 Tribe XX. LEBIINI
 Genus 38. *Bothynoptera* Schaum 1863
- Species 63. *B. dorsigera* Schaum 1863
 Genus 39. *Catascopus* Kirby 1825
- Species 64. *C. elegans* Weber 1801
 65. *C. regalis* Schm. Goeb. 1846

66. *C. violaceous* Schm. -Goab. 1846
 67. *C. facialis* (Wied. 1819)
 68. *C. mirabilis* Bates
 Genus 40. *Coptodera* Dejean 1825
 Species 69. *C. eluta* Andrewes 1923
 70. *C. flexuosa* Schm. -Goeb. 1846
 71. *C. piligera* Chaudoir 1883
 Genus 41. *Stephana* Chaudoir 1871
 Species 72. *S. Prineeps* (Chaudoir 1852)
 Genus 42. *Sinurus* Chaudoir 1869
 Species 73. *S. graciliceps* Bates 1892
 *74. *S. nitidus* Bates 1892
 Genus 43. *Scalidion* Schm. -Goeb. 1846
 Species 75. *S. hilare* Schm. -Goeb. 1846
 Genus 44. *Risophilus* Leach 1815
 Species 76. *R. luridus* (Schm. -Goeb. 1846)
 Genus 45. *Physodera* Eschscholtz 1829
 Species 77. *P. eschscholtzi* Parry 1849
 Genus 46. *Pericalus* Macleary 1825
 Species 78. *P. ornatus* Schm. -Goeb. 1846
 Genus 47. *Miscellus* Klug 1834
 Species 79. *M. carinatus* Andrewes 1922
 80. *M. javanus* Klug 1832
 Genus 48. *Metabletus* Schm. -Goeb. 1846
 Species 81. *M. cymindulus* bates 1892
 Genus 49. *Lebia* Latreille 1802
 Species 82. *L. calycophora* Schm. -Goeb. 1846
 Genus 50. *Perileptus* Schaum 1860
 Species 83. *P. indicus* Jeannel 1923
 Genus 51. *Calleida* Latreille et Dejean 1822
 Species 84. *C. sultana* Bates 1892
 Genus 52. **Dolichoctis* Schm. -Goeb. 1846
 Species 85. **D. striata* Schm. -Goeb. 1846

Tribe XXI. BRACHININI

Genus 53. *Pherosophus* soiler 1883

- Species 86. *P. Krichna* Maindr. 1906
 87. *P. prophylax* Heller 1903
 88. *P. scythropus* Andrewes 1903
 89. *P. catorei* (Dej.) 1825

Family CARABIDAE

Key to the subfamilies of family CARABIDAE from Meghalaya.

- 1(2) Mesocoxal cavities are open mesepimera reaching the mesocoxal cavities
Subfamily Carabinae
 2(1) Mesocoxal cavities are entirely closed by the sterna, mesepimera not reaching the mesocoxal
 cavities..... Subfamily Harpalinae

Subfamily A. CARABINAE

Key to the tribes of subfamily CARABINAE

- 1(2) Procoxal cavities open behind; mesosternum longitudinally carinate in front, mesocoxae
 contiguous; body not pedunculate; protibae not digited; articulation of mandibles with head not
 concealed by elypeos..... 1. CARABINI
 2(1) Procoxal cavities closed behind, mesosternum not longitudinally carinate in front, mesocoxae
 not contiguous; protibae digited; articulation of mandibles with head concealed by clypeus.....
2. SCARATINI.

Family CARABIDAE

Subfamily CARABINAE

Tribe I CARABINI

Genus 1. *Calosoma* Weber. 1801

1801. *Calosoma* Weber *Obs. Ent.* 1 : 20
 1826. *Calosoma*, Dejean, *Spec. Gen. Coleopt.*, 2 : 190.
 1. *Calosoma nigrum* Parry 1845
 1845. *Calosoma nigrum* Parry, *Trans. Ent. Soc. London.* 4 : 85.
 1929. *Calosoma nigrum*, Andrewes, *Faun. Brit. India. Col. Carabidae*, 1 : 69

Material examined : Nil*Distribution* : India : Meghalaya, Khasi Hills.*Remarks* : This species is endemic to Meghalaya.

Tribe II. SCARATINI

Key to the genera of tribe SCARATINI from Meghalaya.

- 1(6) Head with one or no supraorbital setae on each side; antennae pubescent from joint 5 onwards; labial palpi with joint 2 pleurisclose.
- 2(5) Buccal fissure extending backwards beyond the base of mentum; body convex but not sub-cylindrical; head without central tubercle; prosternum not carinate or vertically dilated.
- 3(4) Maxillae obtuse at apex; hind body short, elytra generally less than one and half times longer than wide, strongly rounded at sides and widest at middle **Haplogaster**
- 4(3) Maxillae hooked at apex; hind body either long or parallel-sided; elytra generally more than one and half times longer than wide or if hind body is shorter and with rounded sides, usually widest at middle..... **Scarites**
- 5(2) Buccal fissure not extending beyond the base of mentum; body subcylindrical; head with central tubercle; prosternum carinate or vertically dilated along middle line (head with no supraorbital setae)..... **Thlibaps**
- 6(1) Head with at least two supraorbital setae on each side; antennae pubescent from joint 3 or 4 onwards; labial palpi with joint 2 bisetose.
- 7(8) Elytra with marginal series of pores uninterrupted at middle; Prothorax convex but not globose, bordered from apex to peduncle; labrum 6-, 7- or 9- setose (black and piceous insects, rarely less than 5 mm. in length)..... **Clivine**
- 8(7) Elytra with marginal series of pores interrupted at middle; prothorax globose with border extending from apex to or a little beyond the hind lateral pore; labrum 6- setose (very convex, black or brassy insects averaging about 3 mm. in length)..... **Dyschirius**.

Tribe II. SCARATINI

Genus 2. *Haplogaster* Chaudoir, 1879

1879. *Haplogaster* Chaudoir, *Mon. des Scaritides (1)*. *Ann. Soc. ent. Belgique.*, p. 149.
1929. *Haplogaster*, Andrewes, *Faun. Brit. India, Coleopt. Carabidae.*, 1 : 210 and 220.

2. *Haplogaster ovata* Chaudoir, 1879

1879. *Haplogaster ovata* Chaudoir, *Ann. Soc. ent. Belgique*, p. 150.
1929. *Haplogaster ovata*, Andrewes, *Faun. Brit. India. Coleopt. Carabidae.*, 1 : 221 and 222. f. 37.
1930. *Haplogaster ovata*, Andrewes, *Cat. Indian. Insects. Part 18 - Carabidae.*, p. 174.

Material examined : 3 exs. Shillong, 8.ix.15. S. W. Kemp. Coll.

Distribution : India : Meghalaya (Shillong, Khasi Hills), Sikkim, Uttar Pradesh and W. Bengal. Elsewhere: Bangla Desh and Nepal.

Genus 3. *Scarites* Fabricius 1775.

1775. *Scarites* Fabricius, *Syst. Ent.* : 249
1825. *Scarites* Dejean, *Spec. Gen. Coleopt. I* : 364.

3. *Scarites semirugosus* Chaudoir, 1855

1855. *Scarites semirugosus* Chaudoir, *Bull. Soc. Imp. Nat. Moscou.*, 1 : 90.
 1892. *Scarites semirugosus*, Bates, *Ann. Mus. Civi. Stor. Genova.*, 32 : 272.
 1912. *Scartes semirugosus*, Andrewes, *Faun. Brit. India Coleopt Carabidae.*, 1 : 228, 237 f. 39(12), and 240.

Material examined : 1 ex. W Garo Hills, 22.x.1988. K. K. Roy Coll.

Distribution : India : Meghalaya. (Khasi Hills), Central Province, Maharashtra, Tamil Nadu and W. Bengal. Elsewhere : Indo-China, Malacca, Philippine and Siam.

4. *Scarites sulcatus* Olivier, 1795

1795. *Scarites sulcatus* Olivier, *Ent. Hist. Nat. Insects.*, 3 : 36.
 1825. *Scarites sulcatus*, Dejean, *Spec. Gen. Coleppt.* 1 : 375.
 1855. *Scarites sulcatus*, Chaudoir, *Bull. Soc. Imp. Nat. Moscou.*, 1 : 107.

Material examined : Material from areas other than Meghalaya were studied.

Distribution : India : Meghalaya, (Khasi Hills), Assam, Himachal Pradesh, Punjab, Uttar Pradesh and Sikkim. Elsewhere : China, Indo-china, Java, Korea, Manchuria and Sumatra.

5. *Scarites selene* Schm. Goeb 1846

1846. *Scarites selene* Schmdit - Goebel, *Faun. Cole. Birmaniae* p. 94.
 1855. *Scarites selene*, Chaudoir, *Bull. Soc. Imp. Nat. Moscou.*, 1 : 108.
 1923. *Scarites selene*, Andrewes, *Trans. Ent. Soc. London.* : 55.

Material examined : 1 ex. Shillong Khasi Hills, 6.vi.1974. M. Vasant Coll.

Distribution : India : Meghalaya, (Ri-Bhoi, Shillong) Assam, Bihar, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Burma, Bangla Desh and Sri Lanka.

Remarks : This species is first time recorded from Meghalaya.

6. *Scarites laticeps* Andrewes 1929

1929. *Scarites laticeps* Andrewes. *Faun. Brit. India. Col. Carabidae* : 234 and 283.
 1930. *Scaraties laticeps* Andrewes, *Cat. Indian. Insects Part 18- Carabidae.*, p. 299.

Distribution : India : Meghalaya, Madhya Pradesh and Tamil Nadu.

Genus 4. *Thlibops* Putzeys, 1867.

1867. *Thlibops* Putzeys, *Ann. Soc. ent. Belgique.*, 10 : 9.
 1929. *Thlibops*, Andrewes, *Faun. Brit. India. Coleopt. Carabidae.*, 1 : 328 and 334.

7. *Thlibops puncticollis* Gastro, 1882.

1882. *Thlibops puncticollis* Gastro, *Ann. Mus. Civi. Stop. Nat. Genova.*, p. 302.
 1923. *Thlibops puncticollis*, Heller, *Phil. Jour. Science.*, 23 : 297.

- 25(26) Antenna slender, joint 1 about as long as joints 2-4 taken together; prothorax subcylindrical; elytra not costate..... 13. DRYPTINI
- 26(25) Antenna stout, joint 1 not longer than joints 2 and 3 taken together; prothorax not subcylindrical; elytra costate..... 14. GALERITINI
- 27(24) Joint 1 of antennae not scupiform.
- 28(29) Head narrowed behind to form a condyliform neck; prothorax subcylindrical with more or less obsolete eateral borders 15. ODOCANTHINI
- 29(28) Head not narrowed behind to form a condyliform neck.
- 30(31) Labrum large, smooth and semicircular more or less concealing the mandibles; body hairy, appendages short and stout..... 16. HELLUONINI
- 31(30) Labrum normal, more or less quadrate.
- 32(33) Tibiae serrate, protibiae dilated at apex; prothorax without eateral setae; tarsi with joint 4 emerginate or bilobed, claws usually pectinate..... 17. ORTHOGONINI
- 33(32) Tibiae not serrate; prothorax with one lateral setae (sometimes two).
- 34(35) Metatibiae furnished with long serrulate spurs, longer than tarsi 1; maxillae produced above apex into an obtuse ciliate lobe..... 18. TETRAGONODERINI
- 35(34) Metatibiae not furnished with long spurs; maxillae not produced above into a ciliate lobe 19. LEBIINI
- 36(1) Venter with seven or eight visible segments; mandibles with seta in the scobe; elytra truncate and with a narrow membranous border at apex 20. BRACHININI

Tribe III. BROSCINI

Genus 7. *Broscus* Panzer 1813

1813. *Broscus* Panzer, Index. Ent., p. 62
1868. *Broscus*, Putz., Les Broseides. *Stett. Ent. Zeit.*, p. 307.

11. *Broscus Punctatus* (Dejean) 1828

1828. *Cephalotes punctatus* Dajean. *Spec. Gen. Col.*, 3 : 431.
1868. *Broscus punctatus*, Putz., Les Broseides. *Stett Ent. Zeit.*, p. 309.
1919. *Broscus punctatus*, fletch., *Agr. Res. Inst. Pusa Bull.*, p. 89.

Material examined : 16 exs. Khasi and Jayntia Hills. Maophlong, 9. xii. 1964. S. Biswas Coll. 6 exs., Khasi Hills, Mawphlong, 19. iv. 1979. A. Singh Coll. 1 ex. Cherrapunji, 7. v. 1959, A. P. Kapur Coll. 6 exs. Shillong, 23. iii. 1979. M. S. Jyanwa, 10 exs. Khasi Hills, April, 1927. Gopi Ram Coll. 1 ex. Shillong, 16. xi. 1930. H. S. Rao Coll. 3 exs. W. Khasi Hills. 25. ix. 1978. S. K. Chanda. 2 exs. Garo Hills, 27. v. 1990. M. S. Shishodia Coll. 1 ex. Cherrapunji, 15. ix. 1988. A. R. Lahiri, Coll. 4 exs. Khasi Hills, 20. iv. 1972. S. Biswas. Coll. 2 exs. Khasi Hills, 11. iii. 1977k. M. R. Rynth. Coll. 1 ex. W. Khasi Hills. 21. iii. 1991. A. K. Hazra Coll.

Distribution : India : Meghala (Shillong, Khasi Hills), India north of the Ganges, including the whole Himalayan tract. Elsewhere : Arabia, China, Iraq, Egypt. Turkestan and Sinae.

Tribe IV TRECHINI

Genus 8 *Perileptus* Schaum 1860

1860. *Perileptus* Schaum *Nat. Ins. Deutschl.* 1 : 663.

1864. *Perileptus*, Motch. Bull. Soç. Imp. Nat. Moscou. ii : 190.

12. *Perileptus indicus* Jeann, 1923.

1923. *Perileptus indicus* Jeann *Ann. Mag. Nat. Hist.* (9) Xiii : 397 to 399. f. 2.

1926. *Perileptus indicus*, Andrewes, *Ent. Month. Mag.* : 68.

Material examined : Nil

Distribution : India : Meghalaya, (Garo Hills.), Manipur, Sikkim, U. P., W. Bengal.

Tribe V. BEM BIDION

Genus 9. *Bembidion* Latreille, 1802.

1802. *Bembidion* Latreille, *Hist. Nat. Crust. Ins.*, 3 : 82.

1828. *Peryphus* Stephens, *Itt. Brit. Ent.*, 2 : 2811.

1831. *Bembidium*, Dejean, *Spec. Gen. Coleopt.*, 5 : 31.

13. *Bimbidion kara* Andrewes 1921.

1921. *Bembidion kara* Andrewes, *Ent. Month. Mag.* : 250; 1923 Ibid : 101

1935. *Bembidion Kara*, Andrewes, *Fauna Brit. India Coleoptera, Carabidae, Vol. II. Harpalinae* 1, p. 114.

Material examined : 4 exs. Garo Hills, Feb. 1922. S. W. Kemp and B. Chopra Coll.

Distribution : India : Meghalaya (Garo Hills, Someswari River), Nagaland, West Bengal, Punjab, Himachal Pradesh, Uttar Pradesh. Elsewhere : Yunan, Ton-King, Laos, Coahin-China, Indo-China.

14. *Bembidion notatum*, Andrewes 1922

1922. *Bembidion notatum* Andrewes, *Ent. Month. Mug.*, : 175; 1926, Ibid : 67.

1933. *Bembidion notatum*. Jedlika; *Acta Soc. ent. Check.*, 30 : 3 & 9.

1935. *Bambidion natatum*, Andrewes, *Fauna Brit India, Coleoptera, Carabidae, vol. II, Harpalinae - I*, p. 155.

Material examined : 1ex. Garo Hills, Feb. 1922. S. W. Kemp. Coll.

Distribution : India : Meghalaya (Garo Hills, Someswari River), Bihar, West Bengal and Uttar Pradesh.

Genus 10. *Tachys* Stephens 1828.

1828. *Tachys* Stephens. III *Brit. Ent.*, 2 : 284.

Key to the species of the genus *Tachys* from Meghalaya.

- 1(4) Elytra with two dorsal pores; basal sulcus of prothorax not having two pores at middle; claws not denticulate; form moderately convex; size above 2 mm.
- 2(3) Elytra fully striate, the strial crenulate; hind angles of prothorax projecting; colour black
..... *T. Micraulax* Andr.
- 3(2) Elytra not fully striate, the strial not crenulate; hind angles of prothorax not projecting; colour dark red..... *T. Poecilopterus* Bates
- 4(1) Elytra with only dorsal pore; basal sulcus of prothorax with two pores at middle; claws denticulate; form very short and convex; size less than 2 mm. (elytra relatively longer and narrower than the type form) *T. Latisimus* var. *Gracilis* Motsch.

15. *Tachys micraulax*, Andrewes 1924

1924. *Tachys micraulax*, Andr. *Rec. Ind. Mus.*, 26 : 115; 1925. Ibid. R. vision : 367.

1935. *Tachys micraulax*, Andrewes, *Fauna. Brit. India. Coleoptera, Carabidae*, Vol. II, Harpalinae 1 : 242.

Material examined : Sexs. Garo Hills, Feb. 1922. S. Kamp and B. Chopra. Coll.

Distribution : India : Meghalaya (Garo Hills, Someswari River), Punjab, Uttar Pradesh, West Bengal.

16. *Tachys poecilopterus*, Bates 1973.

1873. *Tachys poecilopterus* Bates, *Trans. Ent. Soc. London.* : 331.

1889. *Tachys deliciolus* Bates, *Ann. Soc. Ent. France* : 274.

1935. *Tachys poecilopterus*, Bates, *Fauna. Brit. India. Coleoptera, Carabidae*, Vol. II, Harpalinae I : 259

Material examined : Material studied other than Meghalaya.

Distribution : India : Meghalaya, (Garo Hills, Someswari River), Bombay, Mysore, Punjab, Uttar Pradesh, West Bengal. Elsewhere : Malay, Thailand, Java, Sumatra, China, Japan & Indo-china.

17. *Tachys latissimus* var. *gracilis*, Motchulsky, 1862

1862. *Elaphropus gracilis* Motchulsky, *Etud. Ent.*, : 36.

1928. *Tachys latissimus* Motch; var. *gracilis*, Andrewes, *Cat./Indian. Insects. Part 18 - Carabidae*, p. 332.

1935. *Tachys latissimus* var. *gracilis*, Andrewes, *Fauna. Brit. India. Coleoptera, Carabidae*, Vol. II, Harpalinae 1 : 297.

Material examined : 1 exs. Garo Hills. Feb. 1922. S. Kamp and B. D. Chopra. Coll.

Distribution : India : Meghalaya (Garo Hills, Someswari River), Bihar, Maharashtra, Nicobar Is. Uttar Pradesh and West Bengal. Elsewhere : Burma, Cambodia, Thailand, Java, Celebes and New Guinea.

Tribe VI. *LICININI

*This tribe is first time recorded from Meghalaya.

Genus 11. **Diplochiila* Brulle 18341834. *Diplochiila* Brulle *Hist. Nat. des. Insect. IV* : 407.1919. *Diplocheila*, Andrewes, *Trans. Ent. Soc. London* : 90.

*This genus is first time recorded from Meghalaya.

*18. *Diplocheila polita* (Fabricius) 1792 = (*retinens* Walk.)1792. *Diplocheila polita* (Fabr.) *Ent. Syst.* 1(1) : 146 = (*retinens* Walk)1855. *Diplocheila polita*, Motch. *Enud. ent.* : 62 = (*retinens* Wask)1921. *Diplocheila polita*, Andrewes, *Trans. Ent. Soc. London.* : 155 = (*retinens* Walk)

Material examined : 16exs. E. Garo. 20-29.iv.1971. B. N. Das. Coll. 14exs. E. Garo. 2-8.v.1971.
B. N. Das. Coll.

Distribution : India : Meghalaya (Garo Hills), throughout India. Elsewhere : Burma.*Remarks* : This species is first time recorded from Meghalaya.

Tribe VII. HARPALINI

Genus 12. *Harpalus* Latreille 18021802. *Harpalus* Latreille *Hist. Nat. Crust. et. Ins.*, 3 : 92.1829. *Harpalus*, Dejean, *Spec. Gen. Coleopt.*, 4 : 190.19. *Harpalus Karennius* Bates 18921892. *Harpalus Karennius* Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 341.1930. *Harpalus karennius*, Andrewes, *Cat. Indian. Insects. Part 68 Carabidae.*, P. 177.*Material examined* : Material studied other than Meghalaya.*Distribution* : India : Meghalaya, (Ri-Bhoi, Shillong Khasi Hills), Assam, Himachal Pradesh, Manipur and Sikkim. Elsewhere : Burma, Combodia and Tonkin.20. *Harpalus indicola* Bates, 18781878. *Harpalus indicola* Bates, *Proce. Ent. Soc. London.*, : 714.1926. *Harpalus indicola*, Andrewes, *Ent. Mon. Magazine.* : 68.*Material examined* : 2exs. Khasi Hills and Jayantia Hills, Physonai, 5.v.1964. S. Biswas Coll.*Distribution* : India : Meghalaya (Khasi & Jayantia Hills), Bihar, Himachal Pradesh, Uttar Pradesh, West Bengal.*Remarks* : This species is first time recorded from Meghalaya.Genus 13. *Harpaliscus* Bates 18921892. *Harpaliscus* Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 340.

21. *Harpaliscus birmanicus* Bates, 1892

1892. *Harpaliscus birmanicus* Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, **32** : 341.

1926. *Harpaliscus birmanicus*, Andrewes, *Ent. Month. Mag.*, p. 68.

Material examined : 1 ex. Shillong, 7.viii.1976. M. S. Joyntwas. Coll

Distribution : India : Meghalaya, (Ri-Bhoi, Shillong, Khasi Hills), Assam, Manipur, Sikkim and Uttar Pradesh. Elsewhere : Burma, Laos and Tonkin.

Genus 14. *Stenolophus* Latreille 1829.

1829. *Stenolophus* Latreille, *Cuvier, Regne, Anim (Ed. II) IV.* : 391.

1898. *Stenolophus*, Sloane, *Proce. Lenn. Soc. of New South Wales* : 456.

22. *Stenolophus samaragdulus* (Fabricious) 1798.

1798. *Carabus samaragdulus* Fabr. *Suppl. Ent. Syst.* : 60.

1838. *Stenolophus samaragdulus*, Hope, *Col. Man.* **11** : 93.

1921. *Stenolophus samaragdulus*, Andrewes, *Trans. Ent. Soc. London.* : 160.

Material examined : 1ex. Khasi and Jayantia Hills, Myllem. 7.iv.1964. S. Biswas Coll.

Distribution : India : Meghalaya, (Khasi & Jayantia Hill), throughout South East India. Elsewhere : Japan.

Remarks : This is a common and widely distributed species.

Genus 15. *Karya* Andrewes 1919.

1919. *Karya* Andrewes, *Ann. Mag. Nat. Hist. (9)*, **iii** : 473.

23. *Kareya edentata* (Bates) 1892.

1892. *Kareya edentata* (Bates) *Ann. Mus. Civi. Stor. Nat. Genova.* **32** : 331.

1919. *Kareya edentata*, Andrewes, *Ann. Mag. Nat. Hist. (9)*, **iii** : 473

Material examined : Material were studied areas other than Meghalaya.

Distribution : India : Meghalaya (Ri-Bhoi, Shillong, Khasi Hills), Bihar, M. P., Manipur, Sikkim and Uttar Pradesh. Elsewhere : Burma, Laos and Tonkin.

Genus 16. *Gnathaphanus* Macleay 1825

1825. *Gnathaphanus* Macleay, *Ann. Jav.*, : 20.

1878. *Gnathaphanus*, Chaudoir, *Ann. Mus. Civi. Stor. Nat. Genova.* **xii** : 503

24. *Gnathaphanus orientalis* Dejean, 1829

1829. *Gnathaphanus orientalis* Dejean. *Spec. Gen. Coleopteras.* **4** : 128

1920. *Gnathaphanus orientalis*, Andrewes, *Ann. Soc. ent. Belgique* : 107

Material examined : 10exs. Khasi and Jayantia Hills, Mowphlong, 16.iv.1964. S. Biswas Coll.

Distribution : India : Meghalaya, (West Khasi & Jaintia Hills), throughout India. Elsewhere : Burma.

Tribe VIII. CHLAENIINI

Genus 17. *Chlaenius* Bonelli, 1810.

1810. *Chlaenius* Bonelli, *Obs. Ent.*, 1, Tab. Synopt.
 1826. *Chlaenius*, Dejean, *Spec. Gen. Coleopt.*, 2 : 297
 1930. *Chloenius*, Andrewes, *Cat. Indian Insects., Part 18 Carabidae*, 82

25. *Chlaenius birmanicus* Chaudoir, 1876

1876. *Chlaenius birmanicus* Chaudoir, *Ann. Mus. Civi. Stor. Nat. Genova.*, p. 93.
 1930. *Chlaenius birmanicus*, Andrewes, *Cat. Indian. Insects. Part 18 Carabidae.*, P. 86.

Material examined : Material were studied area other than Meghalaya.

Distribution : India : Meghalaya (Shillong, Garo Hills), Assam, Manipur, Uttar Pradesh and West Bengal. Elsewhere : Burma.

*26. *Chlaenius circumdatus* Brulle, 1835

1835. *Chlaenius circumdatus* Brulle, *Silb. Rev. Ent.* iii : 283.
 1886. *Chlaenius circumdatus*, Bates, *Ann. Mag. Nat. Hist.* (5). 17 : 74.

Material examined : 1ex. E. Garo. Kharkuta, 8.v.1991. B. N. Das. Coll. 1ex. Garo Rangram 4.III.1975. S. Biswas Coll.

Distribution : India : Meghalaya. (E. Garo, Kharkuita, W. Garo Romgram.), almost all Indian States. Elsewhere : Burma, Sri Lanka, China, Indo-China and Siam.

Remarks : This species is first time recorded from Meghalaya.

27. *Chlaenius cambodiensis* Bates 1889

1889. *Chlaenius cambodiensis* Bates, *Ann. Soc. ent. France.*
 1892. *Chlaenius cambodiensis* Bates, *Ann. Mus. Civi Store. Nat. Genova.*, 32 : 318.
 1930. *Chlaenius cambodienjsis*, Andrewes, *Cat. Indian Inspects. Part -18- Carabidae.*, P. 86.

Distribution : India : Meghalaya (Khasi Hills), Assam and West Bengal. Elsewhere : Burma and Indo-China.

28. *Chlaenius pictus* Chaudoir 1856

1856. *Chlaenius pictus* Chaudoir, *Bull. Soc. Imp. Nat Moscou.*, 2 : 208.
 1891. *Chlaenius pictus*, Bates, *Comm. Soc. ent. Belgique.* p. 327.
 1923. *Chlaenius pictus*, Andrewes, *Trans. Ent. Soc. London.*, p. 156.

Material examined : Material were studied area other than Meghalaya.

Distribution : India : Meghalaya (Khasi Hills), Assam, Bihar, Kerala, Maharastra, Tamil Nadu and West Bengal. Elsewhere : Burma, China Indo-China, Java and Siam.

29. *Chlaenius bimaculatus* Dejean, 1826

1826. *Chlaenius bimaculatus* Dejean, *Spec. Gen. Coleopt.* **2** : 301.

1856. *Chlaenius bimaculatus*. Chaudoirs, *Bull. Soc. Imp. Nat. Moscou*, **2** : 198.

1892. *Chlaenius bimaculatus*, Bates, *Ann. Mus. Civi. Stor. Nat Genova*, **32** : 331.

Material examined : 1 ex. Ri-Bhoi shillong, 30.iii. 1981. J. P. Sati Coll. 1 ex. Tura. E. Garo 3.v.1999. R. K. Varshaney. 1 ex. E. Khasi Marophlong 19.iv.79. R. Singh. Coll.

Distribution : India : Meghalaya, (Ri-Bhoi, Shillong, E. Garo. E. Khasi Mowphlong.), Assam, Bihar, Uttar Pradesh and West Bengal. Elsewhere : Burma and Java.

30. *Chlaenius xanthospilus* (Wied) 1821

1821. *Chlaenius xanthospilus* (Wied) *Germ. Mag. Ent.*, **4** : 115.

1889. *Chlaenius xanthospilus*, Bates, *Ann. Soc. ent. France* : 266.

1921. *Chlaenius xanthospilus*, Andrewes, *Trans. Ent. Soc. London* : 167.

Material examined : 1 ex. W. Garo. 20.4.1991. B. N. Das. Coll. 1 ex. E. Garo. Songsok. 2.5. 1991. B. N. Das. Coll.

Distribution : India : Meghalaya (W. Garo. E. Garo Songsok), throughout India. Elsewhere: Sri Lanka, Indo-China and Siam.

*31. *Chlaenius nepalensis* Hope 1831

1831. *Chlaenius (Rhysotrachled) nepalensis* Hope, *Zool. Misc.*, : 21.

1879. *Chlaenius (Rhysotracheled) nepalensis*, Dohrn, *Stett. Ent. Zeitung*. p. 458.

1919. *Chlaenius (Rhysotracheled) nepalensis*, Andrewes, *Trans. Ent. Soc. London.* : 171 and 202.

Material examined : 2exs. Khasi Hills, Mowphlong, 18.v.1979. P. T Cherian Coll. 1ex. E. Khasi Mawphlong. 11.iii.1977. M. R. Rynth. Coll.

Distribution : India : Meghalaya (E. Khasi). Elsewhere : Burma; Sri Lanka; Cambodia; Formasa; Hong Kong and Laos.

Remarks : This species is first time recorded from Meghalaya.

Tribe IX. OODINI

Genus 18. *Oodes* Dejean 1826

1826. *Oodes* Dejean, *Spec. Gen. Coleopt.* **2** : 374.

1857. *Oodes*, Chaudoir, *Bull. Soc. Imp. Nat. Moscou.*, **2** : 25.

1919. *Oodes*. Andrewes, *Trans Ent. Soc. London.*, p. 92.

31. *Oodes parallelus* Laferte, 1851.

1851. *Oodes parallelus* Laf. *Ann. Soc. ant. France.*, p. 271.

1892. *Oodes parallelus*, Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 232.

1924. *Oodes parallelus*, Andrewes, *Ann. Mag. Nat. Hist.* (9), 14 : 589

Material examined : Nil.

Distribution : India : Meghalaya, (Khasi Hills), Bihar and Karnataka. Elsewhere : Bangladesh, Burma, Sri Lanka and Malacca.

33. *Oodes virens* Wiedmen, 1823.

1823. *Oodes virens* Wiedmen, *Zool. Mag.* 2.1 : 50

1882. *Oodes varians* Choudoir, *Ann. Soc. ent. France.*, p. 352.

1921. *Oodes virens*, Andrewes, *Trans. Ent. Soc. London.* p. 169.

Material examined : Material studied other than Meghalaya.

Distribution : India : Meghalaya, (Khasi Hills), Assam, Bihar and West Bengal. Elsewhere Burma, Sri Lanka, Java and Philippineis.

Genus 19. *Simous* Chaudoir 1882

1882. *Simous* Chaudoir, *Ann. Soc. ent. France.*, p. 373.

34. *Simous lampros* Bates, 1982

1892. *Simous lampros* Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 322.

1930. *Simous lampros*, Andrewes, *Cat. Indian. Insects. Part 18 Carabidae.*, p. 313.

Material examined : Nil.

Distribution : India : Meghalaya (Khasi Hills.), Assam. Elsewhere : Burma and Combodia.

35. *Simous nigriceps* (Wied.) 1821

1821. *Oodes nigriceps* Wiedmann, *Germ. Mag.* 4 : 114.

1851. *Simous nigriceps*, Laf. *Ann. Soc. ent. France.*, p. 270.

1921. *Simous nigriceps*, Andrewes, *Trans Ent. Soc. London.*, p. 167.

Material examined : Material were studied from area other than Meghalaya.

Distribution : India Meghalaya (Ri-Bhoi, Shillong), Arunachal Pradesh, Bihar, Nagaland, Uttar Pradesh and West Bengal.

Tribe X. PERIGONINI

Genus 20 *Perigona* Castelnau 1835

1835. *Perigona* Castelnau, *Etud. Ent.* : 151.

1871. *Perigona*, Chaudoir, *Bull. Soc. Imp. Nat. Moscou.* ii : 281.

36. *Perigona plagiata* Putz, 1875

1875. *Perigona plagiata* Putz. *Ann. Mus. Civi. Stor. Not. Genova.*, p. 734.

1921. *Perigona plagiata*. Andrewes. *Tran. Ent. Soc. London.* : 178.

Material examined : 3 exs. Garo Hills, Sank Sok, 21.xi.1974. T. Sengupta & party.

Distribution : India Meghalaya (E. Garo Hills), Assam; Bihar; Uttar Pradesh Tamil Nadu. Elsewhere : Burma; Indo-China; Singapore; Siam; Sumatra.

Tribe XI AMARINI

Genus 21 *Amara* Bonelli 1810

1810. *Amara* Bonelli, *Obs. Ent.*, 1, Tab Synopt.

1828. Stephens, *III. Brit. Ent.*, 1 : 67 and 126.

37. *Amara darjeelingensis* Putz. 1877

1877. *Amara darjeelingensis* Putz., *Steitt. Ent. Zeitung* : 102

1930. *Amara darjeelingensis*, Andrewes, *Cat. Indian Insects.*, Pat 18. *Carabidae* : 15.

Material examined : 3 exs. Ri-Bhoi, shillong, 24.ix.78. T Sengupta Coll.

Distribution : India : Meghalaya (Khasi Hills), Himachal Pradesh, Uttar Pradesh, West Bengal and West Punjab.

Tribe XII. PTEROSTICHINI

Genus 22. *Trigonotoma* Dejean 1828.

1828. *Trigonotoma* Dejean, *Spec. Gen. Col.*, 3 : 182.

1852. *Trigonotoma*, Chaudoir, *Bull. Soc. Imp. Nat. Moscou*, 1 : 71.

38. *Trigonotoma bhamoensis* Bates 1889.

1889. *Trigonotoma Bhamoensis* Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 27 : 105.

1911. *Trigonotoma bhamoensis*, Kuntz., *Ent. Rundsch.*, p. 182.

Material examined : Nil.

Distribution : India : Meghalaya (Ri-Bhoi Shillong), Manipur. Elsewhere : Burma, Laos, Tonkin and Tiwan.

Genus 23. *Dicaelindus* Macleay 1825

1825. *Dicaelindus* Macleay, *ann. Jav.*, p. 18.

1863. *Dicaelindus*, Schaum, *Ber. Ent. Zeit.*, p. 86.

39. *Dicaelidus pernitidus* (Choudoir 1882)

1882. *Melanodes pernitidus* Chaudoir, *Ann. Soc. ent. France.*, p. 550.

1924. *Dicaelindus pernitidus*, Andrewes, *Ann. Mag. Nat. Hist.*, (9) 14 : 589.

Material examined : Nil.

Distribution : India : Meghalaya (Khasi Hills.), Assam and Bihar. Elsewhere : Burma and Bangladesh.

Genus 24. *Pterostichus* Stephens 1828

1828. *Pterostichus* Stephens, *III. Brit. Ent.*, 1 : 67 and 120.
 1919. *Pterostichus*, Andrewes, *Trnas. Ent. Soc. London.*, p. 92.

40. *Pterostichus harmandi* Tchitch, 1900

1900. *Pterostichus harmandi* Tchitch. *Hor. Soc. Ent. Rossicae* 34. 467.
 1930. *Pterostichus harmandi*, Andrewes, *Cat. Indian Insects Part 18 Carabidae* : 289.

Material examined : 1 ex. Khasi Hills, Mawphlong, 18.v.1974. P. T. Cherian Coll.

Distribution : India : Meghalaya (Khasi Hills), : Sikkim; West Bengal; Uttar Pradesh.

Tribe XIII. AGONINI

Genus 25. *Agonum* Bonelli 1810

1810. *Agonum* Bonelli, *Obs. Ent.*, 1, Tab. Synopt, Stephens 1828, *III. Brit. Ent.*, 1 : 85 & 182.
 1828. *Anchomenus* Stephens, *III. Brit. Ent.*, 1 : 67 & 81
 1831. *Promecoptero* Dejean, *Spec. Gen. Coleopt.*, 5 : 443.

41. *Agonum marginalis* (Wiedem) 1823.

1823. *Lebia marginalis* Wied., *Zool. Mug.*, 2 : 1.
 1831. *Promecoptera marginalis*, Dejean, *Spec. Gen. Coleopt.*, 5 : 444.
 1921. *Agonum marginalis*, Andrewes, *Trnas. ent. Soc. London.*, : 172.
 1930. *Agonum marginalis*, Andrewes, *Cat. Indian Insects, Part 18 Carabidae*. p. 25.

Distribution : India : Meghalaya (East Khasi. Hills, Shillong), West Bengal.

Genus 26. *Megalonychus* Choudoir, 1843

1843. *Megalonychus* Choudoir, *Bull. Soc. Imp. Nat. Moscou.*, 2 : 418

42. *Megalonychus birmanicus* Bates 1892

1892. *Megalonychus birmanicus* Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 369.
 1930. *Megalonychus birmanicus*, Andrawes, *Cat. Indian. Insects. Part 18 Carabidae.*, p. 211.

Material examined : Material were studied from area other than Meghalaya.

Distribution : India : Meghalaya (Khasi Hills), Assam, Bihar, Sikkim and Uttar Pradesh. Elsewhere : Burma and Laos.

43. *Megalonychus cyanipennis* Bates 1892.

1892. *Megalonychus cyanipennis* Bates, *Ann. Mus. Civi Stor. Nat. Genova.*, 32 : 370.
 1930. *Megalonychus cyanipennis*, Andrewes, *Cat. Indian. Insects part 18 Carabidae.*, p. 211.

Material examined : Nil.

Distribution : India : Meghalaya (Khasi Hills), Assam and Sikkim.

Genus 27. *Lorostema* Motchulsky 1864.

1864. *Lorostema* Motchulsky, *Bull. Soc. Imp. Nat. Moscou.* 2 : 329.

1889. *Feanus* Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 107.

1928. *Lorostema*, Andrewes, *Trans. Ent. Soc. London.*, p. 11.

44. *Lorostema alutacea* Motchulsky, 1864

1864. *Lorostema alutacea* Motchulsky, *Bull. Soc. Imp Nat. Moscou.*, 2 : 330.

1926. *Feanus migripes* Andrewes, *Ann. Mag. Nat. Hist. (5).* 17 : 257.

1928. *Lorostema alutacea*, Andrewes, *Trans. Ent. Soc. London.* p.11.

Material examined : Material were studied area other than Meghalaya.

Distribution : India : Meghalaya (Garo Hills), Assam, Bihar, Himachal Pradesh, Orissa, Punjab and West Bengal. Elsewhere: Sri Lanka and Sumatra.

Genus 28. *Colpodes* Macleay 1825

1825. *Colpodes* Macleay *Ann. Jav.*, p. 17.

1869. *Colpodes*, Chaudoir, *Mon. du genre colpodea, Ann. Soc. ent. France.*, p. 289.

45. *Colpodes cruralis* Chaudoir, 1878

1878. *Colpodes cruralis* Chaudoir, *Ann. Soc. ent. france.*, p. 376.

1892. *Colpodes ischioxanthus* Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 376.

1921. *Colpodes cruralis*, Andrewes, *Trans. Ent. Soc. London.*, P. 148.

Material examined : Material were studied from area other than Meghalaya.

Distribution : India : Meghalaya (Garo Hills), Madhya Pradesh, Kerala, Manipur, Sikkim and Tamil Nadu. Elsewhere : Burma.

46. *Colpodes buchanani* Hope 1831.

1831. *Colpodes buchanani* Hope, *Zool. Misc.*, : 21.

1991. *Colpodes buchanani*, Andrewes, *Trans. Ent. Ent. Soc. London.*, : 173.

Material examined : 1ex. Garo Hills, 15.vii.30.viii.1917. S. W. Kemp Coll.

Distribution : India : Meghalaya (Garo Hills), throughout South East India Elsewhere : China and Japan.

Genus 29. *Dicranoncus* Chaudoir 1850

1850. *Dicranoncus* Chaudoir, *Bull. Soc. Imp. Nat. Moscou.*, 1 : 392.

1910. *Dicranoncus*, Sloane, *Proc. Linn. Soc. Newsouth Wales.*, p.553.

47. *Dicranoncus quadridens* (Matchulsky) 1859.1859. *Dicranoncus quadridens* (Motchulsky) *etud. Ent.*, p. 32.1928. *Dicranoncus quadridens*, Andrewes, *Trans. Ent. Soc. London.*, p. 164.*Material examined* : Material were-studied from area other than Meghalaya.*Distribution* : India : Meghalaya, (Shillong), Assam, Andaman Is, Kerala, Sikkim, Tamil Nadu and Uttar Pradesh. Elsewhere : Burma, Indō-China, Malay and Philippine Islands.

Tribe XIV. DRYPTINI

Genus 30. *Desera* Hope 1838.1838. *Desera* Hope, *Col. Man.* 2 : 105.1846. *Dendrocellus* Schm. *Goeb. Faun. Col. Bir.*, p. 24.1930. *Desera*, Andrewes, *Cat. Indian. Insects. Part 18 Carabidae.* p.14.*Material examined* : Material were studied from area other than Meghalaya.*Distribution* : India : Meghalaya (Khasi Hills), Assam, Bihar, Manipur, Sikkim and West Bengal. Elsewhere : Burma (Martaban), Nepal and Tonkin.49. *Desera geniculata* Klug, 1834.1884. *Desera geniculata* Klug. *Jahrb. Ins.* : 52.1872. *Desera geniculata*, Chaudoir, *Rev. Mag. Zoologie* : 102.1883. *Desera geniculata*, Bates. *Trans. Ent. Soc. London.*, : 279.1930. *Desera geniculata*, Andrewes, *Cat. Indian Insects. Part 18 Carabidae*, p. 141.*Material examined* : 1 ex. Khasi Hills, Nongpoh, 29.ix.1988. A. R. Lahiri Coll.*Distribution* : India : Meghalaya (Khasi Hills), Elsewhere : Throughout South East Asia including JapanGenus 31. *Drypta* Latreille, 1796.1796. *Drypta* Latreille, *Pre. Crac: gen. Ins.*, p. 75.1801. *Drypta*, Fabricius, *Syst. Eleuth.*, 1 : 230.50. *Drypta siderea* Bates 18921892. *Drypta siderea* Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 382.1923. *Drypta siderea*, Andrewes, *Trans. Ent. Soc. London.*, p.6.1930. *Drypta siderea*, Andrewes, *Cat. Indian. Insects. Part 18 Carabidae.*, p. 159.*Distribution* : India : Meghalaya (Garo Hills), Uttar Pradesh. Elsewhere : Burma, China and Laos.51. *Drypta flavupes* Wied, 18231823. *Drypta flavupes* Wied, *Zool. Mag.* ii, 1 : 60.1826. *Drypta flavupes*, Dejean, *Spec. Gen. Coleopteres*, 11 : 442.1930. *Drypta flavupes*, Andrewes, *Cat. Indian. Insects. Part 18 Carabidae*, p. 158.

Material examined : 2 exs. Tura, Cherrapunjii, 12.x.14. S. Kemp

Distribution : India : Meghalaya (Cherrapunjii), Assam; Himachal Pradesh; Uttar Pradesh; & West Bengal.

Tribe XV. GALERITINI

Genus 32. *Galerita* Fabricius 1801

1801. *Galerita* Fabricius *Syst. Eleuth.*, 1 : 214.

1825. *Galerita*, Dejean, *Spec. Gen. Coleopt.*, 1 : 186.

52. *Galerita Orientalis* Schm. Goeb. 1846.

1846. *Galerita orientalis* Schm. Goeb. *Faun. Col. Bir.*, p. 26.

1889. *Galerita orientalis*, Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 109(Part).

1923. *Galerita orientalis*, Andrewes, *Trans. Ent. Soc. London.*, p. 246.

Material examined : 1 ex. from Burma was studied.

Distribution : India : Meghalaya (Khasi Hills). Elsewhere : Burma.

Tribe XVI. ODOCANTHINI

Genus 33. *Odacantha* Paykull 1798

1798. *Odacantha* Paykull *Faun. Succ.*, 1 : 169

1825. *Odacantha*, Dajean, *Spec. Gen. Col.*, 1 : 174.

53. *Odacantha tetraspilota* (Schm. Goeb.) 1846

1846. *Casnonia tetraspilota* Schm. Goeb. *Faun. Col. Bir.*, p. 19.

1848. *Odacantha tetraspilota*, Choudoir, *Bull. Soc. Imp. Nat. Moscou.*, 1 : 49.

1923. *Odacantha tetraspilota*, Andrewes, *Trans. Ent. Soc. London.*, p. 3.

Distribution : India : Meghalaya (Garo Hills), Andaman Is. Elsewhere : Burma.

Genus 34. *Ophionea* Klug, 1821.

1821. *Ophionea* Klug *Ent. Bras. Spec.*, p. 298.

1829. *Ophionea*, Eschsch, *Zool. Alt.*, 2 : 5.

1834. *casnoidea* Cast. *Etud. Ent.*, p. 40.

1919. *Ophionea*, Andrewes, *Ann. Mag. Nat. Hist.*, (9). 3 : 475.

54. *Ophionea nigrofasciata* Schm. - Goeb. 1846.

1846. *Ophionea nigrofasciata* Schm. Goeb. *Faun Col. Bir.*, p. 21.

1892. *Ophionea nigrofasciata*, Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 380.

1903. *Ophionea nigrofasciata*, Bouch., *Ann. Soc. ent. France.*, p. 172.

Distribution : India : Meghalaya (Khasi Hills), Assam and Bihar. Elsewhere : Burma, Borneo, Ceylon, Indo-China, Java, Kualalumpur, Singapore, Siam and sumatra.

55. *Ophionea indica* (Thunb) 1784.1784. *Attelabus indica* Thunb, *Nov. Ins. Spec.*, 3 : 68.1924. *Ophionea indica*, Andrewes, *Miss. Prov. Cent.*, p.*Material examined* : 7 exs. W. Garo Hills, 14.x.1988. K. K. Roy Coll.*Distribution* : India : Meghalaya (Khasi Hills), Assam, Arunachal Pradesh, Manipur, Mizoram and West Bengal. Elsewhere : Japan, Malay Archipelago and New Guinea.

Tribe XVII. HELLUONINI

Genus 35. *Creagris* Neither, 1857.1857. *Creagris* Nietberm *Jour. Asiatic. Soc. Bengal.*, 25 : 139.1875. *Creagris*, Gestro, *Ann. Mus. Civi. Stor. Nat. Genova.*, p. 86856. *Creagris binoculus* Bates 18921892. *Creagris binoculus* Bates *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 390.1930. *Creagris binoculus*, Andrewes, *Cat. Indian. Ins. Part 18 Carabidae* : 136.*Distribution* : India : Meghalaya (Khasi Hills), Assam. Elsewhere : Burma, Laos.

Tribe XVIII. ORTHOGONINI

Genus 36. *Orthogonius* Macleay 18251825. *Orthogonius* Macleay *Ann. Jav.*, p. 26.1846. *Apsectra* Schm. Goeb. *Faun. Col. Bir.*, P. 61.1850. *Haploisthius* Chaudoir *Bull. Soc. Imp. Nat. Moscou.*, 2 : 434.1924. *Orthogomius*, Andrewes, *Miss. Prov. Cent.*, p. 58.57. *Orthogonius mellyhi* (Choudoir) 18501850. *Haploisthius mellyi* Choudoir, *Bull. Soc. Imp. Nat. Moscou.*, 1 : 432.1921. *Orthogonius mellyi*, Andrewes, *Trans. Ent. Soc. London.*, p. 166.*Distribution* : India : Meghalaya (Garo Hills.), Assam and West Bengal. Elsewhere : Burma.58. *Orthogonius opacus* Schm. Goeb. 18461846. *Orthogonius opacus* Schm. Goeb. *Faun. Col. Bir.*, p. 60.1923. *Orthogonius opacus*, Andrewes, *Trans. Ent. Soc. London.*, p. 34.*Material examined* : 1 ex. E. Garo Hills, Rangzeng, 26.v.1990. M. S. Shighodia Coll.*Distribution* : India : Meghalaya, (E. Garo Hills), Andaman Is. Sikkim and West Bengal. Elsewhere : Burma.

59. *Orthogonius alternans* (Wied), 1823.**1823. *Orthogonius alternans* (Wied), *Zool. Mag.* ii : 11825. *Orthogonius alternans* dejean, *Spec. Gen. Coleopteres.*, i:2 280.1919. *Orthogonius alternans*, Andrewes, *Trans. Ent. Soc. London.*, : 165.*Material examined* : 1 ex. Jayantia Hills, Thadlarkin, 17.vi.1970. S. Biswas Coll.*Distribution* : India : Meghalaya (Jayantia Hills), Assam. Elsewhere : Burma, Laos, Siam and Tonkin.*Remarks* : This species is first time recorded from Meghalaya.**60. *Orthogonius duplicatus* (Weid) 1819.**1819. *Orthogonius duplicatus* (Wied), *Zool. Mag.* i : 166.1825. *Orthogonius duplicatus*, Dejean, *Spec. Gen. Coleopteres.*, i : 279, (= *puncticollis* Schm Goeb)1921. *Orthogonius duplicatus*, Andrewes, *Trans. Ent. Soc. London.* : 165. (= *Puncticollis* Schm-Goeb)*Material examined* : 1 ex. Tura, Garo Hills, 15.vii.17. S. Kemp. Coll. 1 ex. Jayantia Hills, Thadlarkin, 17.vi.1970 S. Biswas.*Distribution* : India : Meghalaya (Garo Hills, Jayantia), Other Indian States : Throughout Northern India and Southwards to central India and Manipur. Elsewhere : Burma, Cochin- China, Java, Laos and Malay.61. *Orthogonius hopei* Gray 1832**1882. *Orthogonius hopei* Gray, *Griffiths. Anim. Kingd.*, 13 : 273.t. 13. f. 4.1919. *Orthogonius hopei*, Andrewes, *Trans. Ent. Soc. London.*, : 204.*Material examined* : 3 exs. E. Garo, Narangiri, 29.v.1991. M. S. Shisodia.*Distribution* : India : Meghalaya (E. Garo Hills), Assam. Elsewhere : Malay and Siam.*Remarks* : This species is first time recorded from Meghalaya.**Tribe XIX. ETRAGONODERINI****Genus 37. *Tetragonoderus* Dejean 1829.**1829. *Tetragonoderus* Dejean, *Spec. Gen. Col.*, 4 : 485.1846. *Tetragonoderus*, Schm. *Goeb. Faun. Col. Bir.*, p. 92.**62. *Tetragonoderus arcuatus*, Dejean 1829**1829. *Tetragonoderus arcuatus* Dejean, *Spec. Gen. Col.*, 4 : 495.1891. *Tetragonoderus cardoni* Bates, *Comp. Soc. ant. Belgique.*, p. 338.1892. *Tetragonoderus arcuatus*, Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 415.

Material examined : Material were studied area other than Meghalaya.

Distribution : India : Meghalaya (Ri-Bhoi, Shillong.), Assam, Bihar, Maharastra, Pondicherry Sikkim, Uttar Pradesh and W. Bengal. Elsewhere : Burma, Pakistan, Laos. Iraq and Egypt

Tribe XX. LEBIINI

Key to the genera of tribe LEBIINI from Meghalaya

- 1(2) Size minute (not more than 6mm.); mentum with strong bifid median tooth *Metabletus*
- 2(1) Size medium to large (not less than 7mm.); mentum with simple median tooth.
- 3(14) Forebody very small, head only slightly narrower than prothorax; penultimate segment of tarsi; emerginate or bifid; labrum wider than long; male protarsi with segments 1-3 dilated; mandibles short and much arcuate.
- 4(11) Elytra broad and wider posteriorly
- 5(10) Elytra with striae obsolete or represented by line of punctures, intervals flat, apex almost transversely and strongly sinuate.
- 6(7) Prothorax distinctly wider than head, lateral margins angulately extending or bulging at middle *Physodera*
- 7(6) Prothorax only slightly wider than head, cordate and widens at middle *Bothynoptera*
- 8(9) Elytra distinctly sinuate at apex; labrum distinctly longer than wide *Stephana*
- 9(8) Elytra faintly sinuate at apex; labrum wider than long.
- 10(5) Elytra with striae distinct, intervals convex, apex obliquely and distinctly sinuate.
- 11(12) Prothorax with lobed base, that base is sinuate laterally inside the hind angles which in advanced position; elytra with inner edge of suture exposed near apex; mesotibiae with an incision or 'notch' internally near the apex; labrum with apical marginal setae in a line..... *Lebia*
- 12(11) Prothorax without 'lobed' base; elytra with inner of suture not exposed; labrum with apical marginal setae placed away from apical margin *Sinurus*
- 13(4) Elytra narrow and parallel sided *Colleida*
- 14(3) Forebody Proportionate; penultimate segment of tarsi not emerginate or bifid; labrum longer than wide; male protarsi with segments 1-4 slightly dilated; mandibles long and arcuate near apex only.
- 15(18) Dorsal surface of head more or less rugose; elytra deeply sinuate near apex and forming spinous angle before sinuation.
- 16(17) Entire dorsal surface of head with regularly arranged dense and longitudinal rugae; apical segment of palpi cylindrical *Paricalus*
- 17(16) Dorsal surface of head with irregular rugae on lateral sides; apical segment of palpi depressed apically *Cataseopus*
- 18(15) Dorsal surface of head almost smooth; spinous angle not formed before apical sinuation of elytra.

- 19(20) Elytra with intervals without punctures, apex transversely and slightly sinuate *Miscelus*
 20(19) Elytra with all the intervals with many punctures, apex obliquely but distinctly sinuate
 *Coptodera*

Genus 38. *Bothynoptera* Schaum 1863

1863. *Bothynoptera* Schaum, *Journ. Ent.*, 2 : 75.

63. *Bathynoptera dorsigera* Schaum, 1863

1863. *Bothynoptera dorsigera*, Schaum, *Journ. Ent.*, 2 : 76

1930. *Bothynoptera dorsigera*, Andrewes, *Cat. Indian Insects., Part 18. Carabidae.*, p. 47.

Material examined : Nil.

Distribution : India : (Meghalaya, E. Khasi Hills, Cherrapunji.), Sikkim and Uttar Pradesh.
 Elsewhere : Tonkin.

Genus 39. *Catascopus* Kirby, 1825.

1825. *Catascopus* Kirby, *Trans. Linn. Soc. London.* 14 : 94.

1861. *Catascopus*, Chaudoir, *Ber. Ent. Zeit.* p. 116.

1930. *Catascopus*, Andrewes, *Cat. Indian. Insects. Part 18. Carabidae*, p. 74.

64. *Catascopus elegans* Weber, 1801.

1801. *Catascopus elegans* Weber, *Obs. Ent.*, p. 45.

1930. *Catascopus elegans*, Andrewes, *Cat. Indian. Insects. Part 18. Carabidae.* p. 75.

Material examined : Nil.

Distribution : Indian : Meghalaya (Khasi Hills) Andaman and Nicobar Is. West Bengal. Elsewhere
 : Australia, Indo-China, Malay and Siam.

65. *Catascopus regalis* Schm. Goeb. 1846

1846. *Catascopus regalis* Schm. Goeb., *Faun. Col. Birmaniae.* P. 84.

1861. *Catascopus regalis*, Chaudoir, *Ber. Ent. Zeit.*, p. 122.

1930. *Catascopus regalis*, Andrewes, *Cat. Indian. Insects. Part 18. Carabidae.* p. 79.

Material examined : Material studied other than Maghalaya.

Distribution : Indian : Meghalaya (Khasi Hills), Assam, Andaman and Nicobar Is. Sikkim and
 West Bengal. Elsewhere : Burma, Laos and Tonkin.

66. *Catascopus violaceus* Schm. Goeb. 1846

1846. *Catascopus violaceus* Schm. Goeb. *Faun. Col. Brim.* p. 82.

1861. *Catascopus violaceus*, Chaudoir, *Bar. Ent. Zeit.*, p. 122.

1892. *Catascopus violaceus*, Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, 32 : 410.

1929. *Catascopus violaceus*, Andrewes, *Trans. Ent. Soc. London*, p. 48.

Material examined : 3 exs. Tura, E. Garo Hills, 15.vi.17. S. W. Kemp. 4 exs. Tura, Garo Hills.
 Oct. 17. Mrs. Kemp Coll.

Material examined : Nil.

Distribution : India : Meghalaya, (Khasi Hills, E. Garo.), Assam, Sikkim and West Bengal. Elsewhere : Burma and Malay.

67. *Catascopus facialis* (Wied)

1819. *Carabus facialis* Wied, *Zool. Mag.*, 1(3).

1825. *Catascopus facialis*, Dejean, *Spec. Gen.*, 1(329)

Material examined : 2 exs., Meghalaya, E. Garo, Rangmatr, Dainadubi, 19.xi.1974, T. Sengupta Coll.

Distribution : India : Meghalaya (E. Garo Hills), throughout Northern India and Assam. Elsewhere : Burma.

68. *Catascopus micabilis* Bates 1892

1892. *Catascopus mirabilis* Bates, *Ann. Mus. Civi. Stor. Nat. Genova.* 32 : 409.

1913. *Catascopus mirabilis*, Dupuins, *Ann. Soc. ent. Belgique* : 419.

Material examined : 1 ex. Garo Hills. 30.viii.17. S. Kemp. Coll.

Distribution : India : Meghalaya (Garo Hills), Assam and Arunachal Pradesh. Elsewhere : Burma, Formosa, Laos and Tonkin.

Genus 40. *Coptodera* Dejean 1825.

1825. ~~*Coptodera* Dejean, *Sp. Gen. Coleopt.*, 1 : 273.~~

1843. *Blonognatha* Chaudoir, *Bull. Soc. Imp. Nat. Moscou*, 2 : 383.

69. *Coptodera eluta* Andrewes, 1923.

1863. *Coptodera interrupta*, Chaudoir, *Ann. Soc. ent. France*, 12 : 163.

1923. ~~*Coptodera eluta*~~ Andrewes, *Trans. Ent. Soc. London*, p. 30.

1930. *Coptodera eluta*, Andrewes, *Cat. Indian. Insects. Part 18 -Carabidae*, p. 127.

Material examined : Nil.

Distribution : India : Meghalaya (Khasi Hills), Andaman Is., Kerala, Uttar Pradesh and West Bengal. Elsewhere : ~~Burma, Sri Lanka~~, Malay, Indo-China, Formosa and Siam.

70. *Coptodera flexuosa* Schm. Goeb. 1846.

1846. *Coptodera flexuosa* Schm. Goeb. *Faun. Coleopt. Birmaniae*, p. 55.

1889. *Coptodera flexuosa*, Bates, *Ann. Soc. ent. France*, p. 283

1923. *Coptodera flexuosa*, Andrewes, *Trans. Ent. Soc. London* p. 31.

Material examined : Material were studied area from other state than Meghalaya.

Distribution : India : Meghalaya (Garo Hills), Andaman Is., Assam, Tamil Nadu, Sikkim and Uttar Pradesh. Elsewhere : Burma, Indo-China, Formosa, Malay and Philippine Is.

71. *Coptodera piligera* Chaudoir 1883.

1883. *Coptodera piligera* Chaudoir in *Oberthur. Col. Nov.* **1** : 20.
 1892. *Coptodera piligera*, Bates, *Ann. Mus. Stor. Nat. Genova*, **32** : 412.
 1930. *Coptodera piligera*, Andrewes, *Cat. Indian. Insects. Part 18 Carabidae*, p. 129.

Material examined : Nil.

Distribution : India : Meghalaya (Ri-Bhoi Shillong, Garo Hills), Sikkim. Elsewhere : Burma, China Laos and Tonkin.

Genus 41. *Stephana* Chaudoir, 1871.

1871. *Stephana* Chaudoir, *Bull. Soc. Imp. Nat. Moscou*, **1** : 55.

72. *Stephana princeps* (Chaudoir 1852)

1852. *Lebia princeps* Chaudoir, *Bull. Soc. Imp. Nat. Moscou*, **1** : 42.
 1871. *Stephana princeps* Chaudoir, *Bull. Soc. Imp. Nat. Moscus*, **1** : 56.

Distribution : India : Meghalaya (W. Khasi Hills, Molong), Uttar Pradesh and West Bengal.

Genus 42. *Sinurus* Chaudoir 1869.

1869. *Sinurus* Chaudoir, *Ann. Soc. Ent. Belgique*, **12** : 129.

73. *Sinurus graciliceps* Bates 1892.

1892. *Sinurus graciliceps* bates, *Ann. Mus. Civ. Stop. Nat. Genova*, **32** : 408.
 1930. *Sinurus graciliceps*, Andrewes, *Cat. Indian. Insects. Part 18 Carabidae*, p. 314.

Distribution : India : Meghalaya (Khasi Hills). Elsewhere : Burma.

74. *Sinurus nitidus* Bates 1892.

1892. *Sinurus nitidus* Bates, *Ann. Mus. Civ. Stor. Nat. Genova*, **32** : 408.
 1930. *Sinurus nitidus*, Andrewes, *Cat. Indian Insecs Part 18 Carabidae*, p. 314.

Material examined : 7 exs. Khasi Hills, Ri- Bhoi Shillong, Mawphlong 27.xi.74 T. Sengupta & Party.

Distribution : India : Meghalaya, (W. Khasi and Ri-Bhoi). Elsewhere : Burma.

Remarks : First time recorded from India.

Genus 43. *Scalidion* Schmidt-Goebel 184675. *Scalidion hilare* schm. Goeb. 1846

1846. *Scalidion hilare* Schm. Goeb., *Faun. Col. Birm.*, p. 64.
 1923. *Scalidion hilare*, Andrewes, *Trans. Ent. Soc. London*, p. 36.

Material examined : Nil.

Distribution : India : Meghalaya (Khasi Hills), Uttar Pradesh. Elsewhere : Burma and Bhutan.

Genus 44. *Risophilus* Leach 1815.

1815. *Risophilus* Leach in Brewsters' *Endib. Encl.*, 9(1) Ent. 81.

1846. *Peliocypas* Schm. Goeb. *Faun. Col. Birm.*, p. 33.

76. *Risophilus luridus* (Schm. Goeb.) 1846

1846. *Peliocypus luridus* Schm. Goeb., *Faun. Col. Birm.*, p. 35.

1923. *Risophilus luridus*, Andrewes, *Tran. Ent. Soc. London*, p. 13.

1930. *Rhisophilus luridus*, Andrewes, *Cat. Indian Insects, Part 18 Carabidae*, p. 292.

Material examined : Nil.

Distribution : India : Meghalaya (E. Khasi Hills, Nongpoh), Sikkim and West Bengal. Elsewhere : Burma, Formosa, Laos and Tonkin.

Genus 45. *Physodera* Eschscholtz 1829

1829. *Physodera* Eschscholtz., *Zool. Alt.* 2 : 8

1846. *Physodera*, Schm. Goeb., *Faun. Coleopt. Birmaniae*, p. 46.

77. *Physodera eschscholtzi* Parry 1849

1849. *Physodera eschscholtzi* Parry, *Trans. Ent. Soc. London*. p. 179.

1886. *Physodera eschscholtzi*, Bates, *Ann. Mag. Nat. Hist.* (5) 17 : 209.

1923. *Physodera eschscholtzi*, Haller, *Philp. Jour, Science.* 23 : 305.

Material examined : Nil.

Distribution : India : Meghalaya (Khasi Hills), Sikkim and West Bengal. Elsewhere : Burma, China, Laos, Malay, Sumatra Java and Borneo.

Genus 46. *Pericalus* Macleay 1825

1825. *Pericalus* Macleay *Ann. Jav.*, p.15

1860. *Pericalus*, Schaum, *Ber. Ent. Zeit.*, p. 190.

78. *Pericalus ornatus* Schm. Goeb. 1846

1846. *Pericalus ornatus* Schm. Goeb., *Faun. Coleopt. Birmaniae*.p.86.

1892. *Pericalus ornatus*, Bates, *Ann. Mus. Civi. Stor. Nat. Genova.* 32:411.

1913. *Pericalus ornatus*, Dupuis, *Ann. Mus. ent. Belgique*, p. 83

1923. *Pericalus ornatus*, Andrewes, *Trans. Ent. Soc. London.*,p.49.

Material examined : 3 exs. Garo hills, 30.viii.1917. S. Kemp. Coll.

Distribution : India : Meghalaya (Khasi Hills, Garo Hills), Assam, Uttar Pradesh and West Bengal. Elsewhere : Burma, Indo-China and Siam.

Genus 47. *Miscalus* Klug 1834

1834. *Miscalus* Klug *Jahrb. Ins.* p. 82
 1861. *Miscalus*, Chaudoir, *Ber. Ent. Zeit.*, p.125.

79. *Miscalus carinatus* Andrewes, 1922

1922. *Miscalus carinatus* Andrewes, *Ann. Mag. Nat. Hist.* (9) **9** : 292 and 295.
 1930. *Miscalus carinatus*, Andrewes, *Cat. Indian. Insects, Part 18 Carabidae*, p. 217.

Material examined : Nil.

Distribution : India : Meghalaya (Garo Hills), Assam. Elsewhere : Laos.

80. *Miscalus javanus* Klug 1834

1834. *Miscalus javanus* Klug *Jahrb. Ins.* t. 1.f. 9 : 82.
 1861. *Miscalus javanus*, Chaudoir, *Ber. Ent. Zeit.*, p. 125.
 1875. *Miscalus javanus*, Bates, *Ann. Mus. Civi. Stor. Nat. Genova.*, **32** : 408.

Material examined : Material studied other than Meghalaya.

Distribution : India : Meghalaya (Khasi Hills), Assam, Andaman Is. Manipur and West Bengal. Elsewhere : Bangladesh, Burma, Sri Lanka, Indo-China, Formosa, Malay and Siam.

Genus 48. *Metabletus* Schmidt-Goebel 1846

1846. *Metabletus* Schmidt-Goebel. *Faun. Coleopt. Birmaniae.*, p. 38.

81. *Metabletus cymindulus* Bates, 1892

1892. *Metabletus cymindulus* Bates, *Ann. Mus. Civi. Stor. Nat. Genova*, **32** : 418.
 1930. *Metabletus cymindulus*, Andrewes, *Cat. Indian. Insects. Part 18 Carabidae*. p.213.

Material examined : 1 ex. Ri-Bhoi Shillong, 12.x.14. S.W. Kemp Coll.

Distribution : India : Meghalaya (Ri-Bhoi Shillong), Bihar, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Burma.

Genus 49. *Lebia* Latreills 1802

1802. *Lebia* Latreille, *Hist. Nat. Crust. at Ins.*, **3** : 85.
 1825. *Lebia* Dajean *Sp. Gen. Coleopt.*, **1** : 253.

82. *Lebia calyphora* Schm. Geeb. 1846

1846. *Lebia calyphora* Schm. Geeb., *Faun. Col. Birmaniae.*, p.44.
 1892. *Lebia Calyphora*, Bates, *Ann. Mus. Civi. Stor. Nat. Genova.* **32** : 427.
 1923. *Lebia calyphora*, Andrewes, *Trans. Ent. Soc. London.*, p.21.

Material examined : Nil.

Distribution : India : Meghalaya (Khasi Hills), Assam and Nagaland. Elsewhere: Burma, Malacca, Siam and Sumatra.

Genus 50. *Perileptus* Schaum 1860

1860. *Perileptus* Schaum, *Nat. Ins. Deutschl.*, 1 : 663.
 1864. *Perileptus*, Motchulsky, *Bull. Soc. Imp. Nat. Moscou.*, 2 : 190.

83. *Perileptus indicus* Jeann 1923

1923. *Perileptus indicus* Jeann, *Ann. Mag. Nat. Hist.*, (9). 12 : 397 and 399. f.2.
 1926. *Perileptus indicus* Andrewes, *Ent. Month. Mag.*, p. 68.

Distribution : India : Meghalaya (Garo Hills), Manipur, Sikkim, Uttar Pradesh and West Bengal.

Genus 51. *Calleida* Latreilla, at Dejean 1822

1822. *Calleida* Latreilla, *Hist. Nat. Icono. Coleopt.*, p.132.
 1825. *Calleida*, Dejean, *Spec. Coleopt.*, 1 : 220.
 1930. *Calleida*, Andrewes, *Cat. Indian. Insects*, Part 18 *Carabidae*, p.59.

84. *Calleida sultana* Bates 1892

1892. *Calleida sultana* Bates *Ann. Mus. Civ. Stor. Nat. Genova*, p.421.
 1930. *Calleida sultana*, Andrewes, *Cat. Indian Insects. Part 18 Carabidae*. p.60.

Material examined : 1 ex. Tura Garo Hills.

Distribution : India : Meghalaya (E.Garo Hills). Elsewhere : Burma.

Genus 52. *Dolichoctis* Schmidt Goebel 1846

1846. *Dolichoctis* Schem-Goeb. *Faun. Col. Birmaniae* : 62.
 1930. *Dolichoctis*, Andrewes, *Cat. Indian. Insects. Part 18 - Carabidae*, p. 154.

85. *Dolichoctis striata* Schm-Goeb 1846

1846. *Dolichoctis rotundata* (Schm-Goeb). *Faun. Col. Birmaniae* : 62; *D. Striata*, *Ibid* : 77.
 1889. *Dolichoctis rotundata*, Bates, *Ann. Mus. Civi. Stor. Nat. Genova*, 27 : 111.
 1923. *Dolichoctis rotundata*, Andrewes, *Trans. ent. Soc. London.* : 45

Material examined : 2 exs. E. Garo Hills, Sangsok, 21.xi.1974. T. Sengupta.

Distribution : India : Meghalaya (E. Garo Hills). Elsewhere : Burma.

Remarks : This species is first time recorded from Meghalaya.

Tribe XXI. BRACHININI

Genus 53. *Pheropsophus* Soiler, 1883

1833. *Pheropsophus* Soiler, *Ann. Soc. ent. Frnace*, p. 461.
 1906. *Stenaptanus* Maindr. *Dent. Ent. Zeit.*, p. 15.
 1914. *Pheropsophus*, Hubthl, *Deut. Ent. Zeit.*, p.437.

86. *Pheropsophus krichna* Maindr. 1906.

1906. *Pheropsophus krichna* Maindr, *Bull. Soc. ent. France.*, p. 15.

1930. *Pheropsophus krichna*, Andrewes, *Cat. Indian. Insects. Part 18 Carabidae.*, p.273.

Material examined : Nil.

Distribution : India : Meghalaya (Ri-Bhoi Shillong, Khasi Hills).

Remarks : This species is endemic to Meghalaya.

87. *Pheropsophus prophylax* Heller, 1903.

1903. *Pheropsophus prophylax* Heller, *Ann. Soc. ent. Belgique.* p.247.

1930. *Pheropsophus prophylax*, Andrewes, *Cat. Indian. Insects. Part 18 Carabidae.*, p.275.

Distribution : India : Meghalaya (Garo Hills), Assam and Manipur.

88. *Pheropsophus scythropus* Andrewes, 1923

1876. *Pheropsophus melancholicus* Chaudoir, des Brachynides. *Ann. Soc. ent. Belgique.*, p.20.

1923. *Pheropsophus scythropus* Andrewes, *Ann. Mag. Nat. Hist. (9) 12* : 221.

1930. *Pheropsophus scythropus* Andrewes, *Cat. Indian. Insects. Part 18 Carabidae.*, p. 275.

Material examined : 1ex. Khasi Hills, Mauphlong. 18.v.1979. P. T. Charian coll. 1 ex. W. Khasi Hills, Dawki Road. 6.viii.1981. G. Radhakrishnan. 2 exs. Khasi Hills. Mawphlong. 19.iv.1979. Dr. A. Singh. Coll. 5 exs. W Khasi Hills. 21.iii.1991. A. K. Hazra Coll. 1 ex. Garo Hills. Bagmara 2.iii.1965. A. S. Rajagopal.

Distribution : India : Meghalaya, (Ri-Bhoi Shillong Khasi Hills) Manipur, Sikkim and West Bengal. Elsewhere : Burma.

Remarks : This species is common in Meghalaya.

89. *Pheropsophus catoirei* (Dej) 1825

1825. *Brachinus catoirei* Dejean. *Spec. Gen. Col.*, 1 : 301.

1875. *Pheropsophus catoirei*, Putz., *Comp. Soc. ent. Belgique.*, p. 45.

1924. *Pheropsophus catoirei* Andrewes, *Miss. Prov. cent. Occidentae* p. 55.

Material examined : 1 exs. Garo Hills, Ramgram. 4.iii.1975. S. Biswas Coll.

Distribution : India : Meghalaya (W. Garo), throughout India. Elsewhere : Burma and Sri Lanka.

SUMMARY

This is the first comprehensive account of the carabid fauna of the areas which are now under the State of Meghalaya. 89 species under 52 genera, 21 tribes and two subfamilies including new records of the tribe LICININI, two genera *Diplocheila* Brulle and *Dolichoctis* Schm.-Goeb. and 12 species namely, *Scarites selene* Schm.-Goeb., *S. laticeps* Andrewes, *Diplocheila polita* (F.), *Chlaenius circumdatus* Brulle, *C. nepalensis* Hope, *Clivina costulipennis* Bates, *Pterostichus harmandi* Bates, *Orthogonius alternans* (Wied.), *O. duplicatus* (Wied.), *O. hopei* Gray, *Sinurus nitidus* Bates and *Dolichoctis striat* Schm.-Goeb. are reported in this work.

ACKNOWLEDGEMENTS

The authors are grateful to the Director, Zoological Survey of India for assigning this work. They are also grateful to Dr. T. Sengupta, In-Charge of Entomology Div.(A) and Dr. S. Biswas, Officer-in-Charge, Coleoptera Section for their various help and encouragements.

REFERENCES

- Andrewes, H. E. 1929. *Fauna of British India including Ceylon and Burma, Coleoptera, Carabidae, Vol.1, Carabinae*, i-XVIII + 431 pp. (Taylor and Francis, London).
- Andrewes, H. E. 1930. *Catalogue of Indian Insects. Part 18. Carabidae*, i-xii + 388 pp. (Govt. of India Central Publication, Calcutta).
- Andrewes, H. E. 1935. *Fauna of British India including Ceylon and Burma, Coleoptera Carabidae, Vol-II, Harpalinae -1*, i-xvi + 323 pp. (Taylor and Francis, London)
- Andrewes, H. E. 1947. Entomological results from Swedish Expedition 1934 to Burma and British India, Coleoptera ; Carabidae collected by Rene Malaise. *Ark. Zool.*, 38A(20) : 6-9.
- Bates, H. W. 1889(a). Viaggio di Leonardo Fea in Birmania e regioni Vicini. XVI. (On some Carabidae of Burma collected by Mr. L. Fea). - *Ann. Mus. Civ. Nat. Genova*, (2) 7 (27) : 103-104.
- Bates, H. W. 1889(b). Contributions a la faune Indo -Chinoise. 3 e memoire Carabidae. *Ann. Soc. Ent. France*, (6) 9 : 268-272.
- Bates, H. W. 1892. Viaggio di Leonardo Fea in Birmania e regioni Vicini. *Ann. Mus. Civ. Nat. Genova*, (2) 12 (32) : 328-350.
- Chadoir, M. de. 1952. Memoirs sur la famille des Carabiques. 3 e partie. *Bull. Soc. Nat. Moscou*, 25(1) : 88-90.
- Chadoir, M. de. 1854. *Ibid* 4e partie. *Ibid*, 27(2) : 345-347.
- Chadoir, M. de. 1863. Enumeration des Cicindeletes et des Carabiques recueillis dans la Russie meridionale, dans la Finlande septentrionale et dans la Siberie Orientale par MM Alexandre et Arthur de Normann. *Bull. Soc. Nat. Moscou*, 36(1) : 218-219.
- Chadoir, M. de. 1870. Monographic des Lebilides. *Bull. Soc. Nat. Moscou*, 19(2) : 511-545.
- Chadoir, M. de. 1876. Etude Monographique des Masoreides, des Tetragonoderides, et du genre Nematotarsus. *Bull. Soc. Ent. Moscou*, 52(2) : 1-84.
- Dejean, P. F. M. A. 1825-1831. Species general des Coleopteres de la Collection de M. le comte Dejean. Mequignon Marvis, Paris. 5 Vols. 1825, 1 : 1-463 + i-XXX; 1826, 2:1-501 + i-viii; 1828, 3:1-556 + i-viii; 1826, 4:1-520 + i-vii; 1831, 5:1-883 + i-viii.
- Dejean, P. F. M. A. 1837. Catalogue des Coleopteres de la collection de M. Leconte Dejean (3rd ed.), pp. 1-53.

- MacLeay, W. S. 1825. An attempt to illustrate the natural affinities and analogies of insects collected in Java by Thomas Horsfield and deposited by him in the Museum of the Honourable East India company - *Ann. Jav.*, 1 : 20-22.
- Motschulsky, V. de. 1855. Surless collection Coleopterologi es de Linne et de Fabricieus. *Etnid. Ent.*, 4 : 43-53.
- Saha, S.K. 1985. Namdhapa Biosphere reserve, Insecta : Coleoptera, Carabidae & Cicindelidae (Part.1). *Rec. zool. Surv. India*, 82(1-4) : 117-127.
- Saha, S. K., Mukherjee, A. K. and Sengupta, T. 1992. Carabidae (Coleoptera : Insecta) of Calcutta *Rec. zool. Surv. India*, Occassional Paper No. 144, pp. 1-63.
- Saha, S. K. (in press). fauna of West Bengal, Insecta : Coleoptera : Adephage II, Fam. Carabidae : Harpalini. *Rec. zool. Surv. India*.
- Schaum, H. 1856-1860. Cicindelidae und Carabidae, In W. F. erichson, *Naturgeschichte der Insecten Deutschlands*. Band I, 1 Berlin, .vi +.791 pp. 1856, pp. 1-352; 1857 pp. 353-552; 1860, pp. 353-791.
- Schmidt Goebal, H. M. 1856. *Faunula Coleopterum Birmanae, adjectes nonnules Bengaliae Indigenis*. Lieferung 1, Prague, pp. 1-94, pls. 1-3.

Table 1. Showing district-wise distribution of the species recorded from Meghalaya

Name of species	Khasi Hills	Ri-Bhoi	East Khasi	West Khasi	Garro Hills	East Garo	West Garo	South Garo	Jayantia
	A	1	2	3	B	4	5	6	7
1. <i>Calosoma nigrum</i> Parry	+								
2. <i>Haplogoster ovata</i> Chaudoir		+							
3. <i>Scarties semirugosus</i> McLeay	+								
4. <i>S. sulcatus</i> Oliver	+								
*5. <i>S. selene</i> Schm. -Gaeb.		+							
*6. <i>S. laticeps</i> Andrewes							+		
7. <i>Thlibops puncticollis</i> Gestro	+								
8. <i>Clivina semicarinate</i> Puiz					+				
*9. <i>C. costulipennis</i> Bates		+							
10. <i>Dyschirius constrictus</i> Andrewes		+							
11. <i>Broscus punctatus</i> (Daj.)		+	+	+	+				+
12. <i>Perileptus indicus</i> Jean.					+				
13. <i>Bembidion kara</i> Andr.					+				
14. <i>B. notatum</i> Andr.				+					
15. <i>Tachys micraulax</i> Andr.				+					
16. <i>T. latissimus</i> Motch.				+					
17. <i>T. poecilopterus</i> Bates				+					
*18. <i>Diplocheila polita</i> (F)						+			
19. <i>Harpalus karennius</i> Bates		+							
20. <i>H.indicola</i> Bates	+								+
21. <i>Harpaliscus birmanicus</i> Bates		+							

Name of species	Name of districts									
	A	1	2	3	B	4	5	6	7	
22. <i>Stenolohus smaragdulus</i> F.	+									+
23. <i>Kareya edentata</i> (Bates)		+								
24. <i>Gnothophanus orientalis</i> Dej.				+						
25. <i>Chlaenius birmanicus</i> Chand		+			+					
*26. <i>C.circumdatus</i> Brulle							+	+		
27. <i>C.cambodiensis</i> Bates	+									
28. <i>C.pictus</i> Chaudoir	+									
29. <i>C.bimaculatus</i> Dejean		+		+						
30. <i>C.xanthospilus</i> Wied							+	+		
*31. <i>C.nepalensis</i> Hope			+							
32. <i>Oodes parallelus</i> Laferte	+									
33. <i>O.virena</i> Wied.	+									
34. <i>Simosus lampros</i> Bates	+									
35. <i>S.negriceps</i> (Wied)		+								
36. <i>Perigona plagiata</i> Putz							+			
37. <i>Amara darjeetingensis</i> Bates		+								
38. <i>Trigonotoma bhamoensis</i> Bates		+								
39. <i>Dicaelindus pernitidus</i> (Chand.)	+									
*40. <i>Pterostichus harmandi</i> Tchitch			+							
41. <i>Agonum marginalis</i> Wied		+								
42. <i>Magalonychus birmanicus</i> Bates	+									
43. <i>M.cyanipennis</i> Bates	+									
44. <i>Larestema alutacea</i> Motch.						+				
45. <i>Colpodes cruralis</i> Chaud.						+				
46. <i>C.buchanani</i> Hope						+				

Name of species	Name of districts									
	A	1	2	3	B	4	5		6	7
47. <i>Dicranonus quadidens</i> Motch		+								
48. <i>Desera nepalensis</i> Hope	+									
49. <i>D. geniculata</i> Klug	+									
50. <i>Drypta sideria</i> Bates					+					
51. <i>D.flavipes</i> Wied.		+					+			
52. <i>Galerita orientalis</i> Schm.Goeb.										
53. <i>Odocantha tetraspilota</i> Schm.Goeb.					+					
54. <i>Ophionea nigrofasciata</i> Schm.Goeb.	+									
55. <i>B.indica</i> (Thunb)	+							+		
56. <i>Creagris binoculus</i> Bates	+									
57. <i>Orthogonins mellyi</i> (Chaud)					+					
58. <i>O.opacus</i> Schm.-Boeb							+			
*59. <i>O.alternans</i> (Wied)										+
*60. <i>O.duplicatus</i> (Wied)							+			+
*61. <i>O.hopei</i> Gray							+			
62. <i>Tetragonoderus arcuatus</i> Dej.	+									
63. <i>Bothynoptera dorsigera</i> Schaum		+								
64. <i>Catascopus elegans</i> Weber	+									
65. <i>C.regalis</i> Schm.-Goeb.	+									
66. <i>B.violaceous</i> Schm.-Goeb.							+			
67. <i>C.fascialis</i> (Wied)							+			
68. <i>C.mirabilis</i> Bates					+					
69. <i>Coptodera eluta</i> Andrewes	+									
70. <i>C.flexuosa</i> Schm.-Goeb.					+					
71. <i>C.pilligera</i> chaudi		+			+					

Name of species	Name of districts								
	A	1	2	3	B	4	5	6	7
72. <i>Stephana princeps</i> Chaudoir			+						
73. <i>Sinurus graciliceps</i> Bates	+								
*74. <i>S. nitidus</i> Bates		+							
75. <i>Scelidion hilara</i> Schm.-Goeb)	+								
76. <i>Risophilus luridus</i> (Schm.-Goeb)			+						
77. <i>Physodera eschscholtzi</i> Perry	+								
78. <i>Pericalus ornatus</i> Schm.-Goeb.	+								
79. <i>Miscellus carinatus</i> Andr.					+				
80. <i>M. javanus</i> Klug	+				+				
81. <i>Matablelus cymindulus</i> Bates		+							
82. <i>Lebia calycophore</i> Schm.-Goeb	+								
83. <i>Perileptus indicus</i> Jeannel					+				
84. <i>Calleida sultana</i> bates						+			
*85. <i>Dolichoctis striata</i> Schm.-Goeb.						+			
86. <i>Pheropsophus krichna</i> Mandr.		+							
87. <i>P. prophylax</i> Heller					+				
88. <i>P. scythropus</i> Andrewes		+		+	+				
89. <i>P. catorei</i> (Dej)								+	

COLEOPTERA : CERAMBYCIDAE

P. MUKHOPADHYAY AND S. BISWAS

*Zoological Survey of India
Calcutta 700 053*

INTRODUCTION

The family Cerambycidae belongs to Superfamily Chrysomeloidea which includes vast assemblage of phytophagous and xylophagous insects and is divided into three families, namely (1) Bruchidae (2) Chrysomelidae and (3) Cerambycidae. Members of the family Cerambycidae are commonly known as longicorn or long horned beetles and can be normally recognised by the combination of characters of (1) elongate body with long antennae, capable of being flexed backwards and usually inserted on prominent tubercles, (2) tibiae with two spurs and claws are nearly always simple. Some of the members of the group are of attractive colouration and are among the largest of insects.

This is one of the largest family of Coleoptera containing 35,000 species under 4000 genera in 11 subfamilies from the World (Lawrence 1982). Though predominant in tropics, the family is distributed throughout the world wherever there is woody vegetation. The adults feed on wood, roots, leaves, pollen and a few are carnivorous. The larvae bore into wood and roots and many of the species are harmful to wood structure and furniture. Eggs are usually laid in or under bark or in cracks in wood or in crevices by means of long ovipositor and larvae gradually penetrate into cambium. The larvae of some groups live in stems of herbaceous plants. It is evident that members of this family are capable of damaging practically every part of the tree. As a result this group has become economically very important as some are very serious pests of agricultural, horticultural, forest trees and valuable timbers.

Indian Cerambycidae has attracted the attention of many workers from India and abroad, Gahan (1906), Stebbing (1914), Beeson (1941), Bhasin and Roonwal (1954) and Breuning (1960-62, 1963, 1964, 1965, 1966) have made valuable contributions to various aspects of this group. In spite of all the works mentioned above no comprehensive work dealing with all groups of Indian Cerambycidae is still available.

As for number of species over 1200 species are known to occur in Indian region (Beeson 1941). Another little over 300 species were added by Breuning (1960-66). So altogether 1500 species are known from India.

As regards Cerambycid fauna of Meghalaya is concerned our present state of knowledge remains still very incomplete. Though first species was recorded as early as the middle of the Eighteenth Century. (Thomson 1758). However, prior to this study only 20 species under 14 genera belonging to the subfamily Lamiinae and 6 species under 6 genera of Cerambycinae were recorded from Meghalaya.

Present study is based on a collection made by different survey parties of Zoological Survey of India during 1909 to 1990 including recent Mopping Survey and the old collections present in the section. The study also includes the species reported by earlier workers including the material which is not available during the study to get an upto date account of longicorn beetles of Meghalaya.

Distributional data of the species has been given from the published records as well as the actual study of the specimens.

Keys to the subfamilies, tribes, genera and species where necessary have been provided.

SYSTEMATIC ACCOUNT : List of Taxa

- Subfamily Prioninae
 Tribe Prionini
 Genus *Lophosternus* Guèr. 1844
1. *Lophosternus buquetti* Guerin
 2. *Lophosternus indicus* Hope
 Genus *Ancyloprotus* White 1853
 3. *Ancyloprotus bigibbosus* white
 Tribe Macrotomini
 Genus *Macrotoma* Serville, 1832
 4. *Macrotoma crenata* (F.)
 Tribe Aegosomini
 Genus *Aegosoma* Serville, 1832
 5. *Aegosoma ornatocolle* White
 6. *Aegosoma costipenne* White
 Genus *Sarmyodus* Pascoe, 1867
 7. *Sarmyodus antennatus* Pascoe
 Subfamily Lepturinae
 Genus *Leptura* Linn., 1758
 8. *Leptura* sp.
 Subfamily Cerambycinae
 Tribe Oêmini
 Genus *Xystrocera* Serv., 1834
 9. *Xystrocera festiva* Thomson
 Tribe Cerambycini
 Genus *Neocerambyx* Thoms., 1861
 10. *Neocerambyx paris* Wiedman
 Genus *Hoplocerambyx* Thoms. 1864
 11. *Hoplocerambyx spinicornis* Newman
 Tribe Hesperophanini

- Genus *Stromatium* Serville 1834
12. *Stromatium barbatum* Fab.
Tribe Callidiopsini
- Genus *Stenygrinum* Bates, 1873
13. *Stenygrinum quadrinotatum* Bates
Genus *Ceresium* Newman, 1842
14. *Ceresium leucostecticeum* White
Tribe Callichromini
- Genus *Zonopterus* Hope, 1843
15. *Zonopterus flavitarsis* Hope
Genus *Aphrodisium* Thoms., 1864
16. *Aphrodisium rubripennis* Hope.
Genus *Chloridolum* Thoms., 1864
17. *Chloridolum alcmene* Thoms.
18. *Chloridolum bivittatum* White
19. *Chloridolum perlaetum* White
Genus *Chelidonium* Thoms., 1864
20. *Chelidonium argentatum* Dalm.
Tribe Rosaliini
- Genus *Rosalia* Serv., 1833
21. *Rosalia formosa* Saunder
Tribe Clytini
- Genus *Xylotrechus* Chev., 1860
22. *Xylotrechus contortus* Gah.
Genus *Caloclytus* Fairm., 1860
23. *Caloclytus annularis* (F.)
Tribe Glaucytini
- Genus *Polyphida* Pascoe, 1869
24. *Polyphida metallica* Nonfried
Subfamily Lamiinae
Tribe Batocerini
- Genus *Batocera* Cast., 1840
25. *Batocera b. lineolata* Chev. var. *adelpa* Thoms.
26. *Batocera b. numitor* Newm.
- 26a. *Batocera b. numitor* Newm. var. *titana* Thoms. (included under *numitor*)

27. *Batocara b. rubus* Linn.
28. *Batocera tyrannolamia roylei* Hope
29. *Batocera semibatocera Parryi* Hope var. *calanus* Parry
Genus *Apriona* Chev., 1852
30. *Apriona germari* Hope
Tribe Gnomini
Genus *Imantocera* Thoms., 1857
31. *Imantocera penicillata* Hope
Tribe Ceroplesini
Genus *Diastocera* Thoms., 1857
32. *Diastocera wallichi* Hope
Tribe Pterognathini
Genus *Ithocritus* Lacord., 1872
33. *Ithocritus ruber* Hope
Tribe Xylorhizini
Genus *Xylorhiza* Cast., 1840
34. *Xylorhiza adusta* Wied.
Tribe Niphonini
Genus *Lychrosis* Pasc., 1866
35. *Lychrosis humerosus* Thoms.
36. *Lychrosis zebrinus* Pasc.
Genus *Sthenias* Cast., 1840
37. *Sthenias grisator* Fab.
Tribe Hippopsini
Genus *Aulaconotus* Thoms., 1864
38. *Aulaconotus* sp.
Genus *Pseudohippopsis* Gestro, 1895
39. *Pseudohippopsis* sp.
Tribe Saperdini
Genus *Serixia* Pasc, 1856
40. *Serixia inconspicua* Gardn.
41. *Serixia* sp.
Tribe Gleneini
Genus *Glenea* Newm., 1842

42. *Glenea Glenea indiana* Thoms.
 43. *Glenea G. lecta* Gah.
 44. *Glenea G. pulchella* Thoms.
 45. *Glenea sulphurea* Thoms.
 46. *Glenea* sp.
 47. *Glenea stiroglenea cancellata* Thoms.
 Genus *Stibara* Hope, 1840
 48. *Stibara tetraspiloba* Hope
 Tribe Phytoeciini
 Genus *Nupserha* Thoms., 1860
 49. *Nupserha annulata* Thoms.
 50. *Nupserha lenita* Pasc.
 51. *Nupserha quadrioculata* Thunb
 52. *Nupserha* sp
 Genus *Oberea* Muls., 1839
 53. *Oberea insensibilis* Pasc
 54. *Oberea* sp.
 Genus *Dasyllinda* Thoms., 1868
 55. *Dasyllinda testacea* Saund
 Tribe Lamiini
 Genus *Morimus* Serv., 1835
 56. *Morimus morimoides* White
 Tribe Monochamini
 Genus *Stratioceros* Lacord., 1869
 57. *Stratioceros princeps* Lacord.
 Genus *Leprodera* Thoms., 1857
 58. *Leprodera stephanus* White
 Genus *Epepeotes* Pasc, 1866
 59. *Epepeotes guttatus* Guer.
 60. *Epepeotes uncinatus* Gah.
 Genus *Monochamus* Guer., 1821
 61. *Monochamus auratus* Gahan
 62. *Monochamus permutans* Pasc.
 63. *M. sulphurifer* Hope

64. *M. versteegi* RitsGenus *Hechinoschema* Thomson., 185765. *Hechinoschema spinosum* Thoms.Genus *Macrochenus* Guerin, 184366. *Macrochenus Guerini* WhiteGenus *Aristobia* Thomson, 186867. *Aristobia clathrator* Thomson68. *Aristobia horridula* Hope69. *Aristobia testudo* Voet.Genus *Blepephacus* Pase. 186670. *Blepephacus succinator* Chev.,Genus *Pharsalia* Thoms. 186471. *Pharsalia suturalis* Auriv.

Key to the Subfamilies of Indian Cerambycidae

1. Pronotal fovea present; clypeus not extending far beyond the anterior tentorial pits; anal lobes of hind wing large and separated from the rest of the wing membrane by a smooth incision .. 2
- 1(8) Head in front oblique or subvertical; last joint of palpi not pointed at the end; fore tibiae not grooved beneath.
- 2(3) Inner lobe of maxillae obsolete or very small; gula without mentigerous process; prothorax marginate at sides; front coxae strongly transverse Prioninae
- 3(2) Inner lobe of maxillae more or less well developed; prothorax not marginate at sides; front coxae rarely strongly transverse.
- 4(5) Head variable in form, but seldom distinctly narrowed behind eyes; gula with or without mentigerous process, this, when present, usually very short; mandibles never provided with a ligamentous fringe or molar tooth at base; wing-venation generally reduced by disappearance either of Cu. 2 or branch of Cu. 1 or both Cerambycinae
- 5(4) Head more or less elongated and either gradually or abruptly narrowed behind eyes; gula with very distinct mentigerous process, mandibles frequently provided with a ligamentous fringe and molar tooth at base; wing vein Cu. 1 usually bifurcate behind and joined near middle to Cu. 2.
- 6(7) Head very short in front; antennae close to the base of the mandibles; front coxae subglobular, with their acetabula rounded, or exceptionally slightly angulated on outer side ...
..... Disteniinae
- 7(6) Head long in front; antennae close to the base of the mandibles; front coxae conical and prominent with their acetabula more or less strongly angulated on outer side Lepturinae

- 8(1) Head in front vertical or bent inwards well below the thorax; last joint of the palpi pointed at the end; fore tibiae generally with a groove beneath.....Lamiinae

Subfamily Prioninae

Key to the tribe of the subfamily Prioninae from Meghalaya

- 1(2) Met-episternum converging posteriorly, either narrowly truncate or obtusely pointed at apex. Third joint of tarsi cleft almost to the base, antennae inserted near the base of the mandible Aegosomini
- 2(1) Met episternum parallel sided, broadly truncate behind 2
- 3(4) Prothorax with 1 to 4 strong marginal teeth or spine on each side; first joint of antennae extending one third of the length of the body; labrum distinct, never triangular, sometimes semicircular and transverse..... Prionini
- 4(3) Lateral margin of prothorax crenulate, denticulate or spinulose along each side; First joint of antennae long or moderately long but never short Macrotomini

Tribe Prionini

Key to the genera of the tribe Prionini from Meghalaya

- 1(2) Mandible long, curved downwards and backwards, narrowing towards the apex; Prothorax transverse, marginal teeth rather short *Lophosternus*
- 2(1) Mandible vertical or oblique, not recurved; Prothorax transverse, with a hump on each side of the middle, with two strong tooth at its lateral margin on each side or pronotum bituberculate *Ancyloprotus*

Genus *Lophosternus* Guerin, 1844

1844. *Lophosternus* Guerin, *Icon. Regne. Anim. Ins.*, P. 200

Key to the species of the genus *Lophosternus* Guer. from Meghalaya

- 1(2) Dark brown or almost black in colour; Antennae reaching to the middle of elytra or little beyond; elytra more or less rugulose and punctate *indicus* Hope
- 2(1) Chestnut – red in colour; antennae nearly as long as the body; elytra rather strongly punctured *Buqueti* Guer.

1. *Lophosternus buqueti* Guerin, 1844

1844. *Lophosternus buqueti* Guerin, *Icon, Regne Anim. Ins.* P.209

1906. *Lophosternus buqueti*, Gahan, *Fauna. Brit. India*, 1:13

Material examined : 1ex, 15.v.1979 Darugiri, Garohills, J. K. Jonathan Coll. 1ex., 20.iv.1991 Anupukhri B. N. Das & party. 1ex., Dispur, 6.vi.1990. Assam.

Distribution : India : Assam, Karnataka, Meghalaya (Khasi hills), Burma, Indonesia, Bangladesh.

2. *Lophosternus indicus* Hope

1831. *Lophosternus indicus* Hope (*Prionus*), *Gray's Zool. Misc.*, p.27.

1844. *Lophosternus (Cyrtosternus) hopei* Guer. *Icon. Regne Anim. Ins.*, p.210

Material examined : 7exs. Meghalaya.

Distribution : India : West Bengal, Meghalaya, Sikkim; Nepal; Bhutan.

Remarks : This species is recorded for the first time from Meghalaya.

Genus *Ancyloprotus* White, 1853

1853. *Ancyloprotus* White, *Cat. Coleopt. B. M. Longic.* 1 : 19

3. *Ancyloprotus bigibbosus* White, 1853

1853. *Ancyloprotus bigibbosus* White, *Cat. Coleopt. B. M., Longic* 1 : 19, pl. 1, fig. 4.

1906. *Ancyloprotus bigibbosus*, Gahan, *Fauna, Brit. Mus. Coleopt.*, 1 : 19

Material examined : 1ex., 3.viii.1959, Kenchs' herbarium, Shillong, Khasi hills. 1ex., above Tura, Garo hills, 13.vii - 30.viii.1917. S. W. Kemp Coll. 7exs., Shillong Museum, no other data. 1ex., North Khasi hills, Major Godwin Austin Coll.

Distribution : India : Assam, Manipur, Meghalaya. Burma.

Remarks : First time recorded from Meghalaya.

Tribe Macrotomini

Genus *Macrotoma* Serville, 1832

1832. *Macrotoma* Serville, *Ann. Soc. Ent. Fr.* 1 : 137

4. *Macrotoma crenata* (Fabricius)

1801. *Prionus crenata* Fabricius, *Syst. Eleuth.* 2 : 264.

1906. *Macrotoma crenata*, Gahan, *Fauna Brit India. Coleopt.* 1 : 36-37, fig. 13.

Material examined : 1ex. 6.vi.1990, Dispur, Assam.

Distribution : India : West Bengal, Maharashtra, Kashmir, Meghalaya, Nepal, Burma, Sri Lanka.

Remarks : This species usually bores in freshly felled hardwood as well as soft tindeng wood.

N. B. The species was collected during Meghalaya survey from Dispur. Though the locality actually falls within Assam but very near to Meghalaya and the species in all probability will in Khasi hills district of Meghalaya.

Tribe Aegosomini

Key to the genera of the tribe Aegosomini from Meghalaya

- 1(2) First joint of hind tarsi not longer than joints 2 to 3 together; head elongated behind the eyes; prothorax unarmed or with 1 to 3 short spines or teeth on each side *Aegosoma*
- 2(1) First joint of hind tarsi distinctly longer than joints 2 to 3 together; head short; Prothorax with an acute spine in the middle..... *Sarmydus*

Key to the species of the genus *Aegosoma* Serville

- 1(2) Elytra naked, with 2 or 3 very feebly raised lines; claw joint of tarsi longer than the first three joints together; dark brown in colour..... *ornaticolle* White

- 2(1) Each elytron with four costae; claw joint of tarsi shorter than the joints 1-3 together; Ferruginous red and opaque in colour*costipenne* White

Genus *Aegosoma* Serville, 1832

1832. *Aegosoma* Serville, *Ann. Soc. Ent. Fr.*, 1 : 162.

5. *Aegosoma ornaticolle* White

1853. *Aegosoma ornaticolle* White, *Cat. Coleopt. B. M. Longic.* p. 30.

1906. *Aegosoma ornaticolle*, Gahan, *Fauna Brit. Mus. Coleopt.* 1 : 45

Material examined : 1ex., ix.1917. above Tura, Garo hills. Mrs. S. Kemp Coll.

Distribution : India : Assam, Manipur, Meghalaya, Burma.

Remarks : First time recorded from Meghalaya.

6. *Aegosoma costipenne* White

1853. *A. costipenne* White (Megopsis), *Cat. Coleopt. B. M., Longic.*, 1 : 28, pl. 2, fig. 2.

1867. *A. lacertosum* Pasc., *A.M.N.H.* (3) 19 : 413.

1906. *A. costipenne* White : Gahan, *Fauna Brit. India Coleopt.*, 1 : no. 45, pp. 49.

Material examined : 1ex., 30.iv.1979, Tura, Garo hills, J. K. Jonathan Coll. 1ex., 29.iv.1991. Rongra, W. Garo hills. B. N. Das. Coll.

Distribution : India : Assam, Meghalaya, Sikkim, Manipur.

Remarks : First time recorded from Meghalaya. E.P. Stebbing (1914) recorded the species from *Tectona grandis* (Teak), Kulsī Teak plantation (Assam).

Genus *Sarmyds* Pascoe, 1867

1867. *Sarmyds* Pascoe, *A.M.N.H.*, (3) 19 : 410.

7. *Sarmyds antennatus* Pascoe

1867. *S. antennatus* Pasc., *A.M.N.H.* (3) 19 : 410.

1906. *S. antennatus* Pasc.; Gahan, *Fauna of Brit. India Coleoptera* 1 : 52.

Material examined : 6exs., 15-vii-30.viii.1917. Above Tura Garo hills, S. Kemp coll.; 1ex., Sept. 1917, above Tura, Garo hills. Mrs. Kemp coll.

Distribution : India : Manipur, Andaman & Nicobar Islands, Meghalaya, Burma, Indonesia.

Remarks : First time recorded from Meghalaya.

Subfamily *Cerambycinae*

Key to the tribes of the subfamily *Cerambycinae* from Meghalaya

- 1(8) Eyes coarsely faceted
- 2(3) Mesocoxal cavity closed; antennae not spined, front coxal cavity open, ventrite 1 normal.....
..... *Callidiopsini*
- 3(2) Mesocoxal cavity open.
- 4(5) Intercoxal process of prosternum dilated at end; front coxal cavity closed *Cerambycini*
- 5(4) Intercoxal process of prosternum very little or not at all dilated at end; front coxal cavity open posteriorly; antennae longer than body in male.

- 6(7) Ligula corneous; prothorax sometimes tuberculate or spined at the sides, but often unarmed ..
.....Oemini
- 7(6) Ligula membranous, prothorax unarmed at sides..... Hesperophanini
- 8(1) Eyes finely faceted
- 9(10) Mesocoxal cavity closed; eyes large, prominent and deeply emarginate, prothorax unarmed at sides, front coxal cavity closed Glaucytini
- 10(9) Mesocoxal cavity open
- 11(12) Front coxae subglobular, not prominent, more or less angulate on outer side and its cavity open posteriorly; eyes broadly and deeply emarginate and antennae contiguous to them
..... Rosaliini
- 12(11) Front coxae rounded and not angulated on outer side.
- 13(14) Scutellum usually large, triangular in form with its apex acute; front coxal cavity closed or nearly closed behind; Apex of elytra roundedCallichromini
- 14(13) Scutellum generally small and less acute at apex; front coxal cavity open posteriorly; elytra truncate at apexClytini

Subfamily Cerambycinae

Tribe Oemini

Genus *Xystrocera* Serville, 1834

1834. *Xystrocera* Serville, *Ann. Soc. Ent. Fr.*, P.69

8. *Xystrocera festiva* Thomson

1861. *Xystrocera festiva* Thoms., *Essai Classif. Ceramb.*, P.251.

1906. *X. festiva* Thoms.; Gahan, *Fauna Brit. India*, Coleoptera, 1 : 107.

Material examined : 1ex. Meghalaya, 1ex. Shillong Museum, no other data.

Distribution : India : Meghalaya, Burma, Indonesia.

Remarks : This species is so far recorded from Burma and Indonesia, now it is being recorded for the first time from India. This species is found to observe as a pest of shade trees, particularly of *Albizia* sp. in the tea garden.

Tribe Cerambycini

Key to the genera of the tribe Cerambycini from Meghalaya

- 1(2) Front coxal cavity angulated on the outer side; lateral margin of prothorax unarmed; Antennae not spined.....*Neocerambyx*
- 2(1) Front coxal cavity closed on the outer side as well as posteriorly, Prothorax transversely wrinkled at middle and convolute towards the sides; Antennae spined behind at apex of joints 3 to 10..... *Hoplocerambyx*

Tribe Cerambycini

Genus *Neocerambyx* Thomson, 18611861. *Neocerambyx* Thomson, *Essai Class. Ceramb.*, P.1949. *Neocerambyx paris* Wiedman1821. *N. paris* Wiedman, *Germ. Mag. Ent.*, 4 : 1671906. *N. Paris* Wied. : Gahan, *Fauna Brit. India*, *Coleoptera* 1 : 124-125*Material examined* : (Lebel in district)*Distribution* : India : Karnataka, Burma, Siam, Singapore.Genus *Hoplocerambyx* Thomson, 18641864. *Hoplocerambyx* Thomson, *Syst. Ceramb.*, P. 22910. *Hoplocerambyx spinicornis* Newman1842. *H. spinicornis* Newman (Hammaticherus), *Entom.*, 1 : 245.1906. *H. spinicornis* Newman : Gahan, *Fauna Brit. India*, *Coleoptera* 1 : 131-132.*Material examined* : 2exs. Shillong, no other data.*Distribution* : India : India : U.P., Assam, Meghalaya, West Bengal. Nepal, Burma, Indonesia, South Afganistan, Penang, Singapore, Philippine Islands.*Remarks* : First time recorded from Meghalaya. This is a serious and remarkable pest of *Shorea robusta* and recorded also from Southern States attacking *Duabanga sonnatioides* and *Pentacme suavis*. It has a very wide habitat & occurring throughout the Salforest areas of Central and Eastern India. Stebbing first record the species as pest of Sal in the year 1897.

Tribe Hesperophanini

Genus *Stromatium* Serville, 18341834. *Stromatium* Serville, *Ann. Soc. Ent. Fr.*, P.80.11. *Stromatium barbatum* Fab.1775. *Stromatium barbatum* Fab., *Syst. Ent.* p. 1891906. *Stromatium barbatum*, Gahan, *Fauna, Brit. India* *Coleop.* I : 114-115*Material examined* : 1ex., N. Khasi hills, Coll. Godwin Austen.*Distribution* : Meghalaya, Andaman Is., W. Bengal, Assam. Also known from Sri Lanka, Burma, Mauritius, Bourbon, Madagascar.*Remarks* : The species is recorded for the first time from Meghalaya. This species is found to attack Teak (Assam); *Acacia catechu*, Sissu (U.P.), *Dendrocalamus strictus* (C.P.) This species has a wide range of distribution and important as a pests of packing cases and common pest of furniture and wood work in houses, shelves, door, windows frames, plywood etc. It has also been observed that during infection ejection of dusts are coming out with the noise of larval activity. Beeson & Bhatia (1939) published a list having 350 different kinds of woods attacked by this species.

Tribe Callidiopsini

Key to the genera of the tribe Callidiopsini from Meghalaya

1(2) Femora more abruptly clavate; Tibiae curved, carinate on outer border *Stenygrinum*

- 2(1) Femora usually pedunculate at the base, with a clavate thickening towards the apex, sometimes gradually thickened from the base; tibiae not curved or carinate on outer border, Fourth antennae joint shorter than first. *Ceresium*

Genus *Stenygrinum* Bates, 1873

1873. *Stenygrinum* Bates, *A.M.N.H.*, (4) 12 : 154

12. *Stenygrinum quadrinotatum* Bates

1873. *Stenygrinum quadrinotatum* Bates, *A.M.N.H.*, (4)/12, p. 154.

1906. *Stenygrinum quadrinotatum*, Gahan, *Fauna Brit. Ind. Coleop. I* : 164.

Material examined : 1ex. Shillong, no other data.

Distribution : Meghalaya (Khasi & Jaintia Hills), Manipur. Also known from Burma, China, Japan.

Genus *Ceresium* Newman, 1842

1842. *Ceresium* Newman, *Entomologist*, 1 : 322.

13. *Ceresium leucosticticum* White

1855. *Ceresium leucosticticum* White, *Cat. Col. B. M.*, Longic. 2, p.245, pl. vi, fig. 1.

1906. *C. leucosticticum* White : Gahan, *Fauna Brit. India Coleoptera I* : 159.

Material examined : 1ex., Tura, Garo Hills, 1200-1500ft., 15.vi-15.vii.1917. Coll. S. Kemp.

Distribution : Meghalaya (E. Garo hills), Assam. Also known from Burma, Thailand, Sumatra.

Remarks : Logs are usually attacked by this species at the beginning of rainy season after felling.

Tribe Callichromini

Key to the genera of the tribe Callichromini from Meghalaya

- 1(2) Antennae thick or robust, shorter than the body in both sexes.....*Zonopterus*
- 2(1) Antennae less robust, usually slender and its length less than body in ♂..... 2.
- 3(4) Antennae very long, about twice as long as the body in ♂ ; hind femora extended some distance beyond the apex of the elytra*Chloridolum*.
- 4(3) Antennae never much longer than body in hind femora rarely or slightly extending beyond the apex of the elytra..... 3.
- 5(6) Hind femora not reaching to the apex of the elytra in ♂.....*Aphrodisium*
- 6(5) Hind femora either reaching to or beyond the apex of elytra in; ♂..... *Chelidonium*

Genus *Zonopterus* Hope 1843

14. *Zonopterus flavitarsis* Hope

1843. *Zonopterus flavitarsis* Hope, *Trans. Linn. Soc.* p.111, pl.10, fig. 7.

1906. *Zonopterus flavitarsis*, Gahan, *Fauna Brit. India, Coleop. I* : 191.

Material examined : 1ex. Shillong Museum, no other data.

Distribution : India : Meghalaya, also known from Bangladesh.

Genus *Aphrodisium* Thomson, 18641864. *Aphrodisium* Thomson, *Syst. Ceramb.*, p.173.15. *Aphrodisium rubripennis* Hope1843. *Aphrodisium rubripennis* Hope, *Trans. Linn. Soc.*, 19(2) : 110, pl.10 fig.6.1906. *Aphrodisium rubripennis*, Gahan, *Fauna Brit. India*, Coleop. I : 210.*Material examined* : 2exs., Shillong Museum, no other data.*Distribution* : Meghalaya : Shillong; Manipur. Also known from Bangladesh.Genus *Chloridolum* Thomson, 18641864. *Chloridolum* Thomson, *Syst. Ceramb.*, p.174.key to the species of the genus *Chloridolum* Thomson. Known from Meghalaya.

- 1(2) Entire upper surface of prothorax transversely striated..... *perlaetum*
- 2(1) Entire upper surface of prothorax not transversely striated
- 3(4) Prothorax with a densely and finely punctate area, faintly covered with black pubescence on each side of the middle of the disc..... *bivittatum*
- 4(3) Prothorax with a closely rugulose punctured area, more or less covered with black pubescence, on each side of the middle of the disc..... *alcmene*

16. *Chloridolum alcmene* Thomson1865. *C. alcmene* Thoms., *Syst. Ceramb.*, p.5681906. *C. alcmene* Thoms.; Gahan, *Fauna Brit. India*, Coleoptera 1 : 199-200.*Material examined* : 3exs., Shillong Museum, no other data.*Distribution* : Meghalaya; Tamil Nadu; Assam; Nagaland; Manipur; Andaman Islands. Also known from China, Burma.*Remarks* : First time recorded from Meghalaya. This species attack orange (*Citrus aurantium*) in Southern India.17. *Chloridolum bivittatum* White1853. *Chloridolum bivittatum* White, *Cat. Coleopt. B.M.*, Longic. p.162.1906. *Chloridolum bivittatum*, Gahan, *Fauna Brit. Ind.*, Coleopt., I : 198-199.*Material examined* : 2exs., Shillong Museum.*Distribution* : Meghalaya; Manipur; Assam. Also known from Bhutan.*Remarks* : First time recorded from Meghalaya.18. *Chloridolum perlaetum* White1853. *Chloridolum perlaetum* White, *Cat. Coleopt. B. M.*, Longic. p.161.1906. *Chloridolum perlaetum*, Gahan, *Fauna Brit. India*. Coleop. I : 201-202.*Material examined* : 1ex., Shillong*Distribution* : India : Meghalaya; Assam. Also known from Burma.*Remarks* : First time recorded from Meghalaya.

Genus *Chelidonium* Thomson, 186419. *Chelidonium argentatum* Dalm.1817. *Chelidonium argentatum* Dalm., *Schonh. Syn. Ins.*, App. p.151.1906. *Chelidonium argentatum*, Gahan, *Fauna Brit. Ind. Coleop. I* : 211-212.*Material examined* : 2exs., Shillong Museum, no other data.*Distribution* : Meghalaya; Tamil Nadu; Assam; Nagaland; Manipur. Also known from China.

Tribe Rosaliini

Genus *Rosalia* Serv., 183320. *Rosalia formosa* SaunderSubgenus *Eurybatus*1839. *Rosalia formosa* Saund., *Trans. Ent. Soc. Lond. 2* : 178, pl.16, fig. 4.1906. *Rosalia formosa*, Gahan, *Fauna Brit. India, Coleop* : I : 180.*Material examined* : 1ex., Shillong Museum*Distribution* : Meghalaya; W. Bengal; Sikkim; Assam.*Remarks* : First time recorded from Meghalaya.

Key to the genera of the tribe Clytini from Meghalaya

- 1(2) Antennae widely separated at the base; First joint of hind tarsi about twice as long as the next two joints together; *Xylotrechus*
- 2(1) Antennae rather closely approximated at the base; First joint of hind tarsi much longer than the next two joints together..... *Caloclytus*

Genus *Xylotrechus* Chevrolat, 18601860. *Xylotrechus* Chevrolat, *Ann. Soc. Ent. Fr.*, P. 45621. *Xylotrechus contortus* Gahan1906. *Xylotrechus contortus* Gahan, *Fauna Brit. India, Coleoptera 1* : 249*Material examined* : 1ex., 17.v.09, Cherapunjee, Khasihills, Coll. B. Warren.*Distribution* : India : Meghalaya; Manipur; Sikkim. Also known from Bhutan.*Remarks* : First time recorded from Meghalaya and attack *Rhododendron* spp. also.Genus *Caloclytus* Fairmaire, 18641864. *Caloclytus* Fairmaire, *Gen. Coleopt. d'Europe, 4* : 14522. *Caloclytus annularis* Fabricius1787. *Caloclytus annularis* F., *Mant. Ins.*, 1, p.156.1906. *Caloclytus annularis*, Gahan, *Fauna Brit. Ind.*, *Coleop. 1* : 261.*Material examined* : 1ex., 18.v.09, Khasi hills, Nongpriang, Coll. B. Warrner; 1ex., 15.v.09, Khasi hills, Cherapunjee, Coll. B. Warrner.*Distribution* : India : W. B.; Bihar; U. P.; Meghalaya; Northern India, from the North-West to Assam. Also known from Burma; Thailand; then extending north wards to China and Japan, and South

wards through the Malay peninsula and Archipelago to New Guinea. This species is probably responsible for attacking the dry bamboos (*Bambusia* sp.)

Tribe Glaucytini

Genus *Polyphida* Pascoe, 1869

1869. *Polyphida* Pascoe, *Trans. Ent. Soc.*, (3) 3 : 652

23. *Polyphida metallica* Nonfried

1893. *Polyphida metallica* Nonfried, *Berl. ent. Zeit.*, 38, 338.

1906. *Polyphida metallica*, Gahan, *Fauna Brit. India*, *Coleopt.* 1 : 321-322.

Material examined : 4exs., 15.vii-30.viii.1917, Above Tura, Garohills, S. Kemp.

Distribution : India : Meghalaya; Manipur. Also known from Burma.

Remarks : The species is recorded for the first time from Meghalaya.

Subfamily Lamiinae

Key to the Indian tribes of the subfamily Lamiinae

- 1(44) Metepisternum narrow and not broadened anteriorly
- 2(17) Tarsal claws divergent.
- 3(6) Metasternum short.
- 4(5) Humeral angle of elytra not produced, Metasternum very shortDorcadionini
- 5(4) Humeral angle of elytra projected, Metasternum relatively large Lamiini
- 6(3) Metasternum not short
- 7(8) A prominent ciatrix on lateral side of scape making it apparently truncated Mesosini
- 8(7) Scape without such ciatrix.
- 9(12) Middle tibiae without preapical groove
- 10(11) Middle coxal cavities open Pteroplini (including Niphonini)
- 11(10) Middle coxal cavities closed..... Gyaritini
- 12(9) Middle tibiae with a pre apical groove
- 13(14) Scape specially long and slender Agapanthini (including Hippopsinini and Spalacopsini)
- 14(13) Scape never specially long and slender
- 15(16) Anterior coxae very prominent, conical..... Xylorhizini
- 16(15) Anterior coxae not prominentApomecynini (including Ptericoptini and Ischiolonchini)
- 17(2) Tarsal claws divericate
- 18(19) Metasternum very short, wing reducedMorimopsini
- 19(18) Metasternum not very short, wings developed
- 20(27) Dorso-Capical surface of scape strongly grannular.

- 21(22) Mid coxal cavities closed.....Xenoleini
- 22(21) Mid coxal cavities open
- 23(24) Lateral border of pronotum more or less straight.....Dorcaschematini
- 24(23) Lateral border of pronotum angular and with a spine
- 25(26) Form robust, antennae fringed or tuberculated, 3rd antennal segment longer than 4th
.....Batocerini
- 26(25) Form much more smaller, antennae not fringed, 3rd antennal segment not very longer than
4th.....Ancylonotini
- 27(20) Scape of antennae not granular as stated.
- 28(31) Antennal scape with a ciatrix, mid coxal cavities open.
- 29(30) Eyes subdivided; length of head and pronotum taken together nearly so to length of elytra or
little less than elytraGnomini
- 30(29) Eyes emarginate, head and pronotum taken together much shorter than elytra.....
.....Agniini (including Monachamini)
- 31(28) Antennal scape without a ciatrix, or rarely with one; mid coxal cavities closed.
- 32(35) Middle tibiae without external groove.
- 33(34) Antennae with a lateral depression on apical part of 4th segment and a broad lateral groove
on apical part of following segment..... Ceroplesini
- 34(33) Antennal segment without depression and without lateral groove
.....Crossotini (including Hecyrini)
- 35(32) Middle tibiae with external groove.
- 36(37) Front extremely broad..... Tapeinini
- 37(36) Front never so large
- 38(39) Extremely elongated, narrow and parallel.....Nyctimenini
- 39(38) Species never so elongated.
- 40(41) Antennae very stout Petrognathini
- 41(40) Antennae never so stout
- 42(43) Antennal scape sometimes granular on dorsal surface, tubercles of antennae sufficiently
projecting, frons often trapezoidal, pronotum often without trace of lateral horn.....
.....Rhodopini (including Estolini)
- 43(42) Antennal scape without tubercles, tubercles on antennal segment never sufficiently projecting,
frons never trapezoidal..... Acanthocinini
- 44(1) Metepisternum large, broadened anteriorly.

- 45(46) Lobes of eyes broadly separated Ascatini (including Tetraopini)
 46(45) Lobes of eyes never broadly separated Saperdini (including Glenini and Phytocini)

Tribe Batocerini

Key to the genera of tribe Batocerini known from Meghalaya

- 1(2) Antennae spinously rugose *Batocera*
 2(1) Antennae smooth *Apriona*

Genus *Batocera* Castelnau, 1840

1840. *Batocera* Castelnau, Hist. Nat. Col., 2 : 470.

This genus includes some of the common and large longicorns to be found throughout the plains of India. Many of the species are pest of considerable economic importance. Some species has been divided into number of varieties which have not been treated separately.

Key to the species of the genus *Batocera* known from Meghalaya.

- 1(2) The scape bearing an apical spine; Dark, the elytra each with four very large rounded spots ...
 *roylei*
 2(1) The scape not bearing an apical spine
 3(4) The pronotum without distinct reniform spots *numitor*
 4(3) The pronotum bearing such spots
 5(6) On each elytron numerous irregular spots fairly large in parts *lineolata*
 6(5) On each elytron not more than four regular round discal spots with some very small accessory spots
 7(8) The second elytral spot of regular form, rounded, the other elytral spots rounded or oval.....
 *Parryi*
 8(7) The second spot split in two, or the first, or also the third and fourth completely reduced or joined together, some small accessory spots more often developed *rubus*

Tribe Batocerini

24. *Batocera lineolata* Chev.

1852. *B. b. lineolata* Chevr., Rev. Zool., (2)4 : 417

Material examined : Sexs., Shillong Museum 2exs., 19.v.09, Cherapunjee, Khasi hills, Coll. B. Warren; 1ex., 3.i.60, shillong, Khasi hills, Coll. S. N. P.

Distribution : India : Assam; Meghalaya; South Himalaya.

Remarks : The variety of this species is recorded for the first time from Meghalaya.

25. *Batocera numitor* Newman

1842. *Batocera numitor* Newm., Entomol., 1 : 275

Material examined : 5exs., Shillong Museum, no other data.

Distribution : India : Meghalaya, W. B. Also known from Nepal. Indonesia, Philippines.

Remarks : This species usually attack the living trees which are either not in good health or attacked or injured earlier by others. One of the specimen belongs to variety *titana* Thomson.

26. *Batocera rubus* Linn.

1758. *Batocera b rubus* L., *Syst. Nat.*, ed. 10, p.390.

1845. *B. b. rubus* L., var. *Downesi* Hope, *Trans. Erd. Soc. Lond.*, 4 : 76

Material examined : 1ex., Shillong Museum

Distribution : India : W. B., Assam, Meghalaya, Himalaya.

Remarks : This species is recorded for the first time from Meghalaya.

27. *Batocera roylei* Hope

1833. *B. ty. Roylei* Hope, *proc. Zool. Soc. Lond.*, 1(2) : 64

Material examined : 5exs., Shillong, no other data.

Distribution : India : W. B., Assam, Meghalaya, Kashmir.

Remarks : The variety of this species is recorded for the first time from Meghalaya. They usually found to attack *Mangifera indica*.

28. *Batocera parryi* Hope

1845. *B. S. Parryi* Hope, *Trans. Ent. Soc. Lond.*, 4 : 77.

Material examined : 1ex., Shillong Museum

Distribution : India : Assam, Meghalaya, Sikkim. Also known from Bangladesh.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus *Apriona* Chevrolat, 1852

1852. *Apriona* Chevrolat, *Rev. Zool.*, (2) 4 : 418.

29. *Apriona germari* Hope

1831. *A. Germari* Hope in Gray, *Zool. Miscell.*, 1 : 28

Material examined : 1ex., Above Tura, Garohills, viii. 1917, Alt. 3900ft., S. Kemp.

Distribution : India : Meghalaya. Also known from Pakistan, Bangladesh.

Remarks : This species was earlier recorded from Sylhet: Bangladesh. In the present study it is being recorded for the first time from India : Meghalaya. Particularly the larvae of this species usually attack the stems of mulberry plants.

Tribe Gnomini

Genus *Imantocera* Thomson, 1857

30. *Imantocera penicillata* Hope

1831. *I. penicillata* Hope in Gray, *Zool. Misc.*, 1 : 17

Material examined : 2exs., Tura, Garo hills, x.x.17., 1400ft., Coll. Mrs. Kemp.

Distribution : India : North India; Meghalaya, Burma.

Remarks : This species is recorded for the first time from Meghalaya.

Tribe Ceroplesini

Genus *Diastocera* Thomson, 1857

31. *Diastocera wallichi* Hope in Gray

1831. *D. wallichi* Hope in Gray, *Zool. Misc.*, p.27

Material examined : 3exs., North Khasi hills. No other data; 1ex., Shillong Gills, no other data; 3exs., Shillong Museum.

Distribution : India : Himalaya, Meghalaya.

Remarks : This species is recorded for the first time from Meghalaya. They usually feed on young shoots of various woody plants.

Tribe Pterognathini

Genus *Ithocritus* Lacord., 1872

32. *Ithocritus ruber* Hope

1839. *I. ruber* Hope. *Proc. Linn. Soc. Lond.*, 1 : 43.

Material examined : 2exs., Shillong Museum. 1ex., Above Tura, Garo hills, viii. 1917, 3900ft., coll. S. Kemp.

Distribution : India : Assam, Meghalaya, Himalaya.

Remarks : This species is recorded for the first time from Meghalaya.

Tribe Xylorhizini

Genus *Xylorhiza* Castelnau, 1840

33. *Xylorhiza adusta* Wied.

1819. *X. adusta* Wiedem., *Zool. Mag.*, 1(3) : 182

Material examined : 1ex., Shillong Museum

Distribution : India : W. B., Meghalaya. Also known from Burma; Malacca.

Remarks : This species is recorded for the first time from Meghalaya. They usually ring the stems and branches of a tree.

Tribe Pteroplini

Genus *Lychrosis* Pasc., 1866

34. *Lychrosis humerosus* Thoms.

1865. *Lychrosis humerosus* Thoms., *Syst. Ceramb.*, p. 550.

Material examined : 1ex., Garo hills.

Distribution : India : Meghalaya. Also known from Burma.

35. *Lychrosis zebrinus* Pasc.

1858. *L. zebrinus* Pasc., *Trans. Ent. Soc. Lond.* (2)4 : 252

Material examined : 4exs., Above Tura, Garo hills, viii. 1917, 3900ft. Coll. S. Kemp; 1ex. Above Tura, Garo hills, 15.vii-30.viii. 1917, 3500-3900ft., Coll. S. Kemp.

Distribution : India : W. B., Meghalaya, Kerala, Sikkim.

Remarks : This species is recorded for the first time from Meghalaya.

Genus *Sthenias* Cast., 1840

36. *Sthenias grisator* F.

1787. *Sthenias grisator* F. *Mant. Ins.*, 1 : 136

Material examined : 1ex., Cherapunjee, Khasi hills. 3.x.1961, Coll. R. N. Katiyar.

Distribution : India : Meghalaya, Tamil Nadu.

Remarks : This species is first time recorded from Meghalaya. This species is a pest of ornamental plants.

Tribe Hippopsini

Genus *Aulaconotus* Thoms., 1864

1864. *Aulaconotus* Thoms, *Syst. Ceramb.*, p. 99

1872. *Aulaconotus* Thoms. : Lacord, *Gen. Col.*, 9 : 693.

This genus is recorded by only one species *pachypezoides* Thoms. (1864, i.c. p.99) from Japan. Now the genus is recorded for the first time from India and the species may be new. Chr. Aurivillius (1922) in his Junk's Coleopterous Cat. included 24 genera under this tribe of which 2 genera from India & 1 genus from Burma.

37. *Aulaconotus* sp.

Material examined : Above Tura, Garo hills, 1ex., ix.1917. 3500-3900ft., Coll. Mrs. Kemp.

Pseudohippopsis Gestro., 1895

1895. *Pseudohippopsis* Gestro. *Ann. Mus. Civ. Genova*, 35 : 427.

This genus is also under the tribe Hippopsini and Gestro established this genus for the species *flicornis* Gestro from Gallaland. Later Auriv. (1914) added a further species (*brunneipes* Auriv.) under this genus from Brit. ostafrika.

Remarks : * This genus is recorded here for the first time from India.

* The species may be new.

38. *Pseudohippopsis* sp.

Material examined : 1ex., Above Tura, Garo hills, 15.vii-30.viii.1917, 3500-3900ft., Coll. S. Kemp.

Tribe Saperdini

Auriv. (1922) in Junks *Colopterous* Cat., included 21 species under the genus *Serixia* Pasc., of which 2 species are recorded from Sri Lanka (*histrion* Pasc. 1856, *Trans. Ent. Soc. Lond.* (2)4 : 45 and * *proxima* Pasc., 1859, *Trans. Ent. Soc. Lond.*, (2)5 : 45.)

* Later Gardner included the species *inconspicua* Gardn. under it.

Genus *Serixia* Pasc., 185639. *Serixia inconspicua* Gardn.

Material examined : 1ex., Above Tura, Garo hills, 15.vi-15.vii.1917, 1200-1500ft., S. Kemp.

40. *Serixia* sp.

Material examined : 1ex., Tura, Garo hills, 15.vi-15.vii. 1917, 1200-1500ft., S. Kemp.

41. *Pseudomacrochenius antennatus* Gah.

Material examined : 1ex., Above Tura, Garo hills, viii. 1917, 3900ft., S. Kemp.

Tribe Gleneini

Genus *Glenea* Newm., 1842

1842. *Glenea* Newm., *Entomology*, 1 : 301

1920. Subg. *Macroglenea* Auriv., *Arkiv f. zool.*, 13(9) : 30

1920. Subg. *Stirolenea* Auriv., I. C. p.31. Auriv. (1922) in *Junks Col. Cat.* included, 323 species under it.

42. *Glenea indiana* Thoms.,

1857. *G. indiana* Thoms., *Archives Entomol.*, 1 : 141

Material examined : 2exs., Above Tura, Garo hills, 15.vi-15.vii.1917. 1200-1500ft., Coll. S. Kemp. 1ex., Tura, Garo hills, vii-viii. 1917, 1200-1500ft., Coll. S. Kemp.

Distribution : India : Meghalaya. Also known from Burma.

43. *Glenea lecta* Gah.

1889. *G. lecta* Gah., *Trans. Ent. Soc. Lond.*, p.219

Material examined : 1ex., Above Tura, Garo hills, 15.vii-30.viii.1917, 3500-3900ft., Coll. S. Kemp.

Distribution : India : Meghalaya. Also known from Bangladesh

Remarks : Gahan (1889) described the species from Silhet which is now in Bangladesh. In the present study this species is recorded for the first time from India (Meghalaya).

44. *Glenea pulchella* Thoms.

1860. *G. pulchella* Thoms., *Classif. Ceramb.*, p. 58.

Material examined : 4exs., Cherrapunjee, Khasi hills, 12.v.1909, Coll. S. Warren; 2exs. Above Tura, Garo hills, 15.vii-30.viii.1917, 3500-3900ft., S. Kemp; 1ex. Above tura Garo hills, ix.1917. 3500-3900ft., Mrs. Kemp.

Distribution : India : Meghalaya. Also known from Bangladesh, Burma.

Remarks : This species was earlier recorded from Bangladesh & Burma, now it is being recorded for the first time from India (Meghalaya.).

45. *Glenea sulphurea* Thoms.

1865. *G. Sulphurea* Thoms., *Syst. Ceramb.*, p. 566.

Material examined : 3exs., Tura, Garo hills, 15.vi-15.vii.1917. 1200-1500ft., Coll. S. Kemp.

Distribution : India : Meghalaya. Also known from Bangladesh; Indonesia, Cambodia.

Remarks : This species is being recorded for the first time from India (Meghalaya).

46. *Glenea* sp.

Material examined : 1ex., Above Garo hills, 15.vii-30.viii.1917. 3500-3900ft., Coll. S. Kemp; 2exs., Cherrapunjee, Khasi hills, 2-8.x.1914, 4400ft., Coll. S. W. Kemp.

47. *Glenea cancellata* Thoms.

1865. *G. cancellata* Thoms., *Syst. Ceramb.*, p. 565

Material examined : 1ex., Tura, Garo hills, 15.vi-15.vii.1917. 1200-1500ft., S. Kemp.

Distribution : India : Meghalaya, Sikkim. Also known from Bangladesh, Burma, Indonesia, Cambodia.

Remarks : This species is recorded for the first time from Meghalaya.

Genus *Stibara* Hope, 1840

48. *Stibara tetraspilota* Hope

1840. *S. tetraspilota* Hope, *Proc. Linn. Soc. Lond.*, 1 : 79

Material examined : 3exs., Shillong Museum; 2exs., ix.17. Above Tura, Garo hills, 3500-3900ft., Coll. Mrs. Kemp; 4exs., 15.vi-15.vii.1917. Tura, Garo hills, 1200-1500ft., Coll. S. Kemp.

Distribution : India : Assam, Meghalaya, Sikkim. Also known from Burma.

Remarks : In the present study it is being recorded for the first time from Meghalaya.

Tribe Phytoeciini

Genus *Nupserha* Thomson, 1860

49. *Nupserha annulata* Thoms.

1857. *N. annulata* Thoms., *Archives Ent.*, 1 : 147.

1894. *N. annulata* Thoms : Gah., *Ann. Mus. Civ. Genova*, 34 : 94.

Material examined : 1ex., Shillong

Distribution : India : Meghalaya.

50. *Nupserha lenita* Pasc.

Material examined : 6exs., Above Tura, Garo hills, 15.vii-30.viii.1917. 3500-3900ft., Coll. S. Kemp.

51. *Nupserha quadrioculata* Thunb.

1787. *N. quadrioculata* Thunb., *Mus. Nat. Upsal.*, 4 : 57.

Material examined : 1ex., Shillong, 14.v.1960. Kench's Trace, Coll. S. N. Prasad.

Distribution : India : Meghalaya. Also known from Bangladesh, Burma, Indonesia.

Remarks : In the present study it is being recorded for the first time from India (Meghalaya).

52. *Nupserha* sp.

Material examined : 1ex., Above Tura, Garo hills, viii.1917. 3900ft., Coll. S. Kemp.

Genus *Oberea* Mulsant, 1839

Mulsant (1839) (*Col. France*, Longic., p. 192, 194) established this genus. Aurivillius (1922) in Junk's *Coleopt. Cat.* included 177 species under it. of which only one species from Himalaya, 8 spp. from Burma, 5 spp. from Tibet, 23 spp. from Indonesia and 1 sp. from Sri Lanka.

53. *Oberea insensibilis* Pasc.

1867. *O. insensibilis* Pasc., *Trans. Ent. Soc. Lond.*, (3)3 : 436.

Material examined : 1ex., Shillong, no other data.

Distribution : India : Meghalaya. Also known from Celebes.

Remarks : This species is recorded here for the first time from India (Meghalaya).

54. *Oberea* sp.

Material examined : 6exs., Above Tura, Garo hills, 15.vii-30.viii.1917. 3500-3900ft., Coll. S. Kemp; 2exs., Above Tura, Garo hills, ix.'1917. 3500-3900ft., Coll. Mrs. Kemp.

Genus *Dasyllinda* Thomson, 1868

55. *Dasyllinda testacea* Saund.

1839. *D. testacea* Saund., *Trans. Ent. Soc. Lond.*, 2 : 479, t.16., f.5.

Material examined : 1ex., Shillong Museum, no other data. 1ex., N. Khasi, Auster. Godwin; 2exs., Cherrapunjee

Distribution : India : (Khasi hills) Meghalaya, Sikkim.

Tribe Lamiini

Genus *Morimus* Serv., 1835

56. *Morimus morimoides* White

1858. *M. morimoides* White, *Ann. Mag. Nat. Hist.*, (3) 2 : 266.

Material examined : 3exs., Shillong Museum.

Distribution : India : Meghalaya. Also known from Bangladesh.

Remarks : This species was earlier recorded from Silhet which is now in Bangladesh. Now it is being recorded for the first time from India (Meghalaya).

Tribe Monochamini

Genus *Stratioceros* Lacord., 1869

57. *Stratioceros princeps* Lacord.

1869. *S. princeps* Lacord., *Gen. Col.*, 9 : 303, note. 1.

Material examined : 1ex., Cherrapunjee, Khasi hills, 1-3.x.1926, Coll. R. B. S. Sewell.

Distribution : India : Meghalaya. Also known from Laos, Cambodia.

Remarks : In the present study this species is recorded for the first time from India (Meghalaya).

Genus *Leprodera* Thoms., 1857

58. *Leprodera stephanus* White

1858. *L. stephanus* White, *Proc. Zool. Soc. London*, 26 : 406.

Material examined : 3exs., Above Tura, Garo hills, ix.'1917. 3500-3900ft., Mrs. Kemp; 1ex., 15.vi-15.vii.1917. Above Tura, Garo hills, 3500-3900ft., Coll. S. Kemp; 1ex., Above Tura, Garo hills, 15.vi-15.vii.1917. 1200-1500ft., Coll. S. Kemp.

Distribution : India : Meghalaya.

Genus *Epepeotes* Pascoe, 1866

59. *Epepeotes guttatus* Guer.

1844. *E. guttatus* Guer., *Icon. Regne Anim. Ins.*, p.242.

1888. *E. guttatus* Guer., : Gahan, *Ann. Mag. Nat. Hist.*, (6)1 : 272

Material examined : 2exs., Tura, Garo hills, .x.'17, 1400 ft., Coll. Mrs. Kemp; 1ex., Above Tura, Garo hills, viii.17, 3900ft., Coll. S. Kemp.

Distribution : India : Himalaya, Meghalaya.

Remarks : First time recorded from Meghalaya.

60. *Epepeotes uncinatus* Gah.

1888. *E. uncinatus* Gah., *Ann. Mag. Nat. Hist.*, (6)1 : 271, t.16, f.2.

Material examined : 2exs., Above Tura, Garo hills, .x.'17. 1400ft., Coll. Mrs. Kemp; 2exs., 15.vi-15.vii.'17, Tura, Garo hills, Coll. S. Kemp.

Distribution : India : North India, Meghalaya. Also known from Burma.

Genus *Monochamus* Guerin, 1821

61. *Monochamus auratus* Gahan

1888. *M. auratus* Gah., *Ann. Mag. Nat. Hist.*, (6)2 : 260.

Material examined : 1ex., Shillong

Distribution : India : Meghalaya. Also known from Bangladesh.

Remarks : Gahan (1888) has described the species from Silhet which is now in Bangladesh. In the present study it is being recorded for the first time from India (Meghalaya).

62. *Monochamus permutans* Pasc.

1857. *M. permutans* Pasc., *Trans. Ent. Soc. Lond.*, (2)4 : 103.

Material examined : 1ex., Above Tura, Garo hills, viii. 1917. 3900ft., Colls. S. Kemp.

Distribution : India : Meghalaya. Also known from North China.

Remarks : This species was earlier recorded only from North China. Now it is being recorded for the first time from India.

63. *Monochamus sulphurifer* Hope

1842. *M. sulphurifer* Hope, *Ann. Mag. Nat. Hist.*, 9 : 248

Material examined : 1ex., Above Tura, Garo hills, viii.1917. 3900ft., Coll. S. Kemp; 2exs., Above Tura, Garo hills, ix.'17. 3500-3900ft., Coll. Mrs. Kemp.

Distribution : India : Meghalaya. Also known from Bangladesh.

Remarks : This species was earlier recorded from Silhet which is now in Bangladesh. Now it is being recorded for the first time from India (Meghalaya).

64. *Monochamus versteegi* Rits.

1881. *M. versteegi* Rits., *Notes Leyden Mus.*, 3 : 155.

Material examined : 1ex., Shillong, Khasi hills, E. Alkinson; 1ex., Above Tura, Garo hills, 15.vi-15.vii-1917. 1200-1500ft., Coll. S. Kemp; 1ex., Shillong Museum.

Distribution : India : Meghalaya, Assam, North India. Also known from Burma, Indonesia.

Genus *Hechinoschema* Thomson, 1857

65. *Hechinoschema spinosum* Thoms.

1857. *H. spinosum* Thoms., *Archives Ent.*, 1 : 182

Material examined : 1ex., Above Tura, Garo hills, 15.vii-31.viii.1917. 3900ft., Coll. S. Kemp.

Distribution : India : Meghalaya. Also known from Bangladesh.

Remarks : This genus is based only for this species and described from Silhet. In the present study the genus as well as the species are recorded for the first time from India...

Genus *Macrochenus* Guerin, 1843

66. *Macrochenus guerini* White

1858. *M. guerini* White, *Ann. Mag. Nat. Hist.* (3)2 : 274

Material examined : 4exs., Tura, Garo hills, .x. 1917, 1400ft., Coll. Mrs. Kemp; 1ex., Tura, Garo hills, ix.1917, 3500-3900ft., Coll. Mrs. Kemp; 1ex., Tura, Garo hills, vii-viii.1917, 1200-1500ft., Coll. S. Kemp; 1ex., Above Tura, Garo hills, 15-vii-30.viii. 17, 3500-3900ft., Coll. S. Kemp; 1ex., 1-3.x.26, Cherrapunjee, Khasi, Coll. R.B.S. Sewell.

Distribution : India : Meghalaya. Also known from Bangladesh.

Remarks : This species was earlier recorded from Silhet which is now in Bangladesh. Now it is being recorded for the first time from India (Meghalaya).

Genus *Aristobia* Thomson, 1868

67. *Aristobia clathrator* Thomson

1865. *A. clathrator* Thoms., *Syst. Ceramb.*, p. 552.

Material examined : 1ex., Shillong Museum

Distribution : India : Meghalaya. Also known from Bangladesh.

Remarks : In the present study this species is being recorded for the first time from India (Meghalaya).

68. *Aristobia horridula* Hope in Gray

1831. *A. horridula* Hope in Gray, *Zool. Misc.*, p.27.

1848. *A. h. fasciculata* Redtenb. in Hugel, *Kaschm.*, 4(2) ; 552, t. 27, f. 2.

Material examined : 2exs., Shillong Museum.

Distribution : India : Himalaya, Meghalaya. Also known from Burma.

69. *Aristobia testudo* Voet

1778. *A. testudo* Voet, *Cat. Col.*, 2 : 12, t. 10, f. 39.

Material examined : 3exs., Shillong Museum; 1ex., x.1917, Tura, Garo hills, 1400ft., Coll. Mrs. Kemp; 1ex., Tura, Garo hills, vii-viii. 1917, 1200-1500ft., S. Kemp.

Distribution : India : Meghalaya. Also known from China.

Remarks : This species was earlier recorded from China. Now it is being recorded for the first time from India (Meghalaya).

Genus *Blepephaeus* Pascoe, 1866

70. *Blepephaeus succinator* Chev. r.

1852. *B. succinator* Chev. r., *Revue Zool.*, (2)4 : 417

Material examined : 1ex., Tura, Garo hills, 15.vi-15.vii.1917, 1200-1500ft., Coll S. Kemp.

Distribution : India : Assam, Meghalaya. Also known from China, Malacca, Tenasserim.

Remarks : This species is recorded here for the first time from Meghalaya.

Tribe Agniini

71. *Pharsalia suturalis* Auriv.

1920. *P. suturalis* Auriv., *Arkiv f. Zool.*, 13(9) : 13.

Material examined : 1ex., Above Tura, Garo hills, ix.1917. 3500-3900ft., Coll. Mrs. Kemp.

Distribution : India : Assam, Meghalaya.

Remarks : This species is recorded here for the first time from Meghalaya.

SUMMARY

The present paper consolidates information available on Cerambycid fauna of Meghalaya. It deals with 71 species under 44 genera of 5 subfamilies, keys generally have been provided for subfamilies, tribes, genera and species. A consolidated key to the tribes of Indian Lamininae has been prepared for the first time. Distributional data of the species has been given from the published records as well as the actual study of the specimens.

ACKNOWLEDGEMENTS

We are thankful to the than Director, Zoological Survey of India for facilities provided. Our thanks are also due to Director, J. R. B. Alfred for his keen interest and constant encouragement.

REFERENCES

Beeson, C. F. C. 1941. The ecology and Control of Forest Insects of India and the adjoining countries. Government of India, 767 pp.

- Bhasin, G. D. and Roonwal, M. L. 1954. A list of Insect pests of forest plants in India and the adjacent countries. *Indian Forest Bulletin*, 17(1), 93 pp.
- Breuning, S. 1960-62. Revision systematique Des especes du genre *Oberia* Mulsant du globe. *Frustula Entomologica.*, (1, 2, 3) : 1-232.
- Breuning, S: 1962. Bestimmungstabelle der Lamiiden Triben nebst Revision der Pteropliini der asiatischen region (Col. Ceramb.) 1. Teil *Ent. Arb. Mus. Frey*, 13 : 371-493.
- Breuning, S. 1963a. Bestimmungstabelle der Lamiiden Triben nebst Revision der Pteropliini der asiatischen Region (Col. Ceramb.) 11 Teil. *Ent. Arb. Mus. Frey*, 14 : 168-251.
- Breuning, S. 1963b. Bestimmungstabelle der Lamiiden Triben nebst Revision der Pteropliini der asiatischen Region (Col. Ceramb.) 111 Teil. *Ent. Arb. Mus. Frey*, 14 : 466-537.
- Breuning, S. 1964. Revision der Apomecynini der asiatschaustralischen Region. *Entom. Abh. Mus. Tierk.*, 30 : 1-528.
- Breuning, S. 1965. Revision der 35 Gattung der Pteropliini der asiatischen Region (Col. Cerambycidae). *Ent. Arb. Mus. Frey.*, 16 : 161-472.
- Breuning, S. 1966. Revision der Agapanthiini der eurasiatisch-australischen Region (Coleoptera, Cerambycidae) *Entom. Abh. Mus. Tierk.*, 34(1) : 1-144.
- Gahan, C. J. 1906. The Fauna of British India including Ceylon and Burma, Coleoptera, Vol. 1 : Cerambycidae, 1-329 (Taylor and Francis Ltd., London).
- Stebbing, E. P. 1914. Indian Forest Insects of economic Importance Coleoptera, 1-648. (Eyre & Hiswoods Ltd. London).

COLEOPTERA : CUCUJIDAE : LAEMOPHLOEINAE

P. MUKHOPADHYAY

Zoological Survey of India
Calcutta 700 053

INTRODUCTION

The family Cucujidae belongs to the largest super family Cucujoidea under the section Clavicornia of the order Coleoptera : Polyphaga. This family is divided into two subfamilies viz., Cucujinae and Laemophloeinae. The representatives of the family Cucujidae are commonly known as flat bark beetles. They are usually found to live under the bark of logs or dead standing trees, haystacks, vegetable garbage, leaf litter etc. and some of the members are of much economic importance as pests of husked rice, wheat, maize, oil seeds in storage and warehouses. They may be true predators on wood borers, scavengers in the galleries of wood borers or feeders on flour, dried fruit grains and other vegetable diet. Species particularly belonging to the subfamily Laemophloeinae are commonly found in decaying bark or other parts of tree and appears to feed on the dead Cambium of the tree.

The classification, characterisation and constitution of the family is controversial since the work of Crowson (1955) who clarified the Cucujoid complex by transferring several groups to other families and enable us to have a better understanding of the group. Though they have been recorded from all the Zoogeographical regions of the world, the group is more diverse in oriental and Etheopian regions.

Leach (1815) was the first to distinguish Cucujidae as a separate family. Other chief workers who dealt with the group are Erichson (1845) Redtenbacher (1849), Lacoordaire (1945), Lecente & Horn (1883), Casey (1884), Ganglbauer (1889), Sharp (1899), Hetschko (1930), Boving and Craighead (1930-31), Crowson (1955) and Sengupta & Crowton (1969). Lefkovitch (1959-65) revised European, African and Arabian Laemophloeinae.

So far in oriental region, the family Cucujidae is represented by 66spp. spreading over 14 genera. of which Cucujinae included 16spp belonging to 3 genera and 50spp. under 11 genera belonging to the subfamily Laemoploeinae. Grouvelle (1882-1913) described most of the Indian species and placed all of them under the genus *Laemophloeus* Dejean except *Narthecius bicolor* Gruvelle, prior to 1974. Later Mukhopadhyay and Sengupta (1974-85) published a number of papers on Indian Laemophloeinae.

As regards the Cucujid fauna of Meghalaya is concerned our present state of knowledge remains still very incomplete. Prior to this study only one species viz. *Placonotus proximus* (Grouvelle) of Laemophloeinae is recorded from Meghalaya and it is believed that with the further surveys of the terrestrial fauna of this state, many more species of this family would be discovered.

The present study is based on a collection made by different survey parties of ZSI. Except the species *P. proximus* (Grouvelle), all are recorded for the first time from this state. One species viz. *C. songsus* sp. nov. is discovered here as a new to science.

The two sexes of the family Cucujidae can not be distinguished by any constant external characters which exist throughout the group and even amongst the species belonging to a particular group. The sexual dimorphism are mainly observed in tarsal formula, length & shape of segments of antennae, structure of mandible, shape of the head & pronotum and angle of elytra.

Under the favourable condition the development from egg to adult is completed within about 6-9 weeks. It has also been observed that the larval forms are very active.

Distributional data, key to the subfamilies and genera have been provided.

SYSTEMATIC ACCOUNT

List of Taxa

Family Cucujidae

Subfamily Laemophloeinae

Genus *Cryptolestes* Ganglbauer,

1. *Cryptolestes pusillus* (Schonherr)
2. *Cryptolestes songsus* sp.nov.

Genus *Placonotus* Macleay

3. *Placonotus proximus* (Grouvelle)

Genus *Microlaemus* Lefkovitch

4. *Microlaemus interceptus* (Grouvelle)

Genus *Laemophloeus* Dejean

5. *Laemophloeus rugifrons* Grouvelle
6. *Laemophloeus neglectus* Grouvelle

Key to the subfamilies :

1. All coxae closely situated with narrow prosternal process. Trochantins partly exposed. Head with well marked constriction behind the eyes, without frontoclypeal suture and intra ocular ridges; Pronotum without longitudinal ridge or line; wings well developed with five anal veins. Species larger.....Cucujinae

All coxae widely separated with prosternal and intercoxal process broad; Trochantins usually hidden. Head without constriction behind the eyes, usually with frontoclypeal suture and intra ocular ridges. Pronotum either with longitudinal ridge or groove. Wing venation reduced with one anlavein.....Laemophloeinae

Key to the genera of the subfamily Laemophloeinae from Meghalaya

1. Frontoclypeal suture present at the base of transverse groove.....2
Frontoclypeal suture absent or obsolete; front coxal cavities closed behind, lateral lines on pronotum ridged; Scutellum triangular, ventrite 1 about twice along as ventrite 2.....
.....*Cryptolestes* Ganglbauer
2. Anterior angles of pronotum never produced into acute tooth.....3
Anterior angles of pronotum usually with an acute tooth, mandibles of male without any lateral production.....*Placonotus* Macleay
3. Intercoxal process of the first abdominal sternite pointed anteriorly*Laemophloeus* Dejean
Intercoxal process of the first abdominal sternite narrow and rounded anteriorly; front coxae transverse and its cavities open posteriorly.....*Microlaemus* Lafkovitch

Genus *Cryptolestes* Ganglbauer1. *Cryptolestes pusillus* (Schönh.)1791. *Cucujus minutus* Olivier, *Encycl. meth.*, 6 : 243, nec. Fourcroy, 1785.1817. *Cucujus pusillus* Schönherr, 1817, *Synonymia Insectorum*, 1(3) :55.1851. *Laemophloeus parallelus* Smith, *List of Coleoptera in the British Museum*, 1 : 7.1899. *Laemophloeus pauper* Sharp, *Biol. C. Amer. Col.*, 2(1) : 530.1978. *Cryptolestes pusillus* (Schönherr) : Mukhopadhyay & Sengupta, *Entomologica Basiliensia*, 3:223.

Material examine : 25exs., India : Meghalaya : Dainadubi Reserve Forest, 18.xi.1974, T. Sengupta and Party, under bark of Paruli tree.

Distribution : India : W.B., Assam, Meghalaya. Elsewhere : Bhutan, United Kingdom.

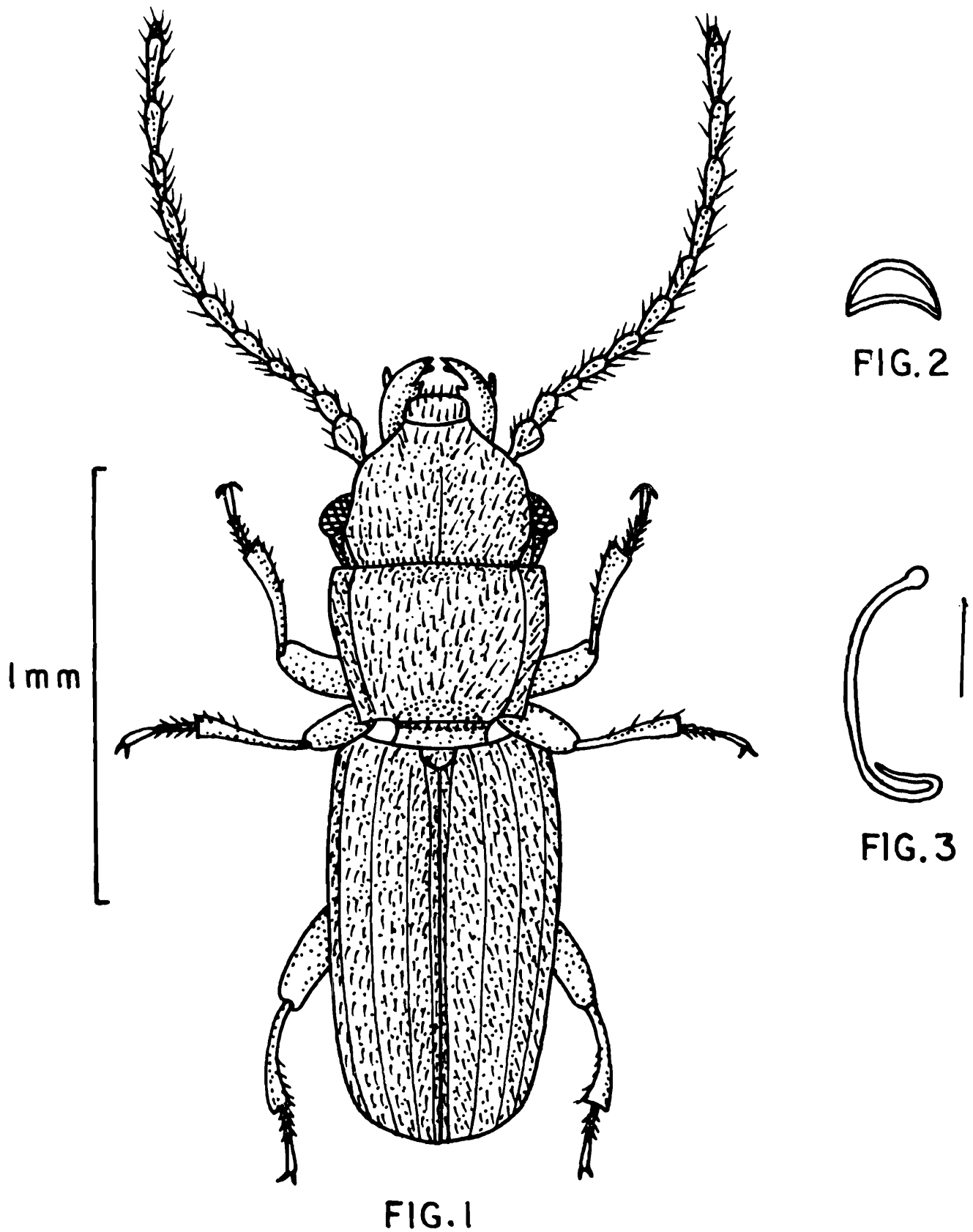
Remarks : This is a cosmopolitan species and occur both in stored grains as well as under bark. This species is recorded here for the first time from Meghalaya and also from under bark of Paruli tree.

2. *Cryptolestes songsus* sp. nov.

Figs. (1-3)

General appearance (Fig.1) elongated depressed, dorsal surface deep brownish black.

Head 1.7-2.15 times wider than long, apical margin of clypeus concave, median line on vertex distinct and extends two thirds of its length apically, lateral line at the inner margin of eyes carinated, vertex finely and closely punctured and pubescent. Eyes moderately large, moderately coarsely faceted, a short line below the eyes present. Antennae of male much longer than female, nearly as long as body; scape moderately large, pedicel little longer than segment 3, which is shorter than segment 4, segments 5-8 subequal, segments 9-11 form a loose club, terminal segment elongated and more than five times longer than its width. Prothorax 1.1 to 1.4 times wider than long, distinctly narrowed at base, front angle obtuse, hind angles not projected and its apex rounded, lateral line ridged, disc with small round closely arranged punctures. Elytra 1.7 times longer than its



Figs. 1-3. *Cryptolestes songsus* sp. Nov.

Fig. 1. Dorsal View (Male);, Fig. 2. Sclerite associated with male genitalia; Fig. 3. Sclerite associated with bursa copulatrix.

combined width, pygidium not exposed, humeral angle rounded, apical angle separately rounded with irregularly arranged punctures, each puncture with short yellowish brown pubescence, lateral line carinated. Ventral surface deep reddish brown, each ventrite with small round, closely arranged punctures and pubescent. Sclerites associated with male genitalia and on the wall of bursa copulatrix as figured (Figs. 2,3).

Measurements : Total length 1.76mm., width of the head across eyes 0.52mm., length of antennae 1.50mm; length and width of prothorax 0.40mm, 0.52mm; length and width of elytra 0.99mm, 0.58mm.

Holotype Male India : Meghalaya : Songsak Reserve Forest, altitude 1000 ft., 20.xi., 1974. T. Sengupta and party, under bark of dead fallen *Shorea robusta*; Paratypes 4 Male Male, 2 Female Female, Meghalaya : Songsak Reserve Forest, altitude 1000 ft., 20.xi. 1974, T. Sengupta and party, under bark of dead fallen *Shorea robusta*.

Distribution : India : Meghalaya.

Remarks : This species is closely related to *Cryptolestes Pusillus* (Schonh.) but can be easily distinguished by its terminal joint of antennae being five times longer than its width and sclerites associated with male genitalia and on the wall of bursa Copulatrix (Figs. 2,3).

Genus *Placonotus* Macleay

3. *Placonotus proximus* (Grouvelle)

1908. *Laemophloeus proximus* Grouvelle, *Ann. Soc. Ent. France*, **77** : 476-472.

1977. *Placonotus proximus* (Grouvelle) : Mukhopadhyay and Sengupta, *Oriental Insects*, **11**(4) : 555-566.

1985. *Placonotus proximus* (Grouvelle) : Mukhopadhyay *Rec. zool. Surv. India*, **82**(1-4) : 186.

Material examined : 5 Female, India : Meghalaya : Songsok reserve forest, altitude 1000 ft., 20.xi. 1970, T. Sengupta & Party, under bark of dead fallen *Shorea robusta*.

Distribution : India : Tamil Nadu, Meghalaya, Arunachal Pradesh.

Genus *Laemophloeus* Dejean

4. *Laemophloeus rugifrons* Grouvelle

1892. *Laemophloeus rugifrons* Grouvelle, *Annali Mus. Civ. Stor. nat. Giacomo Doria*, **32** (Series 2, 12) : 860

Material examined : 1ex., India : Meghalaya : Songsak Reserve Forest, altitude 1000, 20.xi. 1974, T. Sengupta & Party, under bark of *Shorea robusta*.

Distribution : India : Meghalaya. Elsewhere : Burma.

Remarks : Grouvelle (1892) described the species from Burma. In the present study it is being recorded for the first time from India : Meghalaya.

5. *Laemophloeus neglectus* Grouvelle

1883. *Laemophloeus neglectus* Grouvelle, *Ann. Mus. Genova*, **18**:282.

1885. *Laemophloeus neglectus* Grouvelle : Mukhopadhyay, *Rec. zool. Surv. India*, **82**(1-4) : 185-193.

Material examined : 2exs., India : Meghalaya : Dainadubi, 19.xi., 1974, T. Sengupta & Party, under bark of fallen *Shorea robusta*.

Distribution : India : Tamil Nadu, Arunachal Pradesh, Meghalaya.

Remarks : So far this species was recorded only from Tamil Nadu and Arunachal Pradesh. Now it is being recorded here for the first time from Meghalaya.

SUMMARY

45 examples of Cucujidae collected from Meghalaya has been identified. All of these belong to the subfamily Laemophloeinae of the family Cucujidae. This include six species belonging to the genera viz. *Cryptolestes* Ganglbauer, *Microlaemus* Lefkovitch, *Placonotus* Macleay, and *Laemophloeus* Dejean. Of these one species, *Cryptolestes songsus* is described as new to science and the species *Laemophloeus rugifrons* Grouvelle is recorded here for the first time from India and the other species except *Placonotus proximus* (Grouvelle) are recorded for the first time from Meghalaya. Besides this, Laemophloeinae is also recorded for the first time from the under bark of *Cinnamomum* sp (Fam. Lauraceae).

ACKNOWLEDGEMENTS

I express my deep gratitude to Dr. A.K. Ghosh, Ex-Director, Zoological Survey of India for providing the laboratory facilities. I am also indebted to Dr. S. Biswas, Deputy Director & Officer-in-Charge of Coleoptera Section for his encouragement and valuable suggestions.

REFERENCES

- Böving, A. G. and Craighead, F.C. 1930-31. An illustrated synopsis of the principal larval forms of the order Coleoptera. *Bull. Brooklyn ent. Soc.*, pp. 1-351, plates 1-125.
- Casey, T. L. 1884. Revision of the Cucujidae of America, north of Mexico, *Trans. Amer. ent. Soc.*, 11:18-112.
- Crowson, R. A. 1955. *The natural classification of the families of Coleoptera*, Nathaniel Lloyd, London, pp. 1-187.
- Erichson, W. F. 1845-48. *Naturgeschichte der Insecten Deutschlands*, 3 : vi+1-968.
- Ganglbauer, L. 1899. *Die Kafer Von Mitteleuropa* 3 : 608-612, Wien
- Grouvelle, A. 1883. *Ann. Mus. Genova*, 18:281-282.
- Grouvelle, A. 1892. Viaggio di Leonardo Fea in Birmania e regioni Vicine. L. Nitidulides, Cucujides et Parnides. *Annali Mus. Civ. Stor. nat Giacomo Doria*, 32(Series 2, 12) : 833-868.

- Grouvelle, A. 1903. Clavicornes de l'Inde Septentrionale Recoltes Par M. Harmand (1) (Nitidulidae, Colydiidae, Cucujidae, Monotomidae, Dryopidae). *Ann. Soc. ent. Fr.*, **72** : 122.
- Grouvelle, A. 1908. Coleopteres de la Region Indienne. *Ann. Soc. ent. Fr.*, **77** : 456-473.
- Hetschko, A. 1930. Cucujidae *Coleopterorum Cat.*, **109**:1-122.
- Leconte, J. L. and Horn, H. 1883. Classification of the *Coleoptera of North America*, ed. 2, p. 132.
- Lefkovitch, L.P. 1962a. A revision of African Laemophloeinae (Coleoptera : Cucujidae). *Bull. Brit. Mus. (nat. Hist.) Ent.*, **12**(4) : 167-245.
- Mukhopadhyay, P. and Sengupta, T. 1977. Studies on *Placonotus* (Coleoptera : Cucujidae : Laemophloeinae) from India. *Oriental Insects*, **11**(4) : 555-566.
- Mukhopadhyay, P. and Sengupta, T. 1978. Ergebnisse der Bhutan Expedition 1972 des Naturhistorischen Museums in Basel. Coleoptera : Fam. Cucujidae Subfam. Laemophloeinae. *Entomologica Basiliensia*, **3** : 223-230.
- Mukhopadhyay, P. 1985. Insecta : Coleoptera : Cucujidae : Laemophloeinae. *Rec. zool. Surv. India*, **82**(1-4) : 185-193.
- Redtenbacher, L. 1858. *Fauna Austriaca Die Kafer*, end ed., C. Gorold's Sohn., wien : 136+1017pp.
- Sharp, D. 1899. *Biologia Centrali - Americana Insecta, Coleoptera*, II(I) Cucujidae, pp. 499-563.

INSECTA : COLEOPTERA : GYRINIDAE, DYTISCIDAE AND HYDROPHILIDAE

P. MUKHOPADHYAY, S. K. GHOSH, S. K. SAHA AND S. BISWAS

Zoological Survey of India, Calcutta 700 053

INTRODUCTION

Aquatic beetles include about a dozen families spreading over all the four suborders of extant Coleoptera. However, three families namely, Gyrinidae, Dytiscidae and Hydrophilidae are dominant among all of the aquatic Coleoptera. Recently Biswas, Mukhopadhyay and Saha (In press) have provided details of historical development of taxonomy, biology, distribution and ecological and economical importance of these groups. While dealing with the state Fauna of West Bengal.

So far fauna of Meghalaya is concerned no comprehensive account of the groups is available. Regimbert (1891) described a species *Gyrinus smaragdinus* (Gyrinidae) from Khasi hills. Vazirani (1984) added another 4 species. In the present work two more species of Gyrinidae have been added to the list. Blair (1924) recorded a species hydrophilid while dealing with fauna of Sikkim. Subsequently d'Orchymont (1928) added another two species in his catalogue of Indian insects. In the present work 5 more species have been added to the list of hydrophilid fauna of Meghalaya.

As regards fauna of Dytiscidae is concerned Vazirani (1968, 70, 77, 84) contributed extensively to our knowledge of the group. He in his catalogue (1977) included 12 species from the area now under Meghalaya. Brancucci (1979) described a very interesting new genus from Meghalaya. In the present paper 5 more species have been added to the list. Altogether 12 species out of the 33 species dealt with in this paper are new addition to the State list.

Materials of this study are based on the collection made by various survey parties of Zoological Survey of India, Calcutta from different districts of Meghalaya. Extensive use of the material collected by members of the E.R.S., Shillong, have also been made. Besides these surveys earlier materials present in the Coleoptera Section from the area have also been utilised. For the sake of completeness species recorded only in literature have also been included.

Distributional data of the species has been given from published records as well as actual study of the specimens. Important synonymies only have been included. Key to the families, subfamilies, genera and species have been provided. Wherever possible remarks on the biology, distribution and other important facts have also been added.

SYSTEMATIC LIST OF SPECIES KNOWN FROM MEGHALAYA

FAMILY - 1. GYRINIDAE

Subfamily 1. Enhydrinae

Genus 1. *Dineutus* Macleay 1825

Species 1. *Dineutus (Spinodineutus) spinosus* (Fabricius) 1781.

2. *Dineutus (S.) unidentus* (Aube) 1833

- Subfamily - 2. Gyrininae
 Genus - 2. *Aulonogyrus* Motschulsky 1853
 Species - 3. *Aulonogyrus obliquus* (Walker) 1858.
 Genus - 3. *Gyrinus* Geoffroy 1962.
 Species - 4. *Gyrinus convexiusculus* Macleay 1871.
 5. *Cyrimus smaragdinus* Regimbert 1891.
 Genus - 4. *Metagyrimus* Brinck 1955.
 Species - 6. *Metagyrimus arrowi* (Regimbert) 1907
- Subfamily - 3. Orectochilinae
 Genus - 5. *Orectochilus* Eschscholtz 1883
 Species 7. *Orectochilus* (S. Str) *murinus* Regimbert 1891.
- FAMILY - DYTISCIDAE
- Subfamily - 1. Noterinae
 Genus - 1. *Canthydrus* Sharp 1882
 Species - 1. *Canthydrus laetabilis* (Walker) 1858
 2. *Canthydrus ritsemai* (Regimbert) 1880
- Subfamily - 2. Laccophilinae
 Genus - 2. *Laccophilus* Laech 1817
 Species - 3. *Laccophilus chinensis inefficiens* Walker 1859.
 4. *Laccophilus ellipticus* Regimbert 1899
- Subfamily - 3. Hydroporinae
 Genus 3. *Geodessus* Brancucci 1979
 Species 5. *Geodessus besucheti* Brancucci 1979
 Genus 4. *Hyphoporus* Sharp 1882
 Species - 6. *Hyphoporus nilghiricus* Regimbert 1903
- Subfamily - 4. Colymbetinae
 Genus - 5. *Agabus* Leach 1817
 Species - 7. *Agabus amoenus sinuaticollis* Regimbert 1899
 Genus - 6. *Colymbinectes* Falkenstrom 1936
 Species - 8. *Colymbinectes coriaceus* Regimbert 1899
 Genus 7. *Copelatus* Erichson 1832
 Species - 9. *Copelatus assamensis* Vazirani 1970
 Genus - 8. *Lacconectus* Motschulsky 1855
 Species 10. *Lacconectus lividus* Regimbert 1891

- Genus - 9. *Platynectes* Regimbert 1887
 Species - 11. *Platynectes Kashmirensis* Balfour-Browne 1944.
- Genus 10. *Rhantus* Stephens 1835
 Species - 12. *Rhantus sikkimensis* Regimbert 1899
 13. *Rhantus taprobanicus* Sharp 1890
- Subfamily - 5. Dytiscinae
 Genus - 11. *Cybister* Curtis 1827
 Species - 14. *Cybister convexus* Sharp 1882
 15. *Cybister posticus* Aube 1838
- Genus 12. *Eretes* Castelnau 1833
 Species 16. *Eretes sticticus* (Linnaeus) 1767
- Genus - 13. *Hydaticus* Leach 1817
 Species - 17. *Hydaticus luczonicus* Aube 1838
 18. *Hydaticus vittatus* (Fabricius) 1775
- FAMILY - III HYDROPHILIDAE
- Subfamily I. Shaeridinae
 Genus 1. *Cercyon* Mulsant 1844
 Species 1. *Cercyon* sp.
- Genus - 2. *Sphaeridium* Fabricius 1775
 Species - 2. *Sphaeridium severini* d'orchymont 1919.
- Subfamily - 2. Hydrophilinae
 Genus 3. *Berosus* Leach 1817
 Species 3. *Berosus pulchelus* M'Leay 1825
- Genus 4. *Enocrus* Zaiter 1919
 Species 4. *Enocrus rubrocinctus* Regimbert 1903
- Genus 5. *Globaria* Latreille 1829
 Species 5. *Globaria leachi* Hope 1838
- Genus - 6. *Hydrophilus* Muller 1764
 Species 6. *Hydrophilus olivaceus* (Fabricius) 1781
- Genus 7. *Laccobius* Erichson 1837
 Species - 7. *Laccobius simulans* d'orchymont 1923.
- Genus 8. *Sternolophus* Solier 1834
 Species 8. *Sternolophus rufipes* (Fabricius) 1792.

SYSTEMATIC ACCOUNT

Key to the families.

- 1(4) Metacoxae fused with metasternum. Maxillary palpi not longer than antennae.
- 2(3) Eyes divided, appearing as dorsal and ventral pair; antennae short and stout; middle and hind legs short and flattened, tarsi folding fanwise.....Gyrinidae.
- 3(2) Eyes not divided; antennae elongate, slender; middle and hind legs with tarsi not modified as above.....Dytiscidae
- 4(1) Metacoxae not fused with metasternum. Maxillary palpi often elongated and longer than antennae. Last glabrous joint obconic or more or less asymmetrical, cuplike, embracing the pubescent clubHydrophilidae.

FAMILY - I GYRINIDAE

Key to the subfamilies of *Gyrinidae*.

- 1(4) Episternum of the mesothorax not touching the elytral epipleurae; apical abdominal sternite more or less rounded, flattened without any longitudinal ventral row of hairs.
- 2(3) Posterior legs broader on the innerside than outer side; maxilla without galea Enhydrinae.
- 3(2) Posterior legs broader on the outside than the inner side; maxilla with galea.....Gyrinae
- 4(1) Episternum of the mesothorax touching the base of elytral epipleurae; the apical abdominal sternite elongate, flattened, with longitudinal, ventral rows of hairs;..... Orectochilinae

Subfamily Enhydrinae

The subfamily Enhydrinae contains a single genus *Dineutus*.Genus 1 *Dineutus* Macleay 19251825. *Dineutes*, Macleay, *Annulosa Javanica*, ed 1 : 30.1984. *Dineutes*, Vazirani, *Fauna. India. Gyrinidae and Haliplidae*, : 16.

Key to the species

- 1(2) Elytral apex with one spine, ventral side concolorous. Metacoxal border straight*unidentus* (Aube)
- 2(1) Elytral apex normally with 2 spines, ventral side non concolorous but with yellow epipleurae. Metacoxal border subsinuate in terminal portion..... *spinus* (Fabricius)

1. *Dineutus (Spinodineutus) spinicollis* (Fabricius)1781. *Gyrinus spinus* Fabricius, *Species Insectorum* : 298.1984. *Dineutus (Spinodineutus) spinicollis*, Vazirani, *Fauna India* : 17-20.*Material examined* : Not available from the state

Distribution : India : Meghalaya : West Khasi hills. Shillong. Uttar Pradesh; Bihar; West Bengal; Assam; Orissa and Tamil Nadu. Also known from Bangladesh; Myanmar; Thailand; Mylaysia; Laos and Vietnam.

2. *Dineutes (Spinodineutes) unidentatus* (Aube)

1838. *Dineutes unidentatus* Aube, *Species Coleopteres*, 6 : 788

1984. *Dineutes (Spinodineutes) unidentatus*, Vazirani, *Fauna India*. : 20-22.

Material examined : Not available for the state

Distribution : Meghalaya : West Khasi hills (Shillong); Rajasthan; Bihar; Madhya Pradesh; Orissa; Kerala; Tamil Nadu and West Bengal.

Also known from Srilanka, Mynamar, Malaysia, Thailand and Indonesia.

Subfamily Gyrininae

Key to the genera known from meghalaya.

- 1(4) Pronotum without any transverse grooves; elytral striae in the form of furrows
- 2(3) Scutellum short and broad; length shorter than width..... *Aulogyrinus*
- 3(2) Scutellum long and slender; longer than broad;..... *Metagyrinus*.
- 4(1) Pronotum with transverse grooves; elytral striae in the form of punctures *Gyrinus*.

Genus 2 *Aulonogyrinus* Motschulsky

1853. *Aulonogyrinus* Motschulsky, *Hydrocanthares Russia* : 9.

1984. *Aulonogyrinus*, Vazirani, *Fauna India* : 25-26.

3. *Aulonogyrinus obliquus* (Walker)

1858. *Gyrinus obliquus* Walker, *Ann. Mag. nat. Hist* (3) 2 : 205.

1984. *Aulonogyrinus obliquus*, Vazirani, *Fauna India* : 26-28.

Material examined : 1ex., East Garohills, Bank of someswari riveneer Siju, ii.1922. S. Kemp and B. Chopra coll.

Distribution : Meghalaya : East Garohills; Madhya Pradesh. Andhra Pradesh. Tamil Nadu. Also known from Srilanka.

Remarks : The species is being recorded for the first time from Meghalaya.

Genus 3. *Gyrinus* Geoffroy

1762. *Gyrinus* Geoffroy, *Hist. Ins.* 1 : 193.

1984. *Gyrinus* Vazirani, *Fauna India* : 29-30.

Key to the species known from Meghalaya.

- 1(2) The outer six striae of the elytra deepened into furrows;..... *smaragdinus*
- 2(1) The outer six striae of the elytra not deepened into furrows *convexiculus*

4. *Gyrinus convexiculus* Macleay

1871. *Gyrinus convexiculus*, Macleay, *Trans. ent. Soc. N. S. Wales*, 2 : 128.

Material examined : 31exs. : Meghalaya, West Khasi hills, Shillong. 15.xi.1930. H. S. Rao coll.

Distribution : Meghalaya : West Khasihills (Shillong); Bihar; Assam; Madhya Pradesh Orissa; Andhra Pradesh; Karnataka and Tamil Nadu.

5. *Gyrinus smaragdinus* Regimbert.

1891. *Gyrinus smaragdinus* regimbert, annali mus. civ. nat., gia coma doria (2) 10 : 547.

Material examined : 1ex., Khasi hills, Shillong. 1ex., Dunpep no other data.

Distribution : Meghalaya : Khasihills.

Remarks : The species was first discribed from the material from Khasihills and Burma.

Genus 4. *Metagyrimus* Brinck

1955. *Metagyrimus* Brinck, Acta. Univ. Lund. (N-F.) 51 (16) : 37.

1984. *Metagyrimus*, Vazirani, Fauna. India : 28.

6. *Metagyrimus arrowi* (Regimbert)

1907. *Aulonogyrimus arrowi* Regimbert, Ann. Soc. ent. Fr., 76 : 161.

1977. *Metagyrimus arrowi*, Vazirani, Newsl. Zool. Surv. India, 3(5) : 291.

Material examined : 2exs., Meghalaya : West Khasihills (Mawphlong), no other data.

Distribution : Meghalaya : West khasi hills; Himachal Pradesh and Uttar Pradesh; Also known from Nepal and Laos.

Subfamily 3. Orectochilinae

This subfamily contains a single genus Orectochilus

Genus 5. *Orectochilus* Eschscholtz.

1833. *Orectochilus* Eschscholtz, in Dejean's Catalogue Coleopteres, ed II : 59.

1984. *Orectochilus*, Vazirani, Fanua India : 36-37.

7. *Orectochilus (S. Str.) murinus* Regimbert

1891. *Orectochilus murinus* Regimbert, Ann. Soc. ent. Fr., 60 : 709.

1977. *Orectochilus (S. Str.) murinus*, Vazirani, Newsl. Zool. Surv. India, 3(5) : 292.

Material examined : 4exs., 1ex., West Khasihills, 8.iv.1917 Gopi Ram coll. 1ex., Khasihills, 25.ix.1926. R.B.S. Swell coll. 2exs., Shillong, 15.xi.1930. H. S. Rao coll.

Distribution : Meghalaya : West Khasihills; Himachal Pradesh; Uttar Pradesh; West Bengal; Also known from Bhutan and Indo-China.

FAMILY II DYTISCIDAE

Key to the subfamilies of Dytiscidae known from Meghalaya.

- 1(6) Scutellum not visible
- 2(5) Fourth segment of pro and mesotarsi not reduced and subequal to the 3rd tarsal segment, prosternal process straight, occassionally a little depressed.
- 3(4) Posterior legs with two tarsal claws of equal length; sides of the pronotum rebordered
Noterinae
- 4(3) Posterior legs with a single tarsal claw; sides of the pronotum not rebordered.....
..... Laccophilinae
- 5(2) Fourth segment of the pro and meso-tarsi much reduced, hardly visible; prosternal process arched and oblique.....
..... Hydroporinae
- 6(1) Scutellum visible

- 7(8) Anterior border of the eyes excised; three basal segment of the protarsi enlarged but not forming a large pallet..... Colymbatinae
- 8(7) Anterior border of the eyes not excised; three basal segments of the protarsi enlarged into rounded, oval or sub-triangular pallet.....Dytiscinae.

Subfamily 1. Noterinae

This subfamily Noterinae is represented in Meghalaya by a single genus *Canthydrus*.

Genus 1. *Canthydrus* Sharp

1882. *Canthydrus* Sharp, Sci. Trans. R. Dublin Soc., 2 : 269, 838.

1977. *Canthydrus*, Vazirani, *Rec. zool. Surv. India, Occ. Paper No. 6 : 5.*

Key to the species of the genus *Canthydrus* known from Meghalaya.

- 1(2) Elytra testaceous in colour.....*ritsemai*
- 2(1) Elytra brownish black with yellowish spot*laetabilis*

1. *Canthydrus laetabilis* (Walker)

1858. *Hydroporus laetabilis* Walker, Ann. Mag. Nat. Hist., (3) 2 : 205.

1977. *Canthydrus laetabilis*, Vazirani, *Rec. zool. Surv. India, Occ. Paper 6 : 6.*

Material examined : 3exs. West Khasihills, Cherrapunjee 18.3.1991. M.C. Ghosh coll., 2exs., East Garo hills, 9.3.1991. H. C. Ghosh coll.

Distribution : Meghalaya : West Khasihills (Cherrapunjee); East Garo hills (Phulbari); Andhra Pradesh, Assam; Bihar; West Bengal; Orissa; Kerala; Uttar Pradesh; Punjab and Rajasthan. Also known from Srilanka. Pakistan, Mynamar; Nepal and Belgin Congo.

Remarks : The species is recorded for the first time from Meghalaya.

2. *Canthydrus ritsemai* (Regimbert)

1880. *Hydrocanthus ritsemai* Regimbert, Notes Leyden Mus., 2 : 213.

1977. *Canthydrus ritsemani*, Vazirani, *Rec. zool. Surv. India, Occ. Paper No. 6 : 8.*

Material examined : 1 ex., East Garo hills; Phulbari, 9.3.1991, H. C. Ghosh coll.

Distribution : Meghalaya : East Garo hills; Andhra Pradesh, Assam, Bihar, Orissa and West Bengal. Also known from Myanmar, Thailand; Vietnam, Indonesia. Malayasia and Singapore.

Remarks : The species is being recorded for the first time from Meghalaya.

Subfamily 2. Laccophilinae

This subfamily is represented by a single genus *Laccophilus* from Meghalaya.

Genus 2. *Laccophilus* Leach

1817. *Laccophilus* Leach, Zool. Misc. 3 : 69.

1977. *Laccophilus*, Vazirani, *Rec. zool. Surv. India, Occ. Paper No. 6 : 9.*

Key to the spices of *Laccophilus* known from Meghalaya.

- 1(2) Elytra unicolorous, without any distinct markings.....*ellipticus*
- 2(1) Elytra with distinct black or brown patterns *chinensis inefficiens*

3. *Laccophilus chinensis inefficiens* Walker

1858. *Laccophilus chinensis* Boheman, K. Sv. Fregatten Eugenies Resa. Zoologi, 1. Insect, 2 : 21.
 1859. *Laccophilus inefficiens* Walker, Ann. Mag. nat. Hist., (3)3 : 51.
 1977. *Laccophilus chinensis inefficiens*, Vazirani, *Rec. zool. Surv. India. Occ. Paper* No. 6 : 10-11.

Material examined : 1ex., West Khasi hills, Mawphlong, 27.3.1991. S. K. Saha and party coll.

Distribution : Meghalaya : West Khasi hills (Mawphlong); Assam; Bihar; Madhya Pradesh, Maharashtra; Orissa; Punjab; Rajasthan; Gujarat; Uttarpradesh; West Bengal, Himachal Pradesh and Goa. Also known from Srilanka; Pakistan, Malayasia and Nepal.

Remarks : The species is recorded for the first time from Meghalaya.

4. *Laccophilus ellipticus* Regimbert

1899. *Laccophilus ellipticus* Regimbert, Ann. Soc. ent. Fr., (6) 9 : 152.
 1977. *Laccophilus ellipticus*, Vazirani, *Rec. zool. Surv. India, Occ. Paper* No. 6 : 11.

Material examined : 1ex. East Garohills. Phulbari, 9.3.1991. H. C. Ghosh coll.

Distribution : Meghalaya : East Garohills; Andhra Pradesh; Assam; Bihar; Goa; Kerala; Madhya Pradesh; Orissa and West Bengal. Also known from Srilanka; China and Vietnam.

Remarks : The species is recorded for the first time from Meghalaya.

Subfamily 3. Hydroporinae

This subfamily is represented in Meghalaya by two genera namely *Geodessus* and *Hyphoporus*. The genus *Geodessus* is remarkable as it is found in terrestrial habitat which is unique in the family Dytiscidae.

Key to the genera of the subfamily Hydroporinae known from Meghalaya.

- 1(2) Species small in size (1.4-1.5 mm). Terrestrial in habit.....*Geodessus*
 2(1) Species larger in size (4.00-5.00 mm). aquatic in habitat*Hyphoporus*

Genus 3. *Geodessus* Brancucci

1979. *Geodessus* Brancucci, Entomologia Basiliensia 4 : 214.

5. *Geodessus besucheti* Brancucci

1979. *Geodessus besucheti* Brancucci Entomologia Brasiliensia 4 : 214-217.

Remarks : 1ex. West Khasi hills, 25.x.1978. Besuchet and Löbl coll.

Distribution : Meghalaya : West Khasi hills. West Bengal, Uttar Pradesh. Also known from Nepal.

Genus 4. *Hyphoporus* Sharp

1882. *Hyphoporus* Sharp. Sci Trans. R. Dublin Soc., 2 : 390, 859.
 1977. *Hyphoporus*, Vazirani, *Rec. zool. Surv. India, Occ. Paper* No. 6 : 44.

6. *Hyphoporus nilghiricus* Regimbert

1903. *Hyphoporus nilghiricus*, Regimbert, Ann. Soc. ent. Fr., 72 : 331.
 1977. *Hyphoporus nilghiricus*, Vazirani, *Rec. zool. Surv. India, Occ. Paper* No. 6 : 46.

Material examined : 5exs.; East Garo hills, Phulbari, 9.iii.1991. H. C. Ghosh coll.

Distribution : Meghalaya : East Garo hills; Bihar; Orissa; Rajasthan; Tamil Nadu.

Remarks : The species is being recorded for the first time from Meghalaya.

Subfamily 4. Colymbetinae

This subfamily Colymbetinae is presented in Meghalaya by six general *namely* *Agabas*, *Colymbinectes*, *Copelatus*, *Lacconectus*, *Platynectes* and *Rhantus*.

Genus 5. *Agabas* Leach

1817. *Agabas* Leach, *Miscell.* 3 : 69, 72.

1977. *Agabas*, Vazirani *Rec. zool. Surv. India Occ. Paper* No. 6 : 61.

7. *Agabas amoenus sinuaticollis* Regimbert

1899. *Agabas sinuaticollis* Regimbert, *Ann. Soc. ent. Fr.*, 68 : 171.

1899. *Agabas amoenus* Solsky, Regimbert, *Ann. Soc. ent. Fr.*, 68 : 176 (in part).

1970. *Agabas amoenus sinuaticollis*; Vazirani, *Orient. Ins.* 4 : 336.

Material examined : 19exs. Khasi hills 3exs., Umsing near Shillong 16.v.1963. S.J.S. Hatter coll. 13exs. Mairang, 11.iv.1972. S. Biswas coll. 3exs. Nonghyer (upper Shillong 10.viii.1971. S. Biswas coll.)

Distribution : Meghalaya East Khasi hills, Himachal Pradesh.

Genus 6. *Colymbinectes* Falkenstrom

1936. *Colymbinectes* Falkenstrom, *Lingh. J. Sci.*, 15(1) : 79.

1977. *Colymbinectes*, Vazirani, *Rec. zool. Surv. India, Occ. Paper* No. 6 : 69.

8. *Colymbinectes coriaceus* (Regimbert)

1899. *Platynectes coriaceus* Regimbert, *Ann. Soc. ent. Fr.*, 68 : 282.

1972. *Colymbinectes coriaceus*, Gueorguiev, *Izv. Inst. Zool. Sof.*, 34 : 58.

Material examined : Material not seen. 1ex. Khasi hills. in Regimbert Collection and 1ex in Oberthur coll.).

Distribution : Meghalaya : Khasi hills.

Remarks : The species has been included on the basis of Dr. T. G. Vazirani's report. (Vazirani 1970).

Genus 7. *Copelatus* Erichson

1832. *Copelatus* Erichson, *Genera Dytiscidae*

1977. *Copelatus*, Vazirani, *Rec. zool. Surv. India, Occ. Paper* No. 6 : 52.

9. *Copelatus assamensis* Vazirani

1970. *Copelatus assamensis* Vazirani, *Orient. Ins.* 4 : 311.

Material examined : 1ex. Meghalaya, West Khasi hills, Umrau near Shillong, 15.xii.1960, S. N. Prasad Coll.

Distribution : Meghalaya : Khasi hills.

Remarks : The species is endemic to Meghalaya.

Genus 8. *Lacconectus* Motschulsky

1855. *Lacconectus* Motschulsky, Etudes Entomologiques, 4 : 83.
 1977. *Lacconectus*, Vazirani, *Rec. zool. Surv. India, Occ. Paper No. 6* : 58.

10. *Lacconectus lividus* Regimbert

1891. *Lacconectus lividus* Regimbert, *Annali Mus. Stor. nat. Genova*, (2) 10 : 544.
 1970. *Lacconectus lividus*; Vazirani, *Orient, Ins.* 4 : 321.

Material examined : 1ex., Cherapunjee, West Khasi hills, Meghalaya.

Distribution : Meghalaya, West Khasi hills; Orissa; Tamil Nadu.

Genus 9. *Platynectes* Regimbert

1887. *Platynectes* Regimbert, *Ann. Soc. ent. Fr.*, (5)8 : 454, 462.
 1977. *Platynectes*; Vazirani, *Rec. zool. Surv. India, Occ. Paper No. 6* : 66

11. *Platynectes kashmirenus* Balfour - Browne

1944. *Platynectes kashmirenus* Balfour - Browne, *Ann. Mag. nat Hist.*, (ii) 11 : 352.
 1977. *Platynectes kashmirenus*; Vazirani, *Rec. Zool. Surv. India, Occ. Paper No. 6* : 68

Material examined : 2exs. Khasi hills (No other data available).

Distribution : Meghalaya, Kashmir, Punjab, Himachal Pradesh, Uttar Pradesh, West Bengal, Manipur, Sikkim.

Genus 10. *Rhantus* Stephens

1835. *Rhantus* Stephens, *Illustrated Brit. Ent. Mand.*, 5 app. : 395.
 1977. *Rhantus*; Vazirani, *Orient. Ins.*, 4 : 355.

Key to the species of the genus *Rhantus* known from Meghalaya.

- 1(2) Reticulation distinct on ventral side; normal striae of punctures close and fine *sikkimensis*
 2(1) Reticulation on ventral side not distinct..... *taprobanicus*

12. *Rhantus sikkimensis* Regimbert

1899. *Rhantus sikkimensis* Regimbert, *Ann. Soc. ent. Fr.*, 68 : 310.
 1970. *Rhantus sikkimensis*; Vazirani, *Orient. Ins.*, 4 : 355.

Material examined : 3exs : 1 ex., Umrao, 26.v.1971. S. Biswas coll; 2exs., Barapani, 21.iv.1972. G. M. Yazdani coll.

Distribution : Meghalaya : Khasi hills; Himachal Pradesh, West Bengal, Punjab, Sikkim, Uttar Pradesh.

13. *Rhantus taprobanicus* Sharp

1890. *Rhantus taprobanicus* Sharp, *Trans. ent. Soc. London*, 1890 : 346.
 1977. *Rhantus taprobanicus*; Vazirani, *Rec. zool. Surv. India, Occ. Paper No. 6* : 73.

Material examined : 2exs.; 1ex. upper Shillong, 30.vi.1970 S. Khera coll; 1ex. Mawphlong (near Shillong) 31.xii.1971. S.J.S. Hatter coll.

Distribution : Meghalaya, Karnataka, Tamil Nadu, Maharashtra, Rajasthan, Uttar Pradesh, Bihar, W. Bengal.

Subfamily 5. Dytiscinae

This subfamily Dytiscinae is presented in Meghalaya by three genera namely *Cybister*, *Eretes* and *Hydaticus*.

Genus 11. *Cybister* Curtis

1827. *Cybister* Curtis, Brit. Ent., 4 : 151.

1977. *Cybister*; Vazirani, *Rec. zool. Surv. India, Occ. Paper No. 6* : 86.

Key to the species of the genus *Cybister* known from Meghalaya :

- 1(2) Tibial spurs of the hind leg reaching the two basal tarsal segments combined *convexus*
 2(1) Tibial spurs of the hind leg not reaching the two basal tarsal segments combined *posticus*

14. *Cybister convexus* Sharp

1882. *Cybister convexus* Sharp, Sci. trans. R. Dublin Soc., 2 : 718.

1977. *Cybister convexus*; Vazirani, *Rec. zool. Surv. India, Occ. Paper No. 6* : 87.

Material examined : 3exs. Shillong, W. Khasi hills, Godwin - Austen coll.

Distribution : Meghalaya, Manipur, W. Bengal.

15. *Cybister posticus* Aube

1838. *Cybister posticus* Aube, in Dejean's species Coleopteres, 6 : 87.

1977. *Cybister posticus*; Vazirani, *Rec. Zool. Surv. India, Occ. Paper No. 6* : 88.

Material examined : 1ex. Shillong, W. Khasi hills (no other data available).

Distribution : Meghalaya, Assam, Maharashtra, Manipur, West Bengal.

Genus 12. *Eretes* Castalenau

1833. *Eretes* Castalenau, Ann. Soc. ent. Fr., 2 : 397.

1977. *Eretes*; Vazirani, *Rec. zool. Surv. India, Occ. 6* : 73.

16. *Eretes sticticus* (Linnaeus)

1767. *Dytiscus sticticus* (Linnaeus), Syst. Nat., ed. 12, p.666.

1977. *Eretes sticticus*; Vazirani, *Rec. zool. Surv. India, Occ. Paper No. 6* : 73.

Material examined : 1ex. Shillong, W. Khasi hills, 25.ix.1926, S. Swell coll.

Remarks : Meghalaya, Andhra Pradesh, Bihar, Kashmir, Madhya Pradesh, Maharashtra, Manipur, Mysore, Orissa, Rajasthan, W. Bengal, U. P., Punjab.

Genus 13. *Hydaticus* Leach

1817. *Hydaticus* Leach, Zool, Miscell., 3 : 69, 72.

1977. *Hydaticus*; Vazirani, *Rec. zool. Surv. India, Occ. Paper No. 6* : 75.

17. *Hydaticus luczonicus* Aube

1838. *Hydaticus luczonicus* Aube, in Dejean's Species Coleopteres, 6 : 179.

1977. *Hydaticus luczonicus*; Vazirani, *Rec. zool. Surv. of India, Occ. Paper No. 6* : 79.

Material examined : Not available from the state.

Distribution : Meghalaya, Bihar, Gujarat, Orissa, Madhya Pradesh, Maharashtra, Rajasthan, U. P., W. Bengal.

18. *Hydaticus vittatus* (Fabricius)1775. *Dytiscus vittatus* (Fabricius), Systema entomologiae, Appendix, Flensburgi and Lipsiae, p. 825.1977. *Dydaticus vittatus*; Vazirani, *Rec. zool. Surv. India, Occ. paper* No. 6 : 81.*Material examined* : 4exs. Shillong, W. Khasi hills, 16-20.iv.1918, N. Annandale coll.*Distribution* : Meghalaya, Andhra Pradesh, Assam, Bihar, Kashmir, Tamil Nadu, Madhya Pradesh, Maharashtra, Orissa, U. P., Rajasthan.

FAMILY III : HYDROPHILIDAE

Key to the subfamilies of Hydrophilidae known from Meghalaya.

- 1(2) Antennae normally longer than maxillary palpi; last glabrous segment obconic, more or less tightly fitted with first joint of pubescent club; Ventral abdominal segments always five in number Subfamily Sphaeridiinae
- 2(1) Antennae shortened, as long as and often shorter than maxillary palpi. Maxillary palpi very long, last glabrous joint more or less asymmetrical, cuplike, embracing the first joint of triarticulate club. Abdomen sometimes with six ventral segments..... Subfamily Hydrophilinae

Subfamily I. Sphaeridiinae

Key to the genera of subfamily Sphaeridiinae known from Meghalaya.

- 1(2) Head not narrowed just before the eyes. Metasternum prolonged between the middle coxae Sphaeridium
- 2(1) Head abruptly narrowed before the eyes. Metasternum not prolonged between the middle coxae..... Cercyon.

Genus I. *Cercyon* Mulsant1844. *Cercyon mulsant*. Hist. Nat. Col. Fr. Palp., pp. 147, 156.1928. *Cercyon, d'Orchymont*, Catalogue of Indian Insects, Part 14 : 71.1. *Cercyon* sp.

The species has been included here on the basis of Blair's report on the fauna of sizu cave (1924). No material is available for the present study.

Genus 2. *Sphaeridium* Fabricius1775. *Sphaeridium* Fabricius, Syst. Ent. p. 66.1928. *Sphaeridium*, d'Orchymont, Catalogue of India Insects. Part 14 : 61-64.2. *Sphaeridium severini* d'Orchymont1919. *Sphaeridium severini* d'Orchymont; Ann. Soc. Ent. Fr., 88 : 116.*Material examined* : 1ex., Nongpoh, Khasi hills; vii.1907.*Distribution* : Meghalaya, Khasi hills; Tamil Nadu, Kerala. Also Known from Hongkong, Singapore, Indonesia and Vietnam.

Subfamily 2. Hydrophilinae

Key to the general of subfamily Hydrophilinae known from Meghalaya.

- 1(8) Scutellum not longer or not much longer than its width at base. Antennae at most 9 segmented. Pronotum not narrowed behind.
- 2(5) Meso and metasternal carina not reunited intimately.
- 3(4) Maxillary palpi robust and short, nearly as long as antennae or shorter, last joint as long as or longer than penultimate..... *Laccobius*
- 4(3) Maxillary palpi more or less slender, longer than antennae, with last joint shorter than penultimate *Enocrus*
- 5(2) Meso and metasternal carina reunited and forming only one ridge
- 6(7) All femora clothed at base with a silky procumbent and dense pubescence. Antennae with normal club *Sternolophus*
- 7(6) The anterior femora only are clothed with pubescence at base. Antennal club perfoliate and asymmetrical *Hydrophilus*
- 8(1) Scutellum a long triangle. Antennae at most 8 segmented
- 9(10) Body, elongate; upper surface never uniform, deep shining *Berosus*
- 10(9) Body globular and convex. Elytra glabrous *Globaria*

Genus 3. *Berosus* Leach

1817. *Berosus* Leach, Zool. Misc., 3 : 92.

1928. *Berosus*, D'orchymont, Catalogue of India Insects. part 14 : 133-136.

3. *Berosus pulchellus* M'Leay

1925. *Berosus pulchellus* M'Leay, Annul. Jav. : 35.

Material examined : 1 ex. West Khasi hills, Shillong, 17.v.1960 T. G. Vazirani coll.

Distribution : Meghalaya : West Khasi hills (Shillong). West Bengal. Also known from Srilanka; Mynamar. Tonkin, Annam, Australia, Philippine, Indonesia and Formosa.

Genus 4. *Enocrus* Zaitsev

1919. *Enocrus* Zaitsev. Rev. russe d'Entom 8 : 91.

1924. *Enocrus*, d'Orchymont, Catalogue of Indian Insects Part 14 : 109-110.

4. *Enocrus rubrocinetus* (Regimbart)

1903. *Philhydrus rubrocinetus* d'Orchymont, Ann. Soc. Ent. Fr., 72 : 56.

1924. *Enocrus rubrocinetus*, d'Orchymont, Catalogue of Indian Insects. Part 14 : 111.

Material examined : 1 ex., West Khasi hills, Uman 15.xii.1960, S. N. Prosad coll.

Distribution : Meghalaya : West Khasi hills. Also known from Mynamar; Indonesia; Philippine; Tonkin and Indo-China.

Remarks : The species is being recorded for the first time from India.

Genus 5. *Globaria* Latreille

1829. *Globaria* Latreille, in Cuvier, Regne Anim. nouv. ed 4, p.521.

1924. *Globaria*, d'Orchymont, Catalogue of Indian Insects Part 14 : 139.

5. *Globaria leachi* Hope

1838. *Globaria leachi* Hope, Col. Man. 2 : 167.

1924. *Globaria leachi*, d'Orchymont, Catalogue of Indian Insects. Part 14 : 139.

Material examined 6exs. : 4exs. East Garo hills, Barengapara, 2.iii.1991. H. C. Ghosh Coll; 2exs., Phulbari, 9.iii.1991. H. C. Ghosh coll.

Distribution : Meghalaya : East Garo hills; West Bengal, Tamil Nadu. Also known from Srilanka, Cambodia, Annam, Tonkin and Indonesia.

Remarks : The species is being recorded for the first time from Meghalaya.

Genus 6. *Hydrophilus* muller

1764. *Hydrophilus* Muller, Fauna Ins. Fridrichsdalina, p.16.

1980. *Hydrophilus*, Smetna, Mem. ent. Soc. Canada 111 : 10-11.

6. *Hydrophilus olivaceus* Fabricius

1781. *Hydrophilus olivaceus* Fabricius, Spec. Ins. I : 289.

Material examined : 1ex., West Khasi hills, Shillong E.R.S. Lot No 23/64. No other data.

Distribution : Meghalaya : West Khasi hills; West Bengal and North India.

Remarks : The species is being recorded for the first time from Meghalaya.

Genus 7. *Laccobius* Erichson

1837. *Laccobius* Erichson, Kaf. Mark Brandebg. 1 : 202.

1928. *Laccobius*, d'Orchymont, Catalogue Indian Insects Part 14 : 99.

7. *Laccobius simulans* d'Orchymont

1923. *Laccobius* d'Orchymont. Mem. Dep. Agr. India, vii : 7.

Material examined : No material is available.

Distribution : Meghalaya : Khasi hills; Bihar, West Bengal, Uttar Pradesh.

Remarks : The species has been included on the basis of report of d'Orchymont (1928).

Genus 8. *Sternolophus* Solier

1834. *Sternolophus* Solier, Ann. Soc. ent. Fr., 3 : 302, 310.

1928. *Sternolophus*, d'Orchymont, Catalogue Indian Insects Part 14 : 119.

8. *Sternolophus rufipes* (Fabricius)

1792. *Hydrophilus rufipes* Fabricius, Entom. Syst. 1 : 183.

1840. *Sternolophus rufipes*, d'Orchymont, Catalogue Indian Insects Pat 14 : 121.

Material examined : 5exs. : Meghalaya : East Garo hills, Phulbari 9.iii.1991, H. C. Ghosh coll.

Distribution : Meghalaya : East Garo hills; West Bengal. Also known from East Asia, Sunda Island.

Remarks : Although the species is common around Calcutta and occurs widely in the Gangetic plain, it has been recorded for the first time from the state.

**The Chart Showing District Wise Distribution of
Species of Aquatic Coleoptera Known From Meghalaya**

Name of Species	West Khasi Hills	East Khasi Hills	Bhoi	West Garo Hills	East Garo Hills	Jaintia Hills
1. <i>Dineutus (spinodineutus) spinosus</i> (Fabricius)	+					
2. <i>Dineutus</i> (S.) <i>unidentus</i> (Aube)	+					
3. <i>Aulonogyrus Obliquus</i> (Walker)					+	
4. <i>Gyrinus convexiusculus</i> Macleay	+					
5. <i>Gyrinus smaragdinus</i> Regimbert	+					
6. <i>Metagyrimus arrowi</i> (Regimbert)	+					
7. <i>Orectochilus</i> (S. Str) <i>murinus</i> Regimbert	+					
8. <i>Canthydrus laetabilis</i> (Waker)	+				+	
9. <i>Canthydrus ritsemai</i> (Regimbert)					+	
10. <i>Laccophilus chinensis inefficiens</i> Walker	+					
11. <i>Laccophilus ellipticus</i> Regimbert					+	
12. <i>Geodessus besucheti</i> Brancucci	+					
13. <i>Hyphoporus nilghiricus</i> Regimbert					+	
14. <i>Agabus amoenus sinuaticollis</i> Regimbert	+					
15. <i>Colymbinectes coriaceus</i> Regimbert	+					
16. <i>Copelatus assamensis</i> Vazirani	+				+	
17. <i>Lacconectus lividus</i> Regimbert	+					
18. <i>Platynectes kashmirensis</i> Balfour-Browne	+					
19. <i>Rhantus sikkimensis</i> Regimbert	+					
20. <i>Rhantus taprobanicus</i> Sharp	+					
21. <i>Cybister convexus</i> Sharp	+					
22. <i>Cybister posticus</i> Aube	+					
23. <i>Eretes sticticus</i> (Linnaeus)	+					
24. <i>Hydaticus luczonicus</i> Aube						
25. <i>Hydaticus vittatus</i> (Fabricius)	+					
26. <i>Cercyon</i> Sp.						
27. <i>Sphaeridium severini</i> d'orchymont					+	
28. <i>Berosus pulchelus</i> M'Leay	+					
29. <i>Enocrus rubrocinctus</i> Regimbert	+					
30. <i>Globaria leachi</i> Hope					+	
31. <i>Hydrophilus olivaceus</i> (Fabricius)	+					
32. <i>Laccobius simulans</i> d'orchymont	+					
33. <i>Sternolophus rufipes</i> (Fabricius)					+	

SUMMARY

The Present paper deals with 33 species belonging to 26 genera of 10 subfamilies under 3 families. Of these 13 species have been added to the list of previously recorded species from the state. Keys to the families, subfamilies, genera and species included in this paper have been provided. Distributional data within and outside the state have been added.

ACKNOWLEDGEMENT

Authors are thankful to the Ex-Director, Zoological Survey of India for facilities. Authors are also grateful to Dr. J.B.R. Alfred, Director, for his keen interest and constant encouragement.

REFERENCES

- Biswas, S. Mukhopadhyay, P and Saha, S. K. Fauna of West Bengal Coleoptera : Dytiscidae and Gyrinidae. State fauna series.
- Balair, K. C. 1924. Fauna of Sizucave, Coleoptera, Rec. Indian Mus., 26 : 120.
- Brancucci, M. 1979. *Geodessus besucheti*, n.gen; n.sp. le premier Dytiscidae terrestre (Col. : Dytiscidae, Bidessini). Entomologia Basiliensia, 4 : 213-218.
- d'Orchymont, A. 1928. Catalogue of India Insects, Part 14 : 1-146. Govt. of India Publication.
- Vazirani, T. G. 1968. Contribution to the study of aquatic beetles (Coleoptera) 2. A review of the Subfamilies Noterinae, Laccophilinae, Dytiscinae and Hydroporinae (in Part) from India, Orient. Ins., 2 (3-4) : 211-241.
- Vazirani, T. G. 1970. Contributions to the study of aquatic beetles (Coleoptera). V. A review of the Hydroporinae Dytiscidae in part, from India, Orient, Ins., 4(1) : 93.
- Vazirani, T. G. 1970. Contribution to the study of aquatic beetles (Coleoptera) VII. A revision of Indian Colymbetinae (Dytiscidae). Orient. Ins., 4(3) : 303-362.
- Vazirani, T. G. 1977. Catalogue of Oriental Dytiscidae, Rec. zool. Surv. India, Occ. pap. 6 : 1-111.
- Vazirani, T. G. 1984. Fauna of India, Coleoptera : Fam. Gyrinidae and Fam. Haliplidae, v-xi+140pp., PTS I-III, figs. 1-57.

INSECTA : COLEOPTERA : HISTERIDAE

S. K. CHAKRABORTY AND S. BISWAS

Zoological Survey of India

Calcutta 700 053

INTRODUCTION

The family Histeridae belongs to superfamily Histeroidea. Which consists of three families, namely (1) Sphaeritidae, (2) Syntelidae and (3) Histeridae. Sphaeritidae does not occur in India and Syntelidae is represented in India by a single species, *Syntelia indica*. Histeridae is the dominant family and widely distributed in all major zoogeographical regions. About 3000 species under 200 genera are known from the world.

In India histerid fauna has not yet been properly explored. Workers like Mazur (1975), Therond (1975), Gomy (1976), Pal and Bswas (1985) and Chakraborty and Biswas (In press) have contributed in recent years to our knowledge of the group. So far 175 species under 34 genera have been recorded from India.

As regards fauna of Meghalaya is concerned Lewis (1900) was the first to describe a new species, *Platylister mirabilis* from Khasi hills district. Next year he described another species *Hister silvicola* (= *Atholus silvicola*) from the same district. Blair (1924) added another species *Carcinops quotturdecimstriata* Stephen from Garo hills. Thus only three species were know from Meghalaya before the present work was undertaken. During the present study all earlier materials present in Coleoptera Section as well as collections brought recently by various survey parties have been included. In the present paper number of species has been brought to 35 with description of a new species and 31 new records from the state.

Diagnostic characters : Very small to medium in size; round, oval, flattened or elongated in shape; generally black and shining, occasionally with metallic lusture. Anterior tibiae externally dentate. Antennae geniculate. Fore tracantin concealed. Fore coxae not projecting, all coxae widely separated. Antennal club usually not distinctly seperated. Gular suture usually confluent posteriorly. Two abdominal tergites exposed.

Morphological characters : Head usually deeply inserted into the prothorax. Antennae distinctly geniculate, almost always 10-11 segmented with a compact 3 segmented club. Antennal grooves and antennal cavities sometimes present. Mandibles often projecting, mentum sometimes enlarged and concealing maxillae. Gular suture usually confluent posteriorly. Prosternum long in front of coxae, often produced anteriorly below the head, intercoxal process moderately broad and not depressed, extending posteriorly and abutting on or received into a shallow notch in the mesosternum. Mesosternum and metasternum fused. Mesocoxae moderately to much widely separated. Metasternum usually with coxal lines, metacoxae widely separated and not meeting the elytra laterally. Elytra truncate at apex, exposing generally two, rarely one abdominal tergites, elytra often striate with six or fewer striae. Hind wing with cubitomedial loop reduced or absent. Anterior tibiae

dentate along outer edges, infrequently tarsal formula 5-5-4, empodia absent. Abdomen with coxal lines on the first visible sternites, pygidium well developed. Aedeagus with parameres partly or entirely fused together.

Biology : Members of this family are predaceous in habit both in larval and adult stage. They occur in a variety of habitats, namely in soils, in dung and faeces of various animals, in termite and ant nests and under bark.

SYSTEMATIC ACCOUNT : LIST OF TAXA

	Family	Histeridae
Subfamily	1.	Hololeptinae
Genus	1.	<i>Hololepta</i> Paykull
Species	1.	<i>H. elongata</i> Erichson
	2.	<i>H. indica</i> Erichson
Subfamily	2.	Abraeinae
Tribe	1.	Abraeini
Genus	2.	<i>Abraeus</i> Leach
Species	3.	<i>A. paria</i> Marseul
Tribe	2.	Acritini
Genus	3.	<i>Acritus</i> Leconte
Species	4.	<i>A. gibbipectus</i> Cooman
	5.	<i>A. microsomus</i> Cooman
Subfamily	3.	Saprininae
Genus	4.	<i>Hypocaccus</i> Thomson
Species	6.	<i>H. apricarius</i> (Erichson)
	7.	<i>H. brahminus</i> (Marseul)
	8.	<i>H. sinae</i> (Marseul)
Genus	5.	<i>Saprinus</i> Erichson
Species	9.	<i>S. chalcites</i> Illiger
Subfamily	4.	Dendrophilinae
Tribe	3.	Paromalini
Genus	6.	<i>Carcinops</i> Marseul
Species	10.	<i>C. quattuordecimstriata</i> Stephen
Genus	7.	<i>Platylomalus</i> Cooman
Species	11.	<i>P. oceanitis</i> (Marseul)

12. *P. teibodae* (Marseul)
 Tribe 4. Bacaniini
 Genus 8. *Bacanius* LeConte
 Species 13. *B. permirus* (Marseul)
 Subfamily 5. Histerinae
 Tribe 5. Tribalini
 Genus 9. *Tribalus* Erichson
 Species 14. *T. colombius* Marseul
 Tribe 6. Histerini
 Genus 10. *Santalus* Lewis
 Species 15. *S. latitibius* (Marseul)
 Genus 11. *Pachylister* Lewis
 Species 16. *P. chinensis* (Quens)
 Genus 12. *Hister* Linnaeus
 Species 17. *H. pullatus* Erichson
 18. *H. punctulatus* Wiedemann
 19. *H. squalidus* Erichson
 20. *H. thibetanus* Marseul
 Genus 13. *Atholus* Thomson
 Species 21. *A. coelestis* (Marseul)
 22. *A. philippinensis* (Marseul)
 23. *A. silvicola* (Lewis)
 Genus 14. *Choronus* Lewis
 Species 24. *C. scaliformis* Desbordes
 Tribe 7. Platysomini
 Genus 15. *Apobletes* Marseul
 Species 25. *A. bengalensis* Chakraborty & Biswas
 26. *A. cavifrons* Lewis
 27. *A. tener* Marseul
 Genus 16. *Liopygus* Lewis
 Species 28. *L. chalcis* Lewis
 Genus 17. *Platylister* Lewis
 Species 29. *P. atratus* (Erichson)

30. *P. borneolus* (Marseul)
 31. *P. mirabilis* Lewis
 32. *P. neogii* sp. nov.
 33. *P. sororius* Lewis
 34. *P. strialis* (Marseul)
 Genus 18. *Platysoma* Leach
 Species 35. *P. confucii* Marseul

Family Histeridae

- 1 (2) Head directed horizontally in front. not retractile; mandibles long; Propygidium and elytra in the same plane; body extremely flat.....Hololeptinae
 2 (1) Head inclined, retractile; mandibles moderate; propygidium and elytra not in the same plane.
 3 (4) Antennae inserted in front, near internal border of eyes, often with a little pit opened in front Abraeinae
 4 (3) Antennae inserted under lateral border of frons, between eyes and base of mandibles.
 5 (6) Prosternum without distinct anterior lobe, internal groove placed immediately before anterior coxae, elytral striae are oblique lines directed outwardly and shortened posteriorly Saprinae
 6 (5) Prosternum with a distinct anterior lobe, generally limited posteriorly by a transverse sutural line; elytral striae distinct, straight and complete.
 7 (8) Antennal groove situated at the middle of the lateral (pectoral) border of the prosternum before the anterior coxae; pectoral border provided with a deeply incised cleft to receive the antennal funicle Dendrophilinae
 8 (7) Antennal groove situated at the anterior angles of prosternum; lateral (Pectoral) border not incised Histerinae

Subfamily Hololeptinae

Genus 1. *Hololepta* Paykul

1811. *Hololepta* Paykul, *Mon. histeroid*, p. 101.

1910. *Hololepta*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 4.

Key to the species of the genus *Hololepta* known from Meghalaya

- 1 (2) Pygidium smooth. Propygidium smooth, each side of the propygidium bordered with semicircular groove, accompanied by a short stria inside; sub humeral stria weak and strongly shortened..... *H. elongata*
 2 (1) Pygidium densely punctate. Propygidium sparsely punctate on each side, without any groove or stria; subhumeral stria large, wide and deep *H. indica*

1. *Hololepta elongata* Erichson

1834. *Hololepta elongata* Erichson, in *Klug. Jharb. Ins.*, 92.

1910. *Hololepta elongata*, Bickhardt, *Coleopt. Cat.*, Para 24 : 5.

Material studied : 7 exs., Dainadubi Reserve Forest, Garo Hills, 18.xi.1974, T. Sengupta & Party coll.; 1 ex., Umran, Khasi Hills, i.iv.1991, S.K. Saha & Party coll.; 1 ex., Barangapara, West Garo Hills, 23.iv. 1991, B.N. Das & Party Coll., ex, "under bark of sal tree and other"; 1 ex., Rongrengiri, Garo Hills, 18.iv.1973, S. Biswas Coll.

Distribution : India : Meghalaya (Garo Hills, Khasi Hills), Assam and West Bengal. Also known from Java.

Remarks : This species is first time recorded from Meghalaya.

2. *Hololepta indica* Erichson

1834. *Hololepta indica* Erichson, in *Klug Jahrb. Ins.* : 90

1910. *Hololepta indica*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 6.

Material studied : 2 exs., Dainadubi Reserve Forest, Garo Hills, 18.xi.1974, T. Sengupta & Party coll., ex. under bark of sal tree; 1 ex., Rongrengiri, Gao Hills, 18.iv.1973, S. Biswas coll.

Distribution : India : Meghalaya (Garo Hills), Assam and West Bengal. Also known from Indonesia, New Guinea and Formosa.

Remarks : This species is first time recorded from Meghalaya.

Subfamily Abraeinae

Key to the genera of Subfamily Abraeinae known from Meghalaya

- 1 (2) Body suborbicularly convex; scutellum very small, indistinct; hind tarsi with 5 articles..... *Abraeus*
- 2 (1) Body oval, weakly convex, shining; scutellum very small, triangular; hind tarsi with only 4 articles..... *Acritus*

Tribe Abraeini

Genus 2. *Abraeus* Leach

1817. *Abraeus* Leach, *Zool. Miscell.* III, p. 76.

1856. *Abraeus*, Marseul, *Ann. Soc. Ent. Fr.* (3) 4 : 577.

1910. *Abraeus*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 83.

3. *Abraeus paria* Marseul

1856. *Abraeus paria* Marseul, *Ann. Soc. Ent. Fr.* (3)4 : 585.

1910. *Abraeus paria*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 84.

Material studied : 1 ex., umsning, Khasi Hills, 3.iv.1991, S.K. Saha & Party coll., ex. "Cowdung"

Distribution : India : Meghalaya (Khasi Hills) and West Bengal. Also known from Sumatra.

Remarks : This species is first time recorded from Meghalaya.

Tribe Acritini

Genus 3. *Acritus* LeConte

1853. *Acritus* LeConte, *Proc. Acad. Philad.* vi, p. 288.

1856. *Acritus*, Marseul, *Ann. Soc Ent. Fr.* (3)4 : 595.

1910. *Acritus*, Bickhardt, *Cleopt. Cat.*, Pars 24 : 87.

Key to the species of the genus *Acritus* known from Meghalaya.

- 1 (2) Short-oval, Convex; body punctate; mesosternum with a tubercle, mesosternal marginal stria interrupted anteriorly *A. gibbipectus*
- 2 (1) Oval, subdepressed; body finely punctate; mesosternum without tubercle marginal stria absent, replaced by a median, arched transverse stria *A. microsomus*

4. *Acritus gibbipectus* Cooman

1932. *Acritus gibbipectus* Cooman, *Bull Mus. 2^e series*, p. 397.

Material studied : 1 ex, umrun, Khasi Hills, 1.iv.1991, S.K. Saha & Party Coll., ex. "under bark"; 1 ex., Barnagapar, West Garo Hills, 23.iv.1991, B.N. Das & Party coll.

Distribution : India : Meghalaya (Khasi & Garo Hills). Also known from China (Tonkin).

Remarks : This species is recorded for the first time from Meghalaya as well as India.

5. *Acritus microsomus* Cooman

1932. *Acritus microsomus* Cooman, *Bull. Mus. 2^e series*, p. 403.

Material studied : 1 ex., umran, Khasi Hills, i.iv.1991, S.K. Saha & Party coll., ex. "under bark"

Distribution : India : Meghalaya (Khasi Hills). Also known from China (Tonkin).

Remarks : This species is also recorded for the first time from Meghalaya as well as India.

Subfamily Sapriniinae

Key to the genera of subfamily Sapriniinae known from Meghalaya

- 1(2) Small to medium in size; frons weakly convex and finely punctate; dorsal striae oblique, shortened behind, generally 4 in numbers (rarely 5), sutural present, continue along the apical margin of the elytrae upto where it form the marginal, sometimes shortened at the base or reunite by an arch at the dorsal 4th, humeral fine, oblique, close to the 1st dorsal, often joined with the internal subhumeral, the external subhumeral when exist reduced to a short basal rudiment, elytrae strongly punctate posteriorly; prosternum without any antero-lateral foveae, prosternal striae diverging and meeting anteriorly, narrowest in the middle, limited by a border which meeting one more exterior *Saprinus*

- 2(1) Smaller in size; pattern of dorsal striae etc. as above; prosternum with antero-lateral foveae, prosternal striae gradually converging anteriorly and united angularly *Hypocaccus*

Genus 4. *Hypocaccus* Thomson

1867. *Hypocaccus* Thomson, *Skand. Col.* ix, p. 400.
 1909. *Hypocaccus*, Reitter, *Fauna Germanica* II, p. 291.
 1910. *Hypocaccus*, Bickhardt, *Coleopt. Cat.*, Pars. 24 : 102.

Key to the species of the genus *Hypocaccus* Thomson known from Meghalaya.

- 1 (4) Mesosternum punctate; elytra densely punctate.
 2 (3) Smaller in size, 1-2 dorsal striae little longer than 3-4, which reaching the middle *H. apricarius*
 3 (2) Larger in size, 1 dorsal stria almost entire, sinuous at the apex, 2-3 shortened at the posterior third, 4 very short *H. brahminus*
 4 (1) Mesosternum impunctate; elytrae punctate only at the posterior half, 1-4 dorsal striae subequal, extending upto two-third of the elytral length *H. sinae*

6. *Hypocaccus apricarius* (Erichson)

1834. *Saprinus apricarius* Erichson, in *klug. Jahrb. Ins.* 1, p.194.
 1855. *Saprinus apricarius*, Marseul, *Ann. Soc. Ent. Fr.* (3)3 : 725.
 1910. *Hypocaccus apricarius*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 102.

Material studied : 2 exs. Songsak Reserve Forest, Garo Hills, 17.iv.1973, S. Biswas Coll.

Distribution : India : Meghalaya (Garo Hills). Also known from hilly region of Europe and Africa, Indo-china.

Remarks : This is the first record of this species from Meghalaya as well as India.

7. *Hypocaccus brahminus* (Marseul)

1864. *Saprinus brahminus* Marseul, *Abeille I*, p. 339.
 1910. *Hypocaccus brahminus*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 103.

Material studied : 4 exs., Wageasi, 5.iv.1973 and 2 exs., Songsak Reserve Forest, 17.iv.1973, S. Biswas coll. all from Garo Hills.

Distribution : India : Meghalaya (Garo Hills). Also known from Celebes.

Remarks : This species is recorded for the first time from Meghalaya as well as India.

8. *Hypocaccus sinae* (Marseul)

1862. *Saprinus sinae* Marseul, *Ann. Soc. Ent. Fr.* (4) 2 : 496.
 1910. *Hypocaccus sinae*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 105.

Material studied : 3 exs., Wageasi, 5.iv.1973 and 2 exs., Songsak Reserve Forest, S. Biswas coll., all from Garo Hills.

Distribution : India : Meghalaya (Garo Hills) and Arunachal Pradesh. Also known from China, Sri Lanka and Australia.

Remarks : Recorded for the first time from Meghalaya.

Genus 5. *Saprinus* Erichson

1834. *Saprinus* Erichson, in Klug, *Jahrb. Ins.*, 1, p. 172.

1855. *Saprinus*, Marseul, *Ann. Soc. Ent. Fr.* (3) 3 : 327.

1910. *Saprinus*, Bickhardt, *Coleopt. Cat.* Pars 24 : 89.

9. *Saprinus chalcites* Illiger

1807. *Saprinus chalcites* Illiger, *Mag.* vi, p. 40.

1855. *Saprinus chalcites*, Marseul, *Ann. Soc. Ent. Fr.* (3) 3 : 445.

1910. *Saprinus chalcites*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 92.

Material studied : 1 ex. Wageasi, Garo Hills, 5.iv.1973, S. Biswas coll.

Distribution : India : Meghalaya (Garo Hills), Arunachal Pradesh, West Bengal and South India. Also known from Mediterranean Basin and Africa.

Remarks : This is first record of this species from Meghalaya.

Subfamily Dendrophilinae

Key to the tribes of subfamily Dendrophilinae known from Meghalaya

- 1 (2) Smaller in size, depressed, body microscopically punctate; elytrae with complete or vestigial dorsal striae; pygidium often with various sculptures; prosternum with distinct anterior lobe, projecting, narrowed at the base, with or without parallel striae; mesosternum weakly sinuous anteriorly, occasionally with a transverse stria.....Paromalini
- 2 (1) Very minute to smaller in size, convex, body strongly punctate; elytrae without any striae; prosternum without anterior lobe, wider at the base, margined laterally; mesosternum convex anteriorly without transverse stria.....Bacaniini

Tribe Paromalini

Key to the genera of tribe Paromalini known from Meghalaya

- 1 (2) Dorsal striae deep, punctate, generally 5 or more in numbers, sutural present; mesosternum without transverse stria *Carcinops*
- 2 (1) Dorsal striae fine, 2-3 in numbers, reduced to oblique lines, sutural absent; mesosternum generally with a biangular transverse stria *Platylomalus*

Genus 6. *Carcinops* Marseul

1855. *Carcinops* Marseul, *Ann. Soc. Ent. Fr.* (3) 3 : 83-86.

1910. *Carcinops*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 59.

10. *Carcinops quattuordecimstriata* Stephen

1832. *Cacrinops quattuordecimstriata* Stephen, *Ill. Brit.* V. P-412.

1910. *Cacrinops quattuordecimstriata*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 60.

1924. *Carcinops 14-striata*, Blair, *Rec. Indian Mus.*, 26 : 120.

Material studied : 2 exs., Siju, Garo Hills, Feb. 1992, S. Kemp Coll.; 13 exs., Siju Cave, Garo Hills, Feb. 1922, S.K. & B.N.C. Coll., ex. "400 ft from entrance"

Distribution : Meghalaya (Garo Hills). Also known from South and West Europe and North America.

Remarks : This species was recorded for the first time from Meghalaya by K.G. Blair in 1924. We have examined these specimens and agree with his comments. He pointed out although these specimens are very close to *C. 14-striata* but for some minor differences in posterior and middle tibiae and spines thereon, it can be designated as a separate species.

Genus 7. *Platylomalus* Cooman

1948. *Platylomalus* Cooman, *Notes Ent. Chin.* 12 : 134.

1970. *Platylomalus*, Therond, *opusc. Zool.*, 10 : 336.

Key to the species of the genus *Platylomalus* known from Meghalaya

- 1 (2) Oval, black; elytrae with 2 dorsal striae, 1 anteriorly and 2 posteriorly abbreviated; pygidium almost smooth with some irregular fissures*P. oceanites*
- 2 (1) Elliptical oblong, pitch brown; elytrae with 3 dorsal striae, 1 short, oblique behind the humerus, 2 straight almost entire and 3 short at the base; pygidium smooth without any fissures*P. teibodae*

11. *Platylomalus oceanitis* (Marseul)

1855. *Paromalus oceanitis* Marseul, *Ann. Soc. Ent. Fr.* (3) 3 : 110-11

1910. *Paromalus oceanitis*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 62.

1970. *Platylomalus oceanitis*, Therond, *Opusc. Zool.*, 10 : 336.

Material studied : 9 exs., Dainadubi Reserve Forest, Garo Hills, 18.xi.1974, T. Sengupta & Party Coll., ex. "under bark of fallen Sal tree", 1 ex., Barangapara, West Garo Hills, 23.iv.1991, B.N. Das and Party Coll.

Distribution : Meghalaya (Garo Hills) and West Bengal. Also known from Burma, Malacca, Philippines, Malaysia and Sumatra.

Remarks : This is a new record of the species from Meghalaya.

12. *Platylomalus teibodae* (Marseul) Comb. nov.1879. *Paromalus teibodae* Marseul, *Ann. Mus. Genova*, 14 : 278-279.1913. *Paromalus teibodae*, Bickhardt, *Rec. Ind. Mus.*, 8 : 125.1982. *Paromalus teibodae*, Pal and Biswas, *Rec. zool. Surv. India* (1+4) : 135.

Material studied : 1 ex., Dainadubi Reserve forest, Garo Hills, 18.xi.1974, T. Sengupta & Party Coll. ex. "under bark of fallen Sal tree".

Distribution : Meghalaya (Garo Hills), Arunachal Pradesh and Assam. Also known from Java and Sumatra.

Remarks : This species is transferred under the genus *Platylomalus*. It is a new record of the species from Meghalaya.

Tribe Bacanini

Genus 8. *Bacanius* Le Conte1853. *Bacanius* Le Conte, *Proc. Acad. Philad.* vi, p. 291.1856. *Bacanius*, Marseul, *Ann. Soc. Ent. Fr.* (3) 4 : 567.1910. *Bacanius*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 85.13. *Bacanius permirus* (Marseul)1879. *Acritus permirus* Marseul, *Ann. Mus. Genova* 14 : 282.1910. *Bacanius permirus*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 85.

Material studied : 1 ex. Umrung, Khasi Hills, 1.iv.1991, S.K. Saha & Party Coll., ex. "under bark"

Distribution : India : Meghalaya (Khasi Hills). Also known from Java.

Remarks : This is the first record of this species from Meghalaya as well as India.

Subfamily Histerinae

Key to the tribes of Subfamily Histerinae

- 1 (2) Mesosternum truncated or feebly rounded in front (rarely broadly but evenly emarginate); true frontal stria absent; pronotum without lateral striae; front tibiae narrow with fine spine on external edge, not dented Tribalini
- 2 (1) Mesosternum emarginate in front; frontal stria generally present; pronotum rarely with one or more lateral striae (except *Macrosternus* Marseul, *Asolenus* Lewis and *Baconia* Lewis); front tibiae much broadened with external edge dented.
- 3 (4) Tarsal groove of front tibiae straight, distinctly bordered at the inner edge only..... Histerini
- 4 (3) Tarsal groove of front tibiae 'S' shaped, strongly cleft, sharply defined..... Platysomini

Tribe Tribalini

Genus 9. *Tribalus* Erichson

1834. *Tribalus* Erichson, in *Klug. Jahrb. Ins.* 1, P-164.

1855. *Tribalus*, Marseul, *Ann. Soc. Ent. Fr.* (3) 3 : 151.

1910. *Tribalus*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 65.

14. *Tribalus colombius* Marseul

1864. *Tribalus colombius* Marseul, *Abeille* 1, P. 335.

1910. *Tribalus colombius*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 66.

1913. *Tribalus colombius*, Bickhardt, *Rec. Ind. Mus.*, 8 : 125.

Material studied : 1 ex, Barangapara, West Garo Hills, 23.iv.1991, B.N. Das & Party Coll.

Distribution : Meghalaya (West Garo Hills) and Assam. Also known from Sri Lanka and Burma.

Remarks : This species is recorded for the first time from Meghalaya.

Tribe Histerini

Key to the genera of Tribe Histerini known from Meghalaya

- 1 (2) Mesosternum roundedly truncated anteriorly; prosternal keel narrow; antennal fossette deep and not quite circular; pygidium inflexed; body short, oval and convex *Atholus*
- 2 (1) Mesosternum weakly to strongly sinuous.
- 3 (4) Upper surface uniformly, closely and microscopically punctate, body short, oval and depressed; mesosternum weakly sinuous anteriorly..... *Chronus*
- 4 (3) Upper surface smooth, not punctate as mentioned above, body medium to large and thick.
- 5(6) Body large; mandibles assymmetrical; labrum transverse but projecting anteriorly; antennal fossette absent; anterior tibiae 3 dentate; mesosternum strongly emarginate anteriorly.....
..... *Pachylister*
- 6(5) Body medium; mandibles symmetrical; antennal fossette present; anterior tibiae 3-4 dentate.
- 7(8) Body oblong, parallel laterally, somewhat convex; labrum semicircular; antennal fossette longitudinally excavated behind the pronotal angle; internal lateral striae on the pronotum always distant from the margin *Santalus*
- 8(7) Body oval, convex; labrum oval; antennal fossette well defined; internal lateral striae close to the margin, often with an external, more or less shortened *Hister*

Genus 10. *Santalus* Lewis

1906. *Santalus* Lewis, *Ann. Mag. Nat. Hist.* (7) 17 : 341.

1910. *Santalus*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 36.

15. *Santalus latitibius* (Marseul)1861. *Hister latitibius* Marseul, *Ann. Soc. Ent. Fr.* (4) 1 : 527.1910. *Santalus latitibius*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 36.

Material studied : 1 ex. Rongsongiri, 13.xi.1973 and 1 ex., Balphakram, 24.iii.1976, S. Biswas Coll., all from Garo Hills.

Distribution : India : Meghalaya (Garo Hills). Also known from Burma.

Remarks : This species is recorded from Meghalaya for the first time.

Genus 11. *Pachylister* Lewis1904. *Pachylister* Lewis, *Ann. Mag. Nat. Hist.* (7) 14 : 145.1910. *Pachylister*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 37.16. *Pachylister chinensis* (Quens)1806. *Hister chinensis* Quens, in *Schönh. Syn. Ins.* 1, p. 88.1910. *Pachylister chinensis*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 38.

Material studied : 1 ex., Charikuty, 4.xi.1973; 4 exs., Anogiri, 7.xi.1973; 1 ex., Songkhama, 15.xi.1973; 1 ex., Arivila, 6.iii.1975, all from Garo Hills, S. Biswas coll. 1. ex., Nongstain, Khasi Hills, 21.ix.1988, A.R. Lahiri coll. and 2 exs., Lydow, Khasi Hills, 29.iii.1991, S.K. Saha & Party Coll., ex. "Cowdung"

Distribution : Meghalaya (Khasi Hills), Arunachal Pradesh and West Bengal. Also known from China and Malayasia.

Remarks : This species is recorded for the first time from Meghalaya. In some examples the left mandible is not much developed or assymmetrical as expected to be in the genus but other character fit well to the genus as well as to the species characters.

Genus 12. *Hister* Linnaeus1767. *Hister* Linnaeus, *Syst. Nat.*, ed 12.11, p. 566.1910. *Hister*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 35.Key to the species of the genus *Hister* known from Meghalaya

- 1 (4) Frons plane.
- 2 (3) 1-3 dorsal striae entire, punctate, 4-5 represented by few punctures at the extreme apex, sutural generally absent, sometimes exist very finely; internal subhumeral stria well marked*H. tibetanus*
- 3 (2) 1-4 dorsal striae entire, not punctate, 5 apical, reaching almost to the middle, sutural longer than 5 but shorttened at the base; a vestigial external subhumeral present below the shoulder, lateral margin of the elytrae weakly depressed at the middle.....*H. squalidus*
- 4 (1) Frons not plane.

- 5 (6) Frons marked with a longitudinal furrow wherein the frontal stria extends vertically into a sharp angular end, 1-4 dorsal striae entire, 5 short, apical, not reaching the middle, sutural longer, reaching a little above the middle, internal subhumeral well marked, head and body smooth *H. pullatus*
- 6 (5) Frons, pronotum and elytrae rugosely punctate except the disc, 1-4 dorsal striae entire, 5 and sutural shortened, subhumeral stria interrupted near the shoulder *H. punctulatus*

17. *Hister pullatus* Erichson

1834. *Hister pullatus* Erichson, in *Klug. Jahrb. Ins.* 1, p. 138.

1861. *Hister pullatus*, Marseul, *Ann. Soc. Ent. Fr.* (4) 1 : 523.

1910. *Hister pullatus*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 47.

Material studied : 1 ex., Rongjeng River, 14.ii.1971. G. M. Yazdani Coll.; 2 exs, Rongjeng, 10.iv.1973; 2 exs., Songsok Reserve Forest, 15-16.iv.1973; Rongrengiri Reserve forest, 18.iv.1973 and 1 ex., Charkuty, 4.xi.1973, S. Biswas Coll. All from Garo Hills.

Distribution : India : Meghalaya (Garo Hills), Assam and West Bengal.

Remarks : Recorded first time from Meghalaya.

18. *Hister punctulatus* Wiedemann

1817. *Hister punctulatus* Wiedemann, *Zool. Mag.* 1(3) : 162.

1910. *Hister punctulatus* Bickhardt, *Coleopt. Cat.*, Pars 24 : 47.

Material studied : 1 ex., Nongpoh, Khasi Hills, 25.viii.1978. A.K. Ghosh Coll.

Distribution : Meghalaya (Khasi Hills) and West Bengal. Also known from Java and Japan.

Remarks : This is a new record of the species from Meghalaya.

19. *Hister squalidus* Erichson

1834. *Hister squalidus* Erichson, in *Klug. Jahrb. Ins.* 1, p - 148.

1910. *Hister squalidus*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 50.

Material studied : 1 ex., Rongjeng, Garo Hills, 10.iv.1973, S. Biswas Coll.

Distribution : India : Meghalaya (Garo Hills). Also known from Burma and China.

Remarks : This species is recorded for the first time from Meghalaya.

20. *Hister thibetanus* Marseul

1857. *Hister thibetanus* Marseul, *Ann. Soc. Ent. Fr.* (3)5 : 412-413.

1910. *Hister thibetanus* Bickhardt, *Coleopt. Cat.*, Pars 24 : 50.

Material studied : 1 ex., Weiloi, S.W. of Mawphlong, Khasi Hills, 20.iv.1972, S. Biswas & Party Coll.; 2 exs., upper Shillong, Khasi Hills, 6.vi.1974, M. Vasanth & Party Coll.; 1 ex., Shillong fishery campus, 19.viii.1974, R. Giri Coll.; 1 ex., Decauri, S.W. of Mawphlong, Khasi Hills., Coll. & date unknown; 3 exs., Mawphlong, Khasi Hills, 22.iv.1975, S. Biswas Coll. and 2 exs, Mawphlong, East Khasi Hills, 19.iv.1979, D. Singh Coll.

Distribution : Meghalaya (East Khasi Hills) and Assam.

Remarks : This species is recorded for the first time from Meghalaya.

Genus 13. *Atholus* Thomson

1862. *Atholus* Thomson, *Skand. Coll.*, 4 : 220.

1916. *Atholus*. Bickhardt, *Gen Ins.*, Fasc 166 B : 193.

Key to the species of the genus *Atholus* known from Meghalaya.

- 1 (3) 1-3 dorsal stria entire.
- 2 (4) Pronotum without fovea at the anterior angles; 4th dorsal stria reaching beyond the middle, 5th and sutural shorter, apical, almost reaching the middle; subhumeral stria strong, like a furrow, shortened at both ends..... *A. philippinensis*
- 3 (1) 1-4 dorsal stria entire. Pronotum with fovea at the anterior angles. Fovea on the pronotum sparsely punctate; 5th and sutural stria of same length, reaching the middle; internal subhumeral stria reduced to an oblong puncture *A. coelestis*
- 6 (5) Fovea on the pronotum smooth; 5th reaching the middle, sutural a little longer than 5th, internal subhumeral stria long and deep near the base *A. silvicola*

21. *Atholus coelestis* (Marseul)

1857. *Hister coelestis* Marseul, *Ann. Soc. Ent. Fr.* (3) 5 : 416-417.

1910. *Atholus coelestis*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 53.

Material studied : 29 exs., Lydow, Khasi Hills, 29.iii.1991, S.K. Saha & Party Coll., ex. "Cowdung"

Distribution : Meghalaya (Khasi Hills) and West Bengal. Also known from China and Sri Lanka.

Remarks : This species is first time recorded from Meghalaya.

22. *Atholus philippinensis* (Marseul)

1854. *Hister philippinensis* Marseul, *Ann. Soc. Ent. Fr.* (3) 3 : 547-548.

1910. *Atholus philippinensis*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 54.

Material studied : 1 ex., umsning, Khasi Hills, 3.iv.1991, S.K. Saha & Party coll., ex., "Bannana sheath"

Distribution : Meghalaya (Khasi Hills). Also known from Burma and Philippines.

Remarks : This species recorded for the first time from Meghalaya.

23. *Atholus silvicola* (Lewis)

1901. *Hister silvicola* Lewis, *Ann. Mag. Nat. Hist.* (7) 8 : 376-377.

1910. *Atholus silvicola*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 55.

Material studied : 1 ex., Mawphlong, 24.iii.1991, and 1 ex, Lydow, 29.iii.1991, ex., "Cowdung" and 1 ex., umsning, 3.iv.1991, S.K. Saha coll., all from Khasi Hills.

Distribution : Meghalaya (Khasi Hills) and West Bengal.

Remarks : This species was originally described from Khasi Hills, the type locality.

Genus 14. *Chronus* Lewis

1914. *Chronus* Lewis, *Ann. Mag. Nat. Hist.*, (8)14 : 285.

24. *Chronus scaliformis* Desbordes

1923. *Chronus scaliformis* Desbordes, *Bull. Soc. Ent. Fr.* 26 : 60.

Material studied : 3 exs., Bismal, Khasi Hills, 4.iv.1991, S.K. Saha & Party coll.

Distribution : India : Meghalaya (Khasi Hills) and West Bengal.

Remarks : This species is originally described from India, the type-locality. This is the first record of this species from Meghalaya.

Tribe Platysomini

Key to the genera of tribe Platysomini Known from Meghalaya

- 1 (4) Body much depressed, generally smaller in size, lateral side of the pronotum coarsely to finely punctate.
- 2 (3) Pygidium smooth with two large and deep excavations at the base near the outer edge, each elytron generally with 1-3 entire and 4-5 short apical dorsal striae, 3 sometimes interrupted or indistinct in middle.....*Liopygus*
- 3 (2) Pygidium punctate, without any excavations, each elytron generally with 1-3 entire and 4 short apical dorsal striae, 3 sometimes widely interrupted and 4 absent; prosternum much wider
.....*Apobletes*
- 4 (1) Body convex, thick, generally medium to large in size; prosternum not striated.
- 5 (6) Pygidium triangular, strongly inclined, convex.....*Platysoma*
- 6 (5) Pygidium triangular, not inclined, arched with the external margin.....*Platylister*

Genus 15. *Apobletes* Marseul

1860. *Apobletes* Marseul, *Ann. Soc. Ent. Fr.* (3) 8 : 852.

1910. *Apobletes*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 16.

Key to the species of the genus *Apobletes* known from Meghalaya

- 1 (2) Frons separated from the epistome by a fine suture only, no transverse stria; frons, labrum and mandibles are densely and rugosely punctate; lateral borders of pronotum densely and rugosely punctate; smaller in size.....*A. cavifrons*
- 2 (1) Frons separated from the epistome by a strong transverse stria; larger in size.

- 3 (4) Dorsal stria 1-2 entire, 3 evanescent or faint in the middle, 4 reduced to a rudiment apical; frontal stria almost straight, interrupted before the eyes and strongly impressed over the eyes; mesosternal stria interrupted in front*A. bengalensis*
- 4 (3) Dorsal stria 1-2 entire, 3 widely interrupted in middle, 4 reduced to a rudiment apical; frontal stria almost straight, interrupted before the eyes; mesosternal stria entire*A. tener*

25. *Apobletes bengalensis* Chakraborty & Biswas

1991. *Apobletes bengalensis* Chakraborty, S.K. & Biswas, S. *Rec. zool. Surv. India*.

Material studied : 1 ex., Dainadubi, Garo Hills, 14.ix.1975, N. Muraleedharan Coll., ex. "at light"; 1 ex, Songsak, Reserve forest, Garo Hills, 16.iv.1973, S. Biswas Coll.

Distribution : India : Meghalaya (Garo Hills) and West Bengal.

Remarks : This species is first time recorded from Meghalaya.

26. *Apobletes cavifrons* Lewis

1900. *Apobletes cavifrons* Lewis, *Ann. Mag. Nat. Hist.* (7) 6 : 269.

1910. *Apobletes cavifrons*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 16.

Material studied : 2 exs., Dainadubi Reserve Forest, Garo Hills, 18.xi.1974, T. Sengupta & Party Coll., ex. "under bark of dead sal tree"; 2 exs., Songsak Reserve Forest, Garo Hills, 21.xi.1974, T. Sengupta & Party coll., ex. "under bark of sal log"; 3 exs., near Police Bazar, Shillong, Khasi Hills, 28.xi.1974, T. Sengupta & Party coll., of which one ex. from "under bark of Orkhal tree" and the other two ex. from "under bark of Kutush log"

Distribution : India : Meghalaya (Garo Hills, Khasi Hills) and Assam.

Remarks : This species is recorded for the first time from Meghalaya.

27. *Apobletes tener* Marseul

1860. *Apobletes tener* Marseul, *Ann. Soc. Ent. Fr.* (3) 8 : 859.

1910. *Apobletes tener*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 17.

Material studied : 1 ex., Luchook, Jaintia Hills, Meghalaya, 2.x.1988, V.D. Srivastava Coll.

Distribution : India : Meghalaya (Jaintia Hills). Also known from Burma, Java and Sumatra.

Remarks : This is the first record of this species from Meghalaya.

Genus 16. *Liopygus* Lewis

1891. *Liopygus* Lewis, *Ann. Mag. Nat. Hist.* (6) 8 : 385.

1910. *Liopygus* Bickhardt, *Coleopt. Cat.*, Pars 24 : 18.

28. *Liopygus chalcis* Lewis

1900. *Liopygus chalcis* Lewis, *Ann. Mag. Nat. Hist.* (7) 6 : 270.

1910. *Liopygus chalcis*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 18.

Material studied : 1 ex., Songsak, Garo Hills, 20.xi.1974, ex. "under bark of dead fallen Sal tree"; 3 exs. near police bazar, Shillong, Khasi Hills, 28.xi.1974, of which two ex. from "under bark of Kutush log" and the other from "under bark of Orkhol tree"; T. Sengupta & Party Coll.

Distribution : India : Meghalaya (Garo Hills, Khasi Hills). Also known from Burma.

Remarks : This species is recorded for the first time from Meghalaya.

Genus 17. *Platylister* Lewis

1892. *Platylister* Lewis, *Ent. Month. Mag.*, 28 : 103.

1916. *Platylister*, Bickhardt, *Gen. Ins.*, fasc. 166a.

Key to the species of the genus *Platylister* known from Meghalaya

- 1 (6) Sutural stria present.
- 2 (3) Sutural stria reaching beyond the middle, abbreviated at both ends; 4th & 5th dorsal striae subequal, almost reaching the middle *P. strialis*
- 3 (2) Sutural stria not reaching beyond the middle.
- 4 (5) Pronotal lateral stria deep and continue at the base; sutural short, apical and punctiform; 5th short, apical; 4th dorsal stria faint in the basal half and distinct in the apical half
..... *P. mirabilis*
- 5 (4) Pronotal lateral stria do not continue at the base; sutural short, strongly abbreviated at both ends, reaching the middle; 4th & 5th dorsal stria apical, 4th almost one fourth of the elytral length, 5th shorter *P. sororius*
- 6 (1) Sutural stria absent.
- 7(10) Mesosternum entirely margined with a distinct stria in front.
- 8 (9) Pronotal lateral stria continue at the base; internal humeral stria extending upto the suture along the apical margin; 4th & 5th short apical *P. atratus*
- 9 (8) Pronotal lateral stria do not continue at the base; internal humeral stria not extending upto the suture along the apical margin; 4th & 5th short apical *P. neogii* sp. nov.
- 10(7) Mesosternum entirely margined with an obsolete stria in front; frons wide, concave with an entire bisinuous stria in front, pronotal lateral stria strong, interrupted in front, 1-3 dorsal striae entire, 4-5 apical, thick and short *P. borneolus*

29. *Platylister atratus* (Erichson)

1834. *Platysoma atratum* Erichson, in *Klug. Jahrb. Ins.* : 110.

1910. *Platylister atratus*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 19.

1916. *Platylister atratus*, Bickhardt, *Gen. Ins.*, 143.

Material studied : 2 exs., Barangapara, West Garo Hills, 23.iv.1991, B.N. Das & Party coll.

Distribution : India : Meghalaya (Garo Hills), West Bengal and South India. also known from Burma.

Remarks : This species is recorded for the first time from Meghalaya.

30. *Platylister borneolus* (Marseul)

1861. *Platysoma borneolum* Marseul, *Ann. Soc. Ent. Fr.* (4) 1 : 143.

1910. *Platylister borneolus*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 19.

Material studied : 2exs., Rongsongiri, Garo Hills, 13.xi.1973, S. Biswas coll.

Distribution : India : Meghalaya (Garo Hills) and West Bengal. Also known from Borneo and Burma.

31. *Platylister mirabilis* Lewis

1900. *Platylister mirabilis* Lewis, *Ann. Mag. Nat. Hist.* (7)5 : 225.

1910. *Platylister mirabilis*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 19.

Material studied : 1 ex., Shillong, near police bazar, Khasi Hills; 28.xi.1974, T. Sengupta & Party Coll., ex. "under bark of Orkhol tree"

Distribution : India : Meghalaya (Khasi Hills).

Remarks : This species was originally described from Khasi Hills, Meghalaya, the type locality.

32. *Platylister neogii* sp. nov.

Body oblong-oval, weakly convex, black and shining. Antennae reddish brown, club rusty-brown; legs reddish brown; ventral side reddish black. Length 5.33 mm, width 2.66 mm.

Head : Moderate in size, frons impressed, separated from the epistome by an almost straight stria, interrupted before the eyes and deep on the eyes; epistome plane anteriorly and weakly concave posteriorly; labrum short, transverse and weakly concave; mandible curved into a sharp teeth; mandibles, labrum and epistome microscopically punctate.

Thorax : Pronotum moderate in size, wider than long, feebly bisinuous at the base, sides almost parallel, with a deep, wide and weakly bisinuous notch in front, anterior angles lowered, obtuse; marginal stria fine, entire, lateral stria strong, entire, anterior margin behind the head little broadened; ante scutellar fovea distinct. Scutellum small, triangular. Elytra a little longer than the pronotum, almost parallel at the sides, gradually narrowing and truncated at the apex, external angles rounded; lateral fold margined with two entire striae; humeral fine, oblique; 1-3 dorsal striae entire, 4th & 5th short, apical, 4th one third or more of the elytral length, reaching a little beyond the middle, often obsolete anteriorly, 5th shorter, rudimentary, sometimes represented by few punctures, sutural absent. Prosternal lobe extending beyond the anterior angle, bordered with a semi-circular, entire stria, base depressed, convex at the basal margin. Mesosternum sinuous, marginate, stria complete.

Abdomen : Propygidium short, transverse, weakly impressed on each side, covered sparsely with large punctures, leaving both the anterior and posterior margins smooth. Pygidium inclined, widely

triangular, convex in the middle, depressed laterally, densely covered with large punctures. First abdominal sternite with a pair of sinuous striae on each side behind the hind coxae.

Legs : Anterior tibiae 4-dentate, middle with 4 spines, and hind with 3 spines.

Comparison : This species is very close to *P. atratus* (Er.) but differs by the following characters (i) the lateral stria is not extended at the base of pronotum (ii) elytral lateral stria is not extended on the apical margin of the elytrae and (iii) pygidium is widely triangular.

Holotype : 1 ex., Arunachal Pradesh, Namdapha, Hornbill, Tirap Dict., 12.xi.1983, S. Biswas & Party coll.

Paratypes : (i) 5 exs., data as in Holotype. (ii) 2exs., Arunachal Pradesh, Namdapha, Tirap Dist., Bulbulia, Miao, 14.xii.1983, S. Biswas & Party coll. (iii) 1 ex., Meghalaya, Khasi Hills, Shillong near Police bazar, 28.xi.1974, T. Sengupta & Party coll., ex. "under bark of Orkhol tree"

This species is dedicated in memory of our beloved colleague Sri H. Neogi.

33. *Platylister sororius* Lewis

1904. *Platylister sororius* Lewis, *Ann. Mag. Nat. Hist.* (7) 14 : 142-143.

1910. *Platylister sororius*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 20.

Material studied : 2 exs., umsning, Khasi Hills, 3.iv.1991, S.K. Saha & Party coll., ex. "Bannana sheath"

Distribution : Meghalaya (Khasi Hills), Malabar and Nilgiri Hills.

Remarks : This species is recorded for the first time from Meghalaya.

34. *Platylister strialis* (Marseul)

1864. *Platysoma strialis* Marseul, *Abeille*, I : 301.

1910. *Platylister strialis* Bickhardt, *Coleopt. Cat.*, Pars 24 : 20.

Material studied : 1 ex., Dainabudi Reserve Forest, Garo Hills, 19.xi.1974, T. Sengupta & Party Coll., ex. "sweeping"; 1 ex., Dainadubi, Garo Hills, 14.ix.1975, N. Muralidharan Coll.; 3 exs., Songsak Reserve Forest, Garo Hills, 21.xi.1974, T. Sengupta & Party coll., ex. "under bark of Sal log"

Distribution : India : Meghalaya (Garo Hills), Arunachal Pradesh and West Bengal. Also known from Celebes, Vietnam, Borneo, Sumatra, Sumba Island, Nepal and Bhutan.

Remarks : This is first record of this species from Meghalaya.

Genus 18. *Platysoma* Leach

1817. *Platysoma* Leach, *Zool. Misc.* III, P.77.

1853. *Platysoma*, Marseul, *Ann. Soc. Ent. Fr.* (3) 1 : 248-

1910. *Platysoma*, bickhardt, *Coleopt. Cat.*, Pars 24 : 19.

35. *Platysoma confucii* Marseul

1857. *Platysoma confucii* Marseul, *Ann. Soc. Ent. Fr.* (3) 5 : 404.

1910. *Platysoma confucii*, Bickhardt, *Coleopt. Cat.*, Pars 24 : 21.

Material studied : 2 exs., Anogiri, Garo Hills, 7.xi.1973; 1 ex, Rongsongiri, 13.xi.1973 and 1 ex, Sangkhama, 15.xi.1973, Garo Hills, S. Biswas coll.

Distribution : India : Meghalaya (Garo Hills), West Bengal. Also known from China, Burma, Sumatra, Philippines and Ceylon.

Remarks : This species is recorded for the first time from Meghalaya.

SUMMARY

The present paper deals with 35 species under 18 genera and 5 subfamilies, one species, *Platylister neogii* has been described as new to science and *Platylomalus teibodae* (Marseul) has been placed as a new combination. Out of 35 species, 32 species are new addition to the Histeridae (Coleoptera) fauna of Meghalaya. Keys to the subfamilies, tribes, genera and species have been provided. Relevant collection data and important references have also been added under each species. A chart showing district wise occurrence of species has also been provided.

ACKNOWLEDGEMENT

Authors are thankful to the Director, Zoological Survey of India for providing facilities. Thanks are also due to Dr. T. Sengupta, Deputy Director and incharge of Entomology Division 'A' for providing useful literature and suggestions. We are also thankful to Sri H.N. Singh, Senior Insect Setter for preparing study materials and to Sri K.C. Khaskel, collection Tender for maintenance of the preserved material.

REFERENCES

- Blair, K.C. 1924. Fauna of Sizu cave. *Coleoptera Rec. Indian Mus.* 26 : 120.
- Bickhardt, H. 1910. Histeridae, *Coleopterorum Catalogue*, Pars 24, W. Junk and Schenkling ed., 1-137.
- Chakraborty, S and Biswas, S. 1995. Coleoptera : Histeridae. *State Fauna Series 3 : Fauna of West Bengal*, Part 6(A) : 169-199.
- Desbordes, H. 1918-19. Contribution la Connaissance des Histerides - Etude des Histeridae de L'Indo-China, *Ann. Soc. Ent. Frnace*, 87 : 341-424.
- Lawrence, F. 1982. Synopsis and classification of living organisms. MCGraw Hill.
- Marseul, M.S.A. 1879. Enumeration des Histerides rapportes de l'Archipel Malais, de la Nouvelle Guinee et de l'Australie boreale par MM. le Prof. O. Beccari et L.M. D'Alberts. *Ann. Mus. Civ. Stor. Nat. Genova*, 14 : 254-286.

- Mazur, S. 1975. Contribution to the knowledge of the Histeridae from South India (Coleoptera)-
Revue suisse Zool., Tome 82, Fasc. 3, P. 433-444.
- Pal, T.K. & Biswas, S. 1985. Histeridae fauna of Namdapha, Arunachal Pradesh *Rec. zool. Surv. India*, 1982 (1-4) : 129-137.
- Schmidt, J. 1896-97. Histeridae auf Sumatra gesammelt von Dr. E. Modigliani *Ann. Mus. Cv. Stor. Nat. Genova* (2) 37 : 285-300.
- Therond, J. 1975. Ergebnisse der Bhutan Expedition 1972 des Naturhistorischen Museums in Basel
Coleoptera : Fam. Histeridae - *Entomologica Basiliensia* 1, P-167-170.

INSECTA : COLEOPTERA : STAPHYLINIDAE

D.N. BISWAS AND S. BISWAS

*Zoological Survey of India,
Calcutta 700 053*

INTRODUCTION

The Staphylinidae is one of the largest families of the super family staphylinoidae, distributed throughout the world. More than 2000 species have been recorded so far from India. Motschulsky (1858), Kraatz(1859), Fauvel (1895) and Bernhauer (1915) are the pioneer workers of the family Staphylinidae. Prior to Cameron's work on fauna of British India series (1930, 1931, 1932, 1939, 1943-45) major works have been done by these authors mentioned above.

Cameron in his fauna of British India series recorded 16 species from Meghalaya. Besides work of Cameron, in recent times workers like, Herman (1983) described one species from Meghalaya. In 1988 Smetana described eight species and also recorded another three species from Meghalaya. In 1985 and 1986 Rougemont described one species and also recorded another five species from Meghalaya. In this present work 48 species are newly recorded from Meghalaya of which 6 species are first time recorded from India. Thus the total number of species known from Meghalaya comes to 82.

The present work on the family Staphylinidae is based on the collection brought from different districts of Meghalaya by various recent survey parties from Zoological Survey of India, and other older collections present in the National Zoological collections. Materials of some species recorded from Meghalaya were not available for study, however for the sake of completeness these species are also included in this work. This study is based on 224 examples comprising 82 species under 43 genera, 11 tribes and 7 subfamilies. Key to the subfamilies, tribes, genera and species, and distributional data of each species of the family staphylinidae for Meghalaya have been provided. A chart showing district wise distribution of the species recorded from Meghalaya is also given. Under systematic account arrangement of the taxa has been done after Cameron.

The specimens dealt with in this paper are deposited in the collection of Zoological Survey of India, Calcutta.

SYSTEMATIC ACCOUNT

(*denotes new records from Meghalaya and ** new records from India)

Subfamily (I) Oxytelinae

Tribe 1. Piestini

1. *Apatetica* Westwood

1. *rotundicollis* Fauvel

2. *Holosus* Motschulsky

2. **fossulatus* Motschulsky
3. *Lispinus* Erichson
 3. ***coriaceus* Fauvel

Tribe 2. Eleusiini
4. *Eleusis* Castelnau
 4. **fusciceps* Kraatz
 5. **humilis* Erichson

Tribe 3. Leptochirini
5. *Leptochirus* Germar
 6. (*Strongylochirus*) *laevis* Castelnau
 7. (*S.*) *quadridens* Motschulsky
 8. (*S.*) *atkinsoni* Fauvel
6. *Priochirus* Sharp
 9. (*Cephalomerus*) *sanguinosus* (Motschulsky)
 10. **(C.) rubiginosus* Cameron

Tribe 4. Pseudopsini
7. *Pseudopsis* Newman
 11. *susae* Herman

Tribe 5. Oxytelini
8. *Oxytelopsis* Fauvel
 12. **pseudopsina* Fauvel
9. *Oxytelus* Gravenhorst
 13. **puncticeps* Kraatz
 14. **incisus* Motschulsky
10. *Anotylus* Thomson
 15. **nitidifrons* (Wollaston)
11. *Platystethus* Mannerheim
 16. **crassicornis* Motschulsky

Subfamily (II) Steninae
12. *Stenus* Latreille
 17. **(Hypostenus) wasmanni* Fauvel
 18. **(Mesostenus) cordatus* Gravenhorst

19. **(M.) stigmaticus* Fauvel
Subfamily (III) Euaesthetinae
13. *Stenaesthetus* Sharp
20. **sunioides* Sharp
Subfamily (IV) Paederinae
Tribe 6. Pinophilini
14. *Oedichirus* Erichson
21. **dimidiatus* Eppelsheim
Tribe 7. Paederini
15. *Astenus* Stephens
22. **gracilentus* Fauvel
23. **maculipennis* (Kraatz)
16. *Scopaeus* Erichson
24. ***nitidulus* Motschulsky
17. *Pachymedon* Cameron
25. **assamensis* Cameron
18. *Stilicopsis* Sachse
26. Sp.
19. *Stilicus* Latreille
27. **pygmaeus* Kraatz
28. **rufescens* Sharp
20. *Acanthoglossa* Kraatz
29. **testaceipennis* Kraatz
21. *Lobochilus* Bernhauer
30. **brachypterus* Cameron
31. **assamensis* Cameron
22. *Dibelonetes* Sahlberg
32. **bengalensis* Biswas & Sengupta
23. *Cryptobium* Mannerheim
33. **extraneum* Fauvel
34. **elephas* Fauvel

24. *Scimbalium* Erichson
 35. *badium* (Motschulsky)
25. *Lithocharis* Boised
 36. **vilis* Kraatz
26. *Paederus* Fabricius
 37. **birmanus* Fauvel
 38. *sondaicus* Fauvel
 39. **fuscipes* Curtis
 40. **basalis* Bernhauer
 41. ***setifer* Cameron
27. *Stiliderus* Motschulsky
 42. *Kamarupensis* Rougemont
 43. *variolosus* (Coiffait)
 44. **fenestratus* (Fauvel)
 45. *stigosus* Rougement
 46. *kambaitiensis* (Scheerpeltz)
 47. *fae* (Fauvel)
 48. *granulifrons* Rougemont
 49. **cicatricosus* Motschulsky
- Subfamily (V) Staphylininae
 Tribe 7. Xantholinini
28. *Indoscitalinus* Heller
 50. **rudis* (Eppelsheim)
 51. ***fae* (Fauvel)
29. *Platyprosopus* Mannerheim
 52. **fulvicollis* Motschulsky
 53. **fuliginosus* Erichson
- Tribe 8. Staphylinini
30. *Philonthus* Curtis
 54. *maindroni* Fauvel
 55. **assamensis* Cameron
 56. *kempi* Cameron

31. *Hesperus* Fauvel
 57. **gridellii* Cameron
32. *Staphylinus* Linnius
 58. (*Tasgius*) *quadrinaculatus* Cameron
 59. (*Goerius*) *prainae* (Eppelsheim)
 60. (*Platydracus*) *asemus* Kraatz
33. *Rhynocochilus* Sharp
 61. *antennalis* Cameron
 62. ***kraatzi* (Eppelsheim)
34. *Naddia* Fauvel
 63. **westermanni* (Erichson)
 64. *assamensis* Cameron
- Tribe 9. Quediini
35. *Quedius* Stephens
 65. *(*Raphirus*) *assamensis* Cameron
35. *Indoguedius* Cameron
 66. *saathi* Smetana
36. *Acylophorus* Nordmann
 67. *balchhi* Smetana
 68. *khairo* Smetana
 69. **microcephalus* Cameron
 70. *raato* Smetana
 71. *furcatus* Motschulsky
38. *Bolitogyrus* Chevrolat
 72. *vulneratus* (Fauvel)
- Tribe 10. Atanygnathiri
39. *Atanygnathus* Jakobson
 73. *chiso* Smetana
 74. *bindu* Smetana
 75. *paani* Smetana
 76. *sasurae* Smetana
 77. *pictus* (Motschulsky)

Subfamily (VI) Tachyporinae
Tribe 11. Tachyporini

40. *Conosoma* Kraata
78. **beesoni* Cameron
41. *Tachinomorphus* Kraatz
79. **fulvipes* (Erichson)
42. *Coproporus* Kraatz
80. **brunneicollis* (Motschulsky)
81. **melanarius* (Erichson)

Subfamily (VIII) Aleocharinae

43. *Zyras* Stephens
82. *** (Rhynchodonia) bidentatus* Bernhauer

Key to the Subfamilies of the family Staphylinidae from Meghalaya.

1. Prothoracic spiracles concealed [except in *Platystethus* and *Thinobius* (but then the suture dehiscent) and *Lithocharis* and *Cryptobium*] by the triangular epimera, which externally are fused with the pronotal epipleura.....2.
- Prothoracic spiracles exposed, or if concealed, the epimera are free5.
- 2(1). 1st segment of the maxillary palpi elongate. Posterior coxae conical3.
- 1st segment of the maxillary palpi very short.....4.
- 3(2). Tarsi 5,5,5 Steninae
- Tarsi 4,4,4 or 5,5,4..... Euaesthetinae
- 4(2). Antennae inserted under a thickened marginal border of the head. Tarsi variable.....Oxytelinae
- Antennae inserted under the prominent anterior angles of the front marginal of the head. Tarsi 5,5,5 Paederinae
- 5(1). Antennae inserted on the front margin of the head. Prothoracic spiracles exposed ... Staphylininae
- Antennae inserted at the inner border of the eye. Prothoracic spiracles exposed or covered by a free-lying opimeron6.
- 6(5). Elytra not extending beyond the metathorax; the prothoracic spiracles exposed Aleocharinae
- Elytra usually extending beyond the metathorax; the epipleura separated by a fine sharp keel from the dorsal surface. The prothoracic spiracles usually exposed, but covered by free lying epimera in *Tachinus*, *Tachinomorphus* and *Tachinoderus* Tachyporinae

Subfamily Oxytelinae

Key to the tribes and genera of the subfamily Oxytelinae

1. Anterior coxal cavities closed behind *Leptochirini*..... 7.
..... Anterior coxal cavities open behind
- 2(1). First ventral segment of the abdomen keeled in the middle 4.
First ventral segment of the abdomen not keeled (except in *Apocellagria* and 3-segmented tarsi) 3.
- 3(2). Posterior trochanters large; head, thorax and elytra carinate
..... *Pseudopsini* (*Pseudopsis* Newman)
Posterior trochanters small; head, thorax and elytra not carinate *Oxytelini* 8.
- 4(2). Anterior trochantin exposed as a long tongue-shaped process behind the posterior margin of the prosternum and separated from the epipleura by a suture. Parallel depressed species. Tarsi 5-segmented *Eleusiini* (*Eleusis* Castelnau)
Anterior trochantin small, not or but slightly exposed *Piestini* 5.
- 5(4). Abdomen bordered; more of less oblong or oval species, the elytra extending the 3rd ventral segment of the abdomen *Apatetica* Westwood
Abdomen not bordered 6.
- 6(5). Abdomen striate at the sides. Fourth segment of the maxillary palpi elongate. More or less convex species *Holosus* Motschulsky
Abdomen rarely striate at the sides. Fourth segment of the maxillary palpi less elongate. More or less parallel, depressed species *Lispinus* Erichson
- 7(1). Anterior coxae separated; the prosternal process dilated behind at its apex
..... *Leptochirus* Germar
Anterior coxae contiguous; the prosternal process concealed and not expanded behind
..... *Priochirus* Sharp
- 8(3). Anterior and middle tibiae strongly spinose externally 9.
Anterior and middle tibiae ciliate, at most with two small spines before the apex 10.
- 9(8). Elytra dehiscent behind, the sutural angle broadly rounded; epimera of the prothorax absent
..... *Platystethus* Mannerheim
Elytra not dehiscent, the sutural angle not broadly rounded; epimera of the prothorax well developed *Oxytelus* Gravenhorst
- 10(8). Tibia with distinct longitudinal grooves; pronotum with lateral margin strongly explanate and hypomeron extremely deflexed *Oxytelopsis* Fauvel
Tibla without distinct longitudinal grooves; if grooves present, then poorly developed and pronotum not strongly explanate and hypomeron not extremely deflexed
..... *Anotylus* Thomson

Genus 1. *Apatetica* Westwood

1848. *Apatetica* Westwood, *Cab. Or. Ent.*, : 86.

1. *Apatetica rotundicollis* Fauvel

1904. *Apatetica rotundicollis* Fauvel, *Rev.d' Ent.*, 23 : 85.

1930. *Apatetica rotundicollis* : Cameron, *Fauna British India*, 1 : 28.

Diagnostic characters : Black, shining; the palpi, antennal segments 1-5 and the tarsi dirty red. Distinguished from all other species by the very broad thorax, which is strongly narrowed in front, and the rounded anterior angles. Legs robust. Length 8.5 mm.

Material examined : Not available.

Distribution : India : Maghalaya.

Genus 2. *Holosus* Motschulsky

1857. *Holosus* Motschulsky, *Bull. Soc. Mosc.*, 30 (4) : 496.

2. *Holosus fossulatus* Motschulsky

1857. *Holosus fossulatus* Motschulsky, *Bull. Mosc.*, 30 (4) : 495.

1930. *Holosus fossulatus* : Comeron, *Fauna British India*, 1 : 48.

Diagnostic characters : Black, shining, subparallel, posterior margins of the abdominal segments rufescent. Thorax with large deep fossa at the posterior angles, not impressed before the middle of the base. Scutellum punctured. Antennae pitchy. Legs reddish brown. Length 4.5 mm.

Material examined : 6 exs. : Meghalaya, Khasi Hills, Umrur, 18 km from Nongpoh, 6 exs, I.IV.1991, D.N. Biswas and S. K. Saha Coll.

Distribution : India : Meghalaya. Elsewhere : Sumatra.

Remarks : In the present study this species is recorded for the first time from Meghalaya. The locality data of this species was mentioned only "India" by Cameron (1930).

Genus 3. *Lispinus* Erichson

1840. *Lispinus* Erichson, *Gen. Spec. Staph.*, : 828.

*3. *Lispinus coriaceus* Fauvel

1895. *Lispinus coriaceus* Fauvel, *Rev.d' Ent.*, 14 : 185.

1930. *Lispinus coriaceus* : Cameron, *Fauna British India*, 1 : 62.

Diagnostic characters : Subdepressed and strongly coriaceous; head and abdomen black, thorax and elytra pitchy; sides of thorax retracted and sinuate for the posterior third, with broad longitudinal impression adjacent and extending to the middle, disc flattened, on either side before the base broadly longitudinally impressed to beyond the middle. Length 3.2 mm.

Material examined : 11 exs. : Meghalaya, Khasi Hills, Umrum, 18 km from Nongpoh, 9 exs, 1.IV.1991, D. N. Biswas and S. K. Saha Coll., Nongpoh, 1 ex, 2.IV.1991, D. N. Biswas Coll., Umsning, 1 ex, 3.IV.1991, D. N. Biswas Coll.

Distribution : India : Meghalaya, West Bengal. Elsewhere : Burma, Java and Borneo.

Remarks : In the present study this species is recorded for the first time from India (Meghalaya).

Genus 4. *Eleusis* Castelnau

1835. *Eleusis* Castelnau, *Etud. Ent.*, 1 : 131.

Key to the species of *Eleusis* Castelnau

1. Minute species. Length 1.5 mm. Species in great part reddish or reddish testaceous
.....*fusciceps* Kraatz
- Larger species. Length 3 mm. Species dark, the disc of the elytra often reddish or reddish testaceous..... *humilis* Erichson

4. *Eleusis fusciceps* Kraatz

1859. *Eleusis fusciceps* Kraatz, *Arch. Naturgesch.*, 25 (1) : 184.

1930. *Eleusis fusciceps* : Cameron, *Fauna British India*, 1 : 88.

Material examined : 1 ex. : Meghalaya, Khasi Hills, Umrum, 18 km from Nongpoh, 1 ex, 1.IV.1991, D. N. Biswas and S. K. Saha Coll.

Distribution : India : Meghalaya, Andamans and Uttar Pradesh. Elsewhere : Singapore and Sumatra.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

5. *Eleusis humilis* Erichson

1840. *Eleusis humilis* Erichson, *Gen. Spec. Staph.*, : 839.

1863. *Eleusis fasciata* Lec., *New Spec. col.*, 1 : 59.

1859. *Eleusis indica* Kraatz, *Arch. Naturgesch.*, 25 (1) : 183.

1865. *Eleusis pallidipennis* Fauvel, *Bull. Soc. Linn. Norm.*, 9 : 40.

1889. *Eleusis subtilis* Sharp, *Ann. Mag. Nat. Hist.*, 3 (6) : 467.

1865. *Eleusis tenuis* Fauvel, *Bull. Soc. Linn. Norm.*, 9 : 41.

1930. *Eleusis humilis* : Cameron, *Fauna British India*, 1 : 83-84.

Material examined : 10 exs. : Meghalaya, Jainti Hills, Sabai Basti, 10 exs, 3.X.1988, V. D. Srivastava Coll.

Distribution : India : Meghalaya. Andamans, Tamil Nadu, Uttar Pradesh. Elsewhere : Burma, Sri Lanka and Japan.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 5. *Leptochirus* Germar

1823. *Leptochirus* Germar, *Ins.Spec.Nov.*, :35.

Key to the species of *Leptochirus* Germar

1. Clypeus continuous with the front on the same plane and not separated from it by a transverse impressed line, its sides not bounded by an impressed line. Thorax red
.....*quadridens* Motschulsky
- Clypeus depressed, not on the same plane as the front and separated from it by a transverse impressed line, the sides bounded by an arcuate impressed line. Entirely black species 2.
2. 6th joint of antennae about as long as broad. Size smaller, 13 to 17 mm..... *laevis* Castelnau
- 6th joint of antennae distinctly longer than broad. Size larger, 20 to 25 mm.....*atkinsoni* Fauvel

6. *Leptochirus (Strongylochirus) laevis* Castelnau

1840. *Leptochirus laevis* Castelnau, *Hist. Nat.*, 1 : 186

1840. *Leptochirus laticeps* Erichson, *Gen. Spec. Staph.*, : 826.

1859. *Leptochirus idae* Kraatz, *Arch, Naturgesch.*, 25 (1) : 19.

1930. *Leptochirus (Strongylochirus) laevis* : Cameron, *Fauna British India*, 1 : 91-92.

Material examined : 1 ex. : Meghalaya, Umrung, 18 km from Nongpoh, 1 ex, 1. IV. 1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Arunachal Pradesh, Nagaland, West Bengal. Elsewhere : Siam, Singapore, Sumatra, Java, Lombok and Borneo.

7. *Leptochirus (Strongylochirus) quadridens* Motschulsky

1857. *Leptochirus quadridens* Motschulsky, *Bull. Mosc.*, 30(4) : 501.

1930. *Leptochirus (Strongylochirus) quadridens* : Cameron, *Fauna British India*, 1 : 91.

Material examined : 3 exs. : Meghalaya, Umrung, 18 km from Nongpoh, 3 exs, 1. IV. 1991, D.N. Biswas Coll.

Distribution : India : Meghalaya Arunachal Pradesh, Nagaland and West Bengal. Elsewhere : Burma, Siam, Sumatra, Java and Borneo.

8. *Leptochirus (Strongylochirus) atkinsoni* Fauvel

1895. *Leptochirus atkinsoni* Fauvel, *Rev. d'Ent.*, 14 : 182.

1930. *Leptochirus (Strongylochirus) atkinsoni* : Cameron, *Fauna British India*, 1 : 92.

Material examined : 2 exs. : Meghalaya, Khasi Hills, Shillong, 2 exs.

Distribution : India : Meghalaya. Elsewhere : Burma and Siam.

Genus 6. *Priochirus* Sharp

1887. *Priochirus* Sharp, *Biol. Cent. Amer. Col.*, 1 (2) : 740.

Subgenus *Cephalomerus* Bernhauer

1903. *Cephalomerus* Bernhauer, *D.E.Z.*, : 139.

This subgenus is distinguished by the frontal impression being longer than broad, the head appearing more or less bilobed.

Key to the species of *Priochirus* sharp

1. Elytra ferruginous red, the base blackish; penultimate segments of antennae distinctly transverse *sanguinosus* (Motschulsky)
- Elytra black, the base more or less broadly reddish; penultimate segments of antennae less transverse *rubiginosus* Cameron

9. *Priochirus (Cephalomerus) sanguinosus* (Motschulsky)

1857. *Leptochirus sanguinosus* Motschulsky, *Bull. Mosc.*, 30 (4) : 501.

1930. *Priochirus (Cephalomerus) sanguinosus* : Cameron, *Fauna British India*, 1 : 103.

Material examined : Not available.

Distribution : India : Meghalaya, West Bengal. Elsewhere : Burma.

10. *Priochirus (Cephalomerus) rubiginosus* Cameron

1930. *Priochirus (Cephalomerus) rubiginosus* Cameron, *Fauna British India*, 1 : 105-106.

Material examined : 3 exs. : Meghalaya, Khasi Hills, Umsning, 3 exs, 3 IV. 1991, D.N. Biswas and S.K. Saha Coll.

Distribution : India : Meghalaya, Nagaland and West Bengal.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 7. *Pseudopsis* Newman

1834. *Pseudopsis* Newman, *Ent. Mag.*, 2 : 313.

11. *Pseudopsis susae* Herman

1983. *Pseudopsis susae* Herman, *Ann. Mus. Navitates*, No. 2755, :1-6, figs. 1-10.

Diagnostic characters : Head with weakly developed median carinae and presence of clubbed setae. Pronotum with weakly developed midlongitudinal carina; lateral margin with basal half crenate; basal margin strongly sinuate. Elytral epipleural carina invisible from above. Abdomen with clubbed setae; sternum IX of male with sinuate posterior margin. Length 3.6 to 5.0 mm.

Material examined : Not available

Distribution : INDIA : Meghalaya, Uttar Pradesh.

Genus 8. *Oxytelopsis* Fauvel

1895. *Oxytelopsis* Fauvel, *Rev. d'ent.*, **14** : 199.

12. *Oxytelopsis pseudopsina* Fauvel

1895. *Oxytelopsis pseudopsina* Fauvel, *Rev. d'ent.*, **14** : 201.

1930. *Oxytelopsis pseudopsina* : Cameron, *Fauna British India*, **1** : 206-207.

1980. *Oxytelopsis pseudopsina* : Biswas & Sengupta, *Oriental Insects*, **14** (3) : 392.

Diagnostic characters : Ferruginous red, a little shining, abdomen obscure reddish testaceous. Head much narrower than the thorax, the post-ocular region evenly rounded to the neck and scarcely twice as long as the eye. Length 2.3 to 2.75 mm.

Material examined : 16 exs. : Meghalaya, Garo Hills, Siju caves, ii. 1922, S.W. Kemp and B.N. Chopra Coll., Khasi Hills, Nongpoh, 1 ex, 2.iv.1991, D.N. Biswas Coll. Ex. leaf litter.

Distribution : India : Meghalaya, West Bengal, Uttar Pradesh. Elsewhere : Burma, Malay Peninsula, Sumatra, Java and Borneo.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 9. *Oxytelus* Gravenhorst

1802. *Oxytelus* Gravenhorst, *Col. Micr. Brunsv.*, 101.

Key to the species of *Oxytelus* Gravenhorst

1. Eye facets small, maximum breadth of apical antennal segment equal to combined diameters of about 8 facets; eyes relatively small *puncticeps* Kraatz
- Eye facets large, maximum breadth of apical antennal segment equal to combined diameters of 3 to 5 facets; eyes large.....*incisus* Motschulsky

13. *Oxytelus puncticeps* Kraatz

1859. *Oxytelus puncticeps* Kraatz, *Arch. Naturgesch.*, **25** (1) : 176.

1859. *Oxytelus micans* Kraatz, *Arch. Naturgesch.*, **25**(1) : 175.

1919. *Oxytelus (Anotylus) monoceros* cameron, *Ent. Monthly Mag.*, **55** : 226.

1930. *Oxytelus (Tanykraerus) micans* : Cameron, *Fauna British India*, **1** : 228-230.

1973-75. *Oxytelus puncticeps* : Hammond, *Ent. Scand. Suppl.*, **4** : 150-152.

Material examined : 2 exs. : Meghalaya, Khasi Hills, Lydow, 2 exs, 29.11.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Uttar Pradesh. Elsewhere : Africa, Madagascar and Sri Lanka.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

14. *Oxytelus incisus* Motschulsky

1857. *Oxytelus incisus* Motschulsky, *Bull. Soc. nat. Mosc.*, **30** : 504.

1859. *Oxytelus ferrugineus* Krattz, *Arch. Naturgesch*, **25** (1) : 173.

1874. *Oxytelus laevior* Sharp, *Trans. ent. soc. Lond.*, 92.

1885. *Oxytelus bledioides* Blackburn, *Scient. Trans. R. Dubl. soc.*, **3** (3)6 : 125.

1893. *Oxytelus laxipennis* Fairmair, *Annl. soc. ent. Belg.*, **37** : 527.

1910b. *Oxytelus cordovens* Bernhauer, *verh. Zool. bot. Ges. Wien*, **10** : 358.

1973-75. *Oxytelus incisus* : Hammand, *Ent. Scand. Suppl.*, **4** : 152-153.

Material examined : 2 exs. : Meghalaya, Khasi Hills, Lydow, 2 exs, 29.iii.1991. S.K. Saha and D.N. Biswas Coll.

Distribution : India : Meghalaya, Bihar, Andaman Is. Elsewhere : Sri Lanka.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 10. *Anotylus* Thomson

1859. *Anotylus* Thomson, *Lund.*, **1** : 14.

15. *Anotylus nitidifrons* (Wollaston)

1871. *Oxytelus nitidifrons* Wollaston, *Ann. Mag. nat. Hist.*, **8** (4) : 411.

1880. *Oxytelus advens* Sharp, *Trans. ent. Soc. Lond.*, : 50.

1930. *Oxytelus* (*Anotylus*) *nitidifrons* : Cameron, *Fauna British India*, **1** : 256-257.

1970. *Anotylus nitidifrons* : Herman, *Bull. Am. Mus. Nat. Hist.*, **142** (5) : 419.

Diagnostic characters : Shining; head pitch-black, thorax red, elytra reddish-testaceous, abdomen reddish-brown, darker behind. Antennae with the first four segments reddish-testaceous, the following blackish. Length 2.75 to 3 mm.

Material examined : 1 ex. : Meghalaya, Khasi Hills, Bismal, 1 ex, 4.iv.1991, S.K. Saha & Party coll.

Distribution : India : Meghalaya, Tamil Nadu, Uttar Pradesh. Elsewhere : Philippines, Hawaii, Madeira, St. Helena, W. Africa and Zanzibar.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 11. *Platystethus* Mannerheim

1830. *Platystethus* Mannerheim, *Brachel*, : 46.

16. *Platystethus crassicornis* Motschulsky

1857. *Platystethus crassicornis* Motschulsky, *Bull. Mosc.*, **30** (4) : 506.

1918. *Platystethus robustus* Cameron, *Ent. Monthly Mag.*, **54** : 102.

1930. *Platystethus indicus* Cameron, *Fauna British India*, 1 : 267-268.

1957. *Platystethus* (S.Str.) *sutteri* Scheerpeltz, *Verh. naturf. Ges. Basel*, 68 (2) : 217.

1973-75. *Platystethus crassicornis* : Hammond, *Ent. Scand. Suppl.*, 4 : 141-178.

Diagnostic characters : Black, shining; elytra testaceous, more or less infuscate behind. Antennae reddish brown, the first four segments reddish testaceous. Legs testaceous. Length 4.8 to 5.5 mm.

Material examined : 2 exs. : Meghalaya, Khasi Hills, Cherrapunjee, 2 exs, 27.iii.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Tamil Nadu and Uttar Pradesh. Elsewhere : Sri Lanka and Perak.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Subfamily Steninae

Key to the subgenera and species of *Stenus* Latreille

1. Abdomen not, or very indistinctly margined on 1st, 5th and 6th segments only.....
 *Hypostenus* Rey
 Abdomen completely and distinctly margined.....*Monostenus* Rey 2.
 2(1). Each elytron with a reddish or yellowish marking..... *stigmaticus* Fauvel
 Elytra unicolour *cordatus* Gravenhorst

Genus 12. *Stenus* Latreille

1796. *Stenus* Latreille, *Prec. Car. gen. Ins.*, : 77.

17. *Stenus (Hypostenus) wasmanni* Fauvel

1895. *Stenus wasmanni* Fauvel, *Rev.d'Ent.*, 14 : 214.

1930. *Stenus (Hypostenus) wasmanni* : Cameron, *Fauna British India*, 1 : 376-377.

Diagnostic characters : Black, shining; antennae and palpi testaceous, the club of the antennae infuscate. The whole insect covered with a fine silvery pubescence, much thicker on the abdomen. Length 4.5 to 5 mm.

Material examined : 1 ex. : Meghalaya, Khasi Hills, Mawlong, 1 ex, 27.iii.1991, S.K. Saha and Party Coll.

Distribution : India : Meghalaya, West Bengal, Himachal Pradesh, Nagaland and Uttar Pradesh. Elsewhere : Burma.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

18. *Stenus (Mesostenus) cordatus* Gravenhorst

1802. *Stenus cordatus* Gravenhorst, *Col. Micr. Brunsv.*, 198.

1849. *Stenus aeneus* Luc., *Expl. alg. Ent.*, 123, t. 13, f.4.

1850. *Stenus princeps* Hampe, *Stett. Ent. Zeit.*, 11 : 349.

1930. *Stenus (Mesostenus) cordatus* : Cameron, *Fauna British India*, 1 : 399-400.

Material examined : 1 ex. : Meghalaya, Jaintia Hills, Jowai, 1 ex, 23.ix.1988, V.D. Srivastava Coll.

Distribution : India : Meghalaya, Uttar Pradesh. Elsewhere : Europe and Algeria.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

19. *Stenus (Mesosterus) stigmaticus* Fauvel

1895. *Stenus stigmaticus* Fauvel, *Rev.d'Ent.*, 14 : 210.

1930. *Stenus (Mesostenus) stigmaticus* : Cameron, *Fauna British India*, 1 : 389-390.

Material examined : 1 ex. : Meghalaya, Khasi Hills, Umiam, 1 ex, 5.iv.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Nagaland and West Bengal. Elsewhere : Burma and Tonkin.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Subfamily Euaesthetinae

Genus 13. *Stenaesthetus* Sharp

1874. *Stenaesthetus* Sharp, *Trans. ent. Soc. Lond.*, : 79.

1930. *Stenaesthetus* : Cameron, *Fauna British India*. 1 : 445-446.

20. *Stenaesthetus sunioides* Sharp

1874. *Stenaesthetus sunioides* Sharp, *Trans. ent. Soc. Lond.*, : 80.

1930. *Stenaesthetus sunioides* : Cameron, *Fauna British India*, 1 : 446.

Diagnostic characters : Reddish-brown species; head and thorax with close, moderately fine umbilicate punctures. Antennae and legs testaceous, the club of the antennae infusate. Length 2.5 mm.

Material examined : 4 exs. : Meghalaya, Khasi Hills, Bismal, 4 exs, 4.iv.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Uttar Pradesh and West Bengal. Elsewhere : Sri Lanka.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Subfamily Paederiuae

Key to the tribes and genera of the subfamily Paederinae

1. 4th segment of the maxillary palpi large and more or less fusiform or scuriform
.....Pinophilini (*Oedichirus* Erichson)
- 4th segment of the maxillary palpi small, subulate or papillose Paederini 2.

- 2(1). Antennae strongly geniculate **Cryptobium** Mannerheim
 Antennae not geniculate 3.
- 3(2). Fourth tarsal segment bilobed 4.
 Fourth tarsal segment simple 8.
- 4(3). Fourth segment of maxillary palpi short broad, and wart like **Paederus** Fabricius
 Fourth segment of maxillary palpi very slender, subulate 5.
- 5(4). Labrum bilobed **Stiliderus** Motschulsky
 Labrum bidentate in the middle 6.
- 6(5). Labrum emarginate in the middle, the fundus with two small teeth. Head oblong
 **Astenus** Stephens
 Labrum produced in the middle 7.
- 7(6). The produced part of the labrum with two long teeth **Dibelonetes** Sahlberg
 The produced part of the labrum with two short teeth **Stilicopsis** Sachse
- 8(3). Neck very slender 9.
 Neck at least a fourth as broad as the base of the head 10.
- 9(8). Labrum 4-dentate; tongue corneous, trifid **Scopaeus** Erichson
 Labrum 2-dentate; tongue membranous, bilobed **Stilicus** Latreille
- 10(8). Eyes very large, temples scarcely indicated. Labrum feebly emarginate in front, endentate
 **Lobochilus** Bernhauer
 Eyes normal, temples well-developed 11.
- 11(10). Labrum emarginate in the middle, or more or less bilobed 12.
 Labrum dentate 13.
- 12(11). First segment of the posterior tarsi much longer than the second **Scimbalium** Erichson
 First segment of the posterior tarsi slightly longer than the second **Pachymedon** Cameron
- 13(11). 5th tarsal segment inserted near the base of the 4th segment, and overlying it that the latter
 appears bilobed when seen from above **Acanthoglossa** Kraatz
 5th tarsal segment normally inserted at the apex of the 4th segment **Lithocharis** Boised

Genus 14. **Oedichirus** Erichson

21. *Oedichirus dimidiatus* Eppelsheim

1890. *Oedichirus dimidiatus* Eppelsheim, *W.E.Z.*, 9 : 280.
 1924. *Oedichirus elegans* Cameron, *Trans.ent.Soc.Lond.*, 180.
 1931. *Oedichirus dimidiatus* : Cameron, *Fauna British India*, 2 : 27-28.

Diagnostic characters : Shining red, the posterior part of the elytra and last three segments of abdomen black; antennae and legs testaceous. Length 8 mm.

Material examined : 1 ex. : Meghalaya, Khasi Hills, Umrin, 1 ex, i.iv.1991, D.N. Biswas coll. Ex. Dusting the bush.

Distribution : India : Meghalaya, Madhya Pradesh, Tamil Nadū and Uttar Pradesh.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 15. *Astenus* Stephens

1832. *Astenus* Stephens, III. *Brit.Ent.Mand.*, 5 : 275.

Key to the species of *Astenus* Stephens

1. 7th and 8th abdominal segments black, their posterior margin scarcely lighter; elytra usually with dark spot on each *maculipennis* Kraatz
 7th and 8th abdominal segment blackish, their posterior margin more or less broadly lighter
 *gracilentus* Fauvel

22. *Astenus gracilentus* Fauvel

1859. *Sunius gracilis* Kraatz, *Arch.Naturgesch.*, 25 (1) : 147 (Præocc.)
 1879-80. *Astenus gracilentus* Fauvel, *Ann.Mus.Civ.Gen.*, 15 : 83.
 1931. *Astenus gracilentus* : Cameron, *Fauna British India*, 2 : 84-85.

Material examined : 23 exs. : Meghalaya, Khasi Hills, Nongpoh, 23 exs, 2.iv.1991, D.N. Biswas Coll. Ex. leaf litter.

Distribution : India : Meghalaya, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Bangladesh, Singapore.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

23. *Astenus maculipennis* (Kraatz)

1859. *Sunius maculipennis* Kraatz, *Arch. Naturgesch.*, 25 (1) : 148.
 1931. *Astenus maculipennis*: Cameron, *Fauna British India*, 2 : 83-84.

Material examined : 3 exs. : Meghalaya, Khasi Hills, Bismal, 1 ex, 4.iv.1991. D.N. Biswas Coll. Nongpoh, 2 exs, 9.iv.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Tamil Nadu and West Bengal. Elsewhere : Sri Lanka, Philippines.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 16. *Scopaeus* Erichson

1839-40. *Scopaeus* Erichson, *Gen.Spec.Staph.*, : 604.

24. *Scopaeus nitidulus* Motschulsky

1858. *Scopaeus nitidulus* Motschulsky, *Bull.Mosc.*, **31** (2) : 643.

1859. *Scopaeus subfasciatus* Kraatz, *Arch. Naturgesch.*, **25** (1) : 129.

1931. *Scopaeus nitidules* : Cameron, *Fauna British India*, **2** : 174-175.

Diagnostic characters : Shining; head and thorax red, elytra yellowish-red, with more or less broad transverse pitchy-brown fascia extending from the epipleura almost to the suture. Length 3 mm.

Material examined : 1 ex : Meghalaya, Khasi Hills, Nongpoh, 1 ex, 2.iv.1991, D.N. Biswas Coll. Ex. leaf litter.

Distribution : India : Meghalaya.

Remarks : In the present study this species is recorded for the first time from India (Meghalaya).

Genus 17. *Pachymedon* Cameron

1931. *Pachymedon* Cameron, *Fauna British India*, **2** : 127.

25. *Pachymedon assamensis* Cameron

1931. *Pachymedon assamensis* Cameron, *Fauna British India*, **2** : 128.

Diagnostic characters : Robust, black, the humeral angles of the elytra reddish; the posterior margins of the 5th and 6th abdominal segments reddish yellow. Head and thorax finely punctured. Length 5.2 mm.

Material examined : 2 exs. : Meghalaya, Garo Hills, Dainadubi reserve forest, 1 ex, 18.xi.1974, T. Sengupta & Party Coll., Songsak, 1 ex, 20.xi.1974, T. Sengupta & Party Coll.

Distribution : India : Meghalaya, Nagaland and West Bengal.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 18. *Stillicopsis* Sachse

1852. *Stillicopsis* Sachse, *Stett. Ent. Zeit.*, **22** : 144.

26. *Stillicopsis* sp.

Material examined : 3 exs. : Meghalaya, Khasi Hills, Umsning, 3 exs, 3.iv.1991, S.K. Saha and D.N. Biswas Coll.

Distribution : India : Meghalaya.

Genus 19. *Stilicus* Latreille1825. *Stilicus* Latreille, *Encyc. Meth.*, 10 : 495.Key to the species of *Stilicus* Latreille

1. Larger (4.3 to 7 mm). Elytra in great part dark *rufescens* Sharp
 Smaller (2 to 2.4 mm). Elytra brownish yellow *pygmaeus* Kraatz

27. *Stilicus pygmaeus* Kraatz1859. *Stilicus pygmaeus* Kraatz, *Arch. Naturgesch.*, 25 (1) : 126.1931. *Stilicus pygmaeus* : Cameron, *Fauna British India*, 2 : 109.

Material examined : 1 ex. : Meghalaya, Khasi Hills, Umsning, 1 ex, 3.iv.1991, D.N. Biswas Coll.

Distribution : Indja : Meghalaya, West Bengal, Elsewhere : Sri Lanka, Malay States, Saigon, Timor.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

28. *Stilicus rufescens* Sharp1874. *Stilicus rufescens* Sharp, *Trans. ent.Soc.Lond.*, : 61.1885. *Stilicus rubellus* Eppelsheim, *D.E.Z.*, :121.1914. *Stilicus rufescens* var. *indicus* Cameron, *Trans.ent.Soc.Lond.*, : 542.1931. *Stilicus rufescens* : Cameron, *Fauna British India*, 2 : 108-109.

Material examined : 1 ex. : Meghalaya, Khasi Hills, Bismal, 1 ex, 4.iv.1991, S.K. saha and Party Coll.

Distribution : India : Meghalaya, Tamil Nadu.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 20. *Acanthoglossa* Kraatz1859. *Acanthoglossa* Kraatz, *Arch. Naturgesch.*, 25 (1) : 144.29. *Acanthoglossa testaceipennis* Kraatz1859. *Acanthoglossa testaceipennis* Kraatz, *Arch. Na.urgesch.*, 25 (1) : 145.1931. *Acanthoglossa testaceipennis* : Cameron, *Fauna British India*, 2 : 121-122.

Diagnostic characters : Rather shining; head and thorax red, elytra reddish-yellow. Antennae reddish-yellow. Legs yellow. Length 3 mm.

Material examined : 14 exs. : Meghalaya, Khasi Hills, Bismal, 4 exs, 4.iv.1991, D.N. Biswas and S.K. Saha Coll., Umtihar, 2 exs, 6.iv.1991, D.N. Biswas Coll., Nongpoh, 6 exs, 9.iv.1991, D.N. Biswas Coll., Ex. leaf litter, Lydow, 29.iii.1992, 2 exs, D.N. Biswas Coll.

Distribution : India : Meghalaya, Tamil Nadu, Uttar Pradesh, and West Bengal.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 21. *Lobochilus* Bernhauer

1918. *Lobochilus* Bernhauer, *Arch. Naturgesch.*, 84 (A) : 179.

1924. *Neosclerus* Cameron, *Trans. ent.Soc.Lond.*, : 188.

Key to the species of *Lobochilus* Bernhauer

1. Thorax as long as broad, elytra shorter than thorax; puncturations of head and thorax less coarse and close. The eyes very large but do not occupying the wole side of the head
.....*brachypterus* Cameron

Thorax slightly longer than broad; elytra a little longer than thorax; puncturations of head and thorax with coarse. The eyes very large and occupying practically the whole side of the head.....
.....*assamensis* Cameron

30. *Lobochilus brachypterus* Cameron

1943. *Lobochilus brachypterus* Cameron, *Proc. R.ent. Soc. Lond.*, 12 (B) : 33-34.

Material examined : 1 ex. : Meghalaya, Shillong, 1 ex, 26.xi.1974, T. Sengupta & Party Coll.

Distribution : India : Meghalaya, West Bengal.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

31. *Lobochilus assamensis* Cameron

1931. *Lobochilus assamensis* Cameron, *Fauna British India*, 2 : 126.

Material examined : 1 ex : Meghalaya, Khasi Hills, Umtibar, 1 ex, 6.iv.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Nagaland.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 22. *Dibelonetes* Sahlberg

1844. *Dibelonetes* Sahlberg, *Act.Soc.Fenn.*, 2 : 791.

32. *Dibelonetes bengalensis* Biswas & Sengupta

1980. *Dibelonetes bengalensis* Biswas & Sengupta, *Oriental Insects*, 14 (2) : 253-262.

Diagnostic characters : General appearance narrow, shining, dark brown; elytra short and its posterior margin broadly ferruginous red, apex of femora narrowly infuscate, segments 4 and 5 of abdomen black. Length 2.80 mm.

Material examined : 6 exs. : Meghalaya, Khasi Hills, Bismal, 2 exs, 4.iv.1991, D.N. Biswas and S.K. Saha Coll., Nongpoh, 4 exs, 2.iv.1991, D.N. Biswas Coll. Ex. leaf litter.

Distribution : India : Meghalaya, Uttar Pradesh and West Bengal.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 23. *Cryptobium* Mannerheim

1830. *Cryptobium* Mannerheim, *Brach.*, : 38.

Key to the species of *Cryptobium* Mannerheim

1. Species entirely black, at most with the posterior margin of the last two segments of the abdomen obscurely reddish *elephas* Fauvel
- Species not entirely black, at least with the thorax and abdomen brown *extraneum* Fauvel

33. *Cryptobium extraneum* Fauvel

1904. *Cryptobium extraneum* Fauvel, *Rev. d'Ent.*, **23** : 55.

1931. *Cryptobium extraneum* : Cameron, *Fauna British India*, **2** : 235-236.

Material examined : 1 ex. : Meghalaya, Khasi Hills, Jakrem, 1 ex, 25.iii.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Tamil Nadu.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

34. *Cryptobium elephas* Fauvel

1904. *Cryptobium elephas* Fauvel, *Rev. d'Ent.*, **23** : 54.

1931. *Cryptobium elephas* : Cameron, *Fauna British India*, **2** : 230.

Material examined : 2 exs. : Meghalaya, Sukli E. side of Dawna Hills, 420 m., 22.xi.1911. F.H. Gravely Coll.

Distribution : India : Meghalaya, Tamil Nadu.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 24. *Scimbalium* Erichson

1839-40. *Scimbalium* Erichson, *Gen. Spec. Staph.*, : 579.

35. *Scimbalium badium* (Motschulsky)

1858. *Lathrobomorphus badium* Motschulsky, *Bull. Mosc.*, **31** (2) : 646.

1931. *Scimbalium badium* : Cameron, *Fauna British India*, **2** : 214.

Diagnostic characters : Larger and entirely reddish-yellow. The whole upper surface very finely punctured and covered with a more or less thick and velvety pubescence. Length 8.9 mm.

Material examined : 2 exs. : Meghalaya, Dainadubi Forest Rest House, 13.v.1979, S.B. Roy & Party Coll.

Distribution : India : Meghalaya.

Remarks : The locality data of this species mentioned only "Indes orientales" by Cameron (1931).

Genus 25. *Lithocharis* Boised

1835. *Lithocharis* Boised and Lacord., *Fauna Ent.Par.*, 1 : 431.

36. *Lithocharis vilis* Kraatz

1859. *Lithocharis vilis* Kraatz, *Arch. Naturgesch.*, 25 (1) : 139.

1931. *Lithocharis vilis* : Cameron, *Fauna British India*, 2 : 162-163.

Diagnostic character : Robust, the head transversely subquadrate, as broad as the thorax, not at all widened behind, the posterior angles broadly rounded. Length 3.75 to 4 mm.

Material examined : 1 ex. : Meghalaya, Garo Hills, 70 m., ii. 1922, B.N.C. Coll.

Distribution : India : Meghalaya, Tamil Nadu.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 26. *Paederus* Fabricius

1775. *Paederus* Fabricius, *Syst. Ent.*, : 268.

Key to the species of *Paederus* Fabricius

1. Apterous; elytra shorter than the thorax and dilated behind.....*setifer* Cameron
- Winged; elytra at least as long as the thorax and parallel.....2.
- 2(1).Anterior femora entirely testaceous.....3.
- Anterior femora dark at apex4.
- 3(2).Larger (9 mm.). Last segment of antennae testaceous *sondaicus* Fauvel
- Smaller (6.5 mm.). Last segment of antennae concolorous.....*fuscipes* Curtis
- 4(2).Larger (9.5 mm.) *basalis* Bernhauer
- Smaller (5.2 to 8.25 mm) *birmanus* Fauvel

37. *Paederus birmanus* Fauvel

1895. *Paederus birmanus* Fauvel, *Rev.d'Ent.*, 14 : 233.

1931. *Paederus birmanus* : Cameron, *Fauna British India*, 2 : 46-47.

Material examined : 7 exs. : Meghalaya, Jaintia Hills, Jowai, 7 exs, 19.ix.1988, V.D. Srivastava Coll.

Distribution : India : Meghalaya, Nagaland.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

38. *Paederus sondaicus* Fauvel

1895. *Paederus sondaicus* Fauvel, *Rev.d'Ent.*, 14 : 232.

1859. *paederus javanus* Erichson, *Gen.spec.Staph.* : 654.

1931. *Paederus sondaicus* : Cameron, *Fauna British India*, 2 : 37-38.

Distribution : India : Meghalaya, Tamil Nadu and Maharashtra. Elsewhere : Sri Lanka, Burma, Sumatra, Java and Tonkin.

39. *Paederus fuscipes* Curtis

1823-40. *Paederus fuscipes* Curtis, *Ent.Brit.*, 3 : 108.

1839-40. *Paederus aestuans* Erichson, *Gen.Spec.Staph.*, : 655.

1843. *Paederus angolensis* Erichson, *Arch. Naturgesdh.*, 9 (1) : 222.

1861. *Paederus corsicus* Gant., *Ann.Soc.Ent.Fr.*, 4 (1) : 393.

1867. *Paederus erichsoni* Woll., *Col. Hesperid.*, 247.

1931. *Paederus fuscipes* : Comeron, *Fauna British India*, 2 : 40-41.

Material examined : 46 exs. : Meghalaya, Dainadubi, 9 exs, 10.v.1979, S.B. Roy Coll., 2 km. S. from Darugiri Forest Rest House, Garo Hills, 2 exs, 18.v.1979, J.K. Jonathan Coll., Sarengma, 22 exs, 11.v.1979, S.B. Roy Coll., Darugiri, 2 exs, 12.v.1979, S.B. Roy Coll.

Distribution : India : Meghalaya, Bihar, Karnataka, Madhya Pradesh and West Bengal.

Remarks : First time recorded from Meghalaya.

40. *Paederus basalis* Bernhauer

1914. *Paederus basalis* Bernhauer, *W.Z.B.*, 64 : 98.

1931. *Paederus basalis* : Cameron, *Fauna British India*, 2 : 54.

Material examined : 2 exs. : Meghalaya, Garo Hills, Rougreugiri, 400 m., 3.xi.1978, Besuchet and Lobl Coll.

Distribution : India : Meghalaya, Uttar Pradesh.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

41. *Paederus setifer* Cameron

1914. *Paederus setifer* Cameron, *Trans.ent.Soc.Lond.*, : 538.

1931. *Paederus setifer* Cameron, *Fauna British India*, 2 : 60.

Material examined : 2 exs. : Meghalaya, Garo Hills, Tura, 2225 m., 15.vii.1917, S.W. Kemp Coll.

Distribution : India : Meghalaya. Elsewhere : Sri Lanka.

Remarks : In the present study this species is recorded for the first time from India (Meghalaya).

Genus 27. *Stiliderus* Motschulsky

1858. *Stiliderus* Motschulsky, *Bull. Mosc.*, 31 (2) : 639.

Key to the species of *Stiliderus* Motschulsky

1. Fourth tarsal segments deeply bilobed; head usually strongly bordered below; 9th sternite not emerginate2.
- Tarsi simple, the 4th segment sometimes slightly dilated, but never bilobed; 9th sternite deeply emerginate3.
- 2(1). Minute puncturation of elytra simple, scarcely visible, not granulose; impunctate mid longitudinal band of pronotum entire
..... *cicatricosus* Motschulsky
- Minute puncturation elytra between the large, serially aligned foveate puncturus granulose, at least in part; the granules may be dense, very evident on entire surface.....
.....*kamarupensis* Rougemont
- 3(1). Larger species (7.3 mm. to 8.75.)4.
- Smaller species (5 mm. to 6.8 mm.).....6.
- 4(3). Head elongate: surface of elytra rather uneven, the sculpture consisting of dense granulation on a strongly microsculptate background, the granules dense, fine and more rounded
.....*granulifrons* Rougemont
- Head transverse; surface of elytra not granulate5.
- 5(4). Elytra ferruginous-red, about the scutellum and postero-external angles infusate. Legs dark redfeae (Fauvel) Elytra black, each elytron with a rounded orange spot before the middle. Legs reddish-yellow, the apex of the femora broadly, the apex of the tibiae narrowly black
.....*fenestratus* (Fauvel)
- 6(3). Elytra unicolours black or brown; small species (5 mm.). Labrum 5 dentate
..... *variolosus* (Coiffait)
- Elytra bicolours; large species, (over 6 mm.). Labrum 3 dentute.....7.
- 7(6). Slightly more robust species; head transverse, slightly narrower than the elytra
..... *strigosus* Rougemont
- Slightly narrower species; head elongate, distinctly narrower than the elytra.....
..... *Kambaitiensis* (Scheerpeltz)

42. *Stiliderus kamarupensis* Rougemont

1985. *Stiliderus kamarupensis* Rougemont, *Revue Suisse Zool.*, **92** (1) : 227-228.

1986. *Stiliderus kamarupensis* Rougemont, *Ent. Abh. Mus. tirk. Dresden*, **50** (2) : 48.

Material examined : Not available.

Distribution : India : Meghalaya (Nongpoh).

43. *Stiliderus* (Coiffait)

1975. *Stilicoderus variolosus* Coiffait, *Nouv. Revue Ent.*, **5** (2) : 184.

1985. *Stiliderus variolosus* : rougemont, *Revue Suisse Zool.*, **92** (1) : 218.

Distribution : India : Meghalaya, Assam, West Bengal. Elsewhere : Nepal.

44. *Stiliderus fenestratus* (Fauvel)

1895. *Stilicoderus fenestratus* Fauvel, *Rev. d'Ent.*, **14** : 285.

1931. *Stilicoderus fenestratus* : Cameron, *Fauna British India*, **2** : 112.

1986. *Stiliderus fenestratus* : Rougemont, *Ent. Abh. Mus. Tierk. Dresden*, **49** (8) : 169-170

Material examined : 1 ex. : Meghalaya, Shillong, 1 ex, 29.xi.1974, T. Sengupta & Party Coll.

Distribution : India : Meghalaya, Nagaland and Uttar Pradesh. Elsewhere : Burma, Thailand, Nepal, Malay Peninsula.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

45. *Stiliderus strigosus* Rougemont

1985. *Stiliderus strigosus* Rougemont, *Rev. Suisse Zool.*, **92** (1) : 219-220.

1986. *Stiliderus strigosus*, Rougemont, *Ent. Abh. Mus. Tirk. Dresden*, **49** (8) : 163-164.

Distribution : India : Meghalaya. Elsewhere : Thailand, Sumatra.

46. *Stiliderus Kambaitiensis* (Scheerpeltz)

1965. *Stilicoderus kambaitiensis* Scheerpeltz, *Ark. Zool.*, **17** : 179.

1986. *Stiliderus Kanbaitiensis* : rongemont, *Ent. Abh. Mus. Tierk. Dresden*, **49** (8) : 170.

1986. *Stiliderus assamensis* Rongemont, *Ent. Abh. Mus. Tierk. Dresden*, **49** (8) : 173.

1986. *Stiliderus dubius* rougemont, *Revue Suisse Zool.*, **93** (1) : 233-234.

Distribution : India : Meghalaya, Uttar Pradesh, Tamil Nadu and West Bengal. Elsewhere : Burma, Nepal and Thailand.

47. *Stiliderus feae* (Fauvel)

1895. *Stilicoderus feae* Fauvel, *Rev. d'Ent.*, **14** : 224.
 1931. *Stilicoderus feae* : Cameron, *Fauna British India*, **2** : 110.
 1985. *Stiliderus feae* : Rougemont, *Revue Suisse Zool.*, **92** (1) : 221.
 1986. *Stiliderus feae* : Rougemont, *Ent. Abh. Mus. tierk. Dresden*, **49** (8) : 177.

Distribution : India : Meghalaya, Uttar Pradesh, Tamil Nadu and West Bengal. Elsewhere : Burma, Nepal, Thailand.

48. *Stiliderus granulifrons* Rougemont

1985. *Stiliderus granulifrons* Rougemont, *Rev. Suisse Zool.*, **92** (1) : 224.
 1986. *Stiliderus granulifrons* : Rougemont, *Ent. Abh. Mus. Tierk. Dresden*, **49** (8) : 174.

Distribution : India : Meghalaya. Elsewhere : Burma.

49. *Stiliderus cicatricosus* Motschulsky

1858. *Stiliderus cicatricosus* Motschulsky, *Bull. Mosc.*, **31** (2) : 639.
 1931. *Stiliderus cicatricosus* : Cameron, *Fauna British India*, **2** : 101.
 1859. *Psilotrachellus sculptipennis* Kraatz, *Arch. Naturgesch.*, **25** (1) : 125.
 1928. *Psilotrachellus sculptipennis* : Bernhauer, *Verh. Zool. Bot. Ges. Wien*, **78** : 31.
 1986. *Stiliderus cicatricosus* : Rougemont, *Ent. Abh. Mus. tierk. Dresden*, **50** (2) : 43-44.

Material examined : 1 ex. India: Meghalaya, Khasi Hills, Umthihar, 1 ex, 6.iv.1991, D.N. Biswas and S.K. Saha Coll.

Distribution : India : Meghalaya, West Bengal. Elsewhere : Burma, Thailand, Malaysia.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Subfamily Staphylininae

Key to the tribes and genera of the Subfamily Staphylininae

1. Prosternum with a transverse plate usually united to it by membrane; sometimes fused with it, but in that case that head is scarcely constricted behind, and the 3rd segment of the labial palpi is dilated towards apex and truncate. Antennae at base less distant from each other than from the eye, mostly geniculate..... Xantholinini
3.
- Prosternum without such plate. Antennae at base nearer to the eyes than to each other, rarely geniculate.....2.
- 2(1). Anterior angles of the pronotum not or scarcely extending beyond the anterior angles of the prosternum; pronotal epipleura moderately reflexed, more or less horizontal. Infra-orbital crest absent or rudimentaryStaphylinini
4.

- Anterior angles of the pronotum distinctly produced beyond the anterior angles of the prosternum; pronotal epipleura strongly reflexed. Infra-orbital crest usually well developed, at least behind..... 8.
- 3(1). Suture of the elytra straight, not imbricate; antennae slightly geniculate *Platyprosopus* Mannerheim
 Suture of the elytra more or less imbricate; antennae strongly geniculate *Indoscitalinus* Heller
- 4(2). 3rd segment of labial palpi securiform..... *Staphylinus* Linnius
 3rd segment of labial palpi cylindrical or pointed..... 5.
- 5(4). All the tibiae pubescent, without spines *Rhyncochilus* Sharp
 At least the posterior tibiae spinose 6.
- 6(5). Tongue simple..... 7.
 Tongue emerginate or more or less bilobed *Naddia* Fauvel
- 7(6). Superior lateral line of thorax strongly deflexed, the large anterior setiferous puncture distant from it..... *Hesperus* Fauvel
 Superior lateral line of thorax slightly deflexed, the large anterior setiferous puncture on or near it..... *Philonthus* Curtis
- 8(2). Tarsal formula 5,4,4. Maxillary and labial palpus conspicuously elongate..... *Atanygnathini* (*Atanygnathus* Jakobson)
 Tarsal formula 5,5,5. Maxillary and labial palpus not conspicuously elongate Quedini
 9.
- 9(8). Antennae geniculate *Acylophorus* Nordmann
 Antennae not geniculate 10.
- 10(9). Middle tibia not spinose on lateral face. First five segments of antenna lacking fine and dense pubescence, each bearing only strong and long setae. Frons behind antennal insertions with V-shaped impression. Posterolateral and basal margins of pronotum markedly and abruptly explanate..... *Bolitogyrus* Chevrolat
 Middle tibia markedly spinose on lateral face. First three segments of antenna lacking fine and dense pubescence, each bearing only strong and long setae. Frons behind antennal insertions without V-shaped impression. Posterolateral and basal margins of pronotum no more than slightly and gradually explanate 11.

11(10). Two or three setiferous punctures between anterior and posterior frontal punctures situated directly at median margin of eye. Dorsal surface of head and pronotum without microsculpture (microsculpture rarely present in lateral pronotal groove). Dorsal rows of pronotum each with two punctures..... *Indoquedius* Cameron

No setiferous punctures between anterior and posterior frontal punctures; if rarely, punctures present, than separated from median margin of eye by distance at least equal to diameter of puncture. Dorsal surface of head and pronotum with distinct microsculpture and dorsal rows of pronotum each with at least three punctures; if, rarely, dorsal surface of head and pronotum without microsculpture, then dorsal rows of punctures on pronotum absent *Quedius* Stephens

Genus 28. *Indoscitalinus* Heller

1900. *Indoscitalinus* Heller, *Abh. Mus. Dresd.*, 9 (5) : 5.

Key to the species of *Indoscitalinus* Heller

1. Post-ocular region rugosely punctured..... *feae* (Fauvel)
 Post-ocular region practically impunctate..... *rudis* (Eppelsheim)

50. *Indoscitalinus rudis* (Eppelsheim)

1895. *Eulissus rudis* Eppelsheim, *W.E.Z.*, 14 : 62.

1895. *Xantholinus gestroi* Fauvel, *Rev. d'Ent.*, 14 : 243.

1914. *Eulissus eppelsheimi* Bernhauer, *Cat. Col.*, 4 : 302.

1932. *Indoscitalinus rudis* : Cameron, *Fauna British India*, 3 : 39.

Material examined : 1 ex : Meghalaya, Khasi Hills, Bismal, 1 ex, 4.iv. 1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Sikkim, Uttar Pradesh. Elsewhere : Burma

Remarks : In the present study this species is recorded for the first time from Meghalaya.

51. *Indoscitalinus feae* (Fauvel)

1895. *Xantholinus feae* Fauvel, *Rev. d' Ent.*, 14 : 242.

1932. *Indoscitalinus feae* : Cameron, *Fauna British India*, 3 : 38-39.

Material examined : 3 exs. : Meghalaya, Khasi Hills, Lydow, 3 exs, 29.iii.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya. Elsewhere : Burma.

Remarks : In the present study this species is recorded for the first time from India (Meghalaya).

Genus 29. *Platyprosopus* Mannerheim

1830. *Platyprosopus* Mannerheim, *Brachely*, 36.

Key to the species of *Platyprosopus* Mannerheim

1. Large species (13-17 mm.); elytra brownish black; puncturation of head and thorax finer and more superficial *fuliginosus* Erichson
- Small species (8-10 mm.); elytra reddish; head very closely and finely but thorax more coarsely punctured *fulvicollis* Motschulsky

52. *Platyprosopus fulvicollis* Motschulsky

1858. *Platyprosopus fulvicollis* Motschulsky, *Bull. Mosc.*, 31 (3) : 212.
1859. *Platyprosopus linearis* Kraatz, *Arch. Naturgesch.*, 25 (1) : 115.
1932. *Platyprosopus fulvicollis* : Cameron, *Fauna British India*, 3 : 51-52.

Material examined : 1 ex. : Meghalaya, Dainadubi Forest Rest House, 1ex, 13.v.1979, S.B. Roy and Party Coll.

Distribution : India : Meghalaya, Bihar.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

53. *Platyprosopus fuliginosus* Erichson

1840. *Platyprosopus fuliginosus* Erichson, *Gen. Spec. Staph.*, 923.
1858. *Platyprosopus orientalis* Motschulsky, *Bull. Mosc.*, 31 (3) : 212.
1932. *Platyprosopus fuliginosus* : Cameron, *Fauna British India*, 3 : 51.

Material examined : 10 exs. : Meghalaya, Dainadubi Forest Rest House, 10 exs., 13.v.1979, S.B. Roy and Party Coll.

Distribution : India : Meghalaya, Bihar.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 30. *Philonthus* Curtis

1825. *Philonthus* Curtis, *Brit. Ent.*, 13 : 610.

Key to the species of *Philonthus* Curtis

1. Thorax red or reddish brown *assamensis* Cameron
- Thorax black or metallic 2.
- 2(1). Legs black *kempi* Cameron
- Femora in greater part yellow *mandroni* Fauvel

54. *Philonthus maindroni* Fauvel

1903. *Philonthus maindroni* Fauvel, *Rev. d' Ent.*, 22 : 158.
1924. *Philonthus annandalei* Cameron, *Rec. Ind. Mus.*, 26 : 118.
1932. *Philonthus maindroni* : Cameron, *Fauna British India*, 3 : 88

Material examined : 1 ex. : Meghalaya, Khasi Hills, Nongpoh, 1 ex, 9. iv. 1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Tamil Nadu, Uttar Pradesh.

55. *Philonthus assamensis* Cameron

1932. *Philonthus assamensis* Cameron, *Fauna British India*, 3 : 100.

Material examined : 3 exs. : Meghalaya, Khasi Hills, Umsning, 3 exs, 3.iv.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Manipur.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

56. *Philonthus kemp* Cameron

1924. *Philonthus kemp* Cameron, *Rec. Ind. Mus.*, 26 : 118.

1932. *Philonthus kemp* Cameron, *Fauna British India*, 3 : 89.

Material examined : Not available.

Distribution : India : Meghalaya, Uttar Pradesh.

Genus 31. *Hesperus* Fauvel

1872. *Hesperus* Fauvel, *Fauna, Gallo-Rhen.*, 3 : 426.

57. *Hesperus gridellii* Cameron

1926. *Hesperus gridellii* Cameron, *Trans. ent. Soc. Lond.*, : 360.

1932. *Hesperus gridellii* Cameron, *Fauna British India*, 3 : 161-162.

Diagnostic characters : 1 ex. : Meghalaya, Khasi Hills, Maflong, 1 ex, 6.ix.1913, S.W. Kemp Coll.

Material examination : Shining, blue-black; head and thorax with plrong violet reflex; elytra brilliant green. Length 13.2 mm.

Distribution : India : Meghalaya, Uttar Pradesh.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 32. *Staphylinus* Linnius

1758. *Staphylinus* Linnius, *Syst. nat. ed.*, 10 : 421.

Key to the subgenera of *Staphylinus* Linnius

1. Prosternal epimera present *Platydracus* Thomson
- Prosternal epimera absent 2.
- 2(1). Temples longer than the eyes *Goerius* Stephens
- Temples shorter than the eyes *tasgius*

Key to the species of *Staphylinus* Linnius

1. Antennae rather long and slender, the intermediate segments much longer than broad, the penultimate at least as long as broad 2.
 Antennae shorter and stouter, the penultimate segments transverse.....*asemus* Kraatz
- 2(1). Each elytra with a large golden tomentose patch at the side margin; 4th and 5th (visible) abdominal segments with transverse patch of golden pubescence.....*quadrinaculatus* Cameron
 Each elytron with two small indistinct patches of yellow pubescence, one at the shoulder, the other at the middle of the side margin; 4th and 6th (visible) segments with transverse patch of golden pubescence at base.....*prinae* (Eppelsheim)

58. *Staphylinus (Tasgius) quadrinaculatus* Cameron

1932. *Staphylinus (Tasgius) quadrinaculatus* Cameron, *Fauna British India*, 3 : 207.

Material examined : Not available.

Distribution : India : Meghalaya.

59. *Staphylinus (Goerius) prinae* (Eppelsheim)

1895. *Trichocosmetes prinae* Eppelsheim, *Wierer, Ent. Ztg.*, 19 : 58.

1932. *Staphylinus (Goerius) prinae* : Cameron, *Fauna British India*, 3 : 201-202.

Material examined : 5 exs. : Meghalaya, Shillong, Khasi Hills, 15.xi.1930, H.S. Rao Coll.

Distribution : India : Meghalaya, West Bengal.

60. *Staphylinus (Platydracus) asemus* Kraatz

1859. *Staphylinus asemus* Kraatz, *Arch. Naturgesch.* 25 (1) : 77.

1911. *Staphylinus aeneicollis* Bernhauer, *Ent. Blatt.*, 7 : 87.

1932. *Staphylinus (Platydracus) asemus* : Cameron, *Fauna British India*, 3 : 194.

Material examined : Not available.

Distribution : India : Meghalaya, West Bengal, Uttar Pradesh.

Genus 33. *Rhyncochilus* Sharp

1889. *Rhyncochilus* Sharp, *Ann. Mag. Nat. Hist.*, 3 (6) : 120.

Key to the species of *Rhyncochilus* Sharp

1. 5th (visible) abdominal segment with more or less distinct fascia of silvery pubescence.....
*antennalis* Cameron
 5th (visible) abdominal segment with fascia of golden pubescence.....*Kraatzi* (Eppelsheim)

61. *Rhyncochilus antennalis* Cameron

1932. *Rhyncochilus antennalis* Cameron, *Fauna British India*, 3 : 231.

Material examined : Not available.

Distribution : India : Meghalaya.

62. *Rhyncochilus Kraatzi* (Eppelsheim)

1895. *Eucibdelus kraatzi* Eppelsheim, *D.E.Z.*, 392.

1932. *Rhyncochilus Kraatzi* : Cameron, *Fauna British India*, 3 : 230.

Material examined : 2 exs. : Meghalaya, Tura, on way to Tura Peak, alt. 750 m., 2.v.1979, J.K. Jonathan Coll.

Distribution : India : Meghalaya. Elsewhere : Burma.

Remarks : In the present study this species is recorded for the first time from India (Meghalaya).

Genus 34. *Naddia* Fauvel

1867. *Naddia*, Fauvel, *Col. Hefte*, 2 : 117.

Key to the species of *Naddia* Fauvel

1. Legs black; 4th and 5th abdominal segments each with small triangular patch of silvery pubescence at the middle of the base, the latter segment black*assamensis* Cameron.

Legs reddish-yellow; 4th and 5th abdominal segments without such patches, the latter with its posterior margin ferruginous red*westermanni* Erichson

63. *Naddia westermanni* (Erichson)

1840. *Caranistes westermanni* Erichson, *Gen. Spec. Staph.*, 925.

1932. *Naddia Westermanni*: Cameron, *Fauna British India*, 3 : 242.

Material examined : 1 ex. : Meghalaya, Naungbree Forest, Near Mairang, Khasi Hills, 15.iv.1937, Gopi Ram Coll.

Distribution : India : Meghalaya. Elsewhere : Burma.

Remarks : In the present study this species is recorded for the first time from Meghalaya. In fauna Cameron (1932) mentioned the locality date only "Bengal"

64. *Naddia assamensis* Cameron

1932. *Naddia assamensis* Cameron, *Fauna British India*, 3 : 243.

Material examined : Not available.

Distribution : India : Meghalaya.

Genus 35. *Quedius* Stephens

1832. *Quedius* Stephens, III. *Brit.Ent.*, 5 : 214.

65. *Quedius (Raphirus) assamensis* Cameron

1932. *Quedius (Raphirus) assamensis* Cameron, *Fauna British India*, 3 : 293.

1988. *Quedius (Raphirus) assamensis* : Smetana, *Quaest. Ent.*, **24** (2) : 284-285.

Diagnostic characters : Entirely black, shining; scutellum punctured, abdomen iridescent. Antennae pitchy, the first three segments narrowly reddish at base. Femora pitchy, tibiae blackish, tarsi reddish. Length 9 mm.

Material examined : 5 exs. : Meghalaya, Khasi Hills, Mawlang, 5 exs. 27.iii.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Nagaland.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 36. *Indoquedius* Cameron

1988. *Indoquedius* : Smetana, *Quaest. Ent.*, **24** (2) : 300.

1932. *Quedius (Indoquedius)* Cameron, *Fauna British India*, **3** : 281.

66. *Indoquedius saathi* Smetana

1988. *Indoquedius saathi* Smetana, *Quest. Ent.*, **24** (2) : 310-311.

Diagnostic characters : Body black; legs entirely rufo-testaceous. Elytra slightly shorter than pronotum. Length 7.8-8.1 mm.

Material examined : Not available.

Distribution : India : Meghalaya.

Genus 37. *Acylophorus* Nordmann

1837. *Acylophorus* Nordmann, *Symbolae ad monographiam staphylinorum*, : 127.

Key to the species of *Acylophorus* Nordmann

1. Last segment of maxillary palpus swollen, wider than penultimate segment and variable, asymmetrically acuminate apically 2.
 Last segment of maxillary palpus not swollen, about as wide as penultimate segment and more or less gradually and symmetrically acuminate apically 4.
- 2(1). Distinctly bicoloured; head, pronotum and elytra rufo-testaceous, abdomen dark piceous with apical margins of tergites and apex paler *raato* Smetana
 Not bicoloured, forebody not rufo-testaceous and not contrasting in colour with abdomen.... 3.
- 3(2). Large lateral puncture on pronotum situated close to lateral pronotal groove, but not touching it..... *balchhi* Smetana
 Large lateral puncture on pronotum touching lateral pronotal groove. *microcephalus* Cameron
- 4(1). Antennae with segments 2-7 elongate, much longer than wide, segment 4 subequal in length to segment 5, segment 8 appreciably longer than wide..... *khairo* Smetana
 Antennae with segments 2-7 less elongate, distinctly longer than wide, segment 4 shorter and usually also smaller than segment 5, segment 8 feebly longer than wide.....
 *furcatus* Motschulsky

67. *Acylophorus balchhi* Smetana

1988. *Acylophorus balchhi* Smetana, *Quaest. Ent.*, **24** (2) : 350-351.

Material examined : Not available.

Distribution : India : Meghalaya.

68. *Acylophorus khairo* Smetana

1988. *Achylophorus khairo* Smetana, *Quaest. Ent.*, **24** (2) : 344.

Distribution : India : Meghalaya.

69. *Acylophorus microcephalus* Cameron

1932. *Acylophorus microcephalus* Cameron, *Fauna British India*, **3** : 305.

1932. *Acylophorus microcephalus* : Smetana, *Quaest Ent.*, **24** (2) : 352-355.

Material examined : 1 ex. : India : Meghalaya, Khasi Hills, Umtru, 1 ex, 7.iv.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Uttar Pradesh, West Bengal.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

70. *Acylophorus raato* Smetana

1988. *Acylophorus raato* Smetana, *Quaest. Ent.*, **24** (2) : 351-352.

Material examined : Not available.

Distribution : India : Meghalaya, West Bengal. Elsewhere : Nepal.

71. *Acylophorus furcatus* Motschulsky

1858. *Acylophorus furcatus* Motschulsky, *Bull. Mosc.*, **31** (1) : 657.

1988. *Acylophorus furcatus* : Smetana, *Quaest. Ent.*, **24** (2) : 345-348.

Distribution : India : Meghalaya, Assam, Sikkim, Uttar Pradesh and West Bengal.

Genus 38. *Bolitogyrus* Chevrolat

1842. *Bolitogyrus* Chevrolat, In *d'Orbigny, Dictionnaire Universel d' Histoire naturelle*, **2** : Paris, 641.

72. *Bolitogyrus vulneratus* (Fauvel)

1878. *Cyrtothorax vulneratus* Fauvel, *Bull. Soc. Linn. Normandie*, Ser.3, **2** : 165.

1932. *Cyrtothorax vulneratus* : Cameron, *Fauna British India*, **3** : 277-278.

1988. *Bolitogyrus vulneratus* : Smetana, *Quaest. Ent.*, **24** (2) : 315-318.

Diagnostic characters : Piceous black, abdomen slightly iridescent, narrowly explanate margins of pronotum rufo-testaceous, each elytron with obliquely transverse, rufo-testaceous spot slightly constricted toward lateral elytral margin and connected via deflexed portion of elytron with similarly coloured, small humeral spot; medioapical angle of elytro rufo-testaceous, apical margin narrowly, lateroapical angle of elytron more broadly testaceous. Length 6.7 – 8.5 mm.

Distribution : India : West Bengal. Elsewhere : Nepal.

Genus 39. *Atanygnathus* Jakobson1909. *Atanygnathus* Jakobson, *Kaf. Russl.*, 7 : 521.Key to the species of *Atanygnathus* Jakobson

1. Pronotum relatively narrow, with ratio length/width above 0.8. Length 3.9-4.1 mm.....
.....*pictus* Motschulsky
- Pronotum wider, with ratio of length/width no more than 0.78..... 2.
- 2(1). Median lobe of aedeagus with apical portion more or less wide and with apex obtuse, broadly arcuate or rounded 3.
- Median lobe of aedeagus strongly narrowed into an extremely narrow, needle sharp apical portion.....*bindu* Smetana
- 3(2). Internal sac of aedeagus in situ without a strongly sclerotised, tweezer-like structure proximally*sasuraa* Smetana
- Internal sac of aedeagus in situ with a strongly sclerotised, tweezer-like structure proximally..
..... 4.
- 4(3). Median lobe of aedeagus slightly dilated anteriorly, apex broadly rounded*chiso* Smetana
- Median lobe of aedeagus parallel-sided with apex obtusely arcuate*paani* Smetana

73. *Atanygnathus chiso* Smetana1988. *Atanygnathus chiso* Smetana, *Quaest. Ent.*, 24 (2) : 377-379.*Material examined* : Not available.*Distribution* : India : Meghalaya. Elsewhere : Nepal.74. *Atanygnathus bindu* Smetana1988. *Atanygnathus bindu* Smetana, *Quaest. Ent.*, 24 (2) : 376-377.*Material examined* : Not available.*Distribution* : India : Meghalaya. Elsewhere : Nepal.75. *Atanygnathus paani* Smetana1988. *Atanygnathus paani* Smetana, *Quaest. Ent.*, 24 (2) : 375-376.*Material examined* : Not available.*Distribution* : India : Meghalaya, Assam and Uttar Pradesh. Elsewhere : Nepal.76. *Atanygnathus sasuraa* Smetana1988. *Atanygnathus sasuraa* Smetana, *Quaest. Ent.*, 24 (2) : 372-373.*Material examined* : Not available.*Distribution* : India : Meghalaya, Assam and Uttar Pradesh. Elsewhere : Nepal.

77. *Atanygnathus pictus* (Motschulsky)

1858. *Tanygnathus pictus* Motschulsky, *Bull. Mosc.*, **31** (3) : 213.
 1859. *Tanygnathus ruficollis* Kraatz, *Arch. Naturgesch.* **25** : 64.
 1932. *Atanygnathus terminalis* var. *ruficollis* : Cameron, *Fauna British India*, **3** : 309-310.
 1988. *Atanygnathus pictus* : Smetana, *Quaest. Ent.*, **24** (2) : 370-372.

Distribution : India : Meghalaya, Assam. Elsewhere : Sri Lanka.

Subfamily Tachyporinae

Key to the tribe and genera of the subfamily Tachyporinae

1. Head with distinct infra-orbital ridge; elytra with sutural stria.....**Bolitobiini**
 Head without infra-orbital ridge; elytra without sutural stria**Tachyporini**
 2.
- 2(1). Last segment of the maxillary palpi as long as or longer than the preceding 2.
 Last segment of the maxillary palpi small and subulate **Conosoma** Kraatz
- 3(2). Prosternal epimera present; facies of *Tachinus*; the posterior angles of the thorax rectangular.....
 **Tachinomorphus** Kraatz
 Prosternal epimera absent; short and usually small species; the posterior angles of the thorax rounded..... **Coproporus** Kraatz

Genus 40. *Conosoma* Kraatz

- 1856-58. *Conosoma* Kraatz, *Naturgesch. Ins. Deutschl.*, **2** : 431.

78. *Conosoma beelsoni* Cameron

1926. *Conosoma beelsoni* Cameron, *Trans. Ent. Soc. Lond.*, 179.
 1932. *Conosoma beelsoni* Cameron, *Fauna British India* **3** : 369.

Diagnostic characters : Subconvex spines, castaneous, the head in front and the posterior margins of the abdominal segments rufescent. Antennae short, testaceous, the 5th to 9th segments more or less infuscate. Legs testaceous. Length 2.75 mm.

Material examined : 1 ex. : Meghalaya, Khasi Hills, Nongpoh, 1 ex, 2.iv.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Himachal Pradesh and Uttar Pradesh.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

Genus 41. *Tachinomorphus* Kraatz

1859. *Tachinomorphus* Kraatz, *Arch. Naturgesch.*, **25** (1) : 54.

79. *Tachinomorphus fulvipes* (Erichson)

1839-40. *Tachinus fulvipes* Erichson, *Gen. Spec. Staph.*, 921.

1858. *Tachinus sanguinolentus* Motschulsky, *Bull. Mosc.*, 31 (3) : 216.

1859. *Tachinomorphus vittatus* Kraatz, *Arch. Naturgesch.*, 25 (1) : 55.

1932. *Tachinomorphus fulvipes* : Cameron, *Fauna British India*, 3 : 399-400.

Diagnostic characters : Head, thorax and abdomen black; elytra brownish-red, the base and suture very narrowly, the sides more broadly black. antennae black, the first four segments and the last reddish-yellow, segments 6-10 slightly transverse. Legs reddish-yellow. Length 6-7 mm.

Material examined : 1 ex. : Meghalaya, Khasi Hills, Umsing, 1 ex., 3.iv.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Sikkim and Uttar Pradesh.

Remarks : In the present study this species is recorded for the first time for Meghalaya.

Genus 42. *Coproporus* Kraatz

1858. *Coproporus* Kraatz, *Bull. Soc. Ent. Fr.*, p. ex.

Key to the species of *Coproporus* Kraatz

1. Thorax at the base before the scutellum with two punctures; the penultimate segments of the antennae more transverse..... *brunneicollis* (Motschulsky)
- Thorax without such punctures; the penultimate segments of the antennae as long as broad
..... *melanarius* (Erichson)

80. *Coproporus brunneicollis* (Motschulsky)

1858. *Erchomus brunneicollis* Motschulsky, *Bull. Mosc.*, 31 (3) : 220.

1859. *Coproporus punctipennis* Kraatz, *Arch. Naturgesch.*, 25 (1) : 57.

1932. *Coproporus brunneicollis* : Cameron, *Fauna British India*, 3 : 410.

Material examined : 1 ex. : Meghalaya, Khasi Hills, Umtihar, 1 ex., 6.iv.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Nagaland, Tamil Nadu and Uttar Pradesh.

Remarks : In the present study this species is recorded for the first time from Meghalaya.

81. *Coproporus melanarius* (Erichson)

1839-40. *Tachinus melanarius* Erichson, *Gen. Spec. Staph.*, 252.

1859. *Coproporus subdepressus* Kraatz, *Arch. Naturgesch.*, 25 (1) : 57.

1859. *Erchomus subpunctulatus* Motschulsky, *Et. Ent.*, 8 : 81.

1932. *Coproporus melanarius* : Cameron, *Fauna British India*, 3 : 413-414.

Material examined : 4 exs. : Meghalaya : Khasi Hills, Umrum, 1 ex., 1.iv.1991, D.N. Biswas Coll., Umsing, 3 exs., 3.iv.1991, D.N. Biswas Coll.

Distribution : India : Meghalaya, Elsewhere : Sri Lanka.

Remarks : In the present study this species is recorded for the first time Meghalaya.

Subfamily Aleocharinae

Genus 43. *Zyras* Stephens

1832. *Zyras* Stephens, III. *Brit. Ent. Mandib.*, 5 : 430.

82. *Zyras (Rhynchodonia) bidentatus* Bernhauer

1914. *Zyras bidentatus* Bernhauer, *W.Z.B.*, 64 : 108.

1939. *Zyras (Rhynchodonia) bidentatus* : Cameron, *Fauna British India*, 4 (II) : 512-513.

Material examined : 5 exs. : Meghalaya, Jaintia Hills, Luchook, 3 exs, 2.x.1988, V.D. Srivastava Coll.; Sabai Basti, 2 exs, 3.x.1988, V.D. Srivastava Coll.

Distribution : India : Meghalaya, Elsewhere : Burma.

Remarks : In the present study this species is recorded for the time from India (Meghalaya).

The Chart showing District wise distribution of species Staphylinidae

SI No.	Name of the species	Garo Hills			Khasi Hills			Jaintia Hills	
		West Garo	East Garo	South Garo	Khasi	West Khasi	East Khasi	Ri-Bhoi	
		1	2	3	4	5	6	7	8
1.	<i>Apatetica rotundicollis</i> Fauvel				*				
2.	<i>Holosus fossulatus</i> Motschulsky							*	
3.	<i>Lispinus coriaceus</i> Fauvel							*	
4.	<i>Eleusis fusciceps</i> Kraatz							*	
5.	<i>E. humilis</i> Erichson								*
6.	<i>Leptochirus (Strongylochirus) leavis</i> Castelnau							*	
								*	
7.	<i>L. (S.) quadridens</i> Motschulsky							*	
8.	<i>L. (S.) atkinsoni</i> Fauvel								*
9.	<i>Priochirus (Cephalomerus) sanguinosus</i> (Motschulsky)								*
10.	<i>P. (C.) rubiginosus</i> Cameron								*
11.	<i>Pseudopsis susae</i> Herman								*
12.	<i>Oxytelopsis pseudopsina</i> Fauvel		*						
13.	<i>Oxytelus puncticeps</i> Kraatz								
14.	<i>O. incisus</i> Motschulsky								*

Sl No.	Name of the species	Garro Hills			Khasi Hills			Jaintia Hills	
		West Garo	East Garo	South Garo	Khasi	West Khasi	East Khasi	Ri-Bhoi	
		1	2	3	4	5	6	7	8
27.	<i>Stilicus pygmaeus</i> Kraatz							*	
28.	<i>S. rufescens</i> Sharp							*	
29.	<i>Acanthoglossa testaceipennis</i> Kraatz							*	
30.	<i>Lobochilus brachyopterus</i> Cameron						*		
31.	<i>L. assamensis</i> Cameron							*	
32.	<i>Dibelonetes bengalensis</i> Biswas & Sengupta							*	
33.	<i>Cryptobium extraneum</i> Fauvel							*	
34.	<i>C. elephas</i> Fauvel								
35.	<i>Scimbalium badium</i> (Motschulsky)		*						
36.	<i>Lithocharis vilis</i> Kraatz		*						
37.	<i>Paederus birmanus</i> Fauvel								*
38.	<i>P. sondaicus</i> Fauvel				*				
39.	<i>P. fuscipes</i> Curtis		*						
40.	<i>P. basalis</i> Berhauer		*						
41.	<i>P. setifer</i> Cameron	*							

Sl No.	Name of the species	Garro Hills			Khasi Hills			Jaintia Hills	
		West Garo	East Garo	South Garo	Khasi	West Khasi	East Khasi	Ri-Bhoi	
		1	2	3	4	5	6	7	8
42.	<i>Stiliderus kamarupensis</i> Rougemont							*	
43.	<i>S. variolosus</i> (Coiffait)	*	*						
44.	<i>S. fenestratus</i> (Fauvel)				*				
45.	<i>S. stigosus</i> Rougemont	*	*				*	*	
46.	<i>S. kambaitiensis</i> (Scheerpeltz)						*		
47.	<i>S. feae</i> (Fauvel)							*	
48.	<i>S. granulifrons</i> Rougemont						*		
49.	<i>S. cicatricosus</i> Motschulsky							*	
50.	<i>Indoscitalinus rudis</i> (Eppelsheim)							*	
51.	<i>I. feae</i> (Fauvel)							*	
52.	<i>Platyprosopus fuliginosus</i> Erichson		*						
53.	<i>P. fulvicollis</i> Motschulsky		*						
54.	<i>Philontuhs maindroni</i> Fauvel							*	
55.	<i>P. assamensis</i> Cameron							*	
56.	<i>P. kempi</i> Cameron				*				
57.	<i>Hesperus gridellii</i> Cameron						*		

Sl No.	Name of the species	Garro Hills			Khasi Hills			Jaintia Hills	
		West Garo	East Garo	South Garo	Khasi	West Khasi	East Khasi	Ri-Bhoi	
		1	2	3	4	5	6	7	8
58.	<i>Staphylinus (Tasgius) quadrimaculatus</i> Cameron				*				
59.	<i>Staphylinus (Goerius) prainae</i> (Eppelsheim)						*		
60.	<i>S. (Platydracus) asemus</i> Kraatz						*		
61.	<i>Rhynocochilus antennalis</i> Cameron						*		
62.	<i>R. kraatzi</i> (Eppelsheim)	*							
63.	<i>Naddia westermanni</i> (Erichson)					*			
64.	<i>N. assamensis</i> Cameron						*		
65.	<i>Quedius (Raphirus) assamensis</i> Cameron						*		
66.	<i>Indoquedius saathi</i> Smetana						*		
67.	<i>Acylophorus balchhi</i> Smetana						*		
68.	<i>A. khairo</i> Smetana	*							
69.	<i>A. microcephalus</i> Cameron							*	
70.	<i>A. raato</i> Smetana					*			
71.	<i>A. furcatus</i> Motschulsky	*			*				

Sl No.	Name of the species	Garo Hills			Khasi Hills			Jaintia Hills	
		West Garo	East Garo	South Garo	Khasi	West Khasi	East Khasi	Ri-Bhoi	
		1	2	3	4	5	6	7	8
72.	<i>Bolitogyrus vulneratus</i> (Fauvel)						*		
73.	<i>Atanygnathus chiso</i> Smetana						*		
74.	<i>A. bindu</i> Smetana						*		
75.	<i>A. paani</i> Smetana						*		
76.	<i>A. sasuraa</i> Smetana		*						
77.	<i>A. pictus</i> (Motschulsky)		*						
78.	<i>Conosoma beelsoni</i> Cameron							*	
79.	<i>Tachinomorphus fulvipes</i> (Erichson)							*	
80.	<i>Coproporus brunneicollis</i> (Motschulsky)							*	
81.	<i>Coproporus melanarius</i> (Erichson)							*	
82.	<i>Zyras (Rhynchodonia) bidentatus</i> Bernhauer								*

SUMMARY

82 species consisting of 43 genera distributed in 7 subfamilies are represented in this paper, 48 species are newly recorded from Meghalaya of which 5 species are recorded for the first time from India. Key to the subfamilies, tribes, genera, species and distributional date of the family Staphylinidae for Meghalaya have also been provided. A chart showing district-wise distribution of the species recorded from Meghalaya is also given.

ACKNOWLEDGEMENTS

The authors are grateful to the Director, Zoological Survey of India, for providing laboratory facilities during this work. The authors are also grateful to the members of Coleoptera Section, Zoological Survey of India, for their co-operation and help.

REFERENCES

- Bernhauer, M. 1915. Zur Staphyliniden fauna des Indo-Malayischen Gebietes, insbesondere des Himalaya. *Coleopterologische Rundschau*, 4 : 49-60.
- Cameron, M. 1930. *The Fauna of British India*, including Ceylon and Burma. Coleoptera : Staphylinidae, Vol. I, London, v + 471 pp., 3 pl., 1 map.
- Cameron, M. 1931. *The Fauna of British India*, including Ceylon and Burma. Coleoptera : Staphylinidae, Vol. II, London, iii + 257 pp., 2 pl.
- Cameron, M. 1932. *The Fauna of British India*, including Ceylon and Burma. Coleoptera : Staphylinidae, Vol. III, London, v + 443 pp., 4 pl.
- Cameron, M. 1939. *The Fauna of British India*, including Ceylon and Burma. Coleoptera : Staphylinidae, vol. IV, London.
- Cameron, M. 1943. Descriptions of new Staphylinidae (Coleoptera). *Proc. R. ent. Soc. Lond.* 12 (B) : 1-5, 32-36, 127-132.
- Cameron, M. 1944. Descriptions of new Staphylinidae (Coleoptera). *Proc. R. ent. Soc. Lond.*, 13 (B) : 11-15.
- Cameron, M. 1945. Descriptions of new Staphylinidae (Coleoptera). *Proc. R. ent. Soc. Lond.*, 14 (B) : 63-65.
- Coiffait, H. 1976. Staphylinidae recoltés au Nepal par le Dr. Franz, 2 partie. *Bull. soc. Hist. nat. Toulouse*, 112 (3-4) : 243-275; Toulouse.
- Fauvel, A. 1895. Staphylinides nouveaux de l'Inde et de la Malaisie. *Revue d'Entomologie*, Caen 14 : 180-286.
- Herman, Lee H., Jr. 1983. *Pseudopsis* : Two new species from India (Coleoptera : Staphylinidae : Pseudopsinae). *Am. Mus. Novitates*, No. 2755 : 1-6, figs. 1-10.

- Kraatz, G. 1859. Staphylinen - Fauna von ostindien, insbesondere der Insel Ceylon. *Archiv fur Naturgeschichte*, 25 : 1-193, 3 pl. Sep. Berlin, 196 pp., 3 pl.
- Motschulsky, V. 1858a. Enumeration des nouvelles especes de Coleopteres rapportes de ses voyages. (Continuation). *Bulletin de la*.
- Rougemont, G. de, 1985. Les *Stiliderus* de la collection du Museum de Geneve (Coleoptera, Staphylinidae). *Revue Suisse Zool.*, 92., (1) : 217-228.
- Rougemont, G. de, 1986. Revision of the Genus *Stiliderus* Motschulsky, 1858 Part I : (= *Stilicoderus* Sharp, 1889) (Coleoptera, Staphylinidae, Paederinae). *Ent. Abh. Mus. Tierk. Dresden*, 49 (8) : 139-187.
- Rougemont, G. de, 1986. Revision of the Genus *Stiliderus* Motschulsky, 1858 Part II; The species with Bilobed IVth Tarsomeres (Coleoptera, Staphylinidae, Paederinae). *Ent. Abh. Mus. Tierk. Dresden*, 50 (2) : 33-58.
- Smetana, A. 1988. Revision of the tribes Quediini and Atanygnathini. Part II. The Himalayan Region (Coleoptera : Staphylinidae). *Quaestiones Entomologicae*, 24 : 163-464.

**COLEOPTERA : SCARABAEIDAE : CETONIINAE,
DYNASTINAE, RUTELINAE**

S. K. CHATTERJEE AND S. BISWAS
Zoological Survey of India, Calcutta - 700 053

INTRODUCTION

The present work is fourth in the 'State Fauna' series undertaken by the Zoological Survey of India. The states of Orissa, West Bengal and fauna Lakkhadweep have already been covered. Important morphological characters, habit and habitats, economic importance and distribution of the group within and outside India have been mentioned in the earlier works (Biswas and Chatterjee 1991) and Chatterjee and Biswas (In press).

The state of Meghalaya was carved out of Assam in the year 1972. The area now under Meghalaya was the under three districts, namely, Khasi hills, Jaintia hills and Garo hills but at present it has been divided into six different districts.

As regard scarab beetles of Meghalay is concerned. The group has attracted the attention for longtimes of many European collectors, specially officials posted in the area. Collections from the area were made by persons like, Major General hardwickie, Colonel Godwin-Austen, W. Doherty, J. L. Sherwill, Capt. Pemberton, F. W. Champion, E. T. Atkinson, H. Maxwell, Lefroy and others. S. W. Kemp from Zoological Survey of India made an extensive surveys specially in Garo hills districts of the then Assam.

The materials thus collected were sent to specialists working in different institutions in Europe. The first species from Khasi hills was described by Swederes in 1787. Subsequently Arrow (1910, 1917) monographed the group under study in Fauna British India series and he catalogued world species (1937) in coleopterum catalogus. Altogether 60 species were recorded by Arrow.

The present paper deals with all materials of Meghalaya, accumulated so far in Zoological Survey of India, Calcutta. Additional material from Eastern Regional Station, Shillong were sent by Dr.J. R. B. Alfred, the then incharge of E.R.S., Shillong. Materials recently collected by various survey parties for the present work weré also studied.

In the present paper altogether 94 species and 30 genera and 3 subfamilies have been dealt with. Of these 34 species are new record to the state and 9 species are additon to Indian fauna. For the sake of completeness of the record those species recorded earlier but were not available during present study have also been included. Selectecd synonymies for every genus and species have been given. Keys to the genera and species have been provided. District wise distribution of each species have been given. Distribution outside the state in India and abroad has also been recorded.

SYSTEMATIC ACCOUNT

Classified list of species recorded from Meghalaya

Family		SCARABAEIDAE
Sub family	1.	CETONIINAE
Genus	1.	<i>Dicranocephalus</i> Westwood
	1.	<i>D. wallichii</i> Hope
Genus	2.	<i>Mycteristes</i> Castelnau
	2.	<i>M. khasiana</i> (Jordan)
Genus	3.	<i>Macronota</i> Hoffmanssegg
	3.	<i>M. gracilis</i> Arrow
	4.	<i>M. indica</i> (Janson)
	5.	<i>M. Jansoni</i> Arrow
	6.	<i>M. nigricollis</i> (Janson)
	7.	<i>M. penicillata</i> (Hope)
Genus	4.	<i>Diceros</i> Lacord
	8.	<i>D. childreni</i> (Westwood)
Genus	5.	<i>Torynorrhina</i> Arrow
	9.	<i>T. distincta</i> (Hope)
	10.	<i>T. hyacinthina</i> (Hope)
Genus	6.	<i>Rhomborrhina</i> Hope
	11.	<i>R. mellyi</i> (Gary & Percheron)
Genus	7.	<i>Heterorrhina</i> Westwood
	12.	<i>H. punctatissima</i> Westwood
Genus	8.	<i>Trigonophorus</i> Hope
	13.	<i>T. hookeri</i> White
	14.	<i>T. nepalensis</i> Hope
Genus	9.	<i>Anthracophora</i> Burmeister
	15.	<i>A. siamensis</i> Kraatz
Genus	10.	<i>Glycyphana</i> Burmeister
	16.	<i>G. horsfieldi</i> (Hope)
	17.	<i>G. swainsoni</i> (Gory & Percheron)
Genus	11.	<i>Cetonia</i> Fabricius
	18.	<i>C. rhododendri</i> Gestro

- Genus 12. *Protaetia* burmeister
 19. *P. inanis* (Wallace)
 20. *P. rana* Arrow
- Genus 13. *Oxycetonia* Arrow
 21. *O. albopunctata* (Fabricius)
 22. *O. jucunda* (Faldermann)
- Genus 14. *Clinteria* Burmeister
 23. *C. spuria* Burmeister
- Genus 15. *Platysodes* Westwood
 24. *P. jansoni* Arrow
- Genus 16. *Coenochilus* Schaum
 25. *C. gracilipes* Moser
- Genus 17. *Macroma*
 26. *M. javanica* Gory & Percheron
 27. *M. melanopus* Schaum
- Genus 18. *Oreoderus* Burmeister
 28. *O. rufulus* Gestro
- Genus 19. *Trichius* Fabricius
 29. *T. alboguttatus* Moser
 30. *T. discolor* Jordan
 31. *T. ornatus* jordan
- Sub family II. DYNASTINAE
- Genus 20. *Xylotrupes* Hope
 32. *X. gideon* (Lineaus)
- Genus 21. *Eupatorus* Burmeister
 33. *E. gracilicornis* Arrow
- Genus 22. *Heteronychus* Burmeister
 34. *H. lioderes* Redtenbacher
- Sub family III. RUTELINAE
- Genus 23. *Peltonotus* Burmeister
 35. *P. morio* Burmeister
- Genus 24. *Peperonota* Westwood

36. *P. harringtoni* Westwood
- Genus 25. *Dactylopopillia* Arrow
37. *D. blanchardi* (Ohaus)
38. *D. opacicollis* (Kraatz)
- Genus 26. *Popillia* Serveille
39. *P. amabilis* Arrow
40. *P. clypealis* Ohaus
41. *P. cupricollis* Hope
42. *P. cyanea* Hope
43. *P. feae* kraatz
44. *P. impressipyga* Ohaus
45. *P. laevicollis* kraatz
46. *P. maclellandi* Hope
47. *P. nitida* Hope
48. *P. patricia* Arrow
49. *P. pulchra* Arrow
50. *P. puncticollis* kraatz
51. *P. testaceipennis* kraatz
- Genus 27. *Spilopopillia*
52. *S. 6-guttata* Fairmaire
- Genus 28. *Mimela* Kirby
53. *M. dehaani* (Hope)
54. *M. glabra* Hope
55. *M. horsfieldi* Hope
56. *M. inscripta* (Nonfried)
57. *M. leei* Sweders
58. *M. princeps* Hope
59. *M. pyriformis* Arrow
60. *M. schneideri* Ohaus
61. *M. subsericea* Arrow
- Genus 29. *Anomala* Samouelle
62. *A. auronitens* (Hope)

63. *A. bella* Arrow
64. *A. bengalensis* Blanchard
65. *A. birmana* (Heller)
66. *A. blanchardi* Arrow
67. *A. cantori* (Hope)
68. *A. chinensis* (Redtenbacher)
69. *A. connectens* Arrow
70. *A. dimidiata* (Hope)
71. *A. erythroptera* (Kraatz)
72. *A. flavopicta* Arrow
73. *A. laeta* Arrow
74. *A. marginipennis* Arrow
75. *A. parva* Arrow
76. *A. perplexa* (Hope)
77. *A. puella* Arrow
78. *A. Pusilla* Arrow
79. *A. rufiventris* Redtenbacher
80. *A. signaticollis* Nonfried
81. *A. transversa* (Burmeister)
82. *A. varia* (Newman)
83. *A. variivestis* Arrow
- Genus 30. *Adoretus* Castelnau
84. *A. affinis* Arrow
85. *A. bimarginatus* Ohaus
86. *A. bombinator* Burmeister
87. *A. boops* (Wiedemann)
88. *A. compressus* (Weber)
89. *A. costopilosus* Ohaus
90. *A. furcifer* Ohaus
91. *A. lithobius* Ohaus
92. *A. nasalis* Arrow
93. *A. plebejus* Arrow
94. *A. serratipes* Arrow

Subfamily I CETONIINAE

Key to the genera of Cetoniinae known from Meghalaya

- 1(34) Mesosternal epimera dilated above and reaching the dorsal surface, base of the pronotum very rarely meeting ridges upon scutellum and elytra.
- 2(29) Mandibles thin and not sharp-pointed nor adapted for biting, furnished with a free membranous inner lobe
- 3(4) Hind coxae and abdomen completely covered by the elytra**Dicranocephalus**
- 4(3) Hind coxae and abdomen partially visible from above
- 5(28) Sides of the scutellum straight, convex or sinuous
- 6(9) Base of the pronotum lobed in the middle
- 7(8) Clypeus of male produced into horn or horns in female bidentate**Mycterestes**
- 8(7) Clypeus similar in both sexes rounded or gently bilobed..... **Macronota**
- 9(6) Base of the pronotum not lobed in the middle
- 10(19) base of the pronotum in a transverse line
- 11(12) Hind angles of the pronotum a little produced **Diceros**
- 12(11) Hind angles of the pronotum not produced
- 13(16) Front margin of the clypeus simple
- 14(15) Sternal process transverse dilated in front **Torynorrhina**
- 15(14) Sternal process not transverse not dilated in front **Rhomborrhina**
- 16(13) Front margin of the clypeus not simple
- 17(18) Front margin of the clypeus notched or toothed **Heterorrhina**
- 18(17) Front margin of the clypeus bearing a horn dilated at the end **Trigonophorus**
- 19(10) Base of the pronotum not in a transverse line
- 20(21) Sides of the elytra not distinctly sinuated behind the shoulders**Anthracophora**
- 21(20) Sides of the elytra distinctly sinuated behind the shoulders
- 22(23) Pronotum not abruptly emarginate behind, tarsi compact **Glycyphana**
- 23(22) Pronotum abruptly emarginate-behind
- 24(25) Sternal process laterally compressed, metallic and tarsi not compact**Cetonia**
- 25(24) Sternal process broad and flat or absent
- 26(27) Clypeus not elongate, rather broad in front **Protaetia**
- 27(26) Clypeus elongate, narrow and bilobed**Oxycetonia**
- ~~28(5)~~ Sides of the scutellum concave, apex extremely sharp, pronotum, lobed behind**Clinteria**

- 29(2) Mandibles strong and sharp, without a free membranous inner lobe
- 30(31) Base of the pronotum sharply excised before the scutellum, pygidium protuberant
 **Platysodes**
- 31(30) Base of pronotum not sharply excised before the scutellum
- 32(33) Body not very compact, prothorax not very broad at base **Coenochilus**
- 33(32) Body very compact, prothorax very broad at base **Macroma**
- 34(1) Mesosternal epimera not dilated nor reaching the dorsal surface, base of the pronotum meeting ridges upon scutellum and elytra.
- 35(36) Hind coxae widely separated **Oreoderus**
- 36(35) Hind coxae contiguous **Trichius**

Genus 1. *Dicranocephalus* Westwood 1841

1841. *Dicranocephalus* Westwood, *Arcana Ent.*, 1 : 5.

1. *Dicranocephalus wallichii* Hope 1831

1831. *Dicranocephalus wallichii* Hope, *Gray's zool. Misc.*, p. 24.

1841. *Dicranocephalus wallichii* Westwood, *Arcana Ent.*, 1 : 5, pl. 1. fig. 4.

1910. *Dicranocephalus wallichii*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 34-35.

Material examined : 1 ex., Shillong Museum, (no other locality data), Z.S.I. national collection.

Distribution : India : Meghalaya, Shillong (East Khasi Hills Dist.); West Bengal. Also known from Nepal.

Remarks : A single species is found in India though four or five species are found in Oriental Region.

Genus 2. *Mycteristes* Castelnau 1840

1840. *Mycteristes Castelnau*, *Hist. Nat.*, 2 : 162.

1910. *Mycteristes*, Arrow, *Fauna Birt India (Coleoptera : Lamellicornia)*, 1 : 36.

2. *Mycteristes khasiana* (Jordan) 1894

1894. *Prigenia khasiana* Jordan, *Nov. Zool.*, 1 : 691.

1910. *Mycteristes khasiana*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 36-37.

Material examined : Specimens from Khasi hills were reported but no material is available for present study.

Distribution : India : Meghalaya (East Khasi Hills).

Genus 3. *Macronota* Hoffmanssegg 1817

1817. *Macronota Hoffmanssegg*, *Wiedem. Zool. Mag. I.*, 1 : 15.

1910. *Macronota*, Arrow, *Fauna Brit. India (Coleoptera : lamellicornia)*.

Key to the species of Genus *Macronota* known from Meghalaya.

- 1(2) Prothorax dilated from apex to base, pronotum decorated with 3 broad pale longitudinal bands*penicillata*
- 2(1) Prothorax not dilated from apex to base, pronotum decorated with narrow bands or absent.
- 3(6) Middle tibia bearing a strong spine near middle of the outer edge.
- 4(5) Upper surface metallic*nigricollis*
- 5(4) Upper surface not metallic*indica*
- 6(3) Middle tibia without a spine at middle of the outer edge.
- 7(8) Whitish longitudinal sutural line absent*jansoni*
- 8(7) Whitish longitudinal sutural line present.....*gracilis*

3. *Macronota gracilis* Arrow 1907

1907. *Macronota gracilis* Arrow, *Ann. Mag. nat. Hist.*, (7)19 : 350.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills), Nagaland Also known from Bhutan.

4. *Macronota indica* (Janson) 1909

1909. *Taeniodera indica* Janson, *The Entomologist*, 42 : 226.

1910. *Macronota indica*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 59-60.

Material examined : 1 ex., Meghalaya, Mawsmat, Khasi Hills, 18.ix.1988, A. R. Lahiri coll.

Distribution : India : Meghalaya (East Khasi Hills Dist.) and Manipur.

Remarks : Specimen under study agrees well with the description except in absence two white spots on head and a 'X' shaped mark at apex. The species is being recorded for the first time from the state.

5. *Macronota Jansoni* Arrow 1910

1910. *Macronota jansoni* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 64, fig. 15.

Material examined : No material is available for study.

Distribution : India : Meghalaya (East Khasi hills) and Sikkim.

6. *Macronota nigricollis* (Janson) 1881

1881. *Ataenia nigricollis* Janson, *Cist. Ent.*, 2 : 604.

1910. *Macronota nigricollis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 51.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Jaintia Hills) and Nagaland. Also known from Burma.

7. *Macronota penicillata* (Hope) 1831

1831. *Coilodera penicillata* Hope, *Gray's Zool. Misc.*, p. 24.

1842. *Macronota penicillata* Burmeister, *Handb.*, 3 : 321.

1910. *Macronota penicillata*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 44-45.

Material examined : No material is available for study.

Distribution : India : Meghalaya (East Khasi Hills), West Bengal, Manipur. Also known from Burma.

Genus 4. *Diceros* Lacordaire 1856

1856. *Diceros* Lacordaire, *Genera des Coleopt.*, 3 : 486.

8. *Diceros childreni* (Westwood) 1842

1842. *Heterorrhina childreni* Westwood, *Arcana Ent.*, 1 : 130, Pl. 36, fig. 3.

1910. *Diceros childreni*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 74-75.

Material examined : No material is available for study.

Distribution : India : Meghalaya (East Khasi Hills) and West Bengal.

Genus 5. *Torynorrhina* Arrow 1907

1907. *Torynorrhina* Arrow, *Ann. Mag. nat. Hist.*, (7)19 : 433.

Key to the species of Genus *Torynorrhina* known from Meghalaya.

1(2) A dark posterior border to the elytra *distincta*

2(1) Elytra without dark posterior border *hyacinthina*

9. *Torynorrhina distincta* (Hope) 1841

1841. *Rhomorrhina distincta* Hope, *Trans. Ent. Soc. Lond.*, 3 : 63.

1842. *Rhomorrhina mellyi* Burmeister (nec. Gory & Percheron), *Handh. Ent.*, 3 : 198.

1910. *Torynorrhina distincta*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 82.

Material examined : 4 exs., 2 exs, Meghalaya, Khasi Hills. 2 exs, Above Tura, Garo Hills, iii. 1917, S. Kemp coll.

Distribution : India : Meghalaya (East Khasi Hills Dist. & West Garo Hills Dist.), Assam, Manipur. Also known from Bhutan and Burma.

Remarks : The species is recorded for the first time from Meghalaya.

10. *Torynorrhina hyacinthina* (Hope) 1841

1841. *Rhomorrhina hyacinthina* Hope, *Trans. Ent. Soc. Lond.*, 3 : 62.

1910. *Torynorrhina hyacinthina* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 83.

Material examined : 5 exs.; 3 exs, Meghalaya, Shillong Museum, 2 exs, Above Tura, Garo Hills ix. 1917, S. Kemp Coll.

Distribution : India : Meghalaya (East Khasi Hills Dist. & West Garo Hills Dist.). Also known from Bhutan and Bangladesh.

Genus 6. *Rhomorrhina* Hope 1837

1837. *Rhomorrhina* Hope, *Coleop. Man.* 1 : 120.

11. *Rhomorrhina mellyi* (Gory & Percheron) 1833

1833. *Goliathus mellyi* Gory & Percheron, *Monogr. Cet.*, p. 156.

1845. *Rhomorrhina dives* Westwood, *Trans Ent. Soc. Lond.*, 4 : 90.

1910. *Rhomorrhina mellyi*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)* 1 : 86-87.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills), Manipur, West Bengal. Also known from Burma.

Genus 7. *Heterorrhina* Westwood 1842

1842. *Coryphocera* Burmeister, *Handb. Ent.*, 3 : 220.

1842. *Heterorrhina* Westwood, *Arcana Ent.* 1 : 132.

1910. *Heterorrhina*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 90.

12. *Heterorrhina punctatissima* Westwood 1842

1841. *Coryphe jucunda* Hope, *Trans. Ent. Soc. Lond.*, 3 : 64.

1842. *Heterorrhina punctatissima*, Westwood, *Arcana Ent.*, 1 : 135.

Material examined : 5 exs., Shillong Museum. No other data available.

Distribution : India : Meghalaya (East Khasi Hills Dist.), Manipur and Sikkim.

Genus 8. *Trigonophorus* Hope 1831

1831. *Trigonophorus* Hope, *Gray's Zool. Miscell.*, p. 24.

Key to the species of Genus *Trigonophorus* known from Meghalaya.

1(2) Femora and tibiae bright orange **nepalensis**

2(1) Femora and tibiae green **hookeri**

13. *Trigonophorus hookeri* White 1856

1856. *Trigonophorus hookeri* White, *Proc. zool. Soc.*, p. 14, pl. 41, fig. 1.

1910. *Trigonophorus hookeri*, Arrow, *Fauna Brit. India (Coleoptera : Lemellicornia)*, 1 : 104-105.

Material examined : 8 exs.; 7 exs., Shillong (East Khasi Hills), 29.viii. - 8.ix.1915, S. W. Kemp Coll., old identification, 1 ex., Shillong (East Khasi Hills), 9.x.1914, S. W. Kemp Coll. det. G. J. Arrow.

Distribution : India : Meghalaya (East Khasi Hills Dist.).

14. *Trigonophorus nepalensis* Hope 1831

1831. *Trigonophorus nepalensis* Hope, *Gray's Zool. Miscell.*, p. 24.

1841. *Rhomborrhina cantori* Hope, *Trans. Ent. Soc. London*, 3 : 62.

1910. *Trigonophorus nepalensis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 103.

Material examined : 12 exs.; 6 exs., Shillong (East Khasi Hills), 29.viii.1915, S. W. Kemp Coll., det. C. Paiva; 6 exs., Shillong Museum (East Khasi Hills), (no other detail information).

Distribution : India : Meghalaya (East Khasi Hills Dist.), West Bengal, Assam, Nagaland and Manipur. Also known from Bhutan.

Genus 9. *Anthracophora* Burmeister 1842

1842. *Anthracophora* Burmeister, *Hand. Ent.*, 3 : 633.

15. *Anthracophora siamensis* Kraatz 18941894. *Anthracophora siamensis* Kraatz, *Deutsche Ent. Zeitschr.* p. 216.1910. *Anthracophora siamensis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 110.*Material examined* : No material is available for study.*Distribution* : India : Meghalaya (Khasi Hills). Also known from Thailand (Siam).Genus 10. *Glycyphana* Burmeister 18421842. *Glycyphana* Burmeister, *Handb. Ent.*, 3 : 345.1856. *Euryomia* Lacord, *Gen. Col.*, 3 : 525.1910. *Glycyphana*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 120.Key to the species of Genus *Glycyphana* known from Meghalaya1(2) Elytra not spinose at the apical angles, elytral markings shining*horsfieldi*2(1) Elytra spinose at the apical angles, elytra decorated with pale spots*swainsoni*16. *Glycyphana horsfieldi* (Hope) 18311831. *Cetonia horsfieldi* Hope, *Gray's Zool. Miscell.*, p. 25.1833. *Cetonia marginicollis* Ory & Percheron, *Monogr. cet.*, p. 251, pl. 47, fig. 6.1910. *Glycyphana horsfieldi*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 121.*Material examined* : 1 ex., Shillong Museum (East Khasi Hills), no other detail information.*Distribution* : India : Meghalaya (East Khasi Hills), West Bengal, Bihar. Also known from Bhutan, Burma, Sri Lanka and Bangladesh.*Remarks* : The species is being recorded for the first time from Meghalaya.17. *Glycyphana swainsoni* (Gory & Percheron) 18331833. *Cetonia swainsoni* Gory & Percheron, *Monogr. Cet.*, p. 249, pl. 47, fig. 4.1844. *Cetonia swainsoni* Schaum, *Ann. Soc. Ent. France*, p. 370.1910. *Glycyphana swainsoni*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 126 : 127.*Material Examined* : No material is available for study.*Distribution* : India : Meghalaya (Khasi Hills). Also known from Burma.Genus 11. *Cetonia* Fabricius 17751775. *Cetonia* Fabricius, *Syst. Ent.*, 1 : 52.1871. *Cetonia* subgenus *Cetonia*, *Mulsant, Col. de France, Lamell.*, P. 669.1894. *Eucetonia* Schoch, *Mitth. Schweiz. Ent. Ges.*, 9 : 211.1910. *Cetonia*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 132.18. *Cetonia rhododendri* Gestro 18911891. *Cetonia rhododendri* Gestro, *Ann. Mus. Genova*, (2)10 : 847.1898. *Eucetonia assamica* Schoch, *Mitth. Schweiz. Ent. Ges.*, 10 : 181.1910. *Cetonia rhododendri*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 134-135.*Material Examined* : 1 ex., Shillong (East Khasi Hills), (no other information).*Distribution* : India : Meghalaya (East Khasi Hills Dist. and Jaintia Hills Dist.), Uttar Pradesh and West Bengal. Also known as Burma and Thailand (Siam).

Remarks : The specimens is slightly damaged but identification was done by G. J. Arrow.

Genus 12. *Protaetia* Burmeister 1842

1842. *Protaetia* Burmeister, *Handb. Ent.*, 3 : 472.
 1856. *Cetonia* subg. *Protaetia* Lacordaire, *Gen. des Coleopt.*, 3 : 536.
 1895. *Pseudanthracophora* kraatz, *Deutsche Ent. Zeitschr.*, p. 407.
 1910. *Protaetia*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 136-137.

Key to the species of Genus *Protaetia* known from Meghalaya

- 1(2) Upper surface decorated with definite spots or not at all *inasnis*
 2(1) Upper surface decorated with an in definite grey or yellow trace *rana*

19. *Protaetia inanis* (Wallace) 1868

1868. *Cetonia inanis* Wallace, *Trans. Ent. Soc. London*, (3) 4 : 580.
 1910. *Protaetia inanis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 151.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills), West Bengal. Also known from Burma, Malaysia (Penang), Indonesia (Java, Nias Is.).

20. *Protaetia rana* Arrow 1910

1910. *Protaetia rana* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 153-154.

Material examined : No material is available for study.

Distribution : India : Meghalaya (East Khasi Hills).

Genus 13. *Oxycetonia* Arrow 1910

1842. *Gametis* Burmeister (Part), *Handb. Ent.*, 3 : 358.
 1910. *Oxycetonia* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 163-164.

Key to the species of Genus *Oxycetonia* known from Meghalaya.

- 1(2) Upper surface not setose, sides of pronotum not densely strigose *albopunctata*
 2(1) Upper surface setose, sides of pronotum densely strigose *jucunda*

21. *Oxycetonia albopunctata* (Fabricius) 1798

1798. *Cetonia albopunctata* Fabricius, *Ent. Syst. Suppl.*, p.129.
 1910. *Oxycetonia albopunctata* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 166-167.

Material examined : 1 ex., Meghalaya, Shillong, 12.vi.1994, S. Biswas Coll. Reg. No. 33202 (ERS).

Distribution : India : Meghalaya (East Khasi Hills) , Bihar, Uttar Pradesh,. Also known from Bangladesh and Burma. :

Remarks : The species is recorded from India for the first time.

22. *Oxycetonia jucunda* (Faldermann) 1835

1835. *Cetonia jucunda* Faldermann. *Mem. pres. a'l' Acad. Sci. St. Petersb.*, 2 : 386, pl. 4, figs. 4 & 5.

1910. *Oxycetonia jucunda*. Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 168-170.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills) , Manipur, West Bengal Also known from Nepal, China , Japan and Siberia.

Genus 14. *Clinteria* Burmeister 1842

1842. *Clinteria* Burmeister, *Handb. Ent.* , p. 299.

1910. *Clinteria*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 176.

23. *Clinteria spuria* Burmeister 1847

1847. *Clinteria spuria* Burmeister, 5 : 555.

1910. *Clinteria spuria*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 184.

Material examined : 6 exs., Dumpep (Khasi Hill Dist.), 1350 ml., 9.x.1914, S. W. Kemp Coll.

Distribution : India : Meghalaya (East Khasi Hills Dist.), Manipur. Also known from Bhutan and Burma.

Genus 15. *Platysodes* Westwood 1874

1874. *Platysodes* Westwood. *Thes. Ent. Oxon.*, p. 23.

1910. *Platysodes*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 199-200.

24. *Platysodes jansoni* Arrow, 1910

1910. *Platysodes jansoni* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 200.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills).

Genus 16. *Coenochilus* Schaum 1841

1841. *Coenochilus* Schaum, *Germar's zeitschrift*, p. 268.

1910. *Coenochilus*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)* 1 : 206-207.

25. *Coenochilus gracilipes* Moser 1910

1910. *Coenochilus gracilipes* Moser, *Deutsche Ent. Zeitschr.*, P. 300.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills), Nagaland.

Genus 17. *Macroma* Gory & Percheron, 1833

1833. *Macroma* Gory & Percheron, *Monogr. Cet.* , p.35.

1910. *Macroma*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 217.

Key to the species of Genus *Macroma* known from Meghalaya.

- 1(2) Mentum vertically flattened, pygidium very lightly strigose.....*javanica*
 2(1) Mentum horizontally flattened, pygidium smooth.....*melanopus*

26. *Macroma javanica* Gory & Percheron 1833

1833. *Macroma javanica* Gory & Percheron, *Monogr. Cet.*, p. 148, Pl. xxiii, fig. 5.
 1910. *Macroma javanica*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 218.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills), West Bengal. Also known from Burma, Malaysia, China, Campuchia, Thailand (Siam) and Indonesia (Java).

27. *Macroma melanopus* Schaum 1848

1848. *Macroma melanopus* Schaum, *Verz. Lamell. Melit.*, p. 60.
 1910. *Macroma melanopus*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : M 218.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills), West Bengal Also known from Burma, Malaysia, Campuchia, China, Thailand (Siam) and Indonesia (Java).

Genus 18. *Oreoderus* Burmeister 1842

1842. *Oreoderus* Burmeister, *Handb. Ent.*, 3 : 726.
 1910. *Oreoderus*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 223.

28. *Oreoderus rufulus* Gestro 1891

1891. *Oreoderus rufulus* Gestro, *Ann. Mus. Genova*, (2)10 : 867.
 1910. *Oreoderus rufulus*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 225-226.

Material examined : 18 exs., Meghalaya, Above Tura (West Garo Hills Dist.), 835-950 mt., 15.vii 30.viii.1917, S. Kemp Coll.

Distribution : India : Meghalaya (West Garo Hills). Also known from Burma.

Remarks : This species is recorded from India for the first time.

Genus 19. *Trichius* Fabricius 1792

1792. *Trichius* Fabricius, *Ent. Syst.*, 1(2) : 118.
 1910. *Trichius*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 249-250.

Key to the species of Genus *Trichius* known from Meghalaya.

- 1(4) Upper surface not metallic
 2(3) Numerous white spots on each elytron..... *alboguttatus*
 3(2) Two white spots on each elytron..... *discolor*
 4(1) Upper surface more or less metallic..... *ornatus*

29. *Trichius alboguttatus* Moser 1905

1905. *Trichius alboguttatus* Moser, *Ann. Soc. Ent. Belgique*, p. 215.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills).

30. *Trichius discolor* Jordan 1895

1895. *Trichius discolor* Jordan, *Ann. Nat. Hist.*, (6) 16 : 219.

1910. *Trichius discolor*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 251-252.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills).

31. *Trichius ornatus* Jordan 1895

1895. *Trichius ornatus* Jordan, *Ann. Nat. Hist.*, (6) 16 : 218.

1910. *Trichius ornatus*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 253.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills).

Subfamily II DYNASTINAE

Key to the genera of Dynastinae known from Meghalaya.

- 1(4) Basal joint of the hind tarsus similar to those succeeding, male bearing cephalic horn
- 2(3) Elytra coriaceous in both sexes, male bearing a single thoracic horn *Xylotrupes*
- 3(2) Elytra of male very shining, of female rugose, male bearing paired thoracic horns
 *Eupatorus*
- 4(1) Basal joint of the hind tarsus more or less triangular, prosternum forming a free erect process behind the front coxae, hind tibia truncate at the extremity, sexes similar
 *Heteronychus*

Genus 20. *Xylotrupes* Hope 1837

1837. *Xylotrupes* Hope, *Coleopterist's Manual*, 1 : 19.

1858. *Xylotrupes* Burmeister, *Handb. Entom.*, 5 : 264.

1910. *Xylotrupes*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 262.

32. *Xylotrupes gideon* (Linnaeus) 1767

1767. *Scarabaeus gideon* Linnaeus, *Syst. Nat.* 12th ed., 1(2) : 541.

1859. *Xylotrupes mniszehi*, Thomson, *Arcana Nat.*, p.18.

1910. *Xylotrupes gideon*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 1 : 262-265.

Material examined : 16 exs.; 6 exs., Shillong Museum (East Khasi Hills), (no other data); 1 ex., Nongpoh (Ri-Bhoi. Dist.), 30.ix.1988, 1 ex., Nongstion (West Khasi Hills Dist.), 21.ix.1988, (both coll. A. R. Lahiri); 3 exs, Shillong (East Khasi Hills Dist.), 10.v.1971, S. K. Chanda coll.; 2 exs., William Nagar (East Garo Hills Dist.), 12.x.1983, J. R. B. Alfred coll.; 1 ex., Rongjeng (East Garo Hills Dist.), 26.v.1990, M. S. Shishodia & Party coll., 2 exs., Darugiri (East Garo Hills Dist.), 1.vii.1988, R. K. Ghosh Coll.

Distribution : India : Meghalaya (East Garo Hills , West Khasi hills, East Khasi Hills, Ri-Bhoi), Assam, Bombay, Kerala and West Bengal. Also known from Srilanka (Ceylon).

Genus 21. *Eupatorus* Burmeister 1847

1847. *Eupatorus* Burmeister, *Handb. Ent.*, 5 : 268

1910. *Eupatorus*, Arrow, *Fauna Brit. India* (Coleoptera : Lamellicornia), 1 : 268.

33. *Eupatorus gracilicornis* Arrow 1908

1908. *Eupatorus gracilicornis* Arrow, *Trans. Ent. Soc. London.*, p. 351.

Material examined : 2 exs., Dobasipara I. B., West Garo Hills Survey (West Garo Hills Dist.), Tura, 9.x.1988, (night coll.), K. K. Ray & Party.

Distribution : India : Meghalaya (Jaintia Hills & West Garo Hills). Also known from Burma, Thailand (Siam) and Vietnam (Tonkin).

Remarks : New record from West Garo Hills and new addition to Z. S. I. coll.

Genus 22. *Heteronychus* Burmeister 1847

1847. *Heteronychus* Burmeister, *Handb. Ent.*, : 90.

1910. *Heteronychus*, Arrow, *Fauna Brit. India* (Coleoptera : Lamellicornia), 1 : 294.

34. *Heteronychus lioderes* Redtenbacher 1867

1867. *Heteronychus lioderes* Redtenbacher, *Reise der Novara, Zool.*, 2 : 75.

1891. *Heteronychus poropygus* Batas, *The Entomologist Suppl.*, p. 19.

1910. *Heteronychus lioderes*, Arrow, *Fauna Brit. India* (Coleoptera : Lamellicornia), 1 : 295.

Material examined : 2 exs.; Rangsakgiri (East Garo Hills Dist.), 1.v.1991, 1 ex, Sisobibra (East Garo Hills Dist.), 4.v.1991, both coll. B. N. Das & Party.

Distribution : India : Meghalaya (East Garo Hills), Bihar and West Bengal. Also known from Bangladesh (Dacca), Nepal Burma, Malaysia and Indonesia (Java, Celebes).

Remarks : First time recorded from Meghalaya.

Subfamily III RUTELINAE

Key to the genera of Rutelinae known from Meghalaya

- 1(14) Labrum horizontal, not produced downwards
- 2(3) Labrum visible from above***Peltonotus***
- 3(2) Labrum not visible from above
- 4(5) Mandibles produced beyond the clypeus***Peperonota***
- 5(4) Mandibles entirely covered by the clypeus, Antennae 9-jointed, elytra with membranous margin
- 6(9) Pronotum excised before the scutellum, sides of thorax and elytra not continuous.
- 7(8) Narrowly elongate, teeth of the front tibiae separated by an acute notch ***Dectylopopillia***
- 8(7) Short, teeth of the front tibiae not separated by an acute notch.....***Popillia***
- 9(6) Pronotum not excised before the scutellum

- 10(11) Pronotum and elytra very flat, Pronotum widest at the hind angles *Spilopopillia*
 11(10) Pronotum and elytra not very flat
 12(13) Pronotum strongly elevated and bent abruptly forward *Mimela*
 13(12) Pronotum rarely elevated and never bent abruptly forward *Anomala*
 14(1) Labrum, produced down wards and a median process *Adoretus*

Genus 23. *Peltonotus* Burmeister 18471847. *Peltonotus* Burmeister, *Handb. Ent.*, 5 : 75.1917. *Peltonotus*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 27-30.35. *Peltonotus morio* Burmeister 1847.1847. *Peltonotus morio* Burmeister, *Handb. Ent.*, 5 : 75.1917. *Peltonotus morio*, Arrow, *Ann. Mag. Nat. Hist.*, (8)5 : 154.*Material examined* : 2 exs., Rongrengiri (East Garo Hills Dist.) 14.vi.1977, S. Biswas coll.*Distribution* : India : Meghalaya (East Garo Hills), Manipur and Sikkim. Also known from Bhutan, Nepal Burma and North China.*Remarks* : The species is recorded for the first time from Meghalaya.Genus 24. *Peperonota* Westwood 184736. *Peperonota harringtoni* Westwood 18471847. *Peperonota harringtoni* Westwood, *Trans. Ent. Soc. London*, 4 : 298, pl. 22, fig. 1.1917. *Peperonota harringtoni*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 33-34.*Material examined* : No material is available for study.*Distribution* : India : Meghalaya (Khasi Hills). Also known from Bhutan.*Remarks* : According to Ohaus, the species is previously recorded from Khasi Hills, no particular place or any other detail information was maintained.Genus 25. *Dactylopopillia* Arrow 19171917. *Dactylopopillia* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 56.Key to the species of the Genus *Dactylopopillia* known from Meghalaya.

- 1(2) Pronotum punctured, shining *blanchardi*
 2(1) Pronotum rugose, dull *opacicollis*

37. *Dactylopopillia blanchardi* (Ohaus) 18971897. *Popillia blanchardi* Ohaus, *Stett. Ent. Zeit.*, 58 : 348.1917. *Dactylopopillia blanchardi* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 57-58.*Material examined* : No material is available for study.*Distribution* : India : Meghalaya (Khasi Hills).

Remarks : The species was described by Ohaus on the material from Khasi hills. Type is in the Berlin Entomological Museum.

38. *Dactylopopillia opacicollis* Kraatz 1892

1892. *Popillia opacicollis* Kraatz, *Deutsche Ent. Zeits.*, : 272.

1917. *Dactylopopillia opacicollis* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 58.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills).

Remarks : Original description of the species was based on the material from Khasi hills. Type is in the Berlin Entomological Museum.

Genus 26. *Popillia* Serveille 1825

1825. *Popillia* Serveille, *Encycl. Meth.*, 10 : 367.

1917. *Popillia*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)* 2 : 58-59.

Key to the species of the Genus *Popillia* known from Meghalaya

- 1(2) Pygidium without hairs*cyanea*
- 2(1) Pygidium decorated with hairs, generally in two patches
- 3(24) Elytra without distinct dorsal foveae
- 4(5) Five equidistant dorsal striae on elytra*pulchra*
- 5(4) Striae more than five and not equidistant on elytra
- 6(21) Elytra without abrupt lateral flange
- 7(16) The four inner elytral striae entire, similar and equidistant
- 8(9) Pronotum strongly punctured at the sides *puncticollis*
- 9(8) Pronotum very smooth
- 10(13) Sternal process broad, 5th elytral interval not broad.
- 11(12) Sternal process pointed *testaceipennis*
- 12(11) Sternal process blunt*nitida*
- 13(10) Sternal process narrow, 5th elytral interval broad and irregularly punctured
- 14(15) Clypeal margin narrowly reflexed in front*laevicollis*
- 15(14) Clypeal margin broadly reflexed in front*chypealis*
- 16(7) Second elytral stria disrupted
- 17(20) Meso sternum produced
- 18(19) Sides of the pronotum strongly punctured.....*cupricollis*
- 19(18) Side of the pronotum very lightly punctured..... *maccllelandi*
- 20(17) Mesosternum vertical in front *patricia*.

- 21(6) Elytra with abrupt lateral flange
 22(23) Mesosternal process rather long *amabilis*
 23(22) Mesosternal process short *impressipyga*
 24(3) Each elytron with a fovea before the middle *feae*

39. *Popillia amabilis* Arrow 1913

1913. *Popillia amabilis* Arrow, *Ann. Mag. Nat. Hist.* (8)12 : 53.

1917. *Popillia amabilis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 77-78.

Material examined : 1 ex., Khasi Hills (East Khasi Hills Dist.), no other information.

Distribution : India : Meghalaya (East Khasi Hills), Manipur and Nagaland. Also known from Indochina.

40. *Popillia clypealis* Ohaus 1897

1897. *Popillia clypealis* Ohaus, *Stett. Ent. Zeit.*, p. 347.

1917. *Popillia clypealis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 71-72.

Material examined : 2 exs., Meghalaya, Shillong, Khasi Hills, Ind. Mus. Coll., no other data.

Distribution : India : Meghalaya (E. Khasi Hills), Himachal Pradesh and Kashmir.

41. *Popillia cupricollis* Hope 1831

1831. *Popillia cupricollis* Hope, *Gray's Zool. Miscell.*, p.23.

1844. *Popillia nitidicollis* Redtenbacher, *Hügel's kaschmir*, 4(2) : 528.

1917. *Popillia cupricollis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 73-74.

Material examined : 10 exs.; 3 exs., upper Shillong (East Khasi Hills), 10.v.1971, S. K. Chanda Coll., 1 ex, West Khasi Hills (West Khasi Hills Dist.), 8.viii.1968, R. K. Varshney Coll.; 1 ex., Elephant falls, upper Shillong (East Khasi Hills Dist.), 28.vii.1979, P. T. Cherian & Party; 1 ex., Laitkor (Khasi Hills Dist.), 10.vii.1979, R. S. Giri Coll.; 1 ex., West Khasi Hills (West Khasi Hills Dist.), 17.viii.1974, M. S. Jyrwa Coll.; 3 exs., Shillong, Tripura Castle, 17.vii.1973, M. S. Jyrwa Coll.;

Distribution : India : Meghalaya (East Khasi Hills and West Khasi Hills), Himachal Pradesh, Uttar Pradesh and West Bengal. Also known from Nepal.

Remarks : The species is recorded for the first time from Meghalaya.

42. *Popillia cyanea* Hope 1831

1831. *Popillia cyanea* Hope, *Gray's Zool. Miscell.*, p. 23.

1917. *Popillia cyanea*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 62-63.

Material examined : 48 exs.; 13 exs., Meghalaya, Cherrapunjee (East Khasi Hills Dist.), 3.x.1961, R. N. Katiyar Coll.; 3 exs., Shillong, Fruits garden (East Khasi Hills Dist.), 10-11.viii.1960, S. N. Prasad Coll., R. K. Kacker det; 1 ex., Khasi Hills, Ind. Mus. Coll.; 1 ex., Cherrapunjee, 2-9.x.1914, S. W. Kemp Coll., G. J. Arrow det.; 3 exs., Shillong, 14.vii.1971, R. S. Giri Coll.; 1 ex., Meirang (West Khasi Hills Dist.), 25.ix.1978, S. K. Chanda Coll.; 4 exs., upper Shillong (East Khasi Hills Dist.),

10.v.1971, S. K. Chanda Coll.; 2 exs., Khasi Hills, 14.iii.1973, S. Biswas Coll.; 2 exs., Cherrapunjee, 24.ix.1979, S. K. Chanda Coll., 1 ex., Jowai, (Jaintia Hills Dist.), Khllhrrei Ghat, 18.ix.1988, V. D. Srivastava & Party Coll.; 2 ex., Jowai, Mooralong, 27.ix.1988, V. D. Srivastava & Party Coll.; 3 exs, Mowstam, near Jowai (Jaintia Hills Dist.), 26-27.ix.1991, R. K. Varshney, I. J. Gupta & S. K. Ghosh Coll.; 6 exs., Laittyra, Khasi Hills, 16.ix.1988, A. R. Lahiri coll., 1 ex, Barapani Damp Area, Khasi Hills, 10.ix.1988, A. R. Lahiri & B. N. Das Coll.; 1 ex, Motinagar, Shillong, 30.viii.1971, R. Giri Coll.; 4 exs., old Barapani Road (Ri Bhoi Dist.), St. No. 1, 17.viii.1973, A. K. Ghosh & Party Coll., Reg. No. 7793 (Shillong).

Distribution : India : Meghalaya (East Khasi Hills, West Khasi Hills, Ri-Bhoi and Jaintia Hills), Nagaland, Himachal Pradesh, Jammu & Kashmir, Uttar Pradesh and West Bengal. Also known from Nepal.

Remarks : The species is recorded for the first time from Meghalaya.

43. *Popillia feae* Kraatz 1892

1892. *Popillia feae* Kraatz, *Deutsche Ent. Zeits.* p. 269.

1917. *Popillia feae*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 80.

Material examined : 3 exs., Khasi Hills (East Khasi Hills Dist.), H. H. Godwin Austen Coll., det. G. J. Arrow; 1 ex., Shillong (East Khasi Hills Dist.), no other information, det. G. J. Arrow; 1 ex., Tura (West Garo Hills Dist.), 355-500 mt., 15.vi 15.vii.1917, S. Kemp coll., 2 exs., Laitlya (East Khasi Hills Dist.), 16.ix.1988, A. R. Lahiri Coll.; 2 exs., Nongpoh (Ri-Bhoi Dist.), 30.ix.1988, A. R. Lahiri Coll.; 2 exs., Jowai, Shangpung (Jaintia Hills Dist.), 22.ix.1988, V. D. Srivastava & Party.

Distribution : India : Meghalaya (East Khasi Hills, West Garo Hills, Ri-Bhoi and Jaintia Hills), Sikkim, Assam and West Bengal. Also known from Nepal, Burma, Bangladesh, Thailand, Malaysia.

Remarks : The species recorded for the first time from Meghalaya.

44. *Popillia impressipyga* Ohaus 1897

1897. *Popillia impressipyga* Ohaus, *Stett. Ent. Zeit.*, p. 381.

1917. *Popillia impressipyga*, Arrow, *Fauna Brit. India (Coleoptera : lamellicornia)*, 2 : 78-79.

Material examined : 2 exs.; 1 ex., Dipar, 5.vi.1990, M. S. Shishodia & Party.; 1 ex., upper Shillong (East Khasi Hills Dist.), 6.vi.1980, K. Dev Coll.

Distribution : India : Meghalaya (East Khasi Hills) and Sikkim.

45. *Popillia laevicollis* Kraatz 1892

1892. *Popillia laevicollis* Kraatz, *Deutsche Ent. Zeits.*, p. 275.

1917. *Popillia laevicollis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 71.

Material examined : 14 exs.; 10 exs., Shillong, (East Khasi Hills Dist.), Indian. Mus. Coll., 4 exs., Khasi Hills, 14.iii.1973, S. Biswas Coll.

Distribution : India : Meghalaya (East Khasi Hills) and West Bengal. Also known from Bhutan and Indo China.

46. *Popillia maccelelandi* Hope, 1845

1845. *Popillia maccelelandi* Hope, *Trans. Ent. Soc. Londn*, 4 : 8.

1917. *Popillia maccelelandi*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 74-75.

Material examined : 10 exs.; 3 exs., Meghalaya, Cherrapunji, 2-8.x.1914, S. W. Kemp Coll.; 4 exs., Laitkor (East Khasi Hills Dist.) 10.vii.1974, R. S. Giri Coll.; 1 ex., Mawpat (East Khasi Hills Dist.), 14.vii.1967, R. K. Varshney Coll.; 1 ex., Shillong, 13.x.1972, R. S. Giri Coll.; 1 ex., Shillong, 8.vii.1963, S. Biswas Coll.

Distribution : India : Meghalaya (East Khasi Hills), Nagaland.

47. *Popillia nitida* Hope 1831.

1831. *Popillia nitida* Hope, *Gray's Zool. Miscell.*, p. 23.

1917. *Popillia nitida*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 70.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills), Manipur and West Bengal. Also known from Nepal.

48. *Popillia patricia* Arrow 1917

1917. *Popillia patricia* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 75-76.

Material examined : 2 exs.; Muktapur (Jaintia Hills Dist.), 21.v.1990, M. S. Shishodia and Party.

Distribution : India : Meghalaya (Khasi Hills and Jaintia Hills), Nagaland.

49. *Popillia pulchra* Arrow 1913

1913. *Popillia pulchra* Arrow, *Ann. Mag. Nat. Hist.*, (8)12 : 40.

1917. *Popillia pulchra* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 67-68.

Material examined : 1 ex., upper Shillong, Elephant falls (East Khasi Hills Dist.), 28.vii.1979, P. T. Cherian & Party.

Distribution : India : Meghalaya (East Khasi Hills Dist.). Also known from Burma.

Remarks : This species is recorded for first time from India.

50. *Popillia puncticollis* Kraatz 1897

1897. *Popillia puncticollis* Kraatz, *Deutsche Ent. Zeits.*, p.329.

1917. *Popillia puncticollis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 69.

Material examined : 1 ex., Muktapur (Jaintia Hills Dist.), 21.v.1990, M. S. shishodia & Party.

Distribution : India : Meghalaya (Jaintia Hills Dist.), and Sikkim.

Remarks : This species is recorded for the first time from India.

51. *popillia testaceipennis* Kraatz 1892

1892. *Popillia testaceipennis* Kraatz, *Deutsche Ent. Zeits.*, p. 270.

1917. *Popillia testaceipennis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 69-70.

Material examined : 15 exs.; 1 ex., Above tura (West Garo Hills Dist.), 900-950 mt., 15.vii.30.viii.1917, S. Kemp coll.; 14 exs., Elephant falls, upper Shillong (East Khasi Hills Dist.), 28.vii.1979, P. T. Cherian & Party.

Distribution : India : Meghalaya (East Khasi Hills , West Garo Hills). Also known from Burma.

Remarks : This species is recorded for first time from India.

Genus 27. *Spilopopillia* Kraatz, 1892

1892. *Spilopopillia* Kraatz, *Deutsche Ent. Zeits.*, P. 181.

1917. *Spilopopillia*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 96-97.

52. *Spilopopillia 6 - guttata* (Fairmaire) 1887

1887. *Popillia 6-guttata* Fairmaire, *Ann. Soc. Ent. Belg.*, P. 115.

1917. *Spilopopillia 6-guttata*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 97-98.

Material examined : 1 ex., Shillong (East Khasi Hills Dist.), no other information.

Distribution : India : Meghalaya (East Khasi Hills) and West Bengal.

Genus 28. *Mimela* Kirby 1825

1825. *Mimela* Kirby, *Trans. Linn. Soc.*, 14 : 101.

1917. *Mimela*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 102-103.

Key to the species of the Genus *Mimela* known from Meghalaya

- 1(16) Upper surface green or chiefly green
- 2(5) Body not very convex
- 3(4) Upper surface with very minute sculpture, elytra pale green *schneideria*
- 4(3) Upper surface coarsely punctured, elytra dark green *pyriformis*
- 5(2) Body very convex
- 6(9) Elytra decorated with fiery stripes
- 7(8) Mesosternal process distinct and acute *horsfieldi*
- 8(7) Mesosternum not, or scarcely, produced *leei*
- 9(6) Elytra not decorated with fiery stripes
- 10(13) Upper surface strongly punctured
- 11(12) Mesosternum not produced *Subsericeas*
- 12(11) Mesosternum produced *princeps*
- 13(10) Upper surface not strongly punctured
- 14(15) Size small, mesosternum not produced *glabra*
- 15(14) Size large, mesosternum produced *dehaani*
- 16(1) Upper surface red, yellow or golder yellow *inscripta*

53. *Mimela dehaani* (Hope) 1840

1840. *Euchlora dehaani* Hope, *Ann. Nat. Hist.*, 4 : 349.

1841. *Mimela decipiens* Hope, *Trans. Ent. Soc. London*, 3 : 66.

1917. *Mimela dehaani*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 120-121.

Materials examined : 3 exs.; 1 ex., Shillong, (East Khasi Hills Dist.), Mr. Gills Coll., det G. J. Arrow; 1 ex., Khasi Hills (East Khasi Hills Dist.), Ind. Mus. Coll., det. G. J. Arrow.; 1 ex., Dipar, 5.vi.1990, M. S. Shishodia Coll.

Distribution : India : Meghalaya (East Khasi Hills) and West Bengal. Also known from Bhutan.

54. *Mimela glabra* Hope 1842

1842. *Mimela glabra* Hope, *Trans. Ent. Soc. London*, 3 : 67.

1842. *Mimela downesi* Hope, *Proc. Ent. Soc. London*, p. 60.

1917. *Mimela glabra*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 120.

Material examined : No material is available for study.

Distribution : India : Meghalaya (East Khasi Hills).

55. *Mimela horsfieldi* Hope 1836

1836. *Mimela horsfieldi* Hope, *Trans. Ent. Soc. London*, 1 : 114.

1899. *Mimela horsfieldi* Arrow, *Trans. Ent. Soc. London*, p. 273.

Material examined : 2 exs.; 1 ex., Nongpoh (Ri-Bhoi Dist.), 28.x.1983, R. Mathew Coll., Reg. No.18594; 1 ex, Raliang, Garampani (Jaintia Hills Dist.), 1.x.1988, V. D. Srivastava & Party.

Distribution : India : Meghalaya (Jaintia Hills, Ri-Bhoi), Uttar Pradesh, Himachal Pradesh and West Bengal. Also known from Nepal.

56. *Mimela inscripta* Nonfried 1892

1892. *Anomala inscripta* Nonfried, *Berlin Ent. Zeits.*, 36 : 236.

1902. *Mimela crocea* Ohaus, *Deutsche Ent. Zeits.*, P.55.

1917. *Mimela inscripta*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 124-125.

Material examined : 2 exs.; Above Tura (Garo Hills Dist.), 900-1025 mt., ix.1917, Mrs. Kemp Coll.; 1 ex., Willamngar (West Garo Hills), 300 mt. (At light), 1.x.1991, R. K. Varshney & Party Coll.

Distribution : India : Meghalaya (East and West Garo Hills) and Bihar. Also known from Burma, Thailand, Vietnam and Perak.

Remarks : The species is recorded for the first time from Meghalaya.

57. *Mimela leei* Sweders 1787

1787. *Scarabaeus leei* Sweders, *Nov. Acta Holm.*, 8 : 180.

1836. *Mimela leei* Hope, *Trans. Ent. Soc. London*, 1 : 115.

1917. *Mimela leei*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 111.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills).

58. *Mimela princeps* Hope 18421842. *Mimela princeps* Hope, *Trans. Ent. Soc. London*, 3 : 65.1855. *Mimela pachygastra* Burmeister, *Handb. Ent.*, 4(2) : 507.1917. *Mimela princeps*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 115-116.

Material examined : 3 exs., Shillong (East Khasi Hills Dist.), Ind. Museum Coll., no other information.

Distribution : India : Meghalaya (East Khasi Hills), Assam and West Bengal. Also known from Bhutan and Burma.

59. *Mimela pyriformis* Arrow 19081908. *Mimela pyriformis* Arrow, *Ann. Mag. Nat. Hist.*, (8) 1 : 246.1917. *Mimela pyriformis* Arrow, *Fauna Brit. India (Coleoptera : lamellicornia)*, 2 : 109-110.

Material examined : 3 exs.; 1 ex., Shillong Museum, Khasi Hills (East Khasi Hills Dist.), Ind. Mus., no other information, det. G. J. Arrow; 1 ex., Jowai camp (Jaintia Hills Dist.), 26.v.1990, M. S. Shishodia & Party; 1 ex., Garampani (Jaintia Hills Dist.), 22.v.1990, M. S. Shishodia & Party.

Distribution : India : Meghalaya (Khasi Hills and Jaintia Hills) and Nagaland.

60. *Mimela schneideri* Ohaus 19051905. *Mimela schneideri* Ohaus, *Deutsche Ent. Zeits.*, P.89.1917. *Mimela schneideri*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 108-109.

Material examined : 1 ex., Matahokgiri (East Khasi Hills Dist.), 7.v.1991, B. N. Das & Party.

Distribution : India : Meghalaya (East Garo Hills), Manipur and Nagaland. Also known from Burma.

Remarks : The species is recorded for the first time from Meghalaya.

61. *Mimela subsericea* Arrow 19081908. *Mimela subsericea* Arrow, *Ann. Mag. Nat. Hist.*, (8) 1 : 245.

Material examined : 2 exs., 1 ex., Nara Giri (East Garo Hills Dist.), 29.v.1990; 1 ex., William nagar (East Garo Hills Dist.), 27.v.1990, both M. S. Shishodia Coll.

Distribution : India : Meghalaya (East Garo Hills), Nagaland. Also known from Burma (Ruby Mines).

Remarks : The species is recorded for first time from Meghalaya.

Genus 29. *Anomala* Samouelle 18191819. *Anomala* Samouelle, *The Entomologist's useful Companion*, P. 191.1844. *Rhinoplia* Burmeister, *Handb. Ent.*, 4 : 232.(1850), 1851 *Callistethus* Blanchard, *Cat. Coll. Ent. Mus. Paris*, P.189.1892. *Hadropopillia* Krbatz, *Deutsche Ent. Zeits.*,1917. *Anomala* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 126-127.

Key to the species of genus *Anomala* recorded from Meghalaya.

- 1(34) Mesosternum without intercoxal process
- 2(21) Base of the pronotum completely margined
- 3(10) Non-metallic
- 4(5) Lower surface black; front tibia bidentate..... *transversa*
- 5(4) Pale coloured
- 6(9) Longer claw cleft on the middle feet
- 7(8) Front margin of the clypeus feebly excised..... *bengalensis*
- 8(7) Front margin of the clypeus not excised..... *veriivestis*
- 9(6) Lower claw of the front feet only cleft..... *blanchardi*
- 10(3) More or less metallic.
- 11(18) Hind tibia stout, not long.
- 12(13) Larger; rather depressed and oblong..... *marginipennis*
- 13(12) Small, oval and convex
- 14(15) Elytra abbreviated (Border than long)..... *birmana*
- 15(14) Elytra not abbreviated
- 16(17) Upper tooth of the front tibia short *puella*
- 17(16) Upper tooth of the front tibia long *laeta*
- 18(11) Hind tibia long
- 19(20) Elytra feebly and incompletely striated..... *chinensis*
- 20(19) Elytra deeply striated *signaticollis*
- 21(2) Base of the pronotum not completely margined.
- 22(27) Elytra with strongly marked grooves or lines of punctures.
- 23(26) Clypeus broad.
- 24(25) Elytra not banded *connectens*
- 25(24) Elytra banded *bella*
- 26(23) Clypeus narrow and semicircular *flavopicta*
- 27(22) Elytra without strongly marked grooves or lines of punctures
- 28(31) Elytra densely sculptured
- 29(30) Upper surface dark coppery *cantori*
- 30(29) Upper surface not dark coppery *perplexa*
- 31(28) Elytra very smooth and shining
- 32(33) Upper surface green *dimidiata*
- 33(32) Upper surface dark coppery *rufiventris*
- 34(1) Mesosternum produced between the middle coxae.

- 35(38) Memosternal process elongate and pointed
 36(37) Body long and narrow.....*auronitens*
 37(36) Body oval, not long and narrow.....*varia*
 38(35) Mesosternal process very short and blunt.
 39(40) Pronotum scarcely punctured.....*erythroptera*
 40(39) Pronotum strongly punctured at the sides
 41(42) Lower surface pale; pygidium shining.....*pusilla*
 42(41) Lower surface dark; pygidium dull.....*parva*

62. *Anomala auronitens* (Hope) 1835

1835. *Mimela auronitens* Hope, *Trans. Ent. Soc. London*, 1 : 114.

1855. *Anomala (Spilota) auronitens* Burmeister, *Handb. Ent.*, 4 (2) : 504.

1917. *Anomala auronitens*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 242-243.

Material examined : 1 ex, Cherapunjee (East Khasi Hills Dist.), 27.vii.1979, P. T. Cherian & Party Coll.

Distribution : India : Meghalaya (East Khasi Hills), Manipur and West Bengal. Also known from Burma.

63. *Anomala bella* Arrow 1917

1917. *Anomala bella* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 208-209.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills), West Bengal. Also known from Bangla Desh and Burma.

64. *Anomala bengalensis* Blanchard 1851

1851. *Anomala bengalensis* Blanchard, *Cat. Coll. Ent. Mus. Paris*, P. 182.

1917. *Anomala bengalensis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 143.

Material examined : 2 exs., Darugiri (East Garo Hills Dist.), 6.v.1991, B. N. Das and party Coll.

Distribution : India : Meghalaya (East Garo Hills), Andhra Pradesh, Tamilnadu, Mysore and West Bengal. Also known from Burma.

Remarks : The species is recorded for the first time from Meghalaya.

65. *Anomala birmana* (Heller) 1891

1891. *Pseudosighala birmana* Heller, *Deutsche Ent. Zeits.*, P. 297.

1917. *Anomala birmana*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 181-182.

Material examined : 7 exs., Between Serraring and Mawphlong (East Khasi Hills Dist.), 8.iv.1927, Gopal Ram Coll.

Distribution : India : Meghalaya (East Khasi Hills), Also known from Burma.

Remarks : This species is recorded for the first time from India.

66. *Anomala blanchardi* Arrow 1917

1851. *Anomala testacea* Blanchard (nec. Hope), *Cat. Coll. Ent. Mus. Paris*, P. 183.

1917. *Anomala blanchardi* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 160.

Material examined : 1 ex., Damra (East Garo Hills Dist.), 14.iv.1971, R. S. Pallai coll.

Distribution : India : Meghalaya (East Garo Hills) and Tamilnadu.

Remarks : The species is recorded for the first time from Meghalaya.

67. *Anomala cantori* (Hope) 1840

1840. *Euchlora cantori* Hope, *Mag. Nat. Hist.*, 4 : 284.

1855. *Anomala severa* Burmeister, *Handb. Entom.*, 4(2) : 504.

1917. *Anomala cantori*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 220-221.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills) and Bihar. Also known from Bangla Desh and Burma.

68. *Anomala chinensis* Redtenbacher 1867

1867. *Phyllopertha chinensis* Redtenbacher, *Reise der Novara, Zool.*, 2 : 70.

1899. *Adoretosoma metallicum* Arrow, *Trans. Ent. Soc. London*, P. 266.

1917. *Anomala chinensis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 196-197.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills). Also known from China and Vietnam.

69. *Anomala connectens* Arrow 1917

1917. *Anomala connectens* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 205-206.

Material examined : 1 ex., Above Tura (West Garo Hills Dist.), 1000 mt., ix.1917, Mrs. Kemp Coll.

Distribution : India : Meghalaya (West Garo Hills Dist.). Also known from Burma.

Remarks : This species is recorded for the first time from India.

70. *Anomala dimidiata* (Hope) 1831

1831. *Euchlora dimidiata* Hope, *Gray's Zool. Misc.*, P. 23.

1840. *Euchlora sulcata* Hope, *Mag. Nat. Hist.*, (2) 4 : 505.

1917. *Anomala dimidiata*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 232-233.

Material examined : 6 exs; 2 exs., Shillong (East Khasi Hills Dist.), Ind. Mus. Coll.; 1 ex., Nongpriong (as per label Khasi Hills), 18.v.1909, B. Warren Coll., det. G. J. Arrow; 1 ex., Ronggeng (East Garo Hills Dist.), 26.v.1990; 2 exs., Narangin (East Garo Hills Dist.), 29.v.1990, alt. Coll. M. S. Shishodia and Party.

Distribution : India : Meghalaya (East Khasi Hills), Manipur, Uttar Pradesh, Himachal Pradesh, Jammu and Kashmir, Bihar and West Bengal. Also known from Nepal.

71. *Anomala erythroptera* (Kraatz) 1892

1892. *Ischnopopillia erythroptera* Kraatz, *Deutsche Ent. Zeits.*, P. 295.

1917. *Anomala erythroptera*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 262-263.

Material examined : 1 ex., Shillong (East Khasi Hills Dist.), H. H. Godwin Austen Coll.,

Distribution : India : Meghalaya (East Khasi Hills) and West Bengal.

72. *Anomala flavopicta* Arrow 1912

1912. *Anomala flavopicta* Arrow, *Ann. Mag. Nat. Hist.*, (8) 9 : 75.

1917. *Anomala flavopicta* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 211-212.

Material examined : 5 exs.; 2 exs., Meghalaya, Khasi Hills (East Khasi Hills) Nongpoh, (at light), 6.iv.1991, S. K. Saha Coll.; 1 ex., Meghalaya, Garo Hills (West Garo Hills), 29.iv.1991; 1 ex., 1.v.1991, loc. data same as above and both the collector B. N. Das and Party; 1 ex., Meghalaya, Khasi Hills (East Khasi Hills), between Therriaghat and Mahadeo, 7.iv.1927, Gopi Ram Coll.

Distribution : India : Meghalaya (East Khasi Hills and West Garo Hills) and West Bengal.

Remarks : First time recorded from Meghalaya.

73. *Anomala laeta* Arrow 1917

1917. *Anomala laeta* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 189-190.

Material examined : 2 exs., Between Therriaghat and Mahadeo, Khasi Hills (East Khasi Hills Dist.), 7.iv.1927, Gopal Ram Coll.

Distribution : India : Meghalaya (East Khasi Hills), Maharashtra.

Remarks : The species was known only from its type locality North Karnataka. For first time it is recorded from North eastern part of India in Meghalaya.

74. *Anomala marginipennis* Arrow 1912

1912. *Anomala marginipennis* Arrow, *Ann. Mag. Nat. Hist.*, (8) 9 : 78.

1917. *Anomala marginipennis* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 180-181.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills), Assam and West Bengal. Also known from Nepal.

75. *Anomala parva* Arrow 1917

1917. *Anomala parva* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 264.

Material examined : 4 exs., Shillong (East Khasi Hills Dist.), Ind. Mus. Coll.; 4 exs., Cherrapunji (East Khasi Hills Dist.), 1325 mt., 2-8.x.1914, S. W. Kemp Coll. (All material det by G. J. Arrow).

Distribution : India : Meghalaya (East Khasi Hills).

76. *Anomala perplexa* (Hope) 1839

1839. *Euchlora perplexa* Hope. *Proc. Zool. Soc.*, 2 : 70.

1917. *Anomala perplexa* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*; 2 : 228-229.

Material examined : 1 ex., Shillong (East Khasi Hills Dist.), Gills Coll., No other data.

Distribution : India : Meghalaya (East Khasi Hills), Sikkim and West Bengal. Also known from Bhutan and Nepal.

Remarks : The species recorded for the first time recorded from Meghalaya.

77. *Anomala puella* Arrow 1912

1912. *Anomala puella* Arrow, *Ann. Mag. Nat. Hist.*, (8) 10 : 338.

1917. *Anomala puella* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 186.

Material examined : 8 exs., Cherrapunji (East Khasi Hills Dist.), 1200 mt., 2-8.x.1914, S. W. Kemp Coll.,

Distribution : India : Meghalaya (East Khasi Hills). Also known from Burma.

Remarks : This species is recorded for the first time from India.

78. *Anomala pusilla* Arrow 1912

1912. *Anomala pusilla* Arrow, *Ann. Mag. Nat. Hist.*, (8) 9 : 82.

Material examined : 3 exs., Shillong (East Khasi Hills Dist.), Ind. Mus. Coll., det. G. J. Arrow.

Distribution : India : Meghalaya (East Khasi Hills), Manipur and West Bengal. Also known from Nepal.

79. *Anomala rufiventris* Redtenbacher 1848

1848. *Anomala rufiventris* Redtenbacher, *Hiiigel's kaschmir*, 4 (2) : 526.

1855. *Anomala laevissima* Burmeister, *Handb. Entom.*, 4(2) : 506.

1917. *Anomala rufiventris*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 236-237.

Material examined : 2 exs.; 1 ex., Nongpriang (Khasi Hills), 18.v.1909, B. Warren Coll., 1 ex., Khasi Hills, 1650-1800 mt., 29.viii.-8.ix.1915, S. W. Kemp Coll.

Distribution : India : Meghalaya (East Khasi Hills, Jaintia Hills), Manipur, Uttar Pradesh and West Bengal. Also known from Bhutan.

80. *Anomala signaticollis* Nonfried 1893

1893. *Anomala signaticollis* Nonfried, *Berl. Ent. Zeitschr.*, P. 334.

1917. *Anomala signaticollis*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 198-199.

Material examined : 5 exs, Shillong (East Khasi Hills Dist.), Ind. Mus. Coll., No other data.

Distribution : India : Meghalaya (East Khasi Hills) and Manipur.

81. *Anomala transversa* (Burmeister) 1855

1855. *Phyllopertha transversa*. Burmeister, *Handb. Ent.*, 4 (2) : 513.

1889. *Singhala basipennis* Fairmair, *Ann. Soc. Ent. France*, P.28.

1917. *Anomala transversa*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 142-143.

Material examined : 11 exs.; 4 exs., Khasi Hills (Khasi Hills Dist.) Ind. Mus. Coll., no other information, det. G. J. Arrow; 2 exs., Between Therriaghat and Mahadeo (Khasi Hills Dist.), 7.iv.1927, Gopal Ram Coll.; 4 exs., Muktapur (Jaintia Hills Dist.), 21.v.1990, M. S. Shishodia & Party Coll.; 1 ex., Rongzeng (East Garo Hills Dist.), 26.v.1990, M. S. Shishodia Coll.

Distribution : India : Meghalaya (East Khasi Hills, East Garo Hills and Jaintia Hills). Also known from Burma and Vietnam.

82. *Anomala varia* (Newman) 18391839. *Popillia varia* Newman, *Mag. Nat. Hist.*, (2) 3 : 365.1869. *Anomala popiliopsis* Candezei, *Col. Hafte*, 5 : 43.1917. *Anomala varia* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 257.

Material examined : 31 exs; Khasi Hills, Ind. Mus. Coll., (no other information), det. J. G. Arrow; 2 exs., Khasi Hills, Ind. Mus. Coll., det. G. J. Arrow; 6 exs., Mowsnai (Khasi Hills Dist.), 8.iv.1927, Gopi Ram Coll., (2 exs., det. R. K. Kacker and rest exs. det. S. K. Chatterjee); 10 exs., Between Serraiing and Mawphlong (East Khasi Hills Dist.) 7.iv.1927, Gopi Ram Coll., (2 exs. det. R. K. Kacker and rest exs. det. S. K. Chatterjee); 7 exs., Nongpoh (Ri-Bhoi Dist.), 8.iv.1991, S. K. Saha Coll.; 1 ex., Naunghee Forest near Mairang (West Khasi Hills Dist.), 15.iv.1927., Gopi Ram Coll., 1 ex., Jakrem (West Khasi Hills Dist.), 25.iii.1991, S. K. Saha & Party Coll.; 3 exs., Mysow (East Khasi Hills Dist.), 30.12.1991, S. K. Saha & Party Coll.

Distribution : India : Meghalaya (East Khasi Hills, West Khasi Hills and Ri-Bhoi).

83. *Anomala variivestis* Arrow 19171917. *Anomala variivestis* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 156.

Material examined : 2exs., Nongpoh (Ri-Bhoi Dist.), 6-8.iv.1991, (At light), S. K. Saha Coll.

Distribution : India : Meghalaya (Ri-Bhoi), Manipur. Also known from Burma.

Remarks : The species is recorded for the first time from Meghalaya.

Genus 30. *Adoretus* Castelnau 18401840. *Adoretus* Castelnau, *Hist. Nat. Ins.*, 2 : 142.1903. *Lepadoretus* Reitter, *Verh. Nat. Ver. Briinn*, 41 : 30.1914. *Prionadoretus* Ohaus, *Deutsche Ent. Zeits.*, P. 512.1917. *Adoretus*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 295-298.Key to the species of the Genus *Adoretus* known from Meghalaya.

- 1(4) Elytra having small alternating patches of more densely and more sparsely aggregated setae.
- 2(3) Larger species, outer edge of the front tibia serrated above the teeth *bombinator*.
- 3(2) Small species, outer edge of the front tibia not serrated above *compressus*
- 4(1) Elytra without denser aggregations of setae
- 5(12) Outer edge of the front tibia serrated in its basal part
- 6(9) Two upper teeth of the front tibia not divided by an acute notch.
- 7(8) Clypeus very broad *boohs*
- 8(7) Clypeus not broad *costopilosus*
- 9(6) Two upper teeth of the front tibia divided by an acute notch
- 10(11) Clothing of the upper surface not very sparse *serratipes*
- 11(10) Clothing of the upper surface very sparse *nasalis*

- 12(5) Outer edge of the front tibia not serrated in its basal part
- 13(16) Abdomen with a continuous carina coinciding with the outer margins of the elytra
- 14(15) Elytral epipleurae moderately wide, through*bimarginatus*
- 15(14) Elytra without continuous epipleurae*affinis*
- 16(13) Abdomen without a continuous carina coinciding with the outer edges of the elytra
- 17(18) Upper surface shining, very thinly sprinkled with minute setae*lithobius*
- 18(17) Upper surface not shining, closely clothed above
- 19(20) Clothing of the elytra interspersed with a few long erect hairs*furcifer*
- 20(19) Elytra without long erect hairs interspersed*plebejus*

84. *Adoretus affinis* Arrow 1917

1917. *Adoretus affinis* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 331-332. Pl. iv., fig. 27.

Material examined : 1 ex., Rongra (west Garo Hills Dist.), 29.v.1991, B. N. Das and Party Coll.

Distribution : India : Meghalaya (West Garo Hills) and Assam.

Remarks : The species is recorded for the first time from Meghalaya.

85. *Adoretus bimarginatus* Ohaus 1914

1914. *Adoretus bimarginatus* Ohaus, *Deutsche Ent. Zeits.*, P. 480, fig. 12.

Material examined : 5 exs., Meghalaya, Garo Hills (East Garo Hills Dist.), 4.v.1991, B. N. Das & Party.

Distribution : India : Meghalaya (East Garo Hills), Bihar, Orissa, Uttar Pradesh and West Bengal. Also known from Sikkim.

Remarks : First time recorded from Meghalaya.

86. *Adoretus bombinator* Burmeister 1855

1655. *Adoretus bombinator* Burmeister, *Handb. Ent.*, 4 (2) : 532.

1917. *Adoretus bombinator*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 309-310.

Material examined : 1 ex., Darugiri (East Garo Hills Dist.), 6.v.1991, B. N. Das & Party Coll.

Distribution : India : Meghalaya (East Garo Hills), Assam. Also known from Burma.

Remarks : The species recorded for the first time from Meghalaya.

87. *Adoretus boops* (Wiedemann) 1821

1821. *Melolontha boops* Wiedemann, *German's Mag. Ent.*, 4 : 135.

1844. *Adoretus boops* Burmeister, *Handb. Ent.*, 4 (1) : 474.

1917. *Adoretus boops*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 316.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills), Bihar and Madras.

88. *Adoretus compressus* (Weber) 1801

1801. *Melolontha compressus* Weber, *Obsery. Entom.*, P.72.

1844. *Adoretus umbrosus* Burmeister, *Handb. Ent.*, 4(1) : 475.

1912. *Lepadoretus compressus* Ohaus, *Ent. Blatt.*, 8 : 224.

1917. *Adoretus compressus*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 311-312.

Material examined : 1 ex., Damalgiri (Tara) (West Garo Hills Dist.), 17.iii.1991, A. K. Hazra Coll.

Distribution : India : Meghalaya (West Garo Hills), Bihar. Also known from Burma, Indo china, Campuchia, Malaiasia, Indonesia.

Remarks : The species is recorded for the first time from Meghalaya.

89. *Adoretus costopilosus* Ohaus 1914

1914. *Adoretus costopilosus* Ohaus, *Deutsche Ent. Zeits.*, P. 506, fig. 42.

1917. *Adoretus costopilosus*, Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 318-319.

Material examined : 1 ex., Darugiri (East Garo Hills Dist.), 6.v.1991, B. N. Das & Party Coll.

Distribution : India Meghalaya (East Garo Hills), Uttar Pradesh, Himachal Pradesh, West Bengal and Andaman Island. Also known from Burma, Sikkim and Bangladesh.

Remarks : The species is recorded for the first time from Meghalaya.

90. *Adoretus furcifer* Ohaus 1914

1914. *Adoretus furcifer* Ohaus, *Deutsche Ent. Zeits.*, P. 502, fig. 36.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills).

91. *Adoretus lithobius* Ohaus 1914

1914. *Adoretus lithobius* Ohaus, *Deutsche Ent. Zeits.*, P. 485, fig. 16.

Material examined : 2 exs.; 1 ex., Tura (West Garo Hills Dist.), 3.vi.1990, M. S. Shishodia & Party Coll.; 1 ex., Shillong (East Khasi Hills Dist.), Insectary Building Compound, 7.vii.1971, S. Biswas Coll.

Distribution : India : Meghalaya (East Khasi Hills & West Garo Hills), Uttar Pradesh and Himachal Pradesh. Also known from Pakistan.

Remarks : The species is recorded for the first time from Meghalaya.

92. *Adoretus nasalis* Arrow 1917

1917. *Adoretus nasalis* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 320-321.

Material examined : No material is available for study.

Distribution : India : Meghalaya (Khasi Hills), Assam.

93. *Adoretus plebejus* Arrow 1917

1917. *Adoretus plebejus* Arrow, *Fauna Brit. India (Coleoptera : Lamellicornia)*, 2 : 342-343, Pl.v, fig. 48.

Material examined : 1 ex., Gasnapara (West Garo Hills Dist.), 28.iv.1991, B. N. Das & Party Coll.

Distribution : India : Meghalaya (West Garo Hills). Also known from Burma.

Remarks : This species is for the first time recorded from India.

94. *Adoretus serratipes* Arrow 1914

1914. *Adoretus serratipes* Arrow, *Ann. Mag. Nat. Hist.*, (8) 13 : 595.

Material examined : 1 ex., Rongra (West Garo Hills Dist.), 29.v.1991, B. N. Das & Party Coll.

Distribution : India : Meghalaya (West Garo Hills), Assam and West Bengal. Also known from Bangla Desh and Burma.

Remarks : The species is recorded for the first time from Meghalaya.

**The Chart Showing District wise Distribution of
Species of Family Scarabaeidae known from Meghalaya**

Name of species	EAST GARO HILLS	WEST GARO HILLS	JAINTIA HILLS	EAST KHASI HILLS	WEST KHASI HILLS	RI-BHOI
1. <i>Dicranocephalus wallichi</i> Hope				+		
2. <i>Mycteristes khasiana</i> (Jordan)				+		
3. <i>Macronota gracilis</i> Arrow				+		
4. <i>M. Indica</i> (Janson)				+		
5. <i>M. Jansoni</i> Arrow				+		
6. <i>M. nigricollis</i> (Janson)			+			
7. <i>M. penicillata</i> (Hope)				+		
8. <i>Diceros childreni</i> (Westwood)				+		
9. <i>Torynorrhina distincta</i> (Hope)		+		+		
10. <i>T. hyacinthina</i> (Hope)		+		+		
11. <i>Rhomborrhina mellvi</i> (G. & P.)				+		
12. <i>Heterorrhina punctatissima</i> Westwood				+		
13. <i>Trigonophorus hookeri</i> White				+		
14. <i>T. nepalensis</i> Hope				+		
15. <i>Anthracophora siamensis</i> Kraatz				+		
16. <i>Glycyphana horsfieldi</i> (Hope)				+		
17. <i>G. swainsoni</i> (G. & P.)				+		
18. <i>Cetonia rhododendri</i> Gestro			+	+		
19. <i>Protaetia inanis</i> (Wallace)				+		
20. <i>P. rana</i> Arrow				+		
21. <i>Oxycetonia albopunctata</i> (Fabricius)				+		

**The Chart Showing District wise Distribution of
Species of Family Scarabaeidae known from Meghalaya**

Name of species	EAST GARO HILLS	WEST GARO HILLS	JAINTIA HILLS	EAST KHASI HILLS	WEST KHASI HILLS	RI-BHOI
22. <i>O. jucunda</i> (Faldermann)				+		
23. <i>Clinteria spuria</i> Burmeister				+		
24. <i>Platysodes jansonii</i> Arrow				+		
25. <i>Coenochilus gracilipes</i> Moser				+		
26. <i>Macroma javanica</i> G. & P.				+		
27. <i>M. melanopus</i> Schaum				+		
28. <i>Oreoderus rufulus</i> Gestro		+				
29. <i>Trichius alboguttatus</i> Moser				+		
30. <i>T. discolor</i> Jordan				+		
31. <i>T. ornatus</i> Jordan				+		
32. <i>Xylotrupes gideon</i> (Lineaus)	+			+	+	+
33. <i>Eupatorus gracilicornis</i> Arrow		+	+			
34. <i>Heteronychus lioderes</i> Redtenbacher	+					
35. <i>Peltonotus morio</i> Burmeiste	+					
36. <i>Peperonota harringtoni</i> Westwood				+		
37. <i>Dactylopopillia blanchardi</i> (Ohaus)				+		
38. <i>D. opacicollis</i> (Kraatz)				+		
39. <i>Popillia amabilis</i> Arrow				+		
40. <i>P. clypealis</i> Ohaus				+		
41. <i>P. cupricollis</i> Hope				+	+	
42. <i>P. cyanea</i> Hope			+	+	+	+

**The Chart Showing District wise Distribution of
Species of Family Scarabaeidae known from Meghalaya**

Name of species	EAST GARO HILLS	WEST GARO HILLS	JAINTIA HILLS	EAST KHASI HILLS	WEST KHASI HILLS	RI-BHOI
43. <i>P. feae</i> Kraatz		+	+	+		+
44. <i>P. impressipyga</i> Ohaus				+		
45. <i>P. laevicollis</i> kraatz				+		
46. <i>P. macclellandi</i> Hope				+		
47. <i>P. nitida</i> Hope				+		
48. <i>P. patricia</i> Arrow			+	+		
49. <i>P. pulchra</i> Arrow				+		
50. <i>P. puncticollis</i> Kraatz			+			
51. <i>P. testaceipennis</i> Kraatz		+		+		
52. <i>Spilopopillia 6-guttata</i> Fairmaire				+		
53. <i>Mimela dehaani</i> (Hope)				+		
54. <i>M. globra</i> Hope				+		
55. <i>M. horsfieldi</i> Hope			+			
56. <i>M. inscripta</i> (Nonfried)	+	+				
57. <i>M. leei</i> Sweders				+		
58. <i>M. princeps</i> Hope				+		
59. <i>M. pyriformis</i> Arrow				+		
60. <i>M. schneideri</i> Ohaus.	+					
61. <i>M. subsericea</i> Arrow	+					
62. <i>Anomala auronitens</i> (Hope)				+		
63. <i>A. bella</i> Arrow				+		

**The Chart Showing District wise Distribution of
Species of Family Scarabaeidae known from Meghalaya**

Name of species	EAST GARO HILLS	WEST GARO HILLS	JAINTIA HILLS	EAST KHASI HILLS	WEST KHASI HILLS	RI-BHOI
64. <i>A. bengalensis</i> Blanchard	+					
65. <i>A. birmana</i> (Heller)				+		
66. <i>A. blanchardi</i> Arrow	+					
67. <i>A. cantori</i> (Hope)				+		
68. <i>A. chinensis</i> (Redtenbacher)				+		
69. <i>A. connectens</i> Arrow		+				
70. <i>A. dimidiata</i> (Hope)				+		
71. <i>A. erythroptera</i> (Kraatz)				+		
72. <i>A. flavopicta</i> Arrow		+		+		
73. <i>A. 'aeta</i> Arrow				+		
74. <i>A. marginipennis</i> Arrow				+		
75. <i>A. parva</i> Arrow				+		
76. <i>A. perplexa</i> (Hope)				+		
77. <i>A. puella</i> Arrow				+		
78. <i>A. pusilla</i> Arrow				+		
79. <i>A. rufiventris</i> Redtenbacher			+	+		
80. <i>A. signaticollis</i> Nonfried				+		
81. <i>A. transversa</i> (Burmeister)	+		+	+		
82. <i>A. varia</i> (Newman)				+	+	+
83. <i>A. variivestis</i> Arrow						+
84. <i>Adoretus affinis</i> Arrow		+				

**The Chart Showing District wise Distribution of
Species of Family Scarabaeidae known from Meghalaya**

Name of species	EAST GARO HILLS	WEST GARO HILLS	JAINTIA HILLS	EAST KHASI HILLS	WEST KHASI HILLS	RI-BHOI
85. <i>A. bimarginatus</i> Ohaus	+					
86. <i>A. bombinator</i> Burmeister	+					
87. <i>A. boops</i> (Wiedemann)				+		
88. <i>A. compressus</i> (Weber)		+				
89. <i>A. costopilosus</i> Ohaus	+					
90. <i>A. furcifer</i> Ohaus				+		
91. <i>A. lithobius</i> Ohaus		+		+		
92. <i>A. nasalis</i> Arrow				+		
93. <i>A. plebejus</i> Arrow		+				
94. <i>A. serratipes</i> Arrow		+				

‘+’ Species present in the respective Districts of Meghalaya.

SUMMARY

The present paper deals with the materials, mainly based on collections present in Zoological Survey of India, Calcutta, and sent by Dr. J. R. B. Alfred from Eastern Regional Station, Shillong, Meghalaya.

In this paper altogether 94 species under 30 genera and 3 subfamilies, namely, Cetoniinae, Dynastinae and Rutelinae have been dealt with.

Out of 94 species 34 species are new record from the state and 9 species are new addition to Indian Fauna. Keys to the subfamilies, genera and species have been provided. Selected synonymise of genera and species dealt with in this paper are also added.

ACKNOWLEDGEMENTS

Authors are grateful to Ex-Director, Zoological Survey of India for providing facilities for present work. We are also thankful to Dr. J. R. B. Alfred, Director, for his constant encouragement and the materials from Eastern Regional Station (Shillong).

REFERENCES

- Arrow, G. J. 1910. *The Fauna of British India, Including Ceylon and Burma, Coleoptera, Lamellicornia (Cetoniinae and Dynastinae)*, 1 : i + 322, Pl. II (Taylor & Francis) London.
- Arrow, G. J. 1917. *The Fauna of British India, including Ceylon and Burma, Coleoptera, Lamellicornia (Rutelinae, Desmonycinae and Euchirinae)*, 2 : i + 387, Pl.v, (Taylor & Francis) London.
- Arrow, G. J. 1937. *In Junk's Coleopterorum Catalogus (Scarabaeidae : Dynastinae)*, S. Schenkling, 21(156) : 1-124.
- Biswas, S. and Chatterjee, S. K. 1991. *Fauna of Orissa, Insecta : Coleoptera : Scarabaeidae*, State Fauna Series : Part-3, (1) : 243-262, *Zool. Surv. India*.
- Chatterjee, S. K. and Biswas, S. *Fauna of West Bengal, Coleoptera : Scarabaeidae : Cetoniinae : Dynastinae : Rutelinae*, *Zool. Surv.. India* (In press).
- Swederes, N. S. 1787. Et. nytt genus, och femtio nya species af Insekter beskrite *Nov. Acta. Holm.* 8 : 180.

INSECTA : COLEOPTERA : COCCINELLIDAE

S. K. CHAKRABORTY AND S. BISWAS

Zoological Survey of India,
M Block, New Alipore, Calcutta-700 053

INTRODUCTION

Coccinellid beetles, commonly known as 'Lady bird beetles' are very common in forested and agricultural area. Generally with beautiful colouration and variable size. Majority of them are carnivorous and play an important role in checking the population of many harmful insects such as *Aphids*, *Coccids*, *Aleuryds*, *Plantmites* and other soft bodied insects. Another group (Sub family : *Epilachninae*) is phytophagous and cause considerable damage to various cultivated plants specially belonging to the families of Cucurbitaceae, Solanaceae and Papilionaceae. A small group feeds on *Mildews*. In some species gregarious habit has been noticed.

About 4500 species under 500 genera in 21 tribes are known from the world. In India nearly 350 species under more than 50 genera have been described.

The state of Meghalaya was carved out from erstwhile state of Assam in the year 1972. Not much was known regarding the coccinellid beetles of Meghalaya.

In the literature some species are mentioned from Assam without any definite locality record. There is a possibility that some of these species might have been collected from the area now under the state of Meghalaya. For the sake of precision we have not included these species in the present study.

The first definite record of the coccinellid fauna from Shillong, capital of the state of Meghalaya, came from Dieke (1947) who recorded three species namely 1. *Epilachna sparsa sparsa* (Herbst), 2. *Epilachna macularis* Mulsant and 3. *Afissa dumerili* (Mulsant)

Kapur (1963) described two new species i.e. *Afissa cherapunjiensis* and *Oenopia quadripunctata* from the state. Rao (1969), while working on the natural enemies of Aphid, reported the occurrence of *Coccinella septempunctata* L. from Shillong. In 1973 Kapur reported the occurrence of another species *Afissa pembertoni* (Crotch) from Meghalaya. Thus till 1973 only seven species of coccinellidae was known from the state.

Ghosh, Biswas and Lahiri (1977) recorded nineteen species including those of Kapur and Rao except those earlier referred by Dieke (1947). Thus till 1977 only twenty two species were known from the state.

In the present study out of forty nine species *thirty one* species have been added as new to this area thus bringing the total number of species known from the state to fifty three.

In this paper we have studied materials from different parts of Meghalaya, collected by our survey parties. Informations on relevant synonymies, distributional data, key to the subfamilies, tribes, genera and species occurring in Meghalaya have been provided.

- Systematic Account List of Taxa
- Family Coccinellidae
- Sub family 1 Sticholotinae
- Tribe Sticholotini
- Genus 1. *Jauravia* Motschulsky
- Species 1. *J. assamensis* Kapur
2. *J. Pallidula* Mots.
3. *J. quadrinotata* Kapur
- Sub family 2 Scymninae
- Tribe Scymnini
- Genus 2. *Pullus* Mulsant
- Species 4. *P. apiciflavus* (mots.)
5. *P. brunnescens* (Mots.)
6. *P. fuscatus* (Boh.)
7. *P. hingstoni* Kapur
8. *P. posticalis* (Sicard)
9. *P. pyrocheilus* Mub.
10. *P. testacecollis* Kapur
11. *P. victoris* (Mots.)
- Tribe Aspidimerini
- Genus 3. *Cryptogonus* Mulsant
- Species 12. *C. complexus* Kapur
13. *C. nepalensis bhutanensis* Biel.
14. *C. quadriguttatus* (Weise)
- Genus 4. *Aspidimerus* Mulsant
- Species 15. *A. birmanicus* (Gorham)
- Genus 5. *Pseudaspidimerus* Kapur
- Species 16. *P. circumflexa* (Mots.)
- Tribe Ortalini

- Genus 6. *Ortalia*
17. *Ortalia* sp.
- Sub family 3. Chilocorinae
Genus 7. *Chilocorus* Leach
Species 18. *C. braeti* Weise
- Genus 8 *Brumus* Mulsant
Species 19. *B. suturalis* (Fab.)
- Family Coccinellidae
Sub family 4. Coccidulinae
Tribe Noviini
Genus 9. *Rodolia* Mulsant
Species 20. *R. octoguttata* Weise
- Sub family 5. Coccinellinae
Tribe Coccinellini
Genus 10. *Synonycha* Mulsant
Species 21. *S. grandis* (Thunberg)
- Genus 11. *Ballia* Mulsant
Species 22. *B. diana*e Mulsant
23. *B. eucharis* Mulsant
24. *B. gustavi* Mulsant
25. *B. mayeti* Mulsant
26. *B. zephirinae* Mulsant
- Genus 12. *Calvia* Mulsant
Species 27. *C. sykesi* (Crotch)
- Genus 13. *Oenopia* Mulsant
Species 28. *O. kirbyi* Mulsant
29. *O. luteopustulata* Muls.
30. *O. quadripunctata* Kapur
- Genus 14. *Coelophora* Mulsant
Species 31. *C. bissellata* Muls.
32. *C. sexareata* Muls.
- Genus 15. *Menochilus* Timberlake

- Species 33. *M. sexmaculatus* (Fab.)
 Genus 16. *Micraspis* Dejean
 Species 34. *M. allardi* (Muls.)
 35. *M. discolor* (Fab.)
 36. *M. vincta* (Gorham)
 Genus 17. *Coccinella* Linnaeus
 Species 37. *C. septempunctata* Linn.
 38. *C. transversalis* Fab.
 Genus 18. *Harmonia* Mulsant
 Species 39. *H. arcuata* (Fab.)
 Tribe Psylloborini
 Genus 19. *Illeis* Mulsant
 Species 40. *I. indica* Timberlake
 Sub family 6. Epilachinae
 Genus 20. *Epilachna* Chevrolat
 Species 41. *E. dodecastigma* (Wied.)
 42. *E. indica* Muls.
 43. *E. niponica coalescens* Mader
 44. *E. processa* Weise
 45. *E. septima* Dieke
 46. *E. vigintioctopunctata* (Fab.)
 Genus 21. *Afissa* Dieke
 47. *A. flavicollis* (Thunberg)
 48. *A. pembedtoni* (Crotch)
 Genus 22. *Afidenta* Dieke
 Species 49. *A. mimetica simplex* Dieke
 Family Coccinellidae

Key to the subfamilies of Coccinellidae known from Meghalaya.

- 1(2) Terminal segment of maxillary palpi elongate oval or elongate conical; mentum very narrowly articulated with submentum; The 9th sternite of male flat, triangular; head capsule sometimes projecting anteriorly; [antennae inserted usually more or less dorsally and rarely laterally; mandibles simple or bifid at apex. Inner process of hypomera of prothorax relatively short

(anterior coxal cavities broadly open behind); middle coxal cavities broadly separated by compact and broad articulation of meso and metasterna; tegmen of male genitalia with elongate process at its basal piece, siphon relatively weakly curved and without distinct capsule; coxite of female very elongate. Tarsi usually Cryptotetramerous and rarely trimerous. Body minute or small in size]..... Sticholotinae

- 2(1) Terminal segment of maxillary palpi strongly divergent apically or nearly parallel sided, rarely slightly convergent apically; mentum usually not very narrowly articulated with submentum; the ninth sternite of male linear or clavate; head capsule not projecting anteriorly.
- 3(6) Antennae relatively short, at most about two-third as long as head width, often very short, strongly modified and inserted frontally, laterally or ventrally; the terminal segment of maxillary palpi generally nearly parallel sided, never strongly divergent apically; clypeus normal or strongly expanded laterally; meso- and metasterna usually broadly and compactly articulated and middle coxal cavities broadly separated; femora relatively stout or sometimes strongly depressed.
- 4(5) Clypeus strongly expanded laterally; anterior margin of pronotum deeply and trapezoidally concave and lateral portions of pronotum very strongly descending below; elytral base distinctly broader than pronotal base; metasternum distinctly impressed for the reception of middle femora; elytral epipleura relatively broad and its inner carina reaching elytral apex; tibiae often angulate externally Chilocorinae
- 5(4) Clypeus not strongly expanded laterally; anterior margin of pronotum not deeply or not trapezoidally concave, lateral portion descending below but not very strongly; elytral base slightly broader than pronotal base; elytral epipleura very narrow and its inner carina not reaching the elytral apex but ending near two-thirds of elytral length from base..... Scymninae
- 6(3) Antennae relatively long, at least about one-half as long as the head-width, usually longer than two-thirds and inserted frontally, laterally or dorsally; the terminal segment of maxillary palpi usually strongly divergent apically; clypeus never strongly expanded laterally; meso- and metasterna always feebly and narrowly articulated, separating middle coxal cavities narrowly; femora relatively slender, never strongly depressed.
- 7(8) Female genital plate (9th sternite) always very elongate; dorsum pubescent, weakly or moderately convex; compound eyes sometimes coarsely faceted; antennae eight to eleven segmented and laterally inserted; abdomen composed of five or six visible segments; tarsi true tetramerous, Cryptotetramerous or true trimerous. Coccidulinae
- 8(7) Female genital plate (9th sternite) not elongate, oval or transverse; dorsum glabrous or pubescent, if pubescent, it is strongly convex; compound eyes never coarsely faceted; antennae always eleven segmented and more or less dorsally inserted; abdomen composed of six visible segments; tarsi cryptotetramerous.
- 9(10) Dorsum glabrous; mandibles with a bifid or multidenticate tip and also with a basal tooth; mesepimeron nearly triangular, its posterior margin almost straight or slightly angulate, mentum relatively narrowly articulated with submentum and distinctly divergent apically; inner margin

of female genital plate without notch or small emargination and with a stylus near the inner corner; siphon of male genitalia rather long and usually strongly curved with a well developed capsule, median piece of tegmen usually not very slender..... *Coccinellinae*

- 10(9) Dorsum pubescent; mandibles with a multi denticulate tip and without a basal tooth; mesepimeron quadrate, its posterior margin distinctly angulate; mentum very broadly articulated with submentum and convergent apically; inner margin of female genital plate with notch or small emargination and with a stylus at far outward from the inner corner of female genital plate; siphon of male genitalia rather short and weakly curved without a well developed capsule, median piece of tegmen tubular and slender *Epilachninae*

Sub family Sticholotinae

This subfamily includes three tribes. those are (i) *Sukunahikonini*, (ii) *Serangiini* and (iii) *Sticholotini*. In the present study we have come across the materials of only tribe *Sticholotini*. Distinctive characters of tribe *Sticholotini* are given below.

Tribe Sticholotini

Body minute to small, dorsum glabrous or pubescent uniformly; antennae consisting of seven to eleven segments, terminal segment not elongate knife-shaped; terminal segment of maxillary palpi usually conical; labial palpi usually inserted not terminally; prosternum distinctly elevated in middle, usually broad and nearly quadrate; abdomen composed of five or six visible segments, basal two segments usually not fused; the apical segment much shorter than three preceding segments together; femora not strongly depressed.

Genus 1. *Jauravia* Motschulsky 1858

1858. *Jauravia* Motsch. *Etud. Ent.*, VII : 117

1931. *Jauravia*, Korschefsky, *Coleoptm. Cat.*, Pars 118, p 222

Brief description of the genus : Small to medium sized beetles; body rounded oval to hemispherical; convex, pubescent, upper surface usually smooth and shining, colour varies from light yellowish brown to reddish brown, often with black patches or spots on the elytra. Head moderately dilated laterally, interocular space and clypeus flat, base of antennae exposed by the circular emargination of the clypeus around it, the latter margined and impunctate at the anterior border. Eyes large, glabrous, coarsely faceted, slightly emarginate near the antennal base. Antennae long, 11-segmented, segments 1-2 thick, nearly twice as long as broad, 3-5 slender and long, 6-8 slender but short, 9-11 forming the fusiform club which is as broad as long with the terminal segment conical provided with sensory hairs. Labrum rounded on the sides and narrower anteriorly, hairy. Mandibles bidentate at the apex, with a bicuspidate tooth at the base. Maxillary palpi well developed, with the terminal segment nearly twice as long as either of the preceding two, and though very obliquely truncate and strongly pointed in the apical half, nevertheless securiform. Pronotum transverse, moderately to strongly emarginate anteriorly slightly rounded to straight laterally and tightly fitted to elytra at the base. Scutellum very small, triangular. Elytra wider at the base than the base of pronotum, lateral borders moderately to verybroadly expanded, slightly raised at the shoulder and distinctly

margined. Prothoracic epipleuron with distinct fovea near the anterior margin on either side of the prosternum, which has two widely separated carinae at the base. The carinae diverge anteriorly in straight or curved lines which may reach or stop short before the anterior margin of the prosternum. Elytral epipleuron wider anteriorly, gradually narrowing towards the apex, without fovea. Abdomen with five sternites, femoral lines incomplete. Legs moderately long, femora slightly expanded, tibia slender, tarsal claws two simple, each with a basal tooth.

Key to the species of the genus *Jauravia* Mots. Known from Meghalaya.

- 1(2) Elytra yellowish brown to brown, without black patches or spots; broadly oval, small pubescence dense, penis narrower towards the apex **J. pallidula**
- 2(1) Elytra brown, with black patches or spots.
- 3(4) Each elytron with a well defined, elongate, kidney-shaped elytral marking **J. assamensis**
- 4(3) Each elytron with two large spots, one situated near the base, the other postmedian.
..... **J. quadrinotata**

1. *Jauravia assamensis* Kapur 1961

1961. *Jauravia assamensis* kapur, *Rec. Indian Mus.*, 59(1 & 2): 71- 73 (*Type-loc.*-Assam (Tocklai), Indian)

Material studied : 1 ex., Khasi Hills, Barnyhat, 2.iv. 1991, S.K. Saha & Party coll.

Distribution : India : Meghalaya (Khasi Hills) and Assam.

Remarks : This species is recorded for the first time from Meghalaya.

2. *Jauravia pallidula* Motschulsky 1858

1858. *Jauravia pallidula* Motschulsky, *Etud. Ent.*, Helsingfors, Vol. vii. pp. 117-118. (*Type-loc.*-Ceylon, India)

1946. *Jauravia pallidula*, Kapur, *Ann. Mag. nat. Hist.*, London, 13(11) : 80-82.

Material studied : 2exs., Garo Hills, Phulbari (Previously in Assam), 24.xi. 1974, T. Sengupta & party Coll., ex., "Foliage & flower of *Michenia* sp."

Distribution : India: Meghalaya (Garo Hills), West Bengal, Maharashtra and Tamil Nadu. Also known from Ceylon.

Remarks : This is the first record of this species from Meghalaya.

3. *Jauravia quadrinotata* Kapur 1946

1946. *Jauravia quadrinotata* Kapur, *Ann. Mag. nat. Hist.*, London, 13(11) : 85-86. (*Type-loc.*-Patkai Mountains, Assam)

1977. *Jauravia quadrinotata*, A.K. Ghosh, S. Biswas & A.R. Lahiri, *Bull. Meg. Sci. Soc.*, 2 : 13.

Material studied : 2 exs., Jowai, Jaintia Hills, 20.iii.1991, B.C. Das & Party Coll.; 1 ex., Botanical garden, Shillong, E. Khasi Hills, 29.iii.1991, S.K. Ghosh & Party Coll.; 1 ex., Tura, Darangiri, Garo Hills, 30.iv.1979. J.K. Jonathan & Party Coll.

Distribution : India : Meghalaya (Khasi & Jaintia Hills) and Assam. Also known from Bhutan.

Remarks : This is new record of this species from Meghalaya.

Sub family Scymninae

Key to the tribes of subfamily Scymninae known from Meghalaya.

- 1(2) Eyes covered anteriorly by the expanded head capsule; antennae nine segmented and very short, less than one-fourth of head width; elytral epipleura very narrow with distinct foveae; trochanters elongate, femora broadly expanded to conceal the compressed tibiae, tarsi true trimerons; abdomen composed of six segments, first segment convex posteriorly in an arc; dorsum pubescent; body small..... Tribe Aspidimerini
- 2(1) Eyes exposed anteriorly; antennae nine to eleven segmented, at least as long as one-third of head width; elytral epipleura very narrow without distinct foveae; trochanters normal, femora cylindrical and stout, tarsi trimerous or cryptotetramerous; first abdominal segment not convex posteriorly.
- 3(4) Eyes very large with a very deep and narrow postantennal emargination; inner-ocular margins parallel to each other and their distance about one-third as broad as head; antennae nine to eleven segmented, rather long about two-thirds as long as head width; female genital plate (coxite) strongly transverse without a stylus. Tribe Ortalini
- 4(3) Eyes moderate; with or without a moderately deep or shallow postantennal emargination; inner-ocular margins not parallel to each other; antennae nine to eleven segmented, usually shorter than two-thirds of head width; female genital plate (coxite) usually elongate, rarely transverse with a stylus on each. Tribe Scymnini

Tribe Scymnini

Genus. 2. *Pullus* Mulsant 1846

1846. *Pullus* Mulsant, *Sulcicolles-Securipalpes*, 4 : 241.

1931. *Pullus*, Korschefsky, *Coleoptm. Cat.*, Pars 118, P. 116

Genus *Pullus* Mulsant has been treated as a subgenus to the genus *Scymnus* Kugelan by the early workers. Genus *Pullus* can be easily separated from *Scymnus* by its complete femoral line. Recent workers like Kapur (1955, 1963, 1960) Sasaji (1976) etc. have treated subgenus *Pullus* and *Nephus* as distinct genus. Though authorities are not-unanamous regarding this generic status. In this present paper we also agree with Kapur and have treated *Pullus* as a distinct genus.

Brief description of the genus : Body small in size, hairy, usually less than 4 mm.; elongate oval to hemispherical; antennae rather short; the terminal segment of maxillary palpi generally cylindrical; clypeus not expanded beneath eyes to cover it; pronotum with varying colouration; elytra with narrow epipleuron and varying colouration; prosternum with a pair of carinae; abdomen with six visible segments, femoral lime complete.

Key to the species of the genus *Pullus* Muls. Known from Meghalaya.

- 1(6) Elytra yellowish brown, dark brown or reddish brown, without testaceous apex.
- 2(5) Pronotum yellowish brown, dark brown or reddish brown, without any black spot.

- 3(4) Pronotum and elytra uniformly yellowish brown to dark brown, without any marking.....
.....*P. brunnescens*
- 4(3) Pronotum and elytra reddish brown to dark brown; pronotum often with a black marking at the base without distinct border; external margin of elytra in the middle and sutural margin at the basal two-thirds reddish or dark brown..... *P. fuscatus*
- 5(2) Pronotum reddish brown, with a black spot at the middle of the base; elytra reddish brown with a large discal black spot.....*P. victoris*
- 6(1) Elytra black, except the apical testaceous portion.
- 7(14) Pronotum testaceous to reddish testaceous.
- 8(13) Pronotum without black spot
- 9(12) Scutellum testaceous
- 10(11) Base of the apical testaceous area of the elytron convex and directed anteriorly ... ***P. apiciflavus***
- 11(10) Base of the apical testaceous area, which is almost one-fourth of the elytral length, concave, the concavity is directed anteriorly *P. testacecollis*
- 12(9) Scutellum black, apical one-third of the elytra reddish testaceous, the line formed at the meeting place of the black and reddish testaceous parts of the two elytra together almost straight or widely rounded *P. hingstoni*
- 13(8) Pronotum with a basal, median black spot; one-third of the elytral apex at the sutural and two-fifths or less at the external margin testaceous..... *P. pyrocheilus*
- 14(7) Pronotum black at the central-third, except the narrow anterior and quadrangular lateral testaceous area, often the basal black area extends upto two-thirds from the median line. One-sixth of the elytral apex at the sutural and one-third or less at the external margin testaceous, whose basal margin convex and directed anteriorly..... *P. posticalis*

4. *Pullus apiciflavus* (Motschulsky) 1858

1858. *Scymnus apiciflavus* Motschulsky, *Etud. Ent.*, Helsingfors, 7 : 119. (Type-loc. China)

1931. *Scymnus (Pullus) apiciflavus*, Korschefsky, *Coleoptm. Cat.*, 16 : 141

1963. *Pullus apiciflavus*, Kapur, *Bull. Br. Mus. nat. Hist. (Ent.)* 14(1):22

Material studied : 1 ex., Nartiang, Jowai, Jaintia Hills, 20.ix. 1988, V.D. Srivastav & Party Coll.

Distribution : India : Meghalaya (Jaintia Hills). Also known from Ceylon, Thailand and S. China.

Remarks : This species is recorded for the first time from Meghalaya.

5. *Pullus brunnescens* (Motschulsky 1863)

1863. *Scymnus brunnescens* Motschulsky, *Bull. Soc. Nat. Moscou*, 36 : 425 (Type-loc. Ceylon)

1931. *Scymnus (Pullus) brunnescens*, Korschefsky, *Coleoptm. Cat.*, 16 : (Pars 118) : 122

1966. *Scymnus (Pullus) brunnescens*, Kapur, *Proc. Nat. Inst. Sci. India*. **328**(3-4) : 160.

Material studie : 4 exs., Garo Hills, 1 ex., Dainadubi, Sarengma, 19.xi.1974, ex. "foliage & flower of *Boga medula*" and 3 exs., Phulbari, 24.xi.1974, ex. "Foliage & flower of *Michenia* sp.". T. Sengupta & Party Coll.

Distribution : India : Meghalaya (Garo Hills); Assam; West Bengal; South, Central and Eastern India and Andamans. Also known from Ceylon.

Remarks : This is a new record of the species from Meghalaya.

6. *Pullus fuscatus* (Boheman) 1859

1859. *Scymnus fuscatus* Boheman, *Eugenies Resa*, P. 208 (*Type-loc.* Java)

1955. *Scymnus (Pullus) fuscatus*, Mader, *Ent. Arb. Mus. Frey* **6**(3) : 908

Material studied : 9 exs., Garo Hills, 2 exs., Dianadubi Reserve Forest, 19.xi.1974, ex. "sweeping"; 5 exs., Phulbari, 24.xi.1974, T. Sengupta & party Coll., ex. "foliage and flower of *Michenia* sp."; 2 exs., Rongring (West Garo Hills) 12.i.1991, B. Nandi Coll.

Distribution : India : Meghalaya (Garo Hills). Also known from China, Japan, Burma, Philippines, Thailand, Sumatra and Ceylon.

Remarks : This species is recorded for the first time from Meghalaya.

7. *Pullus hingstoni* Kapur 1963

1963. *Pullus hingstoni* Kapur, *Bull. Br. Mus. nat. Hist. (Ent.)*. **14**(1) : 22 (*Type; loc.* Sikkim).

Material studied : 1 ex., Phulbari, Garo Hills, 24.xi.1974, T. Sengupta & Party Coll., ex. "foliage & flower of *Michenia* sp."; 5 exs., Cherrapunji, Khasi Hills, alt. 1300 m., 26.iv.1979, J.K. Jonathan & Party Coll.

Distribution : India : Meghalaya (Garo & Khasi Hills) and Sikkim.

Remarks : This is a new record of the species from Meghalaya.

8. *Pullus posticalis* Sicard 1912

1912. *Scymnus (Pullus) posticalis* Sicard, *Ann. Soc. Ent. France*, **81** : 495-506

Material studied : 3 exs., Phulbari, Garo Hills, 15-24. xi. 1974, T. Sengupta & Party Coll., ex., "Sweeping on the roadside"; 1 ex., Dianadubi and 1 ex., Sangsak, Garo Hills, 15-20.ix.1975, N. Muraleedharan Coll.; 1 ex., Shillong, Sorynkham, Khasi Hills, 21.iv.1979, J.K. Jonathan Coll., and 1 ex., Barnyhat, Khasi Hills, 2.iv.1991, S.K. Saha & Party Coll.

Distribution : India : Meghalaya (Garo & Khasi Hills) Also known from Burma.

Remarks : The species is recorded for the first time from Meghalaya.

9. *Pullus pyrocheilus* Mulsant 1853

1853. *Scymnus (Pullus) pyrocheilus* Mulsant. *Ann. Soc. Linn. Lyon*. **1** : 281 (*Type-loc.* - Calcutta)

Material studied : 9 exs., Garo Hills, 1 ex., Dainadubi Reserve Forest, 19.xi.1974, ex. "by sweeping" and 5 exs., Phulbari, 15- 25.xi.1974, ex. "sweeping along road side" and "foliage and flower of *Michenia* sp.", T. Sengupta & Party Coll., 1 ex., Alogiri, Tura, 6.x.1988; 1 ex., Baranagapara, 17.x.1988, and 1 ex., Ronthong, 22.x.1988, K.K. Ray & Party Coll.

Distribution : India : Meghalaya (Garo Hills), West Bengal and Andamans. Also known from Nepal.

Remarks : This is the first record of the species from Meghalaya.

10. *Pullus testacecollis* Kapur 1963

1963. *Pullus testacecollis* Kapur, *Bull. Br. Mus. nat. Hist. (Ent.)* 14 (1) : 21-22, (Type-loc. - Sikkim)

Material studied : 1 ex., Phulbari, Garo Hills, 24.xi.1974, T. Sengupta & Party Coll., ex. "foliage & flower of *Michenia* sp."; 1 ex., Elephant falls, Shillong, E. Khasi Hills, 28.vii.1979, P. T. Cherian Coll.

Distribution : India : Meghalaya (Garo & Khasi Hills) and Sikkim.

Remarks : The species is recorded for the first time from Meghalaya.

11. *Pullus victoris* (Motschulsky) 1858

1858. *Scymnus limbatus* Motschulsky, *Etud. Ent.*, Helsingfors, p. 118. (Type-loc. - Himalaya, India)

1874. *Scymnus victoris*, Crotch, *Revis. Cocc.*, p. 253

1931. *Scymnus (Pullus) victoris*, Korschefsky, *Coleoptm. Cat.*, 16 Pars 118 : 145

Material studied : 1 ex., Dobasipara, Tura, 20.x.1988 and 1 ex., Ronthong, 22.x.1988, West Garo Hills, K.K. Ray & Party Coll.

Distribution : India : Meghalaya (Garo Hills) Himalaya.

Remarks : This is the first record of the species from Meghalaya.

Tribe Aspidimerini

Key to the genera of Tribe Aspidimerini known from Meghalaya.

- 1(2) Prosternum evenly convex, carinae widely apart, divergent and not meeting each other anteriorly, the area between them convex and widening anteriorly to form a chinband, punctation coarse, pubescence long and uniform all over the prosternum; body moderately large (4-6mm long), oblong oval, moderately convex; pronotum with the posterior angles pointed and lateral margin straight. Genus *Aspidimerus*. **Muls.**
- 2(1) Prosternum flat, at least on the sides external to the carinae, which always meet and enclose a flat area which is either at the same level or slightly projecting ventrally and not forming a chinband; body small to moderately large (2-4.5mm long), elongate oval to subrounded.
- 3(4) Carinae as wide apart as the base of prosternal process, parallel, extending from the base to the anterior margin of the segment and meeting each other in a transverse ridge to enclose a rectangular area which, when viewed from the underside, lies at a higher level than the lateral parts of prosternum, prosternum subquadrate in outline; body (2-2.75mm long) rounded oval, usually moderately convex; pronotum with the posterior angles subrounded Genus *Pseudaspidimerus* **Kapur**

- 4(3) Carinae not as above, varying in outline, the area enclosed by them lying at the same level as the rest of prosternum, which is flat, the part external to carinae triangular in outline
 Genus *Cryptogonus*

Genus 3. *Cryptogonus* Mulsant 1850

1850. *Cryptogonus* Mulsant, *Spec. Trim. securipalp.*, P.944-945

1931. *Cryptogonus*, Korschefsky, *Coleoptm. Cat.*, Pars 118, p.172

Key to the species of the genus *Cryptogonus* Muls. known from Meghalaya.

- 1(2) Prosternal carinae as long as the prosternum, meeting each other at the anterior margin, much narrower than the base of prosternal process, subparallel in the basal half and widening in the anterior half; pronotum black excepting the moderately broad, brown anterior border and the lateral margins each with a large yellowish testaceous triangular spot; elytron black with the apical one-third reddish testaceous, the basal black area near the suture convex and concave towards the external margin. *C. complexus* var. *posticus*
- 2(1) Prosternal carinae shorter than the length of prosternum, nearly two-thirds as long, subparallel, slightly narrowing anteriorly to meet each other in a rounded arch away from the anterior margin.
- 3(4) Elytron yellowish, base and apex with narrow black margins, each with two large black spots one at the middle near margin and other near apex close to suture and one comparatively larger black discoidal spot common to both; pronotum black often with yellowish anterior margin and anterior angles.....*C. nepalensis bhutanensis*
- 4(3) Elytron black with two yellowish testaceous to reddish brown spots situated one behind to other in the anterior and posterior halves; pronotum black with testaceous or reddish brown triangular spot near the anterior angles.*C. quadrignatus*

12. *Cryptogonus complexus* Kapur 1948

1948. *Cryptogonus complexus* Kapur, *Trans. R. ent.Soc. Lond.*, **99** : 110-111. (Type loc. - Patkai Mountains, Assam)

1963. *Cryptogonus complexus*, Kapur, *Bull. Br. Mus. nat. Hist. (Ent.)*, **14**(1) : 24

Material studied : 3 exs., Phulbari and Dainadubi Reserve Forest, Garo Hills, 19-24.xi.1974, T. Sengupta and party coll., ex. "foliage & flower of *Michenia* sp."; 1 ex., Nongpoh, Khasi Hills, 4.iv.1991, S.K. Saha & Party Coll.; 1 ex., Mawlong, 8.ix.1975, N. Muraleedharan & Party Coll.

Distribution : India : Meghalaya (Garo & Khasi Hills), Assam and Sikkim. Also known from Bhutan and Burma.

Remarks : This species is recorded for the first time from Meghalaya. The specimens studied belong to variety *posticus* Kapur (1948)

13. *Cryptogonus nepalensis bhutanensis* Bielawski 1972

1972. *Cryptogonus nepalensis bhutanensis* Bielawski, *Entomol. Basillien.*, **4** : 109. (Type - loc. Phuntsholing, Bhutan)

Material studied : 1 ex., Happy valley, Shillong, Khasi Hills, 9.ix. 1975, N. Muraleedharan Coll.; 5 exs., Jaintia Hills, V.D. Srivastava Coll., as follows - 4 exs., Jowai, 20-25.ix.1988 and 1 ex., Sungphang, 22.ix.1988.

Distribution : India : Meghalaya (Khasi & Jaintia Hills). Also known from Bhutan.

Remarks : This is the first record of this species from Meghalaya.

14. *Cryptogonus quadriguttatus* (Weise) 1895

1895. *Aspidiphorus quadriguttatus* Weise, *Dtsch. ent. Z.*, p.326. (*Type-loc.* Sikkim).

1931. *Cryptogonus quadriguttatus*, Korschefsky, *Coleoptm. Cat.*, 16 Pars 118 : 174

Material studied : Garo Hills, N. Muraleedharan Coll., as follows - 1 ex., Rongram, 28.ix.1975. J.K. Jonathan Coll., as follows 1 ex., Shillong, Barapani, Khasi Hills, 20.iv.1979, 1 ex.; 1 km. E. of Darugiri R.R.H., Garo Hills, 16. iii. 1991, A.K. Hazra & Party Coll., 1 ex., Umrung, Khasi Hills, 1.iv.1991, S.K. Saha & Party Coll., ex., ex. "on leaf" and 1 ex., Polo hill forest, Khasi Hills, 20.ix.1991, R.K. Varshney Coll.

Distribution : India : Meghalaya (Garo & Khasi Hills), Assam, Goa, Sikkim and West Bengal. Also known from Bhutan.

Remarks : The species is reported for the first time from Meghalaya.

Genus 4. *Aspidimerus* Mulsant 1850

1850. *Aspidimerus* Mulsant, *Spec. Trim. Securipalp.*, p. 944

1931. *Aspidimerus*, Korschefsky, *Coleoptm. Cat.*, Pars 118, p.172

15. *Aspidimerus birmanicus* (Gorham) 1895

1895. *Cryptogonus birmanicus* Gorham, *Ann. Mus. Stor. nat. Genova*, (2)34 : 691 (*Type-loc.*- Burma)

1948. *Aspidimerus birmanicus*, Kapur, *Trans. R. ent. Soc. Lond.*, 99 : 84

Material studied : 1 ex., 1km. E. of Darugiri F.R.H., Garo Hills, 16.v.1979, S.B.Roy Coll.

Distribution : India : Meghalaya (Garo Hills) and West Bengal. Also known from Burma.

Remarks : This is the first record of this species from Meghalaya. This species can be easily recognized by the following characters. Pronotum black except the antero-lateral angles yellowish to reddish brown; Scutellum and elytra black, each elytron with a large, irregularly rounded or subquadrate, yellowish or reddish brown discal spot, nearly half as wide as elytron, situated slightly nearer the base. Underside black to darkbrown except legs and abdominal sternites which are reddish brown. Length : 3.8 - 5.0 mm; width : 2.8 - 3 mm.

Genus 5. *Pseudaspidimerus* Kapur 1948

1948. *Pseudaspidimerus* Kapur, *Trans. Royal ent. Soc. Lond.*, 99 : 81, 117-118

16. *Pseudaspidimerus circumflexa* (Motschulsky) 1858

1858. *Platynaspis circumflexa* Motschulsky, *Etud. ent.*, 7 : 117 (*Type-loc.* - Ceylon)

1900. *Aspidimerus circumflexa*, Weise. *Dtsch. ent. Z.*, 423p.

1948. *Pseudaspidimerus circumflexa* var. *testaceus*, Kapur, *Trans. Royal ent. Soc. Lond.*, 99 : 122.

Material studied : 1 ex., Tura, Darangiri, Garo Hills, 30.iv.1979, J.K. Jonathan & Party Coll.

Distribution : India : Meghalaya (Garo Hills), Assam, West Bengal, Bihar, Maharashtra and Tamil Nadu. Also known from Burma and Srilanka.

Remarks : This species is recorded for the first time from Meghalaya. Specimens studied belongs to variety *testaceous* which can be easily recognised by the following characters.

Pronotum, scutellum and elytra entirely testaceous or moderately dark brown; pubescence yellowish grey; underside and legs pale testaceous except the thoracic sternites and the median part of the first four abdominal sternites which are reddish testaceous to fuscous, Length : 2.5 - 2.75 mm; width : 1.75 - 2.1 mm.

Tribe Ortalini

Genus 6. *Ortalia* Mulsant 1850

1850. *Ortalia* Mulsant, *Spec. Trim. Securipalp.*, p. 893

1931. *Ortalia*, Korschefsky, *coleoptm. Cat.*, Pars 118, p. 106

17. *Ortalia* sp.

Material studied : 1 ex., Tura, Garo Hills, 2.v.1979, J.K. Jonathan Coll.

Sub family Chilacorinae

This subfamily includes three tribes, those are *Telsimini*, *Platynaspini* and *Chilacorini*. In the present study we have come across material from a single tribe, namely Chilacorini. So we are not giving any key to the tribes. Instead we are giving some distinctive characters of tribe *Chilacorini*.

Tribe Chilacorini

Cardo of maxilla not expanded laterally; Small to medium sized glabrous beetles; Clypeus expanded laterally, cuts deep into the eyes and concealing the base of antennae; antennae seven to ten segmented, basal segment much shorter than half of the remaining part; middle coxal cavities moderately separated; abdomen composed of five visible segments in female and six in male; siphon of male genitalia rather strongly curved with a well developed capsule at its base, median piece of tegmen not divided into two pieces; femore normal, tarsi cryptotetramerous.

Key to the genera of Tribe Chilacorini known from Meghalaya.

- 1(2) Anterior tibiae and the other two with a triangular tooth on outer margin at extremity of tarsal groove; body subhemispherical; pronotum almost emarginate towards the outer corners where it does not lie against the elytral margins; elytral margin feebly reflexed, epipleurae deeply incurved; antennae 8-segmented. Genus *Chilocorus*
- 2(1) Anterior tibiae without any such tooth as mentioned above but middle and posterior tibiae with tibial spurs, body shortly oval, moderately convex; pronotum lies for the most part against the elytral margin; elytral margin not reflexed; antennae 9 - segmented.
..... Genus *Brumus*

Genus 7. *Chilocorus* Leach 1815

1815. *Chilocorus* Leach, in Brewster, *Edinb. Encycl.*, ix, p.116

1932, *Chilocorus*, Korschefsky, *Coleoptm. Cat.*, pars 120, p. 237

18. *Chilocorus braeti* Weise 1895

1895. *Chilocorus braeti* Weise, *Ann. Soc. ent. Belg.*, 39:154, (Type-loc. - Kurseang, N. Bengal)

1963. *Chilocorus braeti*, Kapur, *Bull. Br. Mus. nat. Hist.(Ent.)*. 14(1) : 24

Material studied : 1 ex., Elephant falls, Shillong, Khasi Hills, 22. iii. 1991, A.K. Sanyal Coll.

Distribution : India: Meghalaya (Khasi Hills), West Bengal and Sikkim.

Remarks : This is the first record of this species from Meghalaya.

Diagonistic characters : This species is very similar to *Chilocorus nigritus* in shape, size and colouration. Both are shining black. In *C. nigritus* antero-lateral corners of pronotum yellowish whereas in *C. braeti* those corners are shining black like the other parts of the body.

Genus 8. *Brumus* Mulsant 1850

1850. *Brumus* Mulsant, *Spec. Trim. Securipalp.*, P. 492.

1932. *Brumus*, Korschefsky, *Coleoptm. Cat.*, Pars 120, p. 265

19. *Brumus suturalis* (Fabricius) 1798

1798. *Coccinella suturalis* Fabricius, *Suppl. Ent. Syst.*, : 78 (Type-loc. - India)

1850. *Brumus suturalis*, Mulsant, *Ann. Soc. Agric. Lyon*, (2) 2 : 494.

1972. *Brumus suturalis*, Kapur, *Rec. Zool. Surv. India*, 66(1-4) : 315.

Material studied : 1 ex., Barapani, Shillong, Khasi Hills, 20.iv.1979, J.K. Jonathan Col.; 8 exs., Garo Hills, S.B. Roy Coll., as follows - 1 ex.; Sarengma, 11.v.1979; 1 ex., Hisangram, 12.v.1979; 6 exs., Darugiri F.R.H., 14-19.v.1979; 19 exs., W. Garo Hills, as follows - 6 exs., Williamnagar, 9- 10. iii. 1991, B.C. Das and Party Coll.; 7 exs., Phulbari, 11. iii. 1991, H.C. Ghosh Coll. and 6 exs., Nehru park, Tura, 16- 17.iii.1991, A.K. Hazra Coll.

Distribution : India : Meghalaya (Khasi & Garo Hills), Sikkim, West Bengal, Madhya Pradesh, Maharashtra, Karnatak and Goa. Also known from Nepal, Bhutan and Srilanka.

Remarks : This species is recorded for the first time from Meghalaya.

Diagonistic characters : Body shortly oval, moderately convex; pronotum reddish brown; elytra testaceous, each elytron with a narrow black longitudinal strip at middle and a black sutural border forming 3 black narrow strips in total, strips are free at both ends.

Subfamily Coccidulinae

This subfamily includes 4 tribes. Those are namely i) Lithophilini, (ii) Coccidulini, (iii) Exoplectrini and Noviini. In the present study we have come across the only material of tribe Noviini. So distinctive characters of tribe Noviini are given below :

Tribe Noviini

Antennae eight-segmented, weakly clubbed and rather short; labrum distinctly broader than Clypeus; mentum with a very narrow base; surface of prosternal process strongly raised; junction between meso- and metasterna very narrow; tibiae angulate externally; eyes finely faceted; tarsi true trimerous.

Genus 9. *Rodolia* Mulsant 1850

1850. *Rodolia* Mulsant, *Spec. Trim. Securipalp.*, p. 901-902

1931. *Rodolia*, Korschefsky, *Coleoptm. Cat.*, Pars 118, p.98

Brief description of the genus : Body shortly oval to hemispherical; head rather large, transverse; eyes large, finely faceted and pubescent, not emarginate on the inner margin; epistoma weakly emarginate at the anterior border and obliquely notched laterally; antennae short, nearly as long as the distance between the two eyes, eight segmented, the first two large and oval, the next three short and slender, and the apical three forming a fusiform club; labrum transverse, convex, subrounded on the anterior and lateral margins.

Pronotum nearly twice as broad as long, convex, deeply emarginate anteriorly, anterior angles broad or rather narrowly rounded, lateral margins rounded or nearly straight, basal margin without any border, rounded except for a short truncate part in the middle opposite the scutellum. Elytra wider than pronotum, moderately to strongly convex, rounded at the shoulders, narrowly margined along the external border; epipleurae wide, concave, devoid of foveae. Prosternum nearly as wide as the pair of coxae which almost conceal it except for a very narrow anterior margin, middle portion sharply raised anteriorly and inclined posteriorly. Abdomen with six visible sternites; abdominal lines complete. Legs robust, nearly compressed, femora sulcate or deeply furrowed distally, tibiae obliquely furrowed and angular at the middle of the external margin; tarsal claws bifid with the inner division shorter than the outer.

20. *Rodolia octoguttata* Weise 1910

1910. *Rodolia octoguttata* Weise, *Verh. Naturf. Ver. Brunn.*, 48: 51 (Type-Loc. Pegu, upper Burma)

1951. *Rodolia octoguttata*, Kapur, *Rec. Indian Mus.*, 48(2): 2-4

Material studied : 1 ex., Bismal, Khasi Hills, 4.iv.1991, S.K. Saha & Party Coll.

Distribution : India : Meghalaya (Khasi Hills) and U.P. Also known from Nepal and Burma.

Diagnostic characters : Medium sized, sub hemispherical beetles, body reddish brown; pronotum often with a pair of large, illdefined black to fuscous spots, situated near the base on either side of the median line; each elytron with four subrounded, rather large to small black spots situated at different levels.

Sub family Coccinellinae

This subfamily includes two tribes, namely (i) Coccinellini and (ii) Psylloborini. Sasaji (1968) has synonymized the other three tribes, namely (i) Synonychini, (ii) Hippodamiini and (iii) Anisostictini to Coccinellini. Distinctive characters of the two tribes are given below in the form of a key.

Key to the tribes of the subfamily Coccinellinae known from Meghalaya.

- 1(2) Anterior margin of clypeus with an anterior projection on each side; antennae inserted very close to the eyes, antennal club compact, the pre-apical segment broader than long; mandibles always with a bifid tip, inner margin entire; maxillary galea conical; anterior margin of pronotum usually deeply emarginate and with angulate corners; body yellow to reddish testaceous with usually black markings on the pronotum and elytra; habit carnivorous
.....Coccinellini
- 2(1) Anterior margin of clypeus truncate without any projection on each side; antennae inserted in front, a little away from the eyes, antennal club loosely segmented, the pre-apical segment longer than broad; mandibles bifid, often with multidenticulate tip, inner margin finely serrated; maxillary galea quadrate; anterior margin of pronotum weakly sinuate with rounded corners; body yellowish or light testaceous, pronotum with a pair of black spots but elytra without any black markings; habit fungivorousPsyllaborini

Tribe Coccinellini

Key to the genera of the tribe Coccinellini known from Meghalaya.

- 1(4) Pronotum with a longitudinal depression along the lateral margin.
- 2(3) Lateral margin of elytra very broadly expanded externally, not marginate, base much broader than the base of pronotum; anterior margin of pronotum trapezoidally concave, slightly concave near the anterior corners, lateral side arcuate, basal corners rounded; prosternal process without carinae; claw with bifid apex; very large in size.*Synonycha*.
- 3(2) Lateral margin of elytra very narrowly expanded externally, marginate, elytral base slightly broader than the base of pronotum; anterior margin of pronotum shallowly concave, lateral sides weakly arcuate and marginated with the corners somewhat angulate; prosternal process with a pair of carinae; claw normal with a tooth at its base; medium sized beetles
..... *Calvia*.
- 4(1) Pronotum without any longitudinal depression along the lateral margin.
- 5(6) Pronotum with an impressed line following the anterior margin, sometimes obsolete in the middle; antennae long; elytra marginated; medium sized beetles.*Ballia*.
- 6(5) Pronotum without any impression, smooth.
- 7(12) The terminal segment of antennae convergent apically; elytral epipleuron about one-sixth as broad as body width; smaller in size; prosternal process with a pair of carina.
- 8(9) Antenna short, nearly as long as or shorter than frons, the terminal segment pointed at apex; lateral side of elytra not marginate, inner carina of elytral epipleuron not strongly convergent and reaching the apex, elytral epipleuron strongly inclined below; scutellum more than one-tenth as wide as pronotum.....*Menochilus* T
- 9(8) Antenna slightly longer than frons, the terminal segment not pointed, broader than long; scutellum small, less than one-tenth as wide as pronotum*Micraspis*

- 10(11) Thoracic fovea wellmarked; antenna short, antennal club compact, subfusiform; elytral epipleuron more inclined, not marked with fovea; prosternal carinae reaching almost to the anterior margin of the prosternal process..... *Oenopia*.
- 11(10) Thoracic fovea not marked; antenna long, slender, club loosely set, 9th and 11th segment generally longer than broad; elytral epipleuron with distinct fovea; prosternal carinae reaching almost half of the prosternal process..... *Coelophora* Muls.
- 12(7) The terminal segment of antenna divergent, transverse, often with a truncate apex; elytra finely margined; medium size beetles.
- 13(14) Body rather rounded and convex; prosternum with a pair of carina which hardly extend beyond the level of the front coxae; anterior margin of the mesosternum flat or entire
..... *Coccinella*
- 14(13) Body less rounded and less convex; prosternum with a pair of carinae as above; anterior margin of the mesosternum distinctly emerginate *Harmonia*.

Genus 10. *Synonycha* Mulsant 1850

1850. *Synonycha* Mulsant, *Spec. Trim. Securipalp.*, p. 229

1932. *Synonycha*, Korschefsky, *Coleoptm. Cat.*, Pars 120, p. 268

21. *Synonycha grandis* (Thunberg) 1781

1781. *Coccinella grandis* Thunberg. *Novae Insectorum species*, 1 : 12 (Type-loc. - China)

1850. *Synonycha grandis*, Mulsant, *Ann. Soc. Agric. Lyon*, 2 : 230

1966. *Synonycha grandis*, Kapur, *Proc. Nat. Inst. Sci. India*, 32 8(3-4) : 174

Material studied : 1 ex., May, 1990, M.S. Shisodia & Party Coll.

Distribution : India : Meghalaya, West Bengal, Sikkim, Tamil Nadu, Karnatak and Andaman Islands. Also known from China and Japan.

Remarks : This species is recorded for the first time from Meghalaya.

Diagnostic characters : Body large, usually 9-10 mm. long, colour reddish testaceous; pronotum with a large medial spot at the base; scutellum black; elytra with three common, black spots on the suture and five other black spots on each elytron; tarsal claw bifid, without the basal tooth.

Genus 11. *Ballia* Mulsant 1850

1850. *Ballia* Mulsant, *Spec. Trim. Securipalp.*, p. 1042

1932. *Ballia*, Korschefsky, *Coleoptm. Cat.*, Pars 120, p. 278

Key to the species of the genus *Ballia* Muls. known from Meghalaya

- 1(7) elytra yellowish ochreous with black spots or markings.
- 2(5) Pronotum yellowish ochreous with black spots or markings.

- 3(4) Each elytron with a narrow uniform black fascia connecting the external margin with the sutural margin which is narrow and black, a spot on the callus and one discoidal before the apex; pronotum with the central third black; scutellum black. *B. mayeti*
- 4(3) Each elytron without any fascia, instead marked with ten large black spots, arranged as in *B. gustavi* Muls., of which the scutellar spot are the sutural spot and common to both the elytron; pronotum with two converging black vittae on either side of the median line; scutellum yellowish brown. *B. zephirinae*
- 5(2) Pronotum yellowish, yellowish brown or reddish brown, without black spots.
- 6(7) Each elytron generally with 3, sometimes 4 small black spots which are placed as follows - one at the humeral callus, two a little before the transverse median line (one near the suture and the other near the external margin) and one at the posterior two-third; pronotum yellowish ochreous; scutellum dark brown. *B. eucharis*
- 7(1) Elytra light ochreous or reddish brown, without any black spots.
- 8(9) Pronotum reddish brown at the central third, bordered generally with dark brown, sides whitish; elytra reddish brown, each elytron with seven white spots, ringed with dark brown, arranged as follows - two basal (one marginal and one near the scutellum), three medial (one marginal, two close together near the suture), two subapical (one marginal, the other united to it by one corner); occasionally an illdefined black spot is found near the suture between the scutellar spot and the medial spot; scutellum reddish brown *B. dianae*
- 9(8) Pronotum yellowish brown with the sides ochreous; elytra light ochreous with ten yellowish brown spots arranged as follows - two basal, one scutellar, three medial, three transverse and one sutural at the posterior two-third, and one apical. The scutellar and the sutural spots are common to both the elytron; scutellum dark brown. *B. gustavi*

22. *Ballia dianae*, Mulsant 1853

1853. *Ballia dianae* Mulsant, *Opusc. Ent.*, 3 : 167 (Type-loc. - India)

1977. *Ballia dianae*, A.K. Ghosh, S. Biswas & A.R. Lahiri, *Bull. Meg. Sci. Soc.*, 2 : 13.

Material studied : 1 ex., Elephant falls, Shillong, Khasi Hills, 12.ii.1967, S. Biswas Coll., 1 ex., Sericulture Station, 19.iv.1979 and 1 ex., Sorynkham, 21.iv.1979, Shillong, Khasi Hills, J.K. Jonathan & Party Coll.; 1 ex., 24.iii.1991, A.K. Hazra Coll. and 1 ex., 30.iii.1991, B.C. Das Coll., Jowai, Jaintia Hills; 2 exs., Churfurlong, E. Khasi Hills, Shillong, 9.iv.1991, S.K. Ghosh & Party Coll., 1 ex., Mandwans, 23.iii.1991, S.K. Saha & Party Coll.

Distribution : India : Meghalaya (Khasi & Jaintia Hills).

23. *Ballia eucharis* Mulsant 1853

1853. *Ballia eucharis* Mulsant, *Opusc. Ent.*, 3 : 39 (Type-loc. - India)

1977. *Ballie eucharis*, A.K. Ghosh, S. Biswas & A.R. Lahiri, *Bull. Meg. Sci. Soc.*, 2 : 113

Material studied : 11 exs., Risa Colony, Shillong, Khasi Hills, 21.iv.1965, S.N. Prasad Coll.; 22 exs., Elephant falls, Shillong, 12.vii.1967, S. Biswas Coll.; 4 exs. Tripura Castle Road, Shillong, 22-24.iv.1974, M.S. Jyrwa Coll.; 1 ex., Tripura Castle Road, B.ix.1975, N. Muraleedharan Coll.; 6 exs., Sericulture Station, Botanical garden, Sorynkham and Cherrapunjee, Shillong, 19-26.iv.1979 J.K. Jonathan & Party Coll.; 2 exs., Mawphlong, Khasi Hills, 24.iv.1979, S.K. Chanda Coll.; 2 exs., Cherrapunjee, E. Khasi Hills, 24.v.1990 M.S. Shisodia Coll.; 1 ex., Mawphlong, Khasi Hills, 2.iii.1991, A.K. Hazra & Party Coll.; 1 ex., Elephant falls, Shillong, 22.iii.1991, A.K. Sanyal Coll.; 1 ex., Shillong, Khasi Hills, 21.iii.1991 and 2 exs. Jowai, Jaintia Hills 30.iii.1991 B.C. Das & Party Coll.; 8 exs., Elephant falls, Happy Valley and Churfurlong, E. Khasi Hills, 30.iii. - 9.iv.1991, S.K. Ghosh & Party coll.; 2 exs., Mandwans and 1 ex., Mawphlong, 23-24.iii.1991, S.K. Saha & Party Coll.

Distribution : India : Meghalaya (Khasi & Jaintia Hills). Also known from Bhutan and south China.

24. *Ballia gustavi* Mulsant 1853

1853. *Ballia gustavi* Mulsant, *Ann. Soc. Linn. Lyon.*, 1 : 190. (Type - loc. N. India, Himalaya)

1963. *Ballia gustavi*, Kapur, *Bull. Br. Mus. nat. Hist.(Ent.)*, 14(1) : 26.

1977. *Ballia gustavi*, A.K. Ghosh, S. Biswas & A.R. Lahiri, *Bull Meg. Sci. Soc.*, 2 : 13.

Material studied : E. Khasi Hills: Shillong, 1 ex., Risa Colony, 6.ix.1975, N. Muraleedharan Coll., ex. "at light" and 1 ex., Elephant falls, 22.iii.1991, A.K. Sanyal & Party Coll.; 1 ex., Mawphlong 18.v.1979, P.T. Cherian Coll., 1 ex., Mongpoh, 18.v.1990, M.S. Shisodia Coll.

Distribution : India : Meghalaya (E. Khasi Hills). Also known from Nepal.

25. *Ballia mayeti* (Mulsant) 1866

1866. *Pelina mayeti* Mulsant, *Mem. Acad. Lyon.*, 15 : 189 (Type- loc.- India)

1874. *Ballia mayeti*, Crotch, *Revis. Cocc.*, p. 127.

Material studied : E. Khasi Hills : Shillong, elephant Falls, 1 ex., 12.vii.1967, S. Biswas Coll., 1 ex., 22.iii.1991, A.K. Sanyal Coll., 1 ex., Happy Valley, 31.iii.1991, S.K. Ghosh & Party Coll.; 1 ex., Mawphlong forest, 11. iii. 1977, M. Rynth Coll.

Distribution : India : Meghalaya (E. Khasi Hills.).

Remarks : This report may be treated as first record of this species from Meghalaya.

26. *Ballia zephirinae* Mulsant 1866

1866. *Ballia zephirinae* Mulsant, *Mem. Acad. Lyon.*, 15 : 190 (Type - loc. - India)

Material studied : E. Khasi Hills : Shillong, Elephant falls, 3 exs., 12.vii.1967, S. Biswas Coll. and 1 ex., 22.iii.1991, A.K. Sanyal & Party Coll.; 2 exs., Sorynkham, 21.iv.1979, and 2 exs., Mawphlong. J.K. Jonathan & Party Coll.; 1 ex.; Cherrapunjee, 24.ix.1979, S.K. Chanda Coll.; 1 ex., Happy valley, 31.iii.1991, S.K. Ghosh & party Coll.; 1 ex., Mawphlong, 2.iii.1991, K.K. Ray & Party coll.; Jaintia Hills : 1 ex., Jowai, 30.iii.1991, B.C. Das & party Coll.

Remarks : This is the first record of this species from Meghalaya.

Genus 12. *Calvia* Mulsant 18501850. *Calvia* Mulsant, *Spec. Trim. Securipalp.*, p. 1401932. *Calvia*, Korschefsky, *Coleoptm. Cat.*, Pars 120, p. 52027. *Calvia sykesi* (Crotch) 18741874. *Anisocalvia sykesi* Crotch, *Revis. Cocc.*, p. 146. (Type - loc. - Dukhun, India)1963. *Calvia sykesi*, Kapur, *Bull. Br. Mus. nat. Hist. (Ent.)*, 14(1) : 39*Material studied* : 1 ex., Polobazar, Shillong, E. Khasi Hills, 7.iv.1991, S.K. Ghosh & Party Coll.*Distribution* : India : Meghalaya (E. Khasi Hills), West Bengal.

Diagonistic characters : Body ovate, convex; pronotum light brown, sides greenish white, margins light brown, disc with an irregular 'M' in brownish red, the outside strokes being the borders of the greenish-white marks; elytra greenish ochreous tinged with red along the suture, punctation distinct, each elytron with three very small black dots (one near the margin at one-third, one near the suture in a transverse line with the first, one also near the margin at two-thirds).

Genus 13. *Oenopia* Mulsant 18501850. *Oenopia* Mulsant, *Spec. Trim. Securipalp.*, p. 4201932. *Oenopia*, Korschefsky, *Coleoptera. Cat.*, Pars 120 p. 287Key to the species of the genus *Oenopia* Muls. known from Meghalaya.

- 1(4) Elytra testaceous or yellowish brown.
- 2(3) Each elytron completely bordered black; black sutural margin slightly thickened in the middle; elytron furnished with a premedian, large, irregularly round and a postmedian large irregularly over black spot; pronotum black except the anterolateral two-third flavus..... *O. kirbyi*
- 3(2) Each elytron bordered black only on the sutural margin of various thickening; pronotum black with two almost square yellowish brown spot at the anterior corners, occupying almost anterior two-thirds of the lateral margins; each elytron with five ill defined yellowish brown spots, often shows variation *O. luteopustulata* Muls.
- a) Pronotum as above; each elytron divided into four yellowish brown cells, by a longitudinal and two transverse black bands..... *Var. pedicata*
- b) Pronotum as above, each elytron with one elongated black spot at the humeral callus and one irregularly rounded black spot at the posterior two-thirds. *Var. nigromaculata* Mader
- c) Pronotum typical, as above, except a 'V' shaped yellowish brown area at the anterior margin; each elytron incompletely divided into five compartments..... *Var. thibetina*
- 4(1) Elytra black, each elytron with a sub basal, obliquely oval and a post median roundish flavus spot, lateral margin flavus with two semicircular spots on it; pronotum black, except the lateral portions flavus which extends almost to the base *O. quadripunctata*

28. *Oenopia kirbyi* Mulsant 1850

1850. *Oenopia Kirbyi*, Mulsant, *Spec. Trim. Securipalp.*, : 425 (Type-loc. - Eastern India)

1977. *Oenopia kirbyi*, A.K. Ghosh, S. Biswas & A.R. Lahiri, *Bull. Meg. Sci. Soc.*, 2 : 14

Material studied : E. Khasi Hills : Shillong : 2 exs., Risa Colony, 21.iv.1965, S.N. Prasad Coll.; 3 exs., Happy Valley, 9.ix.1975, N. Muraleedharan Coll.; Barapani - 1 ex., 20.iv.1979, J.K. Jonathan & Party Coll. and 1 ex., 1.iii.1991, K.K. Ray & Party Coll.; 1 ex., Botanical Garden, 29.iii.1991, S.K. Ghosh & Party Coll.; Jaintia Hills, V.D. Srivastav Coll. - 1 ex., Garampani, Luchuk, 2.x.1988 and 1 ex., on the bank of Kapil River, 4.x.1988.

Distribution : India : Meghalaya (Khasi & Jaintia Hills) and West Bengal. Also known from Bhutan and Burma.

29. *Oenopia luteopustulata* Mulsant 1850

1850. *Oenopia luteopustulata* Mulsant, *Spec. Trim. Securipalp.*, p.421 (Type-loc. - Assam)

1977. *Oenopia luteopustulata*, A.K. Ghosh, S. Biswas & A.R. Lahiri, *Bull. Meg. Sci. Soc.*, 2 : 14

Material studied : Khasi hills : Shillong 1 ex., Fishery Campus, 19.viii.1974, 1974 and 1 ex., Risa Colony, 13.x.1979, R.S. Giri Coll.; 1 ex., Happy Valley, Shillong, 9.ix.1975, N. Muraleedharan & Party Coll.; 11 exs., Barapani, 20.iv.1979, J.K. Jonathan & Party Coll.; 2 exs., Mandwans, 23.iii.1991; 1 ex., Umrun, 1.iv.1991 and 1 ex., Umsning, 3.iv.1991, S.K. Saha & Party Coll. Garo Hills : 1 ex., Dainadubi Reserve Forest, 19.xi.1974, T. Sengupta & Party Coll.; 2 exs., Rongram, 27-28.ix.1975, N. Muraleedharan Coll.; 12 exs. Phulbari, 11-12, iii. 1991, H.C. ghosh & Party Coll.; 1 ex., Dobasipara, Tura, 20.x.1988, K.K. Ray & Party Coll.; 1 ex.; Willamnagar, 11.iii.1991, B.C. Das & Party Coll.; 2 exs., Tura, 16.iii.1991, A.K. Hazra & Party Coll.; 1 ex., Ganol, Tura, 22.iv.1991; 1 ex., Barangapara, 23.iv.1991 and 1 ex., Songsok, 2.v.1991, B.N. Das & Party Coll., 1 ex., Sarengma, 11.v.1979; 1 ex., Hisangram, 12.v.1979 and exs. Darugiri, 14-19.v.1979, S.B. Roy & Party Coll. Jaintia Hills: 1 ex., Jowai, 27.ix.1988, V.D. Srivastav & Party Coll.

Distribution : India : Meghalaya (Khasi, Garo and Jaintia Hills), Assam, West Bengal, Sikkim, Simla and Kumaun Hills, Plains of U.P. and Andaman Islands. Also known from Nepal, Bhutan, Burma and Tibet.

Remarks : This species shows considerable variation in the elytral colour pattern. Some are without spots, some with spots connected into characterists patterns. Three distinct varieties namely var. *pedicata* Muls., var. *thibetina* Muls. and var. *nigromaculata* Mader have been recorded.

30. *Oenopia quadripunctata* Kapur 1963

1963. *Oenopia quadripunctata* Kapur, *Bull. Br. Mus. nat. Hist. (Ent.)* 14(1) : 27-29, (Type-loc. - Shillong, Assam)

1977. *Oenopia quadripunctata*, A.K. Ghosh, S. Biswas & A.R. Lahiri *Bull. Meg. Sci. Soc.*, 2 : 14.

Material studied : 1 ex., Mandwans, Khasi Hills, 23.iii.1991, S.K. Saha & Party Coll.

Distribution : India : Meghalaya (Khasi Hills), West Bengal and Sikkim. Also known from Bhutan and Burma.

Genus 14. *Coelophora* Mulsant 18501850. *Coelophora* Mulsant, *Spec. Tim. Securipalp.*, pp. 374, 3901932. *Coelophora*, Korschefsky, *Coleoptm. Cat.*, Pars 120, p. 290.Key to the species of the genus *Coelophora* Muls. Known from Meghalaya.

- 1(2) Pronotum yellowish with two median, broadly oval black spots near the base and two small round black spots one at each posterolateral corners, elytra yellowish brown, each elytron with six large, round black spots of which two semicircular and sutural, common to both the elytron .
..... *C. bissellata*
- 2(1) Pronotum black, except the lateral margins which are flavus, almost quadrangular and extends almost near the base; elytra yellowish brown, each elytron completely margined with black border and divided into two anterior and one posterior compartments by black markings.....
..... *C. sexareata*

31. *Coelophora bissellata* Mulsant 18501850. *Coelophora bissellata* Mulsant, *Spec. Trim. Securipalp.*, p.400, (Type - loc.-Bengal)1934. *Coelophora bissellata*, Korschefsky, *Coleoptm. Cat.*, Pars 120 : 291.

Material studied : Garo Hills : 1 ex., Songsok Res. Forest, 17.ix.1973, S. Biswas & party Coll.; 1 ex., Songsok, 22.ix.1975 and 1 ex., Rongram, 27.ix.1975, N. Muraleedharan Coll.; 1 ex., Darangiri, Tura, 30.iv.1979, and 1 ex., Tura Peak, Tura, 2.v.1979. J.K. Jonathan & Party Coll.; 1 ex., Darugiri, 16.v.1979, S.B. Roy & Party Coll.

Distribution : India : Meghalaya (Garo Hills), West Bengal, Assam, Sikkim, U.P. and S. India. Also known from Bhutan, Nepal, Borneo, Sumatra, Malacca, Philippines and New Guinea.

Remarks : This is the first record of this species from Meghalaya.

32. *Coelophora sexareata* Mulsant 18531853. *Coelophora sexareata* Mulsant, *Ann. Soc. Linn. Lyon.* 1 : 181 (Type-loc.- N. India)1977. *Coelophora sexareata*, A.K. Ghosh, S. Biswas & A.R. Lahiri, *Bull. Meg. Sci. Soc.*, 2 : 13.

Material studied : Khasi Hills : Shillong; 3 exs., Happy Valley, 9.ix.1975, N. Muraleedharan Coll.; 3 exs., Barapani, 20.iv.1979 and 1 ex., Sarynkham, 21.iv.1979, J.K. Jonathan & Party Coll.; 6 exs., Umran, 1.iv.1991, ex. "dusting the bush" and "on leaf"; 1 ex., Nongpoh, 2.iv.1991; 2 exs., Umsning, 3.iv.1991 and 1 ex., Umiam, 5.iv.1991, S.K. Saha & Party Coll.; 2 exs., Garampani, 21.iii.1991, A.K. Sanyal Coll. Garo Hills : 1 ex., Rongram, 27.ix.1975, N. Muraleedharan Coll., 1 ex., Darugiri, 16.v.1979, S.B. Roy & Party Coll. and 1 ex., Tura, 16.iii.1991, A.K. Hazra & Party Coll.

Distribution : India : Meghalaya (Khasi & Garo Hills), Assam, West Bengal and Sikkim. Also known from Nepal, Bhutan, Burma and China.

Genus 15. *Menochilus* Timberlake 1943

1943. *Menochilus* Timberlake, *Hawaii. Plant. Rec.*, 47(1) : 40

1965. *Menochilus* Kamiya, *Mem. Fac. Lib. Arts.*, Fukui Univ., Ser. II, Nat. Sci. No. 15, p.61.

33. *Menochilus sexmaculatus* (Fabricius) 1781

1781. *Coccinella sexmaculata* Fabricius, *Spec. Ins.*, p. 96. (Type - loc. - East Indies)

1850. *Chilomenes sexmaculata*, Mulsant, *Spec. Trim. Securipalp.*, p. 144

1943. *Menochilus sexmaculatus*. Timberlake, *Bull. Hawaiian Sug. Plrs. Ass. Exp. Stn.* (Ent. series) 47(22) : 40-41.

Material studied : Garo Hills : 1 ex., Tura Peak, Tura, 2.v.1979 and 4 exs., Songsok, S.V. 1979, J.K. Jonathan & Party Coll.; 2 exs., Dainadubi, 9-10.v.1979, S.B. Roy Coll.; 1 ex., Phulbari, 11.iii.1991, H.C. Ghosh & Party Coll.; 3 exs., Ganol, Tura, 22.iv.1991, B.N. Das & Party Coll. Jaintia Hills : 1 ex., Jowai, 30.iii.1991, B.C. Das & Party Coll.

Distribution : India : Meghalaya (Garo & Jaintia Hills), West Bengal, and Andaman Islands. Also known from Nepal, Indõnesia, Philippines, Celebes and New Guinea and Japan.

Diagonistic characters : Body testaceous yellow to yellowish brown; pronotum with a black band at the base, a little short of the lateral margin, and a transverse-oval, black discal spot connected to the basal black band with a narrow constriction, appearing like a 'T'; suture narrowly margined black which is dilated once behind the scutellum and again before the apex, each elytron with two wavy black bands (one post humeral, one median) and a round black, sub-apical spot, the bands are generally free, not connected with the sutural margin; each tarsal claw with a basal tooth; usually not more than 5.0 mm long.

Genus 16. *Micraspis* Dejean 1835

1835. *Micraspis* Dejean, *Cat. Coleopt.*, p.459

1965. *Micraspis*, Kamiya, *Mem. Fac. Lib. Arts.*, Fukui Univ., Ser. II. Nat. Sci., No. 15, p. 59.

Key to the species of the genus *Micraspis* Dejean known from Meghalaya.

- 1(2) Elytra yellowish brown, without any spot or marking, sutural margin black, slightly thickened at middle; pronotum yellowish brown; with a narrow basal black marking and two discal small black spots*M. discolor*
- 2(1) Elytra testaceous or reddish yellow, with black spots or markings.
- 3(4) Pronotum without basal black border, instead two small oval black spots at the base on either side of the median line; elytra reddish yellow, sutural margin black, thick, narrower at both the ends, tapered in middle, each elytron with two large black spots (one sub basal, one postmedian) of which the anterior one larger, often transverse and the posterior one oval*M. allardi*
- 4(3) Pronotum with basal black border and two small discal spots; elytra testaceous yellow, sutural margin black, narrow, each elytron with one longitudinal narrow black marking starting from humeral callus and extending upto the sub-apical zone.*M. vincta*

34. *Micraspis allardi* (Mulsant) 1866

1866. *Lemnia allardi* Mulsant, *Mem. Acad. Lyon*, 17 : 28 (Type - loc. - N. India)

1874. *Verania allardi*, Crotch, *Revis, Cocci.*, p. 177.

1973. *Verania allardi*, Kapur, *Rec. zool. Surv. India*, 67 (1-4) : 375-376

Material studied : 1 ex., Williamnagar, W. Garo Hills, 9.iii.1991, B.C. Das & Party Coll.

Distribution : India : Meghalaya (Garo Hills), Manipur, and Bihar. Also known from Burma.

Remarks : Kamiya (1965) has synonymized the genus *Verania* Mulsant with the genus *Micraspis* Dejean. So we place this species under the genus *Micraspis*.

35. *Micraspis discolor* (Fabricius)

1798. *Coccinella discolor* Fabricius, *Suppl. Ent. Syst.*, p.77 (Type - loc. - India)

1850. *Verania discolor*, Mulsant, *Spec. Trim. Securipalp.*, p. 369

1965. *Micraspis discolor* Kamiya, *Mem. Fac. Lib. Arts. Fukui Univ.*, Ser. II, Nat. Sci. No. 15, Parts 3, pp. 60-61.

Material studied : Khasi Hills : (East), 4 exs., Barapani, Shillong, 20.iv.1979, J.K. Jonathan & Party Coll.; 1 ex., Pologround, Shillong, 18.iii.1991, B.C. Das & Party Coll.; 1 ex., Cherrapunjee, 22.ix.1991, R.K. Varshney Coll.; 1 ex., Nongstoin (W. Khasi Hills), 20.iii.1991, A.K. Hazra & Party Coll., Garo Hills : 1 ex., Dainadubi, 12.ix.1975, N. Muraleedharan Coll., 9 exs., Dainadubi, 9-10-ix.1979; 1 ex., Sapengma, 11.v.1979 and 1 ex., Hisangram, 12.v.1979; 12 exs., Darugiri, 16-18.v.1979, S.B. Roy & Party Coll.; 8 exs., Phulbari, 11-12.iii.1991, H.C. Ghosh & Party Coll.; 1 ex., Nehru Park, Tura, 17.iii.1991, 1 ex., Salgsuy, Tura, 15.iii.1991, A.K. Hazra & Party Coll.; 2 exs., Samphalangiri, williamnagar, 10.iii.1991 and 1 ex., Barangapara, 23.iv.1991, B.N. Das & Party Coll.

Distribution : India : Meghalaya (Khasi & Garo Hills), West Bengal, Tamil Nadu, Goa and Andaman Islands. Also known from China and Japan.

36. *Micraspis vincta* (Gorham)

1895. *Verania vincta* Gorham, *Ann. Mus. Civ. Genova*, 34(2) : 686 (Type - loc. - Burma)

1954. *Verania vincta*, Kapur, *Rec. Indian Mus.*, 52 (2-4) : 335

Distribution : India : Meghalaya (Garo Hills), Assam - Bhutan Frontier, Manipur, West Bengal, Bihar and south India, Also known from Burma.

Remarks : Kamiya (1965) has synonymized genus *Verania* Mulsant with *Micraspis* Dejean, so we place this species under the genus *Micraspis*. This is the first record of this species from Meghalaya.

Genus 17. *Coccinella* Linnaeus

1758. *Coccinella* Linnaeus, *Syst. Nat.*, ed. 10, p. 364

1965. *Coccinella*, Kamiya, *Mem. Fac. Lib. Arts. Fukui Univ.*, Ser. II, Nat. Sci., No. 15, p. 35

Key to the species of the genus *Coccinella* Linn. known from Meghalaya.

- 1(2) Elytra yellowish brown, each elytron with three small oval black spots and a common pear shaped scutellar black spot, totalling to seven spots, in some examples the elytral spots are enlarged and confluent; pronotum black except the anterior corner which is flavus and quadrangular. *C. septempunctata* Linn.
- 2(1) Elytra testaceous yellow, each elytron with a triangular black marking on the subhumeral area, with a wavy, black, post- median band confluent with the black utural margin, a subquadrate black spot at three-fourths the external margin, further two common spots, one immediately behind the scutellum and another before the apex, present on the suture.
..... *C. transversalis*

37. *Coccinella septempunctata* Linnaeus

1758. *Coccinella septempunctata* Linnaeus. *Syst. Nat.* (ed. x) : p. 365. (Type loc.-Europe)

1977. *Coccinella septempunctata*, A.K. Ghosh, S. Biswas & A.R. Lahiri, *Bull. Meg. Sci. Soc.*, 2 ; 12.

Material studied : Khasi Hills :- 1 ex., Mawpat, 14.iii.1967, R.K. Varshnsy Coll.; 2 exs., Elephant Falls, Shillong, 12.vii.1967, S. Biswas Coll.; 1 ex., Barapani, 31.vii.1969, B. Dutta Coll.; 2 exs., Risa Colony, 1.vii.1974 and 13.x.1979, and 2 exs., Fishery Campus, Shillong, 19.viii.1974, R. Giri Coll.; 1 ex., Tripura Castle Road, 1 ex., Mawlong, B.ix.1975, and 3 exs., Happy Valley, 9.ix.1975, N. Muraleedharan & Party Coll.; 1 ex., Cherrapunjee, 24.iv.1979, J.K. Jonathan & Party Coll.; 4 exs., Pologround, Shillong, 18.iii.1991, B.C. Das & Party Coll.; 3 exs., Mandwans, 23.iii.1991; 1 ex., Mawphlong, 24.iii.1991 and 5 exs., Umrung, 1.iv.1991, S.K. Saha & Party Coll.; 2 exs., Nongstoin, 13.iii.1991, A.K. Sanyal & A.K. Hazra Coll.; 2 exs., Elapana Fells, 27.iii.1991 and 2 exs., Social Forestry,, 30.iii.1991, A.K. Hazra & Party Coll., Garo Hills: 2 exs., Dainadubi, 12.ix.1975 and 2 exs. rongram, 27-28.ix.1975, N. Muraleedharan Coll.; 1 ex., Rongzeng. 26.v.1990, M.S. Shisodia Coll.; 7 exs.; Phulbari, 11-12.iii.1991, M.C. Ghosh & Party Coll., 1 ex., wiliamnagar, 10.iii.1991, B.C. Das & Party Coll., Jaintia Hills : 1 ex., 24.ix.1988, 3 exs., 30 iii.1991, Jowai, V.D. Srivastav and B.C. Das Coll. respectively; 1 ex., Muktapur, 21.v.1990, M.S. Shisodia & Party Coll.

Distribution : India : Meghalaya (Khâsi, Garo and Jaintia Hills), West Bengal, Manipur and plains of India. Also known from Nepal, Bhutan and Japan.

38. *Coccinella transversalis* Fabricius

1781. *Coccinella transversalis* Fabricius, *Spec. Ins.*, p.97 (Type- loc. - Coromandal, S. India)

1966. *Coccinella transversalis*, Kapur, *Proc. nat. Ins. Sci. India.* 32 8(3-4) : 178.

Material studied : Khasi Hills : 1 ex., Mawphlong, 17.iv.1976, A.K. Ghosh coll.; 2 exs., Hatmawden Coll., 5.xii.1977, K.R. Rao Coll.; 6 exs., Barapani, 20.iv.1979, J.K. Jonathan & Party Coll.; 1 ex., Nongstoin, 13.iii.1991, A.K. Sanyal & Party Coll.; 1 ex., Social forestry, Shillong, 30.iii.1991, A.K. Hazra & Party Coll. Garo Hills : 1 ex., Rongrengiri Reserve Forest, 16.iv.1973, S. Biswas Coll.; 3 exs.; Rongram, 24-28.ix.1975, N. Muraleedharan Coll.; 2 exs., Dainadubi, 1 ex., Hisangram and 13 exs., Darugiri, 9-91.v.1979, S.B. Roy & Party Coll.; 8 exs., Phulbari, 11-12.iii.1991, H.C. Ghosh & Party Coll.; 1 ex., Samphalangiri and 1 ex., Williamnagar, 10-12.iii.1991, B.C. Das & Party Coll.; 4 exs.; Umrung, 1.iv.1991, S.K. Saha & Party Coll.; 1 ex., Ganol Tura, 22.iv.1991, B.N. Das & Party Coll.; 2 exs., Saigsuy and 1ex., Nehru Park Tura, 15-17.iii.1991, A.K. Hazra & Party Coll. Jaintia Hills : 1 ex., Sabai Basti, 3.x.1988, V.D. Srivastava & Party Coll.

Distribution : India : Meghalaya (Khasi, Garo and Jaintia Hills), West Bengal, Kerala, Goa and Andaman Islands. Also known from South East Asia, Japan and Australia.

Genus 18. *Harmonia* Mulsant

1850. *Harmonia* Mulsant, *Spec. Trim. Securipalp.*, pp.74-75

1932. *Harmonia*, Korschefsky, *Coleoptm. Cat.*, Pars 120, p. 280

39. *Harmonia arcuata* (Fabricius)

1787. *Coccinella arcuata* Fabricius, *Mantissa Insectorum*, etc. 1, p.55. (Type-loc.-China)

1850. *Harmonia arcuata*, Mulsant, *Ann. soc. Agric. Lyon*, 2(2) : 77.

1954. *Harmonia arcuata*, Kapur, *Rec. Indian Mus.*, 52(2-4) : 332.

Material studied : 1 ex., Dainadubi, Garo Hills, 12.ix.1979, N. Muraleedharan & Party Coll.

Distribution : India : Meghalaya (Garo Hills), Manipur, West Bengal, Goa and Andaman Islands. Also known from Burma, China, Formosa, Philippines and Sunda Islands, New Guinea and Australia.

Remarks : This is a new record of this species from Meghalaya.

Diagonistic characters : Body less rounded and less convex, yellowish brown in colour; pronotum with two pairs of black spots (two basal, two discal); each elytron with two humeral two median, one (transverse) post-median and one apical black spots; scutellum black; sutural margin black.

Tribe Psylloborini

Genus 19. *Illeis* Mulsant

1850. *Illeis* Mulsant, *Spec. Trim. Securipalp.*, p. 1026

1932. *Illeis*, Korschefsky, *Coleoptm. Cat.*, Pars 120, p. 558

Brief description of the genus : Body yellowish or light testaceous, suborbicular or briefly oval, moderately convex; anterior margin of clypeus truncate, without any lateral projection; antennae inserted in front, a little away from the eyes, club loosely segmented, pre-apical segment longer than broad, apical segment ovoid; mandibles bifid, often with multidentate tip, inner-margin finely serrated, maxillary galea quadrate; pronotum almost flat, very weakly convex at the disc, lateral sides raised, margined, anterior margin weakly sinuous, without marked postocular sinuosity, corners rounded, bisinuous at base, generally with a pair of black spots at the base; elytra truncated at base, external margin slightly reflexed, deeply impressed forming a channel along the external margin; prosternum short, without a pair of carina; mesosternum entire or weakly emarginate; abdomen with six visible segments, abdominal lines incomplete; tarsi cryptotetramerous.

40. *Illeis indica* Timberlake

1943. *Illeis indica* timberlake, *Bull. Hawaiian. Sug. Plrs.*, (Ent. Series) No.22 : 61 (Type loc. Lahore, Pakistan)

1966. *Illeis indica*, Kapur, *Proc. Nat. Sci. India*, 32 8(3-4) : 180-181.

Material studied : Garo Hills: 3 exs., Williamnagar, 9.iii.1991, B.C. Das & Party Coll.; 8 exs., Phulbari, 11.iii.1991, H.C. Ghosh Coll.

Distribution : India : Meghalaya (Garo Hills), West Bengal, Delhi and Andaman Island. Also known from Pakistan.

Remarks : This species is recorded for the first time from Meghalaya.

Diagonistic characters : Body large (over 5.0 mm); less convex and distinctly narrowed towards the apex; pronotum also narrowed anteriorly, size of pronotal black spot medium, not much variable; elytral punctation fine; the tip of siphon bifurcate.

Subfamily Epilachninae

This subfamily includes only one tribe Epilachnini. Characters of the tribe corresponds to the characters of subfamily, given in the subfamily key

Tribe Epilachini

Key to the genera of the tribe Epilachnini known from Meghalaya.

- 1(4) Tarsal claw bifid, with a basal tooth.
- 2(3) Basal tooth has a regular and strongly sclerotized outer edge; pronotum may be spotless, with two to seven black spots or entirely black; each elytron generally with six persistent black and eight non-persistent grey or indistinct spots; sixth abdominal sternite of female split lengthwise *Epilachna*
- 3(2) Basal tooth with an irregular and weakly sclerotized outer edge; pronotum either spotless or with a transverse row of four small black spots; each elytron generally with four to fourteen black spots; sixth abdominal sternite of female not split lengthwise. *Afidenta*
- 4(1) Tarsal claw bifid but without basal tooth; pronotum may be spotless, with a single discal spot, three spots of various shape or dark coloured; each elytron with six to more than six black spots; sixth abdominal sternite not split lengthwise, narrower, convex or weakly emarginate *Afissa*

Genus 20. *Epilachna* Chevrolat

1837. *Epilachna* Chevrolat, in Dejean's *Cat. Coleopt.*, ed. 3, 460- 461

1947. *Epilachna*, Dieke, *Smithson. Misc. Collns.*, 106(15) : 22

Key to the species of the genus *Epilachna* Chevrolat known from Meghalaya.

- 1(4) Comparatively large in size
- 2(3) Discal spot on elytra larger, transverse shaped; pronotum spotless or with spots; each elytron with six black spots arranged as 2.2.2. Male genitalia : Siphon moderately curved in basal three-fourths, gently narrowed to a rounded apex, provided with a sharp point or notch before apex and a distinct sigmoid mark at about apical seven-eighths of the length; parameres slightly sigmoid in outline, uniformly wide along its length except its apex, which is much narrowed, provided with short setae on inner side near the apex; median lobe uniformly broad from base to middle and gradually narrowed in the distal half to an almost pointed apex, provided with a number of short setae on surface facing the parameres. Female genital plate subtriangular, inner margin with a longish emargination a little below the base *E. indica*

- 3(2) Discal spot on elytra smaller, rounded; pronotum spotless or with spots; each elytron generally with seven black spots, may increase to twelve of which one small spot is located behind the humeral callus. Male genitalia: siphon moderately curved, gently narrowed to a tapered tip, a notch near the apex; parameres narrow, tips provided with short setae facing the median lobe; median lobe moderately broad at base, gradually narrowing towards the apex which bent abruptly at apical one-third, dorsal surface bears a number of large to small teeth in the middle. Female genital plate rather rectangular with a shallow semicircular emargination a little below the base *E. processa*
- 4(1) Medium sized beetles
- 5(8) The external median black spot (Persistent spot No. 4) of the elytra generally touching the external margin of elytra.
- 6(7) Elytral spots distinct, numbers varies from six to fourteen on each elytron; pronotum generally with five sometimes seven black spots. Male genitalia : siphon nearly straight at the apex which has an eyelet; parameres straight and narrow with tuft of hairs at its apex; median lobe almost straight, narrow, weakly curved at a pointed tip, inner surface dentulate. Female genital plate subtriangular with a rounded notch on the inner margin near base
..... *E. dodecastigma*
- 7(6) Elytral spots confluent, number does not vary much, generally with fourteen black spots on each elytron; pronotum generally with confluent spots. Male genitalia : Siphon bent near the base, with sub-angular apex; parameres narrow, uniformly wide with tuft of hairs near the apex; median lobe narrow, strongly hooked with three large teeth on the inner surface. Female genital plate subtriangular with a semi-oval emargination on the inner margin near the base..... *E. niponica coalescens*
- 8(5) The external median black spot (Persistent spot No.4) of the elytra generally approaching but not touching the external margin of elytra.
- 9(10) Elytral apex without distinct sutural angle; pronotum spotless or with five to seven black spots; elytral spots varies from six to fourteen on each elytron. Male genitalia: Siphon bent near the basal third, apex sharply narrowed on one side and pointed; parameres narrow, straight, with tuft of hairs at apex; median lobe with a sudden curve at apex to form a large pointed hook, dorsal side with a blade or knife-edge of nearly half the length of median lobe. Female genital plate subtriangular, with a deep cut mark near the base..... *E. septima* Dieke
- 10(9) Elytral apex with distinct sutural angle; pronotum as above; elytra with six to fourteen black spots on each elytron. Male genitalia : Siphon bent at the basal third and near the apex; parameres narrow and straight with tuft of hairs at tips; median lobe with a small hook at apex, dorsal side with a blade, almost half of its length. Female genital plate subtriangular, with a semi-oval emargination on its inner margin near the base *E. vigintioctopunctata*

41. *Epilachna dodecastigma* (Wiedemann)

1823. *Coccinella dodecastigma* Wiedemann, *Zool. Mag.*, Kiel, 2, pp.73-74. (Type - loc. - Bengal)

1850. *Epilachna dodecastigma*, Mulsant, *Ann. Soc. Agric. Lyon.*, 2, p. 789

1966. *Epilachna dodecastigma*, Kapur, *Proc. Nat. Inst. Sci. India*, 32 8(3-4) : 150-151.

Material studied : Khasi Hills : 1 ex., Nongpoh, 30.ix.1988 and 6 exs., Umling, 1.x.1988, A.R. Lahiri & Party Coll.; Garo Hills : 1 ex., Dainadubi, 12.ix.1975 and 5 exs., Rongram, 27-28.ix.1975, N. Muraleedharan & Party Coll., 1 ex., Machangpani, Kherapara, 15.x.1988, K.K. Roy & Party Coll., 1 ex., Nangalbibra, 1.x.1991, R.K. Varshney & Party Coll. 1 ex., May, 1990, M.S. Shisodia Coll.

Distribution : India : Meghalaya (Khasi & Garo Hills), West Bengal, Sikkim and Andaman Islands. Also known from Indonesia and Burma.

Remarks : This is a new record of this species from Meghalaya.

42. *Epilachna indica* Mulsant

1850. *Epilachna indica* Mulsant, *Ann. Soc. Agric. Lyon.*, 2(2) : 776-777. (Type - loc. - India)

1963. *Epilachna indica*, Kapur, *Bull. Br. Mus. Nat. Hist. (Ent.)*, 14(1) : 7

Material studied : 1 ex., Cherrapunjee, E. Khasi Hills, 25.iv.1979, J.K. Jonathan & Party Coll.

Distribution : India : Meghalaya (Khasi Hills), Assam, Sikkim and West Bengal. Also known from Burma, China, Malaya and Java.

Remarks : The species is first time recorded from Meghalaya.

43. *Epilachna niponica coalescens* Mader

1930. *Epilachna 28-maculate* var. *coalescens* Mader, *Ent. Anz.*, 10, p. 184 (Type - loc. - China)

1947. *Epilachna niponica coalescens*, Dieke, *Smithson, Misc. Coll.*, 106 (15) : 54.

Material studied : Khasi Hills, Shillong : 1 ex., Mawphlong, 6.ix.1975, N. Muraleedharan and 1 ex., 18.v.1979, P.T. Cherian Coll.; 11 ex., Sorynkham, 21.iv.1979, J.K. Jonathan & Party Coll.

Distribution : India : Meghalaya (Khasi Hills). Also known from China.

Remarks : This is a new record of this species from Meghalaya as well as from India.

44. *Epilachna processa* Weise

1908. *Epilachna Wismanni* Mulsant ab. *processa* Weise, *Stettin. ent. Zto.*, 69, p.217 (Type - loc. - Burma)

1961. *Henosepilachna processa*, Li and cook, *Pacif. Insects*, 3, p.45-46.

1966. *Epilachna processa*, Kapur, *Proc. Nat. Inst. Sci. India*, 32 8(3-4) : 155

Material studied : 3 exs., Machangpani, Kherapara, W. Garo Hills, 15.x.1988, K.K. Ray & Party Coll.

Distribution : India : Meghalaya (Garo Hills). Maharashtra, Andaman & Nicobar Islands. Also known from Burma and Malaya.

Remarks : This species is recorded for the first time from Meghalaya.

45. *Epilachna septima* Dieke

1947. *Epilachna septima* Dieke, *Smithson, Misc. Collns.* 106, pp, 58-59 (Type-loc. - Indochina, Annam, Phuc-Son)

1957. *Epilachna keiseri*, Rielawski, *Verh. Naturf. Ges. Basel*, 68 pp-73-76 (Type - loc. Ceylon)

1966. *Epilachna septima*, Kapur, *Proc. Nat. Inst. Sci. India*, 32 8(3-4) : 151

Material studied : 1 ex., Sangsak, Garo Hills, 22.ix.1975, N. Muraleedharan & Party Coll.

Distribution: India : Meghalaya (Garo Hills), Assam, West Bengal, Bihar, U.P., Maharashtra, Punjab, Andhra Pradesh, Tamil Nadu and Andaman Islands. Also known from Sri Lanka and Indonesia.

Remarks : This is a new record of this species from Meghalaya.

46. *Epilachna vigintioctopunctata* (Fabricius)

1775. *Coccinella 28-punctata* Fabricius, *Syst. Ent.*, (Type - loc. Tranquebar)

1850. *Epilachna vigintioctopunctata*, Mulsant, *Ann. Soc. Agric. Lyon*, 2 (2) : 834

1947. *Epilachna sparsa*, Dieke, *Smithson, Misc. Collns.*, 106 (15) ; 32

1966. *Epilachna vigintioctopunctata*, Kapur, *Proc. Nat. Inst. Sci. India*, 32 8(3-4) : 152-154.

Material studied : 1 ex., Wari, N. Of Tura, W. Garo Hills, 10.x.1988, K.K.Ray & Party Coll.

Distribution : India : Meghalaya (Garo Hills), West Bengal, U.P., M.P., Punjab, Haryana, Himachal Pradesh, Goa, Kerala, Tamil Nadu and Andaman Islands. Also known from Bhutan, China, Japan, Formosa, Philippines, Sunda Island, New Guinea, Australia and Tasmania.

Genus 21. *Afissa* Dieke

1947. *Afissa* Dieke, *Smithson, Misc. Collns.*, 106(15) : 113

Key to the species of the genus *Afissa* Dieke known from Meghalaya.

- 1(2) Pronotum often yellow, spotless; elytra reddish yellow, each elytron with five large black spots, arranged as 2,2,1, : pubescence whitish or yellowish, dark on the spots.....
*A. flavicollis*
- 2(1) Pronotum black, except the anterior angles which is reddish; elytra black, each elytron with six fulvous spots, arranged as 1,2,2,1. (first one is basal and the last one is apical), the apical spot is triangular and common to both the elytron on suture; pubescence whitish all along
 *A. pembertoni*

47. *Afissa flavicollis* (Thunberg)

1781. *Coccinella flavicollis* Thunberg, *Nov. Insect. Spec.*, p.18 (Type - loc. - East Indies)

1947. *Afissa flavicollis*, Dieke, *Smithson, Misc. Collns.*, 106(15) : 135-137

Material studied : 1 ex., Williamnagar, 9.iii.1991 and 2 exs., Samphalamgiri, 10.iii.1991, W. Garo Hills, B.C. Das & Party Coll.

Distribution : India : Meghalaya (Garo Hills), West Bengal and Goa. Also known from Sri Lanka, Burma, Sumatra, Indonesia, Celebes, Borneo and Philippines.

Remarks : This species is recorded for the first time from Meghalaya.

48. *Afissa pembertoni* (Crotch)

1874. *Epilachna pembertoni* Crotch, *Revision of Coccinellidae*, p.80 (Type - loc. - Bhutan)

1947. *Afissa pembertoni*, Dieke, *Smithson. misc. Colln.*, 106 : 157,182

1963. *Afissa pembertoni*, Kapur, *Rec. Indian Mus.*, 59(1-2) : 138

Material studied : 1 ex., Cherrapunjee, Khasi Hills, 24.iv.1979, J.K. Jonathan & Party Coll.

Distribution : India : Meghalaya (Khasi Hills). Also known from Bhutan.

Genus 22. *Afidenta* Dieke

1947. *Afidenta* Dieke, *Smithson. Misc. Colln.*, 106(15) : 109

49. *Afidenta mimetica simplex* Dieke

1947. *Afidenta* Dieke, *Smithson. Misc. Colln.*, 106 (15) : 111. (Type - loc. - Kooloo, India)

Material studied : 1 ex., Umling, Khasi Hills, 1.x.1988, A.R. Lahiri & Party Coll.

Distribution : India : Meghalaya (Khasi Hills), West Bengal, Himachal Pradesh and Andaman Islands. Also known from China and Tibet.

Remarks : This is a new record of this species from Meghalaya.

Diagnostic characters : Pronotum reddish yellow with the anterior angles yellowish, generally with a transverse row of four black spots; elytra reddish yellow, each elytron with six persistent black spots, arranged ad 2,2,2. Male genitalia : Siphon short, moderately bent near the base, narrowed near apex, orifice subterminal on side, very elongate; parameres without apical thorn, slightly curved outwardly and with hair on the apical half, median lobe wedge-shaped, with the upper margin nearly straight and the lower one slightly curved up, apical point straight, not curved up, the dorsal or upper margin without hairs or basal knife edge. Female genital plate diagonally suboval, weakly emarginate on outer apical side.

SUMMARY

The present paper deals with forty nine species under twenty two genera and six subfamilies out of forty nine species thirty one have been recorded for the first time from Meghalaya. Keys to the subfamilies, tribes, genera and species have been provided. Relevant synonymies, collection data and geographical distribution have been included.

ACKNOWLEDGEMENT

Authors are thankful to the Director, Zoological Survey of India for facilities of work. They are also thankful to Dr. T. Sengupta, Deputy Director, for his suggestions and constant encouragement.

REFERENCES

- Bielawski, R. 1979. Ergebnisse der Bhutan Expedition 1972 des Natur historischen Museums in Basel - Coleoptera : Coccinellidae. *Entomologica Basiliensia*, 4 : 83-125.
- Crotch, G.R. 1874. A revision of the Coleopterous family Coccinellidae, London, 311 pp.
- Dieke, G.H. 1947. Lady beetles of the genus *Epilachna* (Sens. lat.) in Asia, Europe and Australia. *Smithson. Misc. colln.* 106(15) : 1-183
- Ghosh, A.K., Biswas, S and Lahiri, A.R. A preliminary study of Insect fauna of Meghalaya. 7. Coleoptera : Coccinellidae. *Bull. Megh. Sci. Soc.* 2 : 11-15.
- Kamiya, H. 1965. A revision of the tribe Coccinellini of Japan and the Ryukyus (Coleoptera : Coccinellidae) *Mem. Fac. Lib. Arts., Fukui Univ., Ser. II, Nat. Sci., No. 15, Part 3, pp.27-71, Pls. I-III*
- Kapur, A.P. 1948. A revision of the tribe Aspidimerini Weise (Coleoptera : Coccinellidae). *Trans. R. ent. Soc. Lond.*, 99 (2) : 77-128 pp.
- Kapur, A.P. 1951. Further notes on Indian species of *Rodolia* Mulsant (Coleoptera : Coccinellidae). *Rec. Indian Mus., Delhi*, 48 : 1-7.
- Kapur, A.P. 1954. Contribution to a knowledge of the fauna of Manipur State, Assam. *Rec. Indian Mus., Delhi*, 52 (2-4) : 313-348.
- Kapur, A.P. 1955. The Coccinellidae of Nepal. *Rec. India Mus., Delhi*, 52 (3 & 4) : 309-338
- Kapur, A.P. 1963. The Coccinellidae of the Third Mount Everest Expedition, 1924 (Coleoptera). *Bull. Brit. Mus., (Nat. Hist.) Ent., London*, 14(1) : 1-48, 17 test figs.
- Kapur, A.P. 1966. The Coccinellidae (Coleoptera) of the Andamans. *Proc. nat. Inst. Sci. India, Delhi*, 32 (3-4) : 148-189
- Korschefsky, R. 1931-32. Coccinellidae *Coleopterorum Catalogus*, v. Junk editus A.S. Shenkling. Pars 118, 120, 659pp.
- Motschulsky, V. 1863. Essai d'un Catalogus des Insectes de L'île Ceylon, *Bull. Soc. Inst. Nat., Moscow*, 36 : 421-532.
- Rao, V.P. 1969. Final Technical report, PL-480 Project. Survey of Natural enemies of aphids in India (1964-1969). *Commonwealth Inst. Biol. Control, India*, 1-93.
- Mulsant, M.E. 1850. Species de Coleopteres trimeres Securipalpes. *Ann. Soc. Agric. Lyon*, 2(2) : 1-1104
- Sasaji, H. 1968. Phylogeny of the family Coccinellidae (Coleoptera) *Etigenia* No. 35, 375 pp.

INSECTA : COLEOPTERA : CHRYSOMELIDAE

C. R. BASU

*Zoological Survey of India, New Alipur, M-Block,
Calcutta-53.*

INTRODUCTION

The present work is based on the collection of Chrysomelidae, made by various survey parties from Zoological Survey of India, from Meghalaya mainly during 1988-91. A small lot from Eastern Regional Station, Shillong and some older collections during 1917-18 by S. Kemp and others were also included.

Jacoby (1908), Maulik (1919, 1926, 1936) and Scherer (1969) had done some monographic works on Indian Chrysomelidae. Subsequently Kimoto (1970, '79, '81, '82,) Kimoto & Takizawa (1983) Daccordi (1979) and Lopatin (1979, '82, '84) done some stray but important works from Indian region. But none of these workers studied extensively the fauna of Meghalaya.

Nearly 1500 species were recorded so far from India of which 160 species were from Meghalaya. The present collection comprises 614 examples spreading over 265 species in 123 genera under 13 subfamilies, namely Sagrinae, Megalopodinae, Criocerinae, Clytrinae, Zeugophorinae, Cryptocephalinae, Chlamisinae, Eumolpinae, Chrysomelinae, Galerucinae, Alticinae, Hispinae and Cassidinae. Of these species dealt with here 1 species is new to science, 9 species are new records from India and 88 species are new records from Meghalaya. Besides, the species reported by the earlier workers, material of which is not available during the study, have also been included here to get an up-to-date account of Chrysomelid-fauna of Meghalaya.

The keys to the subfamilies and genera are provided but the key to the species can not be given here due to the fact that a large number of species have been included here from literature records. So the species arrangement keeps here as followed in *Fauna of British India*. Taxa marked with asterics in the key are not included in the text.

Systematic arrangement : The subfamilies, which have been included here, are treated in the following order :

1. Sagrinae
2. Megalopodinae
3. Criocerinae
4. Clytrinae
5. Zeugophorinae
6. Cryptocephalinae

7. Chlamisinae
8. Eumolpinae
9. Chrysomelinae
10. Galerucinae
11. Alticinae
12. Hispinae
13. Cassidinae

SYSTEMATIC ACCOUNT

Family CHRY SOMELIDAE

Subfamily (i) SAGRINAE

1. *Sagra femorata* (Drury)
2. *S. carbunculus* Hope

Subfamily (ii) MEGALOPODINAE

3. *Colabaspis quinque maculata* (Baly)

Subfamily (iii) CRIOCERINAE

4. *Lema coromandelina* (F.)
5. *L. fulvula* Lacordaire
6. *L. rufotestacea* Clark
7. *L. trifasciata* Jacoby
8. *L. gahani* Jacoby
9. *L. cyanea* Fabricius
10. *L. sp.* (nr. *coromandelina* F.)
11. *L. nigricollis* Jacoby
12. *L. constrictofasciata* Jacoby
13. *Lilioceris impressa* (Fabricius)
14. *L. locuples* (Clark)
15. *L. cyaneicollis* (Pic)

Subfamily (iv) CLYTRINAE

16. *Aspidolopha nitidicollis* Jacoby
17. *Diapromorpha pallens* (Fabricius)
18. *Epimela viridicollis* (Jacoby)
19. *Clytra gracilis* (Lacordaire)

- 20. *C. montana* (Jacoby)
- 21. *Smaragdina subdivisa* (Jacoby)
 - Subfamily (v) ZEUGOPHORINAE
- 22. *Zeugophora yunnanica* Chen & Pu
 - Subfamily (vi) CRYPTOCEPHALINAE
- 23. *Adiscus* sp. (near *hauseri* Weise)
- 24. *Coenobius fulvicornis* Jacoby
- 25. *C. baronii* Lopatin
- 26. *Melixanthus assamensis* Jacoby
- 27. *Cryptocephalus exsulans* Suffrian
- 28. *C. pallidipennis* Jacoby
- 29. *C. dificiens* Suffrian
- 30. *C. herbsti* Suffrian
- 31. *C. guttifer* Suffrian
- 32. *C. baroniurbanii* Lopatin
- 33. *C. senguptai* Lopatin
- 34. *Cryptocephalus* sp. (nr. *rufofemoratus* Jac.)
 - Subfamily (vii) CHLAMISINAE
- 35. *Chlamisus stercoralis* (Gressitt)
 - Subfamily (viii) EUMOLPINAE
- 36. *Chrysolampra flavipes* Jacoby
- 37. *C. thoracica* Jacoby
- 38. *C. indica* Jacoby
- 39. *Callisina assamensis* Jacoby
- 40. *Pagria signata* (Motschulsky)
- 41. *P. kanaraensis* (Jacoby)
- 42. *Pagria* sp.
- 43. *Nodina tarsalis* Duvivier
- 44. *Basilepta duvivieri* Jacoby
- 45. *B. plagiosum* Baly
- 46. *B. pretiosum* (Jacoby)

47. *B. inconspicuum* (Jacoby)
48. *B. subdepressum* (Jacoby)
49. *Basilepta* sp. (nr. *femoratum* Jac.)
50. *Chrysonopa rotundicollis* (Jacoby)
51. *Rhyparida khasianensis* Jacoby
52. *Rhyparida* sp. (nr. *khasianensis* Jac.)
53. *Scelodonta vittata* Olivier
54. *S. indica* Duvivier
55. *S. dillwyni* (Stephens)
56. *Colasposoma semicostatum* Jacoby
57. *C. pretiosum* Baly
58. *C. metallicum* Clark
59. *C. downesi* Baly
60. *C. splendidum* (Fabricius)
61. *Trichochrysea vestita* Baly
62. *Aoria nigripes* (Baly)
63. *A. bowringi* (Baly)
64. *A. nigrata* Jacoby
65. *Pseudaoria burmanica* Jacoby
66. *Macrocoma rufotibialis* (Jacoby)
67. *Abirus* sp.
68. *Pachnephorus* sp.
69. *Cleoporus variabilis* (Baly)
70. *Cleorina aeneomicans* (Baly)
71. *C. Jacobyi* Duvivier
72. *C. assamensis* Jacoby
73. *Colaspoides montana* Jacoby
74. *Platycorynus peregrinus* (Herbst)
75. *P. mouhoti* (Baly)

76. *P. gratiosus* Baly

77. *P. asphodelus* Marshall

Subfamily (ix) CHRYSOMELINAE

78. *Chrysolina aurata aurata* (Suffrian)

79. *Chrysolina* sp. (nr. *madrasae* Jac.)

80. *Agrosteomela indica* (Hope)

81. *A. fallaciosa* Stal

82. *Humba cyanicollis* (Hope)

83. *Plagiodera versicolora* (Laicharting)

84. *Agasta formosa* (Hope)

85. *Chrysomela populi* Linnaeus

86. *Paropsides duodecimpustulata* (Gebler)

87. *P. nigropunctata* Jacoby

88. *P. chennelli* Baly

89. *Potanina assamensis* Baly

90. *Potanina* sp.

Subfamily (x) GALERUCINAE

91. *Apophyllia sericea* (Fabricius)

92. *A. metallica* Jacoby

93. *Pseudadimonia variolosa* (Hope)

94. *Atysa marginata* (Hope)

95. *A. gigantea* Maulik

96. *Periclitena vigorsi* (Hope)

97. *Mimastracella* sp.

98. *Galerucella grisescens* (Joannis)

99. *Pyrrhalta dimidiaticornis* (Jacoby)

100. *Meristata dohrni* Baly

101. *M. fraternalis* (Baly)

102. *Oides andrewesi* Jacoby

103. *O. coccinelloides* Gahan

104. *O. maculata* (Olivier)

105. *O. livida* (Fabricius)
106. *O. scutellata* (Hope)
107. *Hoplasoma sexmaculata* (Hope)
108. *H. costatipennis* Jacoby
109. *H. unicolor* (Illiger)
110. *Aulacophora almora* Maulik
111. *A. foveicollis* (Lucas)
112. *A. lewisii* Baly
113. *A. bicolor* (Weber)
114. *A. rosea* (Fabricius)
115. *Pseudocophora bicolor* Jacoby
116. *P. pectoralis* Baly
117. *Agetocera hopei* Baly
118. *A. lobicornis* Baly
119. *Paridea tetraspilota* (Hope)
120. *P. balyi* Jacoby
121. *P. unifasciata* Jacoby
122. *P. octomaculata* Baly
123. *P. perplexa* (Baly)
124. *P. ruficollis* Jacoby
125. *P. livida* Duvivier
126. *Haplosomoides chinmatra* (Maulik)
127. *H. krishila* (Maulik)
128. *H. egena* Weise
129. *Mimastra limbata* Baly
130. *M. scutellata* Jacoby
131. *Cneorane rubicollis* (Hope)
132. *C. rugulipennis* Baly
133. *C. rubyana* Maulik
134. *C. cariosipennis* Fairmaire
135. *Miltina dilatata* Chapuis
136. *Morphosphaera japonica* (Hornstedt)

137. *Monolepta albomaculata* Maulik
138. *M. khasiensis* Weise
139. *M. scripta* (Motschulsky)
140. *M. orientalis* Jacoby
141. *M. signata* (Olivier)
142. *M. nigripes* (Olivier)
143. *M. erratica* (Jacoby)
144. *M. leechi* Jacoby
145. *M. lunata* Gressitt & Kimoto
146. *Monolepta* sp. 1
147. *Monolepta* sp. 2
148. *Aplosonyx chalybaeus* (Hope)
149. *A. scutellatus* (Baly)
150. *A. duvivieri* (Jacoby)
151. *A. orientalis* (Jacoby)
152. *Khasia kraatzi* Jacoby
153. *Kanarella unicolor* Jacoby
154. *Sphenoraia (Sphenoraiodes) rutilans* (Hope)
155. *S. (Sphenoraia) bicolor* (Hope)
156. *Cassena* sp.
157. *Trichobalya bowringii* Baly
158. *Dercetina flavocincta* (Hope)
159. *D. histrio* (Baly)
160. *D. subcaerulea* (Jacoby)
161. *Hylaspes longicornis* Baly
162. *Gallerucida singularis* Harold
163. *Doryxena grossa* (Hope)
164. *D. geniculata* Baly
165. *Mimagitocera flava* (Jacoby)

Subfamily (xi) ALTICINAE

166. *Nonarthra variabilis* Baly
167. *Psylliodes balyi* Jacoby

168. *Argopistes lamprotes* Maulik
169. *A. quadrimaculatus* Jacoby
170. *Philopona shima* Maulik
171. *Hyphasis limbatipennis* Jacoby
172. *Hyphasis* sp.
173. *Hespera sericea* Weise
174. *H. rufipes* Maulik
175. *H. nigripes* Maulik
176. *H. punctata* Chen
177. *H. flavipes* Chen
178. *Pentamesa duodecimmaculata* Harold
179. *Sphaeroderma himalayensis* Scherer
180. *S. luteipenne* Weise
181. *S. minuta* Chen
182. *S. mandarensis* Jacoby
183. *Bhamoina varipes* (Jacoby)
184. *Chabria marginata* Chen
185. *Hemipyxis moseri* (Weise)
186. *H. fulvipennis* (Illiger)
187. *H. lusca* (Fabricius)
188. *H. elongata* (Jacoby)
189. *Longitarsus puncti* Maulik
190. *L. khasiensis* Chen
191. *L. hsienweni* Chen
192. *Aphthona nigrilabris* Duvivier
193. *A. andrewesi* Jacoby
194. *Aphthona* sp.
195. *Chaetocnema (Chaetocnema) harita* Maulik
196. *C. (Tlanoma) assamensis* Scherer

197. *Nosotra viridipennis* Motschulsky
198. *N. gemella* (Erichson)
199. *N. khasiensis* Scherer
200. *Podontia rufocastanea* Baly
201. *P. quatuordecimpunctata* (Linnaeus)
202. *P. affinis* (Grondal)
203. *Ophrida marmorea* (Wiedemann)
204. *O. flavopustulata* (Baly)
205. *O. scaphoides* (Baly)
206. *Clitea picta* Baly
207. *Eudolia nila* Maulik
208. *E. ratula* Maulik
209. *Manobia* sp.
210. *Altica himalayensis* (Chen)
211. *Phygasia dorsata* Baly
212. *P. hookeri* Baly
213. *Crepicnema tenimberensis* (Jacoby)
214. *Pseudodera khasiensis* n. sp.
215. *Xuthea orientalis* Baly
216. *X. yunnanensis* Heikertinger
217. *Micraphthona nigrita* Jacoby

Subfamily (xii) HISPINAE

218. *Gonophora pulchella* Gestro
219. *Agonita cherapunjiensis* (Maulik)
220. *A. immaculata* (Gestro)
221. *Oncocephala quadrilobata* Guerin
222. *Callispa dimidiatipennis* Baly
223. *C. karena* Maulik
224. *C. insignis* Baly
225. *Estigmene chinensis* Hope
226. *Anisodera guerini* Baly
227. *Lasiochila cylindrica* (Hope)

- 228. *L. excavata* (Baly)
- 229. *Leptispa pygmaea* Baly
- 230. *Macrispa krishnalohita* Maulik
- 231. *Prionispa sonata* Maulik
- 232. *P. tenuicornis* Gestro
- 233. *Prionispa* sp.,
- 234. *Hispa brachycera* Gestro
- 235. *Rhadinosa lebongensis* Maulik
- 236. *Dicladispa birendra* (Maulik)
- 237. *Dactylispa assamensis* Weise
- 238. *D. brevispinosa* (Chapuis)
- 239. *D. bindusara* Maulik
- 240. *D. lohita* Maulik
- 241. *D. praefica* Weise

Subfamily (xiii) CASSIDINAE

- 242. *Notosacantha maculipennis* (Boheman)
- 243. *N. tenuicula* Spaeth
- 244. *Basiprionota decemmaculata* (Boheman)
- 245. *B. maculipennis* (Boheman)
- 246. *Craspedonta leayana* (Latreille)
- 247. *Epistictina viridimaculata* (Boheman)
- 248. *Aspidomorpha indica* Boheman
- 249. *A. sanctaerucis* Fabricius
- 250. *A. chandrika* Maulik
- 251. *A. dorsata* (Fabricius)
- 252. *A. furcata* Thunberg
- 253. *A. miliaris* (Fabricius)
- 254. *Laccoptera quadrimaculata* (Thunberg)
- 255. *L. vigintisextnotata* Boheman
- 256. *Cassida obtusata* Boheman
- 257. *C. syratica* Boheman
- 258. *C. occursans* Spaeth

- 259. *C. cherrapunjiensis* Maulik
- 260. *C. varians* Herbst
- 261. *Thalaspida cribrosa* Boheman
- 262. *Glyphocassis trilineata* (Hope)
- 263. *Chiridopsis scalaris* (Weber)
- 264. *C. mimica* (Weise)
- 265. *C. septemnotata* (Boheman)

Key to the subfamilies of Chrysomelidae from Meghalaya

- 1. Head with vertex projecting strongly forward and mouth directed posteriorly below, and often partly hidden by the prosternum 16
 - Head with vertex not projecting and with mouth directed forward and downward 2
- 2(1). Antennae closely inserted on front of head; elytra not very rigid 15
 - Antennae not very closely inserted, separated by frons or vertex; elytron generally rigid..... 3
- 3(2). Prothorax not completely margined laterally; eyes prominent and head more or less constricted behind them..... 4
 - Prothorax completely margined laterally, eyes not very prominent and head not strongly constricted behind them..... 10
- 4(3). Posterior femur generally not strongly dilated, often armed with teeth 5
 - Posterior femur largely and strongly dilated, rarely armed with teeth 6
- 5(4) Antenna long, with some segments longer than broad..... Sagrinae
 - Antenna short, rarely reaching beyond humerus, apical segments generally broader than long, more or less dentate Megalopodinae
- 6(4). Antennal insertions separated by width of frons 7
 - Antennal insertions not separated by width of frons, relatively close Donacinae*
- 7(6). Tarsal claws generally bifid or toothed internally; prothorax usually toothed laterally 8
 - Tarsal claws simple, not toothed; prothorax never toothed laterally Criocerinae
- 8(7) Side of prothorax with a prominent swelling or with 2-3 distinct teeth 9
 - Side of prothorax plain, evenly rounded, body rather flat and narrow Orsodacninae*
- 9(8) Side of prothorax with a prominent swelling anterior to constricted base; body not very flat...
 - Zeugophorinae
 - Side of prothorax rounded with 2-3 sharp teeth; body rather flattenedSynetinae*

- 10(3) Middle three abdominal sternites constricted at middle; subcylindrical 11
 Middle three abdominal sternites not constricted; body more or less ovate or rounded, often strongly convex and constricted anteriorly 13
- 11(10) Antenna relatively short and serrate 12
 Antenna long and slender, not serrate..... Cryptocephalinae
- 12(11). Prothoracic pleuron without antennal groove; body surface smooth Clytrinae
 Prothoracic pleuron with groove for reception of antenna; body surface rough or tuberculate..... Chlamisinae
- 13(10). Wing venation not reduced; cubital veins present; clypeus not divided into two parts..... 14
 Wing venation greatly reduced; cubital veins lacking; clypeus divided into two parts.....
 Chrysomelinae
- 14(13). Prothorax as broad as elytra at base; its side grooved for reception of hind leg
 Lamprosomatinae*
- Prothorax generally narrower than elytra at base, its side not grooved for reception of antenna; abdomen not grooved for reception of hind leg Eumolpinae
- 15(2). Posterior femora not greatly dilated..... Galerucinae
 Posterior femora greatly dilated..... Alticinae
- 16(1). Pronotum and elytron with broad marginal expansions, head often covered by the pronotum
 Cassidinae
 Pronotum and elytron without broad marginal expansion, but often with spines, head never covered Hispinae

Subfamily (i) SAGRINAE

The subfamily Sagrinae is represented by a single genus *Sagra* F. in India.

Genus *Sagra* Fabricius

1792. *Sagra* Fabricius, *Ent. Syst.*, 1 (2) : 51.

1908. *Sagra* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 4.

So far six species of this genus were recorded from India of which two are from Meghalaya.

1. *Sagra femorata* (Drury)

1773. *Tenebrio femoratus* Drury, *Hl. Exot. Ins.*, 2 : 64.

1792. *Sagra femorata* : Fabricius, *Ent. Syst.*, 1, 2 : 51.

1908. *Sagra femorata* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 4.

Diagnostic characters : Colour varies from red, purple, cupreous, blue, green to black; pronotum extremely finely or absolutely punctate, with a longitudinal groove below the anterior prothoracic tubercles; length 11.0-26.0 mm.

Material examined : East Khasi Hills: Cherrapunji, 16.ix. 1988 (2 exs.), A. R. Lahiri coll.

Distribution : India : Meghalaya (East Khasi Hills), Assam and West Bengal. Elsewhere : Borneo, Burma, Combodia, China, Java, Laos, SriLanka, Thailand and Vietnam.

2. *Sagra carbunculus* Hope

1842. *Sagra carbunculus* Hope, *Ann. Mag. nat. Hist.*, ser 1, 9: 248

1908. *Sagra carbunculus* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 7.

Diagnostic characters : General colour metallic blue, prothorax violaceous, elytra golden cupreous. Prothorax quadrate and distinctly punctate; elytra closely and irregularly punctate, interstices finely wrinkled; length 9.0 mm.

Material examined : East Khasi Hills : Shillong, Risa Colony, 17.vi. 1975(1 ex.), M. S. Jyrwa coll., 1.vii. 1971 (1 ex.), R. Giri coll.

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : Bangladesh, Cambodia, China, Laos, Nepal and Vietnam.

Subfamily (ii) MEGALOPODINAE

It is a very small subfamily representing only two genera in India of which one is from Meghalaya State.

Genus *Colabaspis* Fairmaire

1894. *Colabaspis* Fairm., *Ann. Soc. ent. Belg.*, 38 : 225.

1908. *Colabaspis* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 91.

Out of three Indian species not a single one was recorded from Meghalaya. The present study included one species from the area.

3. *Colabaspis quinquemaculata* (Baly)

1859. *Temnaspis quinquemaculata* Baly, *Ann. Mag. nat. Hist.* (3) : 206.

1908. *Colabaspis quinquemaculata* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 93.

Diagnostic characters : General colour brown, pubescent; prothorax with one black spot, sometimes covering a greater part of the disc; each elytron with two black transverse patches, one behind humerus and another behind middle; a spot on the abdomen and on the posterior femora, sometimes absolated; length 8.0 mm.

Material examined : West Garo Hills : Tura, 1000-1200 m.....ix. 1917 (1 ex.), Mrs. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills). Mentioned only Northern India. Elsewhere : No record.

Remarks : First record from Meghalaya.

Subfamily (iii) CRIOCERINAE

Out of five Indian genera only two genera were recorded so far from Meghalaya.

Key to the Genera of Criocerinae from Meghalaya

(followed Kimoto & Gressitt, 1979)

1. Head constricted posteriorly 2
 Head not constricted posteriorly but with a tooth beneath at each side anteriorly
 *Manipuria**
- 2(1). Tarsal claws fused at base 3
 Tarsal claws free, not fused at base 5
- 3(2). Prothorax generally broader than long, or as broad as long, side rather strongly constricted at
 or behind middle; elytron rarely much more than 3 times as long as broad 4.
 Prothorax much longer than broad, sides hardly constricted; elytron 4 times as long as
 broad *Ortholema**
- 4(3). Occiput abbreviated, wider than long, with sides forming a front angle of 120° or so
 *Oulema**
- Occiput not abbreviated, not wider than long, with sides forming a front angle less
 than 90° *Lema*
- 5(2). Head as broad as long, with a transverse depression across top at constriction behind eye,
 and with a deep groove on sides of constriction of neck continuing upward and forward as
 groove setting off central portion of occiput, prothorax constricted near middle *Liliocerus*
 Head as broad as long, without a transverse depression across top at constriction, and
 without grooves extending forward from constriction along sides of central portion of
 occiput *Criocerus**

Genus *Lema* Fabricius

1798. *Lema* Fabricius, *Ent. Syst. Suppl.* : 90.

1908. *Lema* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 15.

It is a large genus. So far eighty four species were recorded from India of which two species were from Meghalaya. The present paper includes another five species from Meghalaya State.

4. *Lema coromandelina* (F.)

1798. *Leptura coromandelina* Fabricius, *Ent. Syst. Suppl.* : 154

1801. *Lema coromandelina* : Fabricius, *Syst. Eleuth.*, 1 : 475.

1908. *Lema coromandelina* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 25.

Diagnostic characters : Variable colouration, (i) reddish brown with elytra, antenna and legs blackish, (ii) blackish blue to blackish brown, (iii) elytron brownish yellow with a broad longitudinal bluish band, abruptly narrowed at base or basal portion of band much reduced, (iv) head reddish brown with labrum and fronto-clypeus blackish, (v) reddish brown with meso- and metathorax blackish; antenna and legs blackish; length 4.0-6.5 mm.

Material examined : West Garo Hills : Tura, 3.vi. 1990 (2 exs.), M. S. Shishodia coll.

Distribution : India : Meghalaya (West Garo Hills), Himachal Pradesh, Karnataka, Orissa, Sikkim, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Borneo, Cambodia, Celebes, China, Java, Laos, Nepal, Phillipines, Sri Lanka, Sumatra, Taiwan, Thailand and Vietnam.

Remarks : First record from Meghalaya.

5. *Lema fulvula* Lacordaire

1845. *Lema fulvula* Lacordaire, *Mon. Phytoph.* 1 : 338.

1908. *Lema fulvula* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 35.

Diagnostic characters : General colour reddish; breast and abdomen black; tibiae and tarsi fuscous; head covered with fine pubescents and with short central groove; prothorax impunctate and with two transverse groove; length 4.5-5.0 mm.

Material examined : West Garo Hills : Tura, Janjal, 8.x. 1988 (1 ex.), K. K. Roy coll., Nehru Park, 17.iii. 1991 (1 ex.), A. K. Hazra coll.

Distribution : India : Meghalaya (West Garo Hills), Tamil Nadu/Kerala (Coromandel) and West Bengal. Elsewhere : Sri Lanka and Sumatra.

Remarks : First record from Meghalaya

6. *Lema rufotestacea* Clark

1866. *Lema rufotestacea* Clark, *App. Cat. Phytoph.* : 29.

1908. *Lema rufotestacea* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 36.

Diagnostic characters : Reddish or yellowish brown, antenna blackish, pronotum with only one transverse groove; interocular area swollen and shiny with a deep central groove; elytron swollen near base, finely punctate behind subbasal depression; length 5.0-6.0 mm.

Material examined : West Garo Hills : Tura, 10.x. 1988 (1 ex.), K. K. Roy coll., 3.vi. 1990 (1 ex.), M. S. Shishodia coll.

Distribution : India : Meghalaya (West Garo Hills), Assam, Mahe, Orissa, Sikkim, "South Indian States (Decan)" and West Bengal. Elsewhere : Burma, China, Nepal and Thailand.

Remarks : First record from Meghalaya.

7. *Lema trifasciata* Jacoby

1908. *Lema trifasciata* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 44.

Diagnostic characters : General colour reddish brown; antennae, clypeus and tarsi black; elytra yellowish, sutural and lateral margins and a narrow longitudinal oblique stripe from hemeris to behind middle, metallic blue; head with two tubercles on vertex with a deep central depression anteriorly; length 4.0 mm.

Material examined : West Garo Hills: Tura, 3.vi. 1990 (1 ex.), M. S. Shishodia coll.

Distribution : India : Meghalaya (West Garo Hills). Elsewhere : Bangladesh, Cambodia, Laos, Thailand and Vietnam.

Remarks : First record from Meghalaya.

8. *Lema gahani* Jacoby

1899. *Lema gahani* Jacoby, *The Entomologist*, 32 : 67.

1908. *Lema gahani* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 63.

Diagnostic characters : General colour dark metallic blue; antennae, tibiae and tarsi black; prothorax elongated; elytral punctures stronger at basal half and the apical half with only striae in place of punctures; length 6.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), West Bengal. Elsewhere : No record.

Remarks : Jacoby (1908) recorded this species from Meghalaya (Khasi Hills).

9. *Lema cyanea* Fabricius

1798. *Lema cyanea* Fabricius, *Ent. Syst. Suppl.* : 92

1908. *Lema cyanea* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 64.

Diagnostic characters : Dorsal surface entirely metallic blue; antennae and legs black; pronotum with single transverse groove near base; occiput not distinctly raised and with short longitudinal sulcus starting from apex; length 4.0-5.0 mm.

Material examined : Jaintia Hills : Jowai, Raithsesim, 29.ix. 1988 (1 ex.), V. D. Srivastava coll.; Ri-Bhoi : Umling, 1.x. 1988 (1 ex.), A. R. Lahiri coll.

Distribution : India : Meghalaya (Jaintia Hills, Ri-Bhoi). Assam, Himachal Pradesh, Sikkim, Tamil Nadu and West Bengal. No other report from elsewhere.

10. *Lema* sp. 1 (nr. *coromandelina* F.)

Material examined : Jaintia Hills: Nortiana, 20.ix. 1988 (4 exs.) Garampani, 1.x. 1988 (2 exs.), all V. D. Srivastava coll.

11. *Lema nigricollis* Jacoby

1891. *Lema nigricollis* Jacoby, *The Entomologist, Suppl.* : 31

1908. *Lema nigricollis* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 69.

Diagnostic characters : General colour black; head with frontal tubercles reddish; elytra reddish; pronotum with two transverse groove; length 5.5-6.0 mm.

Material examined : Jaintia Hills : Garampani, 19.ix. 1979 (1 ex.), C. Radhakrishnan coll., Jowai, 29.ix. 1988 (1 ex.), V. D. Srivastava coll.; East Garo Hills : Rongzeng. 26.v. 1990 (1 ex.), M. S. Shishodia coll.

Distribution : India : Meghalaya (Jaintia Hills, East Garo Hills), Arunachal Pradesh, Assam, Sikkim and West Bengal. Elsewhere : Burma, Laos, Thailand and Vietnam.

12. *Lema constrictofasciata* Jacoby

1908. *Lema constrictofasciata* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 46.

Diagnostic characters : General colour yellowish, head and prothorax brownish yellow, breast black; antennae dark brown, almost black; elytra with sutural and lateral stripes metallic blue; antennal segments short and stout; length 4.0 mm.

Material examined : West Khasi Hills : Nongstoin, 22.iii. 1991 (1 ex.), A. K. Hazra coll.

Distribution : India : Meghalaya (West Khasi Hills), Orissa, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Nepal.

Remarks : First recorded from Meghalaya.

Genus *Lilioceris* Reitter

1912. *Lilioceris* Reitter, *Fauna Germanica*, 4 : 79.

1908. *Crioceris* : Jacoby, *Fauna British India, Col., Chry.*, 1 : 71 (Part).

1961. *Lilioceris* : Gressitt & Kimoto, *Pac. Ins. Monograph*, 1A : 42.

13. *Lilioceris impressa* (Fabricius)

1787. *Crioceris impressa* Fabricius, *Mant. Ins.*, 1 : 88.

1908. *Crioceris impressa* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 72.

1929. *Lilioceris impressa* : Winkler, *Cat. Col. Reg. Palaearc.*, 2 (10) : 1234.

Diagnostic characters : Head reddish or black; elytra reddish; antenna robust, preapical segments broader than long; pronotal punctures arranged in one or two longitudinal rows; outer half of metasternum without any distinct stripe or dense hairs; length 8.5-11.0 mm.

Material examined : West Garo Hills : Above Tura, 1000-1200 m. 15.vii-30.viii. 1917 (2 exs.), 400-500 m., 15.vi.-15.vii. 1917 (1 ex.), all S. Kemp coll; Khasi Hills (1 ex.), Major S. A. coll.

Distribution : India : Meghalaya (Garo Hills and Khasi Hills). Andaman & Nicobar Is., Sikkim and West Bengal. Elsewhere : Burma, Cambodia, China, Hainan, Japan, Laos, Malaya, Nepal, Phillippines, Sri Lanka, Sumatra, Taiwan, Thailand and Vietnam.

Remarks : First record from Meghalaya.

14. *Liliocerus locuples* (Clark) new combination

1866. *Criocerus locuples* Clark, *App. Cat. Phytoph.* : 64

1908. *Criocerus locuples*: Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 74.

Diagnostic characters : General colour dark brown; antenna reddish brown, under side black. The species can easily be distinguished by very long and slender antenna, fine and sparse elytral punctures and by black underside.

Material examined : East Khasi Hills : Shillong, 2000 m., 12.x. 1914 (1 ex.), S. W. Kemp coll.

Distribution : India : Meghalaya (East Khasi Hills).

Remarks : First record from Meghalaya.

15. *Liliocerus cyaneicollis* (Pic)

1916. *Criocerus cyaneicollis* Pic, *Mel. Exot. Ent.*, 19 : 16.

1961. *Liliocerus cyaneicollis* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1A : 45, 48.

Diagnostic characters : Head and legs mostly black; antenna black; elytra and abdomen reddish brown; prothorax brown to black; pronotum with distinct discal punctures, usually with 1-2 median rows; length 8.0 mm.

Material examined : East Khasi Hills : Shillong, 13.ix. 1976 (1 ex.), and 4.v. 1977 (1 ex.), all M. S. Jyrwa coll.

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : S. China, Taiwan and Vietnam.

Remarks : First record from India (Meghalaya).

Subfamily (iv) CLYTRINAE

Key to the Genera of Clytrinae From Meghalaya

(Largely after Gressitt & Kimoto, 1961 and 1981)

1. Posterior angles of prothorax more or less raised in male, posterior margin strongly sinuate...
..... *Labidostomis**
- Posterior angles of prothorax not raised in male 2
- 2(1). Elytral epipleuron strongly lobed at base, pygidium exposed..... 3
Elytral epipleuron not or very slightly convex, pygidium not exposed..... 6
- 3(2) Body fairly parallel-sided; epipleural lobe of elytron distinct but not conspicuously large..... 4
Body strongly narrowed anteriorly and posteriorly; epipleural lobe of elytron very large
..... *Aspidolopha*

- 4(3) Posterior angles of pronotum strongly angulate; hind margin of pronotum strongly produced in middle.....*Diapromorpha*
 Posterior angles of pronotum weakly angulate or rounded, hind margin of pronotum not so distinctly produced 5
- 5(4) Posterior angles of pronotum weakly angulate, pronotum glabrous*Aetheomorpha**
 Posterior angles of pronotum rounded, pronotum pubescent, atleast at sides..... *Epimela*
- 6(2) Front legs distinctly larger and more slender than others 7
 Front legs not or slightly longer and more slender than others 9
- 7(6). Posterior angles of pronotum not strongly angulate..... 8
 Posterior angles of pronotum strongly angulate.....*Physauchenia**
- 8(7). Tarsal segment 1 of intermediate legs not broader than that of anterior legs..... *Coptocephala**
 Tarsal segment 1 of intermediate legs broader than that of anterior legs.....*Aetheodactyla**
- 9(6). Antenna normal, not very strongly widened or serrate; elytron not dilated in male..... 10
 Antenna vary strongly widened and serrate; elytron strongly dilated in male..... *Clytrasoma**
- 10(9). Posterior angles of pronotum rounded; not distinctly angulate..... 11
 Posterior angles of pronotum distinctly angulate, tarsus robust, broad, with segment 1-2 widened, especially in male*Physosmaragdina**
- 11(10). Tarsus robust, broad, with segment 1-2 widened; segment 1 about as long as segment 2; body generally large*Clytra*
 Tarsus slender, segment 1 of fore tarsus twice as long as segment 2; body generally small.....
*Smaragdina*

Genus *Aspidolopha* Lacordaire

1848. *Aspidolopha* Lacordaire, *Mon. Phytoph.*, 2 : 252.

1908. *Aspidolopha* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 134.

Thirteen species of this genus were recorded so far from India of which only one species was from Meghalaya.

16. *Aspidolopha nitidicollis* Jacoby

1908. *Aspidolopha nitidicollis* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 143.

Diagnostic characters : Dorsum reddish brown with the following portions bluish black : head, apical segments of antennae, basal half of prothorax and scutellum; an oblique band behind shoulder, a transverse band behind middle of elytra and its apical portion. Under side blackish with the base of

femora and tibiae reddish brown; elytral lobes less developed and pygidium not exposed; length 7.0 mm. (Material not seen, above description was taken from Jacoby (1908).

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills). No other report from elsewhere.

Remarks : Jacoby (1908) described this species from Meghalaya (Khasi Hills).

Genus *Diapromorpha* Lacordaire

1848. *Diapromorpha* Lacordaire, *Mon. Phytoph.*, 2 : 227.

1908. *Diapromorpha* : Jacoby, *Fauna Brit. India, Col., Chry*, 1 : 162.

Out of eight Indian species of this genus not a single one has yet been recorded so far from Meghalaya. The present study includes one species from the area.

17. *Diapromorpha pallens* (Fabricius)

1787. *Cryptocephalus pallens* Fabricius, *Ment. Ins.*, 1 : 81.

1808. *Clythra pallens* : Olivier, *Ent.*, 6 : 836.

1961. *Diapromorpha pallens* : Gresitt & Kimoto, *Pac. Ins. Monogr.*, 1A : 84.

Diagnostic characters : Head black with clypeus and labrum yellowish brown to dark brown, sometimes head entirely blackish; dorsal surface entirely yellowish brown; ventral surface black; antenna dark brown to pitchy black with basal segments brownish; legs yellowish brown with femora bluish black, sometimes legs entirely blackish; elytra distinctly and closely punctate, interstices narrower than diameter of puncture; length 6.2-7.2 mm.

Material examined : Ri-Bhoi : Umran, 22.ix. 1988 (3 exs.), Nongpo, 30.ix. 1988 (1 ex.), all A. R. Lahiri coll.; Umling, 29.ix. 1988 (2 exs.), 1.x. 1988 (1 ex.), all A. R. Lahiri coll.; East Khasi Hills : Shillong, 19.ix. 1973 (1 ex.), 7.ix. 1991 (1 ex.), all S. Biswas coll.; Shillong, Umiam, 1000 m., 19.ix. 1991 (1 ex.), R. K. Varshney coll.; Mawblong, 24.x. 1964 (5 exs.), S. Biswas coll.; East Garo Hills : Nongwalbibra, 1.x. 1991 (1 ex.), R. K. Varshney coll.; Jaintia Hills : Jowai, 27.ix. 1991 (1 ex.), R. K. Varshney coll.; Garampani, 4.x. 1988 (1 ex.), V. D. Srivastava coll.; East Garo Hills : Rongzeng, 26.v. 1990 (1 ex.), M. S. Shishodia coll.; West Garo Hills : Tura, 3.vi. 1990 (1 ex.), M. S. Shishodia coll.; Khasi Hills : Nongkhylllem wild life Reserve, 24.ix. 1982 (1 ex.) K. P. Singh coll.

Distribution : India : Meghalaya (Ri-Bhoi, East Khasi Hills, Jaintia Hills, East Garo Hills and West Garo Hills) Arunachal Pradesh, Sikkim and West Bengal. Elsewhere : Burma, China, Laos, Phillipines, Thailand and Vietnam.

Remarks : First record from Meghalaya.

Genus *Epimela* Weise

1903. *Epimela* Weise, *Deut. ent. Zeit.* : 27.

1908. *Epimela* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 144.

So far four species of this genus were recorded from India of which one was from Meghalaya.

18. *Epimela viridicollis* (Jacoby)

1899. *Pantocometis viridicollis* Jacoby, *The Entomologist*, 32 : 69

1908. *Epimela viridicollis* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 145.

Diagnostic characters : General colour metallic green; labrum, basal segments of antenna and legs reddish brown; elytra yellowish brown with dark blue spots and patches, one on shoulder, another before middle and a patch behind middle, female with two spots on shoulder, length 6.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Himachal Pradesh and Sikkim.

Remarks : Jacoby (1908) recorded this species from Meghalaya (Khasi Hills).

Genus *Clytra* Laicharting

1781. *Clytra* Laicharting, *Verz. Tyrol. Ins.*, 1 : 165.

1848. *Miochira* Lacordaire, *Mon. Phytoph.*, 2 : 315.

1981. *Clytra* : Kimoto & Gressitt, *Pac. Ins.*, 23(3-4) : 304 (Synonymized).

Out of twelve Indian species only one species was recorded so far from Meghalaya. The present paper includes another species from the area.

19. *Clytra gracilis* (Lacordaire)

1848. *Miochira gracilis* Lacordaire, *Mon. Phytoph.*, 2 : 316

1908. *Miochira gracilis* : Jacoby, *Fauna Brit. India, Col. Chry.*, 1 : 160.

1981. *Clytra gracilis* : Kimoto & Gressitt, *Pac. Ins.*, 23 (3-4): 309.

Diagnostic characters : Pale yellowish above and brownish yellow underside; breast and legs with black spots; a small patch on the eye, two spots on the pronotum and four on the elytra, black; length 5.0 mm.

Material examined : Jaintia Hills : Garampani, 1.x. 1988 (1 ex.), V. D. Srivastava coll.

Distribution : India : Meghalaya (Jaintia Hills), Assam, Himachal Pradesh, Jammu & Kashmir and Sikkim. Elsewhere : Burma, Laos, Nepal, Thailand and Vietnam.

20. *Clytra montana* (Jacoby)

1865. *Clythra montana* Jacoby, *Ann. Soc. ent. Belg.*, 39 : 225.

1908. *Miochira montana* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 160.

1981. *Clytra montana* : Kimoto & Takizawa, *Ent. Rev. Japan*, 35(1-2): 52.

Diagnostic characters : General colour black; prothorax yellowish with median black patch; elytra brownish with a large triangular or subquadrate spot at base, a transverse band behind middle and the extreme apex black; length 4.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills). Assam, Himachal Pradesh and Jammu & Kashmir. Elsewhere : Nepal and Tibet.

Remarks : Jacoby (1908) recorded this species from Meghalaya (Khasi Hills).

Genus *Smaragdina* Chevrolat

1837. *Smaragdina* Chevrolat, *Cat. Col.*, ed. 3 : 420.

1848. *Gynandrophthalma* Lacordaire, *Mon. Phytoph.*, 2 : 256

1953. *Smaragdina* : Monros, *Col. Bull.*, 7(6) : 46 (Synonymized).

Thirty two species of this genus were recorded so far from India of which only one was from Meghalaya.

21. *Smaragdina subdivisa* (Jacoby) new combination

1900. *Gynandrophthalma subdivisa* Jacoby, *Mem. ent. Soc. Belg.*, 7 : 98.

1908. *Gynandrophthalma subdivisa* Jac., *Fauna Brit. India, Col. Chry.*, 1 : 121.

Diagnostic characters : General colour black; lower portion of head yellowish; pronotum mostly black with the margins all round yellowish; elytra black with the margins narrowly and apex broadly yellowish, also with an indistinct yellowish transverse band along the middle; length 5.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills). No other report from elsewhere.

Remarks : Jacoby (1980) recorded this species from Meghalaya (Shillong).

Subfamily (v) ZEUGOPHORINAE

This subfamily is represented by a single genus with three species from India of which one from Meghalaya.

Genus *Zeugophora* Kunze

1818. *Zeugophora* Kunze, *Neue Schr. Naturf. Ges. Halle*, 2 (4) : 17

1908. *Zeugophora* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 14.

22. *Zeugophora yunnanica* Chen & Pu 1962

Distribution : India : Meghalaya (East Khasi Hills), Elsewhere : China (Yunnan).

Remarks : Takizawa (1983) recorded this species from Meghalaya. Neither the relevant literature nor the material was available. So the reference, diagnostic characters etc. could not be given.

Subfamily (vi) CRYPTOCEPHALINAE

Out of five Indian genera four were recorded so far from Meghalaya.

Key to the Genera of Cryptocephalinae from Meghalaya

(largely after Gressitt & Kimoto, 1961)

1. Scutellum invisible from above, eyes emarginate..... *Adiscus*
Scutellum distinct and large..... 2
- 2(1). Antenna short, apical segments widened 3
Antenna long and filiform, apical segments not widened 4
- 3(2). Eyes very close, sometimes touching above *Coenobius*
Eyes not very close, never touching..... *Melixanthus*
- 4(2). Thorax closely fitted to base of elytra, base of prothorax not margined..... *Cryptocephalus*
Thorax not closely fitted to base of elytra, base of prothorax narrowly margined.....
..... *Pachybrachys**

23. *Adiscus* sp. (near *hauseri* Weise)

Material examined : East Garo Hills : Dainadubi Reserve Forest, 19.xi. 1974 (1 ex.), T. Sengupta coll.

Genus *Coenobius* Suffrian

1857. *Coenobius* Suffrian, *Linn. ent.*, 11 : 61.

1908. *Coenobius* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 182.

Eighteen species of this genus were recorded so far from India of which two species were from Meghalaya.

24. *Coenobius fulvicornis* Jacoby

1908. *Coenobius fulvicornis* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 188.

1984. *Coenobius fulvicornis* : Lopatin, *Ent. Basiliensia*, 9 : 335.

Diagnostic characters : General colour black; head, antenna and legs reddish brown; prothorax almost impunctate, sides with some distinct punctures; length 1.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Assam.

Remarks : Lopatin (1984) recorded this species from Meghalaya (Umtynagar).

25. *Coenobius baronii* Lopatin

1979. *Coenobius baronii* Lopatin, *Ent. Basiliensis*, 4 : 439.

Diagnostic characters : Head, prothorax, prosternum and middle-sternum, legs and larger portion of antennae, reddish yellow; elytra, metasternum and abdomen, black; posteriormargin of prothorax slightly blackish; length 1.9 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills).

Remarks : Lopatin (1979) described this species from Meghalaya.

Genus *Melixanthus* Suffrian

1854. *Melixanthus* Suffrian, *Linn. ent.*, 9 : 8.

1908. *Melixanthus* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 267

Out of five Indian species there was no report so far from Meghalaya. The Present Paper includes one species from the area.

26. *Melixanthus assamensis* Jacoby

1908. *Melixanthus assamensis* Jacoby, *Fauna Brit. India, Col. Chry.*, 1 : 267.

Diagnostic characters : Head, a part of underside and apical segments of antenna black; prothorax reddish brown; scutellum black; elytra yellowish with margins narrowly all round and humeral spot black; length 3.0 mm.

Material examined : Jaintia Hills : Jowai, 15.ix. 1988 (1 ex.), V. D. Srivastava coll.

Distribution : India : Meghalaya (Jaintia Hills), Assam.

Remarks : First record from Meghalaya.

Genus *Cryptocephalus* Geoffroy

1762. *Cryptocephalus* Geoffroy, *Ins. Paris*, 1 : 231.

1908. *Cryptocephalus* : Jacoby, *Fauna Brit. India. Col., Chry.*, 1 : 192.

This is the largest genus of this subfamily includes about ninety six Indian species of which only six species were recorded so far from Meghalaya. The present paper adds another species from the area.

27. *Cryptocephalus exsulans* Suffrian

1854. *Cryptocephalus exsulans* Suffrian, *Linn. ent.*, 9 : 149.

1908. *Cryptocephalus exsulans* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 195.

Diagnostic characters : General colour black; apical part of head yellowish; elytron black with four yellow spots (1:2:1), Prothorax black with lateral margins and a median line, yellow; legs yellow; length 4.0-5.0 mm.

Material examined : Jaintia Hills : Muktapur, 21.v. 1990 (1 ex.), M. S. Shishodia coll.

Distribution : India : Meghalaya (Jaintia Hills), Arunachal Pradesh, Assam, Sikkim and West Bengal. Elsewhere : Bhutan, Nepal and Tibet.

28. *Cryptocephalus pallidipennis* Jacoby

1908. *Cryptocephalus pallidipennis* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 214.

Diagnostic characters : General colour brownish yellow; apical segments of antennae and extreme margins of prothorax black; head impunctate; prothorax impunctate with a slight depression each side near scutellum and its basal margin deeply bi-emarginate; elytral puncturation fine and not always regular; length 4.5-5.5 mm.

Material examined : East Khasi Hills : Shillong, 31.v. 1918 (1 ex.), Y. R. Rao coll.

Distribution : India : Meghalaya (East Khasi Hills), Assam. Elsewhere : Burma.

29. *Cryptocephalus dificiens* Suffrian

1854. *Cryptocephalus dificiens* Suffrian, *Linn. ent.*, 9 : 146.

1908. *Cryptocephalus dificiens* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 226.

Diagnostic characters : General colour black; clypeus, basal segment of antenna and legs yellowish; elytra with its anterior half yellowish, posterior half black; length 2.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Assam and West Bengal. Elsewhere : Nepal

Remarks : Lopatin (1984) recorded this species from Meghalaya (Cherrapunji).

30. *Cryptocephalus herbsti* Suffrian

1854. *Cryptocephalus herbsti* Suffrian, *Linn. ent.*, 9 : 25.

1908. *Cryptocephalus herbsti* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 258.

Diagnostic characters : General colour reddish; elytra with its basal margin and three spots (2 : 1) on the disc, black; suture black posteriorly; antenna black with five basal segments yellowish; scutellum yellowish with the margins darker; pygidium pale yellowish; abdomen sometimes brownish with paler margins; length 2.5-4.0 mm.

Material examined : West Garo Hills : Barangapara, 23.iv. 1991 (1 ex.), B. N. Das coll.

Distribution : India : Meghalaya (West Garo Hills), Assam and West Bengal.

31. *Cryptocephalus guttifer* Suffrian

1854. *Cryptocephalus guttifer* Suffrian, *Linn. ent.*, 9 : 22.

1908. *Cryptocephalus guttifer* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 259.

1908. *Cryptocephalus kashmirensis* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 261.

1961. *Cryptocephalus guttifer* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1A : 152 (Synonymized).

Diagnostic characters : General colour pale brownish; breast and abdomen (except last segment) black; prothorax with two black spots; elytra with sutural margin and posterior lateral margins and three large spots (2:1), black; length 4.0-5.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Jammu & Kashmir, Maharashtra, Madhya Pradesh, Punjab and Uttar Pradesh. Elsewhere : China.

Remarks : Jacoby (1908) recorded this species from Meghalaya (Khasi Hills).

32. *Cryptocephalus baroniurbanii* Lopatin

1982. *Cryptocephalus baroniurbanii* Lopatin, *Ent. Basiliensia*, 7:414.

Diagnostic characters : General colour yellowish brown to red-brown; vertex of head black; six apical segments of antennae black; prothorax with two longitudinal curved black patches united at base, basal margin black; elytra black with four yellowish spots on each elytron; length 3.40-4.30 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Sikkim and West Bengal. Elsewhere : Bhutan and Nepal.

Remarks : Lopatin (1982) recorded this species from Meghalaya (Cherrapunji).

33. *Cryptocephalus senguptai* Lopatin

1979. *Cryptocephalus senguptai* Lopatin, *Ent. Basiliensia*, 4 : 432

Diagnostic characters : Head dark yellow, shining; basal margin of prothorax, scutellum, elytra, epipleura, and the rows of punctures on side margin, pitch black; pygidium with a black spot at middle; antennal segments 5-11 pitch black; length 3.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), West Bengal.

Remarks : Lopatin (1979) described this species from Meghalaya (Shillong).

34. *Cryptocephalus* sp. (near *rufofemoratus* Jac.)

Material examined : East Garo Hills : William Nagar, 10.iii. 1991 (3 exs.), B.N. Das coll.

Subfamily (vii) CHLAMISINAE

Only two genera *Chlamisus* Rafinesque and *Hymetes* Lacordaire are known from India. No member of these genera were recorded so far from Meghalaya. Present paper includes one species of *Chlamisus* from the area.

Genus *Chlamisus* Rafinesque

1815. *Chlamisus* Rafinesque, *Analyse Nat. Tab. l'Univ. Corps Organ*, : 16.

1801. *Chlamys* Knock (nec Roding IN Bolten, 1798), *Neue Beytr. Insektenk*, 1 : 122.

1848. *Exema* Lacordaire, *Monogr. Phytoph.*, 2 : 634, 844.

1955. *Chlamisus* : Chujo, *Tech. Bull. Kagawa Agric. coll.*, 7(1) : 54 (Synonymized).

1961. *Chlamisus* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1A : 171.

So far fourteen species were recorded from India. But not a single one has yet been recorded from Meghalaya. Present paper records first species from the area.

35. *Chlamisus stercoralis* (Gressitt)

1901. *Chlamys indica* Jacoby (nec Guerin, 1840), *Proc. Zool. Soc. London*, 1901 : 163.

1942. *Chlamys stercoralis* Gressitt, *J. Lingnan Sci.*, 20 (2-4) : 355

1946. *Chlamisus stercoralis* : Gressitt, *Ann. ent. Soc. Am.*, 39(1): 96.

Diagnostic characters : General colour black; labrum, antenna and femora reddish; antennal segment 4 triangularly broadened, much wider than segment 3; pronotum with moderately high tubercles; length 4.6-5.0 mm.

Material examined : East Khasi Hills : Shillong, 24.iv. 1924 (2 exs) Bose coll.

Distribution : India : Meghalaya (East Khasi Hills), Tamil Nadu. Elsewhere : China, Thailand and Vietnam.

Remarks : First record from Meghalaya.

Subfamily (vii) EUMOLPINAE

Key to the Genera of Eumolpinae from Meghalaya

(largely after Kimoto & Gressitt, 1982)

- | | |
|--|-------------------------|
| 1. Anterior margin of proepisterna straight or concave | 2 |
| Anterior margin of proepisterna convex | 28 |
| 2(1). Tarsal claws appendiculate or simple | 3 |
| Tarsal claws bifid | 12 |
| 3(2). Intermediate and posterior tibiae not emarginate at apex | 4 |
| Intermediate and posterior tibiae, or intermediate tibiae emarginate at apex,..... | 6 |
| 4(3). Dorsal side entirely glabrous | 5 |
| Dorsal side densely covered with erect hairs..... | <i>Paracrothinium</i> * |
| 5(4). Anterior femora without distinct tooth at middle..... | <i>Iphimoides</i> * |
| ..... | <i>Clisitherella</i> * |
| Anterior femora with distinct tooth at middle..... | <i>Chrysolampra</i> |

- 6(3). Body above glabrous 7
 Body above thickly covered with pubescence *Parascella**
- 7(6). Antenna filiform 8
 Antenna with terminal segments strongly widened *Callisina*
- 8(7). Head without sulcus above eye 9
 Head with sulcus above eye *Pagria*
- 9(8). Prothorax as broad as elytron; body generally very small and rounded; antenna robust nearly as long as in preapical antennal segments, and usually less than half as long as body length....
 *Nodina*
 Prothorax narrower than elytron at base; antenna slender, long, and often more than two-third as long as body length 10
- 10(9). Prothorax widest at base, often angulate at sides *Basilepta*
 Prothorax not widest at base, subquadrate, never angulate at sides near base 11
- 11(10). Femora unarmed *Pseudostonopa**
 Femora furnished with a small tooth beneath *Chrysonopa*
- 12(2). Head without sulcus above eye 14
 Head with sulcus above eye 13
- 13(2). Prothorax with distinct margins *Rhyparida*
 Prothorax without distinct margins *Scelodonta*
- 14(12). Body above clothed with hairs or scale like hairs 15
 Body above glabrous *Colasposoma*
- 15(14). Lateral margins of prothorax marginate 16
 Lateral margins of prothorax not marginate 17
- 16(15). Intermediate and posterior tibiae not emarginate at apex *Osnaparis**
 Intermediate and posterior tibiae, or intermediate tibiae emarginate at apex *Trichochrysea*
- 17(15). Prothorax longer than broad or nearly as long as broad 18
 Prothorax much broader than long 21
- 18(17). Anterior femora normal, not abnormally enlarged 19
 Anterior femora abnormally enlarged *Piomera**

19(18).	Femora unarmed beneath; body small, metallic.....	<i>Malegia</i> *
	Femora distinctly toothed beneath.....	20
20(19).	Fore femur thicker than hind femur; generally red or brown.....	<i>Trichotheca</i> *
	Fore femur not thicker than hind femur; ground colour generally black; sometimes reddish....	
	.....	<i>Lypestes</i> *
21(17).	Body clothed with scales above.....	<i>Pseudometaxis</i> *
	.....	<i>Hemiplatys</i> *
	.....	<i>Demotina</i> *
	.....	<i>Hyperaxis</i> *
	Body clothed with hairs above.....	22
22(21).	Prothorax not toothed at side.....	23
	Prothorax with two or three fairly prominent teeth at side; length 3.0-4.0 mm.....	<i>Aulexis</i> *
23(22).	Mesosternum transverse, generally longer than 4.0 m.....	24
	Mesosternum oblong or subquadrate; generally 2-3 mm in length.....	<i>Xanthonia</i> *
24(23).	Mesosternum bifurcate at apex, antenna 11 segmented.....	25
	Mesosternum not bifurcate at apex, antenna 9 or 11 segmented.....	26
25(24).	Elytron smooth.....	<i>Aoria</i>
	Elytron tuberculate or nodose.....	<i>Pseudaoria</i>
26(24).	Antenna 9 segmented.....	<i>Aloria</i> *
	Antenna 11 segmented.....	27
27(26).	Lateral margins of prothorax obsolete.....	<i>Macrocoma</i> (<i>Eubraxis</i> Baly)
	Lateral margins of prothorax distinct and serrate.....	<i>Mesocolaspis</i> *
28(1).	Dorsal side covered with hairs or scales.....	29
	Dorsal side glabrous.....	32
29(28).	Dorsal side with strong transverse rugosities and short, adpressed sparse hairs.....	<i>Abirus</i>
	Dorsal side without transverse rugosities, closely covered with hairs or scales.....	30
30(29).	Mid and hind tibiae emarginate on outer side near apex, dorsal side covered with scales.....	
	.....	<i>Pachnephorus</i>
	Mid and hind tibiae not emerginate on outer side near apex.....	31

- 31(30). Tarsal claws appendiculate, dorsal side with very short pubescence *Eurypelta**
 Tarsal claws bifid, dorsal side covered with adpressed scaled *Bromiodes**
- 32(28). Mid and hind tibiae emarginate on outer side near apex 33
 Mid and hind tibiae simple, not emarginate..... 37
- 33(32). Tarsal claws bifid 34
 Tarsal claws appendiculate 36
- 34(33). Fore femur with large tooth beneath; head without a deep groove above eye 35
 Fore femur unamed or minutely toothed beneath; head with a deep groove above eye and
 groove large and deeply emerginate *Cleoporus*
- 35(34). Elytron dilated posteriorly and with epipleuron convex *Phytorus**
 Elytron subparallel sided and with epipleuron flat *Tricliona**
- 36(33). Antenna filiform, with terminal segments widened *Cleorina*
 Antenna with four basal segments cylindrical, following segments compressed and feebly
 dilated *Mouhotina**
- 37(32). Head without sulcus above eye..... 38
 Head with broad sulcus above eye..... 41
- 38(37). Prothorax subquadrate or cylindrical, distinctly narrower at base than elytron 39
 Prothorax transverse, as broad or nearly as broad as elytron..... 40
- 39(38). Prothorax cylindrical, subparallel-sided, lateral margin not visible from above.....
 *Chalcolema**
 Prothorax subquadrate, widest slightly before middle, narrowed anteriorly and posteriorly;
 lateral margins distinct, visible from above *Heminodes**
- 40(38). Posterior femur with long projection subapically in male, and with distinct spine in female
 *Olorus**
 Posterior femur sometimes with distinct spine subapically..... *Colaspoides*
- 41(37). Sulcus above eye deep and broad, antenna with apical segments widened..... *Platycorynus*
 Sulcus above eye not deeper and not so broad as in *Platycorynus*; antenna with apical
 segments either cylindrical or not distinctly flattened..... *Chrysochus**

Genus *Chrysolampra* Baly

1859. *Chrysolampra* Baly, *Ann. Mag. nat. Hist.* (3) 4: 126.

1908. *Chrysolampra* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 285.

So far three species were recorded from India of which two species were from Meghalaya. Present paper includes another species from Meghalaya which is also recorded here for the first time from India.

36. *Chrysolampra flavipes* Jacoby

1899. *Chrysolampra flavipes* Jacoby, *The Entomologist*, **32** : 70.

1908. *Chrysolampra flavipes* : Jacoby, *Fauna Brit. India, Col., Chry.*, **1** : 286.

Diagnostic characters : Dorsal side greenish- cupreous with antenna reddish brown; ventral side golden green with breast metallic greenish, labrum and legs reddish-brown. Head very finely and sparsely punctured; prothorax strongly but not very closely punctured; length 6.0-8.0 mm.

Material examined : East Garo Hills : Rongzeng, 26.v. 1990 (2 exs.), M. S. Shishodia coll.; East Khasi Hills: Mawpat, 14.vii. 1967 (4 exs.), R. K. Varshney coll.; Upper Shillong, 6.vi. 1974 (2 exs.), M. Vasanth coll.

Distribution : India : Meghalaya (East Garo Hills and East Khasi Hills).

37. *Chrysolampra thoracica* Jacoby

1899. *Chrysolampra thoracica* Jacoby, *The Entomologist*, **32** : 69.

1908. *Chrysolampra thoracica* : Jacoby, *Fauna Brit. India, Col., Chry.*, **1** : 286.

Diagnostic characters : Dorsal side metallic green; ventral side blackish; antenna and legs reddish brown; head and pronotum very finely and closely punctate; length 6.0mm.

Material examined : East Khasi Hills : Mawblong, 23.vi. 1964 (2 exs.), R. P. Ghosh coll., 15.v. 1964 (1 ex.), S. Biswas coll.; Shillong (1 ex.); Shillong, Old Barapani Road, 6.vi. 1973 (1 ex.), A. K. Ghosh coll.; Shillong, 14-20.v. 1924 (11 exs.), Bose coll.; 7.iv.-31.v. 1918 (10 exs.), A. G. R. coll.; East Garo Hills: Rongzeng, 26.v. 1990 (3 exs.), M. S. Shishodia coll.; Jaintia Hills: Muktapur, 21.v. 1990 (2 exs.), Khliekriat, 20.v. 1990 (1 ex.); all M. S. Shishodia coll.

Distribution : India : Meghalaya (East Khasi Hills, East Garo Hills and Jaintia Hills), Elsewhere : Bangladesh (Sylhet).

Remarks : First record from India (Meghalaya).

38. *Chrysolampra indica* Jacoby

1908. *Chrysolampra indica* : Jacoby, *Fauna Brit. India, Col., Chry.*, **1** : 291.

Diagnostic characters : General colour metallic greenishcupreous; basal four segments of antennae brownish, rest black; legs blackish with metallic gloss; length 5.0-5.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : Burma.

Remarks : Jacoby (1908) described this species from Meghalaya.

Genus *Callisina* Baly

1860. *Callisina* Baly, *J. Ent.*, 1 : 30.

1908. *Callisina* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 362.

Five species of this genus were recorded so far from India of which only one species was recorded from Meghalaya.

39. *Callisina assamensis* Jacoby

1908. *Callisina asamensis* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 364.

Diagnostic characters : General colour black; head with a brownish spot at middle; elytra with a humeral and a subapical transverse yellowish spot; length 4.0 mm.

Material examined : West Garo Hills : Tura, vii-viii. 1917 (2 exs.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Assam.

Remarks : First record from Meghalaya.

Genus *Pagria* Lefevre

1884. *Pagria* Lefevre, *Bull. Soc. ent. Fr.* : 67.

1908. *Pagria* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 356.

Six species of this genus were recorded so far from India but not a single species has yet been recorded from Meghalaya. The present paper records two species from the area.

40. *Pagria signata* (Motschulsky)

1858. *Metachroma signata* Motschulsky, *Etud. Ent.*: 110.

1908. *Pagria signata* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 356.

Diagnostic characters : Very short species with variable colouration : Pronotum yellowish or reddish or brown or entirely black; elytron (1) reddish or yellowish brown with subbasal area paler, sutural margin blackish, lateral margin entirely or partly blackish, post basal area with black spot, (2) entirely blackish; antenna yellowish brown with apical segments black; legs yellowish brown; length 1.8-2.4 mm.

Material examined : Jaintia Hills : Garampani, 19.ix. 1979 (1 ex.), C. Radhakrishnan coll.

Distribution : India : Meghalaya (Jaintia Hills), Himachal Pradesh, Karnataka, Madhya Pradesh, Rajasthan, Tamil Nadu and West Bengal. Elsewhere : Bangladesh, Burma, China, Indonesia, Japan, Korea, Laos, Phillipines, Sri Lanka, Thailand, Taiwan, U. S. S. R. (Siberia) and Vietnam.

Remarks : First record from Meghalaya

41. *Pagria kanaraensis* (Jacoby)

1885. *Nodostoma kanaraensis* Jacoby, *Ann. Soc. ent. Belg.*, 39 : 279.

1908. *Pagria kanaraensis* : Jacoby, *Fauna Brit. India. Col., Chry.*, 1 : 360.

Diagnostic characters : General colour blackish; head with two reddish spots between the eyes; apical margin of clypeus brownish; antenna pale yellowish; pronotum blackish golden green with the anterior margin reddish; elytra yellowish with suture, lateral margins and a small spot below base, blackish; length 2.0 mm.

Material examined : East Garo Hills : Songsok Res. Forest, 21.xi. 1974 (2 exs.), T. Sengupta coll.; East Khasi Hills : Shillong Peak, 26.xi. 1974 (1 ex.), T. Sengupta coll.

Distribution : India : Meghalaya (East Khasi Hills and East Garo Hills). Karnataka, Maharashtra, Tripura and West Bengal.

Remarks : First record from Meghalaya.

42. *Pagria* sp.

Material examined : East Khasi Hills : Shillong, Risa Colony, 26.xi. 1974 (1 ex.), T Sengupta coll.

Genus *Nodina* Motschulsky

1858. *Nodina* Motschulsky, *Etud. Ent.*, 7 : 108.

1908. *Nodina* : Jacoby, *Fauna Brit. India, Col. Chry.*, 1 : 292.

Fourteen species of this genus were recorded so far from India but none was from Meghalaya. The present paper records one species from the area.

43. *Nodina tarsalis* Duvivier

1892. *Nodina tarsalis* Duvivier, *Ann. Soc. ent. Belg.*, 36: 409.

1908. *Nodina tarsalis* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 296.

Diagnostic characters : Dorsal side bluish-black; prothorax sometimes brassy or cupreous; labrum, palpi, antennae and tarsi reddish brown; ventral side, femora and tibiae black; length 1.7 mm.

Material examined : East Khasi Hills : Shillong. 19.vi. 1920 (1 ex.), Fletcher coll.; Shillong Botanical Garden, 20.viii. 1960 (4 exs.), S. N. Prasad coll.

Distribution : India : Meghalaya (East Khasi Hills), Bihar and Mahe.

Remarks : First record from Meghalaya.

Genus *Basilepta* Baly

1860. *Basilepta* Baly, *J. ent.*, 1 : 23.

1860. *Nodostoma* Motschulsky, *In Schrenk, Reise u. Forsch. Amar.* 2(2) : 176.

1908. *Nodostoma* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 301.

1922. *Basilepta* : Weise, *Tijdschr. ent.*, 65 : 47 (= *Nodostoma* Mts.)

Seventy one species of this genus were recorded so far from India of which one species was from Meghalaya. The present paper deals with four species including three new records from the area.

44. *Basilepta duvivieri* Jacoby, New combination

1908. *Nodostoma duvivieri* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 313.

Diagnostic characters : General colour reddish brown; prothorax with two black bands; elytra with a sutural black band from base to behind the middle; pronotum and elytra with stronger punctures than *B. bengalensis* Duvivier; length 3.0-3.5 mm.

Material examined : East Khasi Hills : Shillong, 8-20.v.1924 (6 exs.) Bose coll., 30.v. 1918 (2 exs.), A. G. R. coll., 8.vi. 1918 (1 ex.), Y R. Rao coll.

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : Burma.

Remarks : First record from India (Meghalaya).

45. *Basilepta plagiosum* Baly

1880. *Nodostoma plagiosum* Baly, *Cist. ent.*, 2 : 373

1908. *Nodostoma plagiosum* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 315.

1967. *Basilepta plagiosum* : Kimoto, *Esakia*, No.6 : 69.

Diagnostic characters : Head, prothorax and ventral side blackish; antennae and legs blackish brown, sometimes basal segments of antennae and legs yellowish; elytra pale yellowish with the suture and lateral margins narrowly and a transverse patch below shoulder, black; the extreme anterior margin of prothorax yellowish; length 3.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills). Himachal Pradesh, Punjab, Sikkim and West Bengal. Elsewhere : Burma, Laos, Nepal, Thailand and Vietnam.

Remarks : Jacoby (1908) recorded this species from Meghalaya (Khasi Hills).

46. *Basilepta pretiosum* (Jacoby)

1908. *Nodostoma pretiosum* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 304.

1987. *Basilepta pretiosum* : Takizawa & Basu, *Kontyu. Tokyo* 55(2): 270.

Diagnostic characters : Dorsal side metallic cupreous, blue or green; antenna with basal segments brownish, terminal segments black; labrum and palpi brownish; base of femora brownish and tarsi black; ventral side greenish; sometimes legs entirely metallic blue or green; pronotum very strongly punctate; length 4.5-5.0 mm.

Material examined : West Garo Hills : Tura, 15.vii.-30. viii. 1917 (3 exs.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), West Bengal. Elsewhere : Bangladesh (Sylhet).

Remarks : First record from Meghalaya.

47. *Basilepta inconspicuum* (Jacoby), new combination

1908. *Nodostoma inconspicuum* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 322.

Diagnostic characters : General colour reddish brown; antennae with apical segments black; legs with bases of tibiae along with apex of femora blackish; length 3.0 mm.

Material examined : Jaintia Hills: Muktapur, 21.v. 1990 (1 ex.), M. S. Shishodia coll.

Distribution : India : Meghalaya (Jaintia Hills). Assam.

Remarks : First record from Meghalaya.

48. *Basilepta subdepressum* (Jacoby), new combination

1908. *Nodostoma subdepressum* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 322.

Diagnostic characters : General colour raddish brown; antennae with apical segments black; the elytral punctures are more closely placed and less regular than any other species; pronotum and elytra slightly depressed; length 4.0 mm.

Material examined : East Khasi Hills: Shillong, 30-31.v. 1918 (3 exs.), A. G. R. coll.

Distribution : India : Meghalaya (East Khasi Hills), Assam.

Remarks : First record from Meghalaya.

49. *Basilepta* sp. (near *femoratum* Jac)

Material examined : East Khasi Hills : Shillong 6.viii. 1962 (1 ex.).

Genus *Chrysonopa* Jacoby

1908. *Chrysonopa* Jacoby, *Fauna Brit. India, Col. Chry.*, 1 : 353.

So far three species of this genus were recorded from India of which only one species was from Meghalaya.

50. *Chrysonopa rotundicollis* (Jacoby)

1900. *Nodostoma rotundicollis* Jacoby, *Mem. Soc. ent. Belg.*, 7: 104.

1908. *Chrysonopa rotundicollis* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 353.

Diagnostic characters : Dorsal side dark brown, ventral side black; elytra with black lateral band; knees and apex of tibiae blackish; length 7.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills).

Remarks : Jacoby (1908) recorded this species from Meghalaya.

Genus *Rhyparida* Baly

1861. *Rhyparida* Baly, *J. Ent.*, 1 : 286.

1908. *Rhyparida* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 378.

Out of four Indian species only one species was so far recorded from Meghalaya.

51. *Rhyparida khasianensis* Jacoby

1899. *Rhyparida khasianensis* Jacoby, *J. Ent.* : 80.

1908. *Rhyparida khasianensis* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 378.

Diagnostic characters : General colour reddish brown; apical seven segments of antennae black; tarsi blackish; segment 2 of antennae short; head impunctate; pronotum very sparsely and finely punctate; prosternum broad and punctate; length 6.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills).

Remarks : Jacoby (1908) recorded this species from Meghalaya.

52. *Rhyparida* sp. (nr. *khasianensis* Jac.)

Material examined : Jaintia Hills : Khlietsriat, 20.v. 1990 (1 ex.) M. S. Shishodia coll.; East Khasi Hills: Cherrapunji, 20. vii. 1965 (1 ex.), B. K. Tikadar coll.

Genus *Scelodonta* Westwood

1837. *Scelodonta* Westwood, *Proc. Zool. Soc. Lond.*, 5 : 129

1908. *Scelodonta* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 382

Out of ten Indian species none was recorded so far from Meghalaya. The present paper includes three species which are all first time recorded from the state.

53. *Scelodonta vittata* Olivier

1808. *Eumolpus vittata* Olivier, *Ent.*, 6 : 907.

1889. *Scelodonta vittata* : Lefevre, *Ann. Soc. ent. Fr.* (6) 9: 291.

1908. *Scelodonta vittata* : Jacoby, *Fauna Brit. India, Col. Chry.*, 1 : 382.

Diagnostic characters : General colour metallic cupreous, antennae black; elytron with four longitudinal stripes of pale golden pubescence; length 8.5 mm.

Material examined : West Garo Hills : Above Tura, ix. 1917 (2 exs.), Mrs. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Andaman Is., Bihar, Maharashtra and West Bengal. Elsewhere : Cambodia, Laos, Thailand and Vietnam.

Remarks : First record from Meghalaya.

54. *Scelodonta indica* Duvivier

1891. *Scelodonta indica* Duvivier, *Bull. Soc. ent. Belg.*, 35 : 39.

1908. *Scelodonta indica* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 383.

Diagnostic characters : General colour bronzy; antennae black with basal two segments golden green; palpi brownish; elytra with three smooth purplish spots; length 4.5 mm.

Material examined : Jaintia Hills : Garampani, 19.ix. 1979 (1 ex.), C. Radhakrishnan coll.

Distribution : India : Meghalaya (Jaintia Hills), Bihar and Orissa.

Remarks : First record from Meghalaya.

55. *Scelodonta dillwyni* (Stephens)

1831. *Eumolpus dillwyni* Stephens, *Ill. Brit. Ent.*, 4: 364.

1899. *Scelodonta dillwyni* : Champion, *Ent. Month. Mag.*, (2) 10:269.

1908. *Scelodonta dillwyni* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 385.

Diagnostic characters : General colour greenish to metallic cupreous; apical segments of antennae and tarsi black; elytra with suture anteriorly and three spots (2:1) purplish cupreous; length 3.2-3.8 mm.

Material examined : West Garo Hills : Above Tura, 15.vii. -30.viii. 1917(1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), West Bengal. Elsewhere : Burma, Borneo, Cambodia, China, Hainan, Laos, Malaya, Nepal, Phillipines, Singapore, Sumatra, Thailand and Vietnam.

Remarks : First record from Meghalaya.

Genus *Colasposoma* Castelnau

1833. *Colasposoma* : Castelnau, *In Silbermann. Rev. Ent.*, 1 : 22.

1908. *Colasposoma* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 439.

Out of twenty four Indian species only one species was recorded so far from Meghalaya. The present paper deals with five species of which four are first time recorded from Meghalaya.

56. *Colasposoma semicostatum* Jacoby

1908. *Colasposoma semicostatum* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 443.

Diagnostic characters : General colour metallic green; labrum brownish; antennae with basal six or seven segments brownish rest black; ventral side golden green; legs brownish with the knees metallic green; sometimes dorsal side reddish cupreous or elytra green and ptothorax violaceous; length 4.5-5.0 mm.

Material examined : East Khasi Hills : Shillong, vi. 1924 (1 ex.), Upper Shillong, 12-15.vi. 1916 (1 ex.), all Fletcher coll.; Ri-Bhoi : Nongpoh, vii. 1907 (3 exs.), D. Nowrojee coll.

Distribution : India : Meghalaya (East Khasi Hills and Ri-Bhoi). Assam, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Nepal.

Remarks : First record from Meghalaya.

57. *Colasposoma pretiosum* Baly

1880. *Colasposoma pretiosum* Baly, *J. Ent.*, 1 : 36.

1908. *Colasposoma pretiosum* : Jacoby, *Fauna Brit. India, Col. Chry.*, 1 : 449.

Diagnostic characters : Dorsal surface entirely dark blue, violaceous, blue or violaceous with elytron reddish cupreous; antenna with its preapical segments one and a half times as long as wide; in male middle lobe strongly curved in apical portion and strongly expanded at apex; lateral portion of elytron obsolete rugose in female, and never rugose in male; length 6.5-8.0 mm.

Material examined : East Garo Hills : Nongal, 28.v. 1990 (1 ex.), M. S. Shishodia coll.; West Garo Hills : Tura, 3.vi. 1990 (1 ex.), M. S. Shishodia coll.

Distribution : India : Meghalaya (Khasi Hills, East Garo Hills and West Garo Hills), Assam, Maharashtra, Sikkim, Tamil Nadu and West Bengal. Elsewhere : Burma, China, Laos, Sri Lanka and Vietnam.

58. *Colasposoma metallicum* Clark

1865. *Colasposoma metallicum* Clark, *Ann. Mag. nat. Hist.* (3) 15: 142.

1908. *Colasposoma metallicum* : *Fauna Brit. India, Col., Chry.*, 1: 446.

Diagnostic characters : General colour bronze, metallic blue or green; labrum, mandibles and base of palpi blackish; antennae blackish with the basal segments bluish; ventral side and the legs bronzy; lateral portion of elytra rugose and strongly so in female; length 6.0-7.0 mm.

Material examined : Ri-Bhoi: Nongpoh, vii. 1907 (1 ex.), D. Nowrojee coll.

Distribution : India : Meghalaya (Ri-Bhoi), Andaman Is., Maharashtra, Orissa and West Bengal. Elsewhere : Burma, China, Laos and Vietnam.

Remarks : First record from Meghalaya.

59. *Colasposoma downesi* Baly

1862. *Colasposoma downesi* Baly, *Ann. Mag. nat. Hist.*, (3) 10 : 19.

1908. *Colasposoma downesi* : Jacoby, *Fauna Brit. India, Col. Chry.*, 1: 442.

1864. *Colasposoma aureovittatum* Baly, *Descr. n. gen. & spec. Phytoph.*: 14.

1885. *Colasposoma asperatum* Lefevre, *Mem. Soc. Sci. Liege*, (2), 11 : 104.

1889. *Colasposoma transversicolle* Jacoby, *Ann. Mus. Civ. Genova*, 27: 176.

1982. *Colasposoma downesi* : Kimoto & Gressitt, *Esakia*, no. 18:59 (*asperatum* Lefev., *aureovittatum* Baly and *transversicolle* Jac. synonymized with *downesi* Baly)

Diagnostic characters : Dorsal surface metallic green, violaceous, blue, or cupreous with margins greenish; antenna and legs brownish, sometimes largely brownish or blackish; preapical segments of antennae nearly three times as long as wide; elytron strongly rugose and tuberculate at side in female and closely transversely rugose but not tuberculate in male; length 4.5-7.2 mm.

Material examined : East Khasi Hills : Shillong, 15-20.v. 1924 (7 exs.), Bose coll.; Shillong, Barapani Road, 6.vi. 1973 (1 ex.), A. K. Ghosh coll.

Distribution : India : Meghalaya (East Khasi Hills), Himachal Pradesh, Sikkim, Tamil Nadu and West Bengal. Elsewhere : Burma, Cambodia, Laos, Nepal, Thailand and Vietnam.

Remarks : First record from Meghalaya

60. *Colasposoma splendidum* (Fabricius)

1792. *Chrysomela splendidum* Fabricius, *Syst. Ent.*, 1 : 324.

1908. *Colasposoma splendidum* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 451.

Diagnostic characters : General colour metallic green or blue, apical segments of antennae, palpi and tarsi black; five apical segments of antennae slightly thickened and longer than broad; elytral punctures fine and irregularly placed; length 6.0-7.0 mm.

Material examined : West Garo Hills : Tura, 15.vi.-15.vii. 1917. (2 exs.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Mentioned only 'India' Elsewhere : Java and Malaya.

Remarks : First record from Meghalaya.

Genus *Trichochrysea* Baly

1861. *Trichochrysea* Baly, *J. Ent.*, 1 : 195.

1980. *Trichochrysea* : Jacoby, *Fauna Brit. India. Col. Chry.*, 1 : 387.

Four species of this genus were recorded so far from India of which a single species was from Meghalaya.

61. *Trichochrysea vestita* Baly

1861. *Trichochrysea vestita* Baly, *J. Ent.*, 1 : 196.

1908. *Trichochrysea vestita* : Jacoby, *Fauna Brit. India, Col., Chry.* 1 : 389.

Diagnostic characters : General colour dark greenish cupreous; basal segments of antennae brownish; the whole body clothed with long, suberect, silvery gray hairs; length 6.0-7.0 mm.

Material examined : West Garo Hills : Above Tura, 15.vi.-15.vii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills and Khasi Hills), States of Northern India. Elsewhere : Burma.

Genus *Aoria* Baly

1863. *Aoria* Baly, *J. Ent.*, 2 : 149.

1908. *Aoria* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 396.

Two species of this genus were recorded so far from India of which one species was from Meghalaya. The present paper adds another two species from the area of which one is recorded from India for the first time.

62. *Aoria nigripes* (Baly)

1860. *Adoxus nigripes* Baly, *J. Ent.*, 1 : 28.

1884. *Aoria nigripes* : Jacoby, *Notes Leyd. Mus.*, 6 : 203.

1908. *Aoria nigripes* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 396.

Diagnostic characters : Variable colouration : dorsal surface entirely reddish brown, entirely black or reddish brown with prothorax black; ventral surface entirely black, entirely reddish brown or reddish brown with prothorax blackish; antenna blackish with basal segment brownish; legs blackish, sometimes brownish; length 4.2 - 5.8 mm.

Material examined : West Garo Hills : Above Tura, 15.vii.-30.viii. 1917 (1 ex.), S. Kemp coll.; East Khasi Hills : Shillong, vi.1920 (1 ex.), Fletcher coll.

Distribution : India : Meghalaya (West Garo Hills and East Khasi Hills), Assam, Malabar (Kerala/Tamil Nadu) and West Bengal. Elsewhere : Burma, China, Cambodia, Hainan, Laos, Sumatra, Taiwan, Thailand and Vietnam.

63. *Aoria bowringi* (Baly)

1860. *Adoxus bowringi* Baly, *J. Ent.*, 1 : 27.

1867. *Aoria bowringi* : Baly, *Trans. ent. Soc. Lond.*, ser. 3, 4(2): 79.

1908. *Aoria bowringi* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 397.

Diagnostic characters : Almost entirely reddish brown with the ventral surface partly blackish; pronotum with or without a blackish spot at middle, and elytron with five or six black spots; length 5.5-6.0 mm.

Material examined : West Garo Hills : Above Tura, 15.vii-30.viii. 1917 (6 exs.), S. Kemp coll.; East Khasi Hills : Shillong, vi. 1920 (1 ex.), Upper Shillong, 12-15.vi. 1918 (2 exs.), all Fletcher coll.; Ri-Bhoi : Nongpoh (1 ex.).

Distribution : India : Meghalaya (West Garo Hills, East Khasi Hills and Ri-Bhoi), Andaman Is. and West Bengal. Elsewhere : Borneo, Burma, China, Cambodia; Hainan, Laos, Malaya, Nepal, Sumatra, Thailand and Vietnam.

64. *Aoria nigrita* Jacoby

1892. *Aoria nigrita* Jacoby, *Ann. Mus. Civ. Genova*, 32 : 904.

1908. *Aoria nigrita* : Jacoby, *Fauna Brit. India, Col. Chry.*, 1 : 397.

Diagnostic characters : Almost entirely black; femore reddish; body sparsely covered with white pubescence; length 5.5 mm.

Material examined : West Garo Hills : Tura, 15.vi. 15.vii. 1917 (2 exs.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills). Elsewhere : Burma.

Remarks : First record from India (Meghalaya).

Genus *Pseudaoria* Jacoby

1908. *Pseudaoria* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 399.

This is a monotypic genus recorded only from Manipur. The species is recorded here for the first time from Meghalaya.

65. *Pseudaoria burmanica* Jacoby

1908. *Pseudaoria burmanica* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 399.

Diagnostic characters : Entirely black with three basal segments of antennae brownish beneath; antennae very slender and long extending nearly to apex; whole body including legs covered with stiff grey pubescence; length 5.0-6.0 mm.

Material examined : West Garo Hills : Above Tura, 15.vi.-30.viii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Manipur. Elsewhere : Burma.

Remarks : First record from Meghalaya.

Genus *Macrocoma* Chapuis

1874. *Macrocoma* Chapuis, *Gen. Col.*, 10 : 292.

Seven species of this genus were recorded so far from India of which only one species was recorded from Meghalaya.

66. *Macrocoma rufotibialis* (Jacoby), new combination

1908. *Eubraxis rufotibialis* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 433.

Diagnostic characters : General colour cupreous or brassy; labrum, palpi and the basal segments of antennae brownish; base of femora and tibiae light brown to dark brown; dorsal surface finely pubescent; length 3.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Himachal Pradesh and Jammu & Kashmir

Remarks : Jacoby (1908) recorded this species from Meghalaya.

Genus *Abirus* Chapuis

1874. *Abirus* Chapuis, *Gen. Col.*, 10 : 310.

1908. *Abirus* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 456.

Three species of this genus were recorded so far from India but none was recorded from Meghalaya.

67. *Abirus* sp.

Material examined : East Khasi Hills : Mawphlong, 23.vi. 1970 (2 exs), G. M. Yazdani coll.

Genus *Pachnephorus* Chevrolat

1837. *Pachnephorus* Chevrolat, In Dejean, *Cat. Col.*, ed 3: 403.

1908. *Pachnephorus* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 460.

Two species of this genus were recorded from India of which none was recorded from Meghalaya.

68. *Pachnephorus* sp.

Material examined : West Garo Hills : Garobadha, 10.iii. 1992 (1 ex.), A. K. Sanyal coll.

Genus *Cleoporus* Lefevre

1884. *Cleoporus* Lefevre, *Bull. Soc. ent. Fr. ser. 6*, 4: 76.

1908. *Cleoporus* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 479.

Four species of this genus were recorded so far from India but none was recorded from Meghalaya. The present paper records one species for the first time from Meghalaya and also from India.

69. *Cleoporus variabilis* (Baly)

1874. *Paria variabilis* Baly, *Trans. ent. Soc. Lond.* : 166.

1935. *Cleoporus variabilis* : Chen, *Sinensia* 6(3) : 288.

Diagnostic characters : Prothorax distinctly narrowed anteriorly and widest near base, surface finely punctate; colouration very variable : (a) dorsum entirely black; (b) black with pale pronotum, humerus and apex of elytron; (c) reddish brown with black margins on elytron; (d) reddish brown with scutellum and elytral suture blackish; length 2.0-3.5 mm.

Material examined : Jaintia Hills : Muktapur, 21.v. 1990 (1 ex.), M. S. Shishodia coll.; East Khasi Hills : Batjora, Dipar, 5.vi. 1990 (1 ex.), M. S. Shishodia coll.; Upper Shillong, 20.vii. 1971 (1 ex.), R. S. Pillai coll.

Distribution : India : Meghalaya (Jaintia Hills & E. Khasi Hills). Elsewhere : Cambodia, China, Hainan, Japan, Korea, Laos, Siberia, Taiwan, Thailand and Vietnam.

Remarks : First record from India (Meghalaya).

Genus *Cleorina* Lefevre

1885. *Cleorina* Lefevre, *Mem. Soc. Sci. Liege*, (2) 11 : 143

1908. *Cleorina* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 482.

Eleven species of this genus were recorded from India but no record was yet from Meghalaya. The present paper records three species from the area.

70. *Cleorina aeneomicans* (Baly)

1867. ~~*Nodostoma aeneomicans*~~ Baly, *Trans. ent. Soc. Lond.*, (3-4)2: 237.

1887. *Cleorina aeneomicans* : Lefevre, *Notes Leyd. Mus.*, 9 : 263 (synonymized).

1890. *Cleorina lefevrei* Jacoby, *Entomologist* 23 : 116.

1981. *Cleorina aeneomicans* : Kimoto & Gressitt, *Esakia*, No. 18 : 105 (synonymized).

Diagnostic characters : Dorsal surface entirely greenish, violaceous, bluish or blackish, sometimes green with elytron cupreous; antennae blue or green with three basal segments brownish; abdomen bluish-black; proepimeron distinctly punctate; length 3.0-4.2 mm.

Material examined : West Garo Hills :Tura, 15.vii.-30viii. 1917 (7 exs.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Andaman Is., Sikkim and West Bengal. Elsewhere : Burma, Cambodia, China, Hainan, Java, Laos, Malaya, Sumatra, Taiwan, Thailand and Vietnam.

Remarks : First record from Meghalaya.

71. *Cleorina jacobyi* Duvivier

1892. *Cleorina jacobyi* Duvivier, *Ann. Soc. ent. Belg.*, 36 : 415.

1908. *Cleorina jacobyi* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 485.

Diagnostic characters : Dorsal surface entirely metallic green; palpi brownish yellow; antenna black with segment 3 and a part of segment 4 brownish; breast and femora blackish green; labrum, tibiae and tarsi brownish; abdomen black; sometimes prothorax green with elytra violaceous; length 3.0-3.5 mm.

Material examined : East Khasi Hills : Shillong, — vii-viii. 1918 (2 exs.), Fletcher coll.; Shillong Bot. Garden, 18.v. 1974 (3 exs.), B. S. Giri coll.

Distribution : India : Meghalaya (East Khasi Hills), Sikkim and West Bengal.

Remarks : First record from Meghalaya.

72. *Cleorina assamensis* Jacoby

1908. *Cleorina assamensis* Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 486.

Diagnostic characters : General colour violaceous blue; margin of elytra, breast and legs, metallic green; edge of clypeus metallic green; labrum blackish; antennae black with basal two or three segments brownish beneath and metallic green above; length 4.0 mm.

Material examined : East Khasi Hills :Shillong, —vi.-vii. 1918 (1 ex.), Fletcher coll., 21.v. 1924 (1 ex.), Bose coll.; Shillong Bot. Garden,31.i. 1966 (1 ex.), B. K. Tikader coll., Risa Colony, — iv. 1991 (3 exs.), S. K. Ghosh coll. ; Ri-Bhoi : Nongpoh, —vi. 1905 (1 ex.);

Distribution : India : Meghalaya (E. Khasi Hills and Ri-Bhoi), Assam and West Bengal.

Remarks : First record from Meghalaya.

Genus *Colaspoides* Castelnau

1833. *Colaspoides* Castelnau, *In Silberm. Rev. ent.*, 1 : 20.

1908. *Colaspoides* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 514.

Eight species of this genus were recorded from India of which only one species was from Meghalaya.

73. *Colaspoides montana* Jacoby

1900. *Colaspoides montana* Jacoby, *Mem. Soc. ent. Belg.*, 7 : 114.

1908. *Colaspoides montana* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 515.

Diagnostic characters : Dorsal surface green; labrum, antennae and legs brownish; under side black; elytra strongly and closely punctate and interstices rugose; length 5.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills). Elsewhere : Nepal.

Remarks : Jacoby (1908) recorded this species from Meghalaya.

Genus *Platycorynus* Chevrolat

1837. *Platycorynus* Chevrolat, *In Dejean. Cat. Col.*, ed. 3 : 413.

1840. *Corynodes* Hope, *Col. Man.*, 3 : 162.

1908. *Corynodes* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 492.

1961. *Platycorynus* : Gressitt & Kimoto, *Pac. Ins. Monogr.* 1A : 294.

Twenty four species of this genus were recorded so far from India but none from Meghalaya. The present paper includes four species from the area.

74. *Platycorynus peregrinus* (Herbst)

1783. *Cryptocephalus peregrinus* Herbst, *In Fuessly. Arch. Ins.* : 63.

1865. *Corynodes peregrinus* : Marshall, *J. Linn. Soc. Lond.*, 8 : 34.

1908. *Corynodes peregrinus* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 493.

1961. *Platycorynus peregrinus* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1A : 294.

Diagnostic characters : Dorsal side entirely metallic blue; antennae dark blue; punctures on elytron strong, interstices not wider than the diameter of punctures, especially on lateral and latero subapical portion; front of head with a pair of depressions or transverse furrow between eyes; length 9.0-12.0 mm.

Material examined : Ri-Bhoi : Nongpoh, 30.ix. 1985 (1 ex.), A. R. Lahiri coll.

Distribution : India : Meghalaya (Ri-Bhoi), Orissa, Sikkim and West Bengal. Elsewhere : Burma, Cambodia, China, Laos, Malacca, Malaya, Nepal, Sri Lanka, Thailand and Vietnam.

Remarks : First record from Meghalaya.

75. *Platycorynus mouhoti* (Baly)

1864. *Corynodes mouhoti* Baly, *Desc. new gen. & Spec. Phytoph.* : 7.

1908. *Corynodes mouhoti* : Jacoby, *Fauna Brit. India, Col., Chry.*, 1 : 496.

1961. *Platycorynus mouhoti* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1A : 293.

Diagnostic characters : General colour blackish blue with slight purplish or greenish reflections; head with interocular cavities deep, somewhat oblique or length 9.0-12.5 mm with side sloping upward to margin above antennal insertion; tarsal claws appendiculate.

Material examined : West Garo Hills : Tura, —vii-vii. 1917 (2 exs.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Sikkim and West Bengal. Elsewhere : Burma, Cambodia, China, Laos, Thailand and Vietnam.

Remarks : First record from Meghalaya.

76. *Platycorynus gratiosus* Baly

1864. *Platycorynus gratiosus* Baly, *Descr. new gen. & Spec. Phytoph.* : 7.

1864. *Corynodes gratiosus* : Marshall, *J. Linn. Soc. Lond.*, **8** : 41

1908. *Corynodes gratiosus* : Jacoby, *Fauna Brit. India, Col. Chry.*, **1** : 498.

1961. *Platycorynus gratiosus* : Gressitt & Kimoto, *Pac.Ins. Monogr.*, **1A** : 291.

Diagnostic characters : General colour metallic greenish-blue; vertex of head strongly raised above the level of interocular area; five apical segments of antennae wider than long; tarsal claws appendiculate; length 9.0-12.0 mm.

Material examined : East Khasi Hills : Shillong, 6.vi. 1973 (1 ex.), A. K. Ghosh coll.; Nongkhylllem Wildlife Reserve, 24.ix.1982 (1 ex.), K. P. Singh coll.

Distribution : India : Meghalaya (East Khasi Hills), West Bengal. Elsewhere : Burma, Cambodia, China, Laos, Malaya Peninsula, Thailand and Vietnam.

Remarks : First record from Meghalaya.

77. *Platycorynus asphodelus* Marshall new combination

1865. *Corynodes asphodelus* Marshall, *J. Linn. Soc. Lond.*, **8** : 43.

1908. *Corynodes asphodelus* : Jacoby, *Fauna Brit. India, Col., Chry.*, **1** : 504.

Diagnostic characters : General colour violaceous blue; antennae purplish with the segment 2 brownish, five apical segment broadly dilated but slightly longer than broad; legs and breast greenish; tarsal claws appendiculate; length 5.0-6.5 mm.

Material examined : Ri- Bhoi : Umran, 26.v. 1971 (4 exs.), S. Biswas coll.; West Garo Hills : Tura, 15.vi-15.vii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (Ri-Bhoi and W. Garo Hills), Assam. Elsewhere : Bangladesh and Nepal.

Remarks : First record from Meghalaya.

Subfamily (ix) CHRYSOMELINAE

Key to the Genera of Chrysomelinae of Meghalaya

(largely after Gressitt & Kimoto, 1963)

1. Anterior coxal cavities open posteriorly 2
- Anterior coxal cavities closed posteriorly..... 17

- 2(1). Tarsal claws simple 3
 Tarsal claws appendiculate or bifid 14
- 3(2). Inner margin of elytral epipleuron ciliate, atleast posteriorly..... 4
 Inner margin of elytral epipleuron not ciliate..... 8
- 4(3). Hind tarsal segment 3 entirely pubescent beneath 5
 Hind tarsal segment 3 pubescent only at sides beneath, deeply emarginate and acute at each side *Crosita**
- 5(4). Intercoxal process of metasternum not margined anteriorly 6
 Intercoxal process of metasternum margined anteriorly *Chrysolina*
- 6(5). Basal border of pronotum margined 7
 Basal border of pronotum not margined *Ambrostoma**
- 7(6). Elytral puncturation in regular paired rows *Agrosteomela*
 Elytral puncturation in regular rows, not paired *Humba*
- 8(3). Elytron with regular rows of punctures..... 9
 Elytron with confused or irregular rows of punctures..... 10
- 9(8). Body short and oval, strongly convex above *Phaedon**
 Body narrow and parallel sided, weakly convex above, prothorax narrower than elytra.....
 *Parasocuris**
- 10(8). Body convex; mesosternum shorter than prosternum between coxae 11
 Body strongly flattened; mesosternum well developed, as long as prosternum between coxae.
 *Gastrolina**
- 11(10). Elytral epipleuron flat..... 12
 Elytral epipleuron concave, with outer edgesharp *Plagiodera*
- 12(11). Antennal segment as long as, or barely longer than 4..... 13
 Antennal segment 3 nearly as long as segment 4 and 5 combined..... *Agasta*
- 13(12). Pronotum with lateral callus separated by punctured depression; tarsal segment 3 deeply emarginate; metasternum unmargined anteriorly..... *Chrysomela*
 Pronotum evenly convex and smooth, without callus; tarsal segment 3 shallowly emarginate; metasternum margined and truncate anteriorly..... *Linnaeidea**
- 14(2). Elytral epipleuron vertical; tarsal claws bifid 15
 Elytral epipleuron horizontal; tarsal claws appendiculate..... 16

- 15(14). Prosternum emarginate behind *Paropsides*
 Prosternum truncate behind *Asiparopsis**
- 16(15). Tibiae angularly dilated apically; tarsal segment 3 not bilobed *Gonioctena**
 Tibiae not angularly dilated apically; tarsal segment 3 bilobed *Pharatora**
- 17(1). Tarsal claws bifid or appendiculate 18
 Tarsal claws simple 20
- 18(17). Tarsal claws appendiculate 19
 Tarsal claws bifid *Lycaria**
- 19(18). Clypeus subtriangular, depressed; antenna moniliform *Phyllocharis**
 Clypeus trapezoidal, not depressed; antenna subfiliform *Phola**
- 20(17). Apterous; body short and slender *Apaksha**
 Winged; body short and broad, tibiae not dentate apically *Potanina*

Genus *Chrysolina* Motschulsky

1860. *Chrysolina* Motschulsky, *Schrenck's Reisen Amurl.*, 2 : 206.

1926. *Chrysolina* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 17.

Twentyone species of this genus were recorded sofar from India of which only one was from Meghalaya.

78. *Chrysolina aurata aurata* (Suffrian)

1851. *Chrysolina aurata* Suffrian, *Linn. Ent.*, 5 : 102.

1926. *Chrysolina aurata* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 41.

1963. *Chrysolina aurata aurata* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B: 313.

Diagnostic characters : Dorsal surface varying from bronzy green to violet blue, sometimes coppery; antennae and legs blackish green; pronotum with a few scattered punctures at central area and with much larger punctures at side in subconfluent; claw segment of tarsus with small tooth beneath; length 7.0-9.0 mm.

Material examined : West Garo Hills, Tura, — x. 1917 (1 ex.), Mrs. Kemp coll.

Distribution : India : Meghalaya (W. Garo Hills), Bihar, Manipur, Sikkim and Uttar Pradesh.
 Elsewhere : Burma

79. *Chrysolina* sp. (nr. *madrasae* Jac.)

Material examined : Jaintia Hills : Jowai, 24.ix. 1988 (1 ex.), V. D. Srivastava coll.

Genus *Agrosteomela* Gistel

1857. *Agrosteomela* Gistel, *Vacuna*, 2 : 605.
 1859. *Paralina* Baly, *Trans. ent. Soc. Lond.* (2) 5 : 155.
 1926. *Paralina* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 46.
 1963. *Agrosteomela* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 331.

This genus includes only two species from India of which only one species from Meghalaya.

80. *Agrosteomela indica* (Hope)

1831. *Chrysomela indica* Hope, *In Gray. Misc. Zool.* : 39
 1926. *Paralina indica* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 47.
 1956. *Agrosteomela indica* : Monros & Bechyne, *Ent. Arb.*, 7(3): 1130.

Diagnostic characters : General colour metallic green, sometimes mixed with blue or entirely blue; elytra reddish brown; abdominal sternites entirely or largely metallic green; pronotum green; 13.5-15.5 mm.

Material examined : East Khasi Hills : Shillong, 12.x. 1914 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (East Khasi Hills), Arunachal Pradesh, Himachal Pradesh, Manipur, Nagaland, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Bhutan, Burma, China, Nepal and Vietnam.

Remarks : First record from Meghalaya.

81. *Agrosteomela fallaciosa* Stal

1862. *Paralina fallaciosa* Stal, *Nova Acta Upsal.* (3) 4 : 5.
 1963. *Agrosteomela fallaciosa* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 331 (key).

Diagnostic characters : General colour green with purplish tinge; elytra shining dark brown; abdominal segments (except first) reddish brown; prothorax with the sides straight; length 11.0 mm.

Material examined : West Garo Hills : Above Tura, 15.vii-30.viii. 1917 (4 exs.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills and Ri-Bhoi), Sikkim and West Bengal.

No other report from elsewhere.

Genus *Humba* Chen

1875. *Eumela* Baly, (nec Stal, 1867), *Trans. ent. Soc. Lond.* : 23.
 1934. *Humba* Chen, *Rech. Chrys. Chine et Tonkin* : 47 (new name for *Eumela* Baly).
 1963. *Humba* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 332.

Out of four Indian species only one species was so far recorded from Meghalaya.

82. *Humba cyanicollis* (Hope)

1831. *Chrysomela cyanicollis* Hope, *In Gray. Zool. Misc.* : 29.

1891. *Eumela cyanicollis* : Duvivier, *Ann. Soc. ent. Belg.*, **35** : 43.

1934. *Humba cyanicollis* : Chen, *Rech. Chrys. Chine et Tonkin* : 47.

Diagnostic characters : Generally metallic blue; elytra and abdominal segments (except first) yellowish brown to dark brownish red; length 14.0-15.0 mm.

Material examined : East Khasi Hills : Cherrapunji, 27.vii. 1979 (1 ex.), P. T. Cherian coll., Shillong (4 exs.),

Distribution : India : Meghalaya (East Khasi Hills), Arunachal Pradesh, Assam, Manipur, Sikkim and West Bengal. Elsewhere : Burma and Sri Lanka.

Genus *Plagioder* Chevrolat

1837. *Plagioder* Chevrolat, In Dijean, *Cat. Col. ed. 3* : 404.

1926. *Plagioder* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 60.

Five species of this genus were recorded so far from India but there was no record from Meghalaya. The present paper includes one species from the area.

83. *Plagioder versicolora* (Laicharting)

1781. *Chrysomela versicolora* : Laicharting, *Verz. Triol. Ins.*, **1** : 148

1878. *Plagioder versicolora* : Baly, *Cist. Ent.*, **2** : 375.

1926. *Plagioder versicolora* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 61.

Diagnostic characters : Variable colour : generally blue or bronzy brown, sometimes with elytron dark and pronotum orange, or with body entirely pale; side of elytron with three regular rows of punctures, especially the median one never irregular; length 4.0-4.5 mm.

Material examined : East Khasi Hills : Umtynger, 18.v. 1968 (1 ex.), S. Biswas coll.

Distribution : India : Meghalaya (East Khasi Hills), Jammu & Kashmir and Uttar Pradesh. Elsewhere : Afghanistan, Africa, Europe, China, Japan, Korea, Nepal, Siberia and Taiwan.

Remarks : First record from Meghalaya.

Genus *Agasta* Hope

1840. *Agasta* Hope, *Col. Man.*, **3** : 177.

1926. *Agasta* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 56.

The present genus is represented in India by a single species.

84. *Agasta formosa* Hope

1840. *Agasta formosa* Hope, *Col. Man.*, **3** : 177.

1926. *Agasta formosa* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 56.

Diagnostic characters : General colour varies from pale yellowish brown to dark brown; dorsum with blue black or purplish spots or patches (1) one on head, (2) five on pronotum and (3) seven on each elytron; length 10.0-11.5 mm.

Material examined : West Garo Hills : Above Tura, — ix. 1917 (1 ex.), Mrs. Kemp coll.; East Khasi Hills : Shillong, 18.ix. 1991 (1 ex.), R. K. Varshney coll.

Distribution : India : Meghalaya (West Garo Hills, Ri-Bhoi and E. Khasi Hills), Assam, Sikkim and West Bengal. Elsewhere : Bangladesh, Burma, China, Java, Laos, Singapore, Thailand and Vietnam.

Genus *Chrysomela* Linnaeus

1758. *Chrysomela* Linnaeus, *Syst. Nat. ed. 10* : 368.

1926. *Chrysomela* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 67.

This genus is represented in India by a single species.

85. *Chrysomela populi* Linnaeus

1758. *Chrysomela populi* Linnaeus, *Syst. Nat. ed. 10* : 370.

1926. *Chrysomela populi* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 68.

Diagnostic characters : General colour light brown to red brown; pronotum, scutellum and ventral side blue black; six apical segments of antenna blackish; elytral sutural margin with a black spot at apex; ventral side sometimes brownish; length 8.0-11.0 mm.

Material examined : East Khasi Hills : Shillong, 22.iii. 1991 (1 ex.), A. K. Sanyal coll.

Distribution : India : Meghalaya (East Khasi Hills), Himachal Pradesh, Jammu & Kashmir, Uttar Pradesh and West Bengal. Elsewhere : China, Japan, Korea, Siberia. Europe and N. Africa.

Genus *Paropsides* Motschulsky

1860. *Paropsides* Motschulsky, *In Sehrenck. Reisen Amurl., 2* : 192.

1926. *Paropsides* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 71.

So far three species of this genus were recorded from India of which two were from Meghalaya. The present paper includes another species from the area.

86. *Paropsides duodecimpustulata* (Gebler)

1825. *Paropsis duodecimpustulata* Gebler, *In Hummel, Essais Ent.* : 54.

1893. *Paropsides duodecimpustulata* : Jacobson, *Horae Soc. ent. Ross.*, 27 : 126.

1963. *Paropsides duodecimpustulata* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 355.

Diagnostic characters : General colour light brown to dark brown with the following pattern of black spots or patches; pronotum with three roundish patches and each elytron with sixteen patches arranged in three transverse line; length 6.0-8.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Assam. Elsewhere : Burma, China, Japan, Korea, Siberia and Vietnam.

Remarks : Maulik (1926) recorded this species from Meghalaya.

87. *Paropsides nigropunctata* Jacoby

1892. *Paropsides nigropunctata* Jacoby, *Ann. Mus. Civ. Genova*, 32 : 918.

1926. *Paropsides nigropunctata* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 74.

Diagnostic characters : General colour shining dark reddish brown to light yellowish; two rounded black spots on head; four black spots or patches on pronotum and three or four spots on each elytron, largest one near the suture in a shape of inverted comma; length 11.0-12.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Manipur, Sikkim and West Bengal. Elsewhere : Burma and Nepal.

Remarks : Maulik (1926) recorded this species from Meghalaya.

88. *Paropsides chennelli* Baly

1879. *Paropsides chennelli* Baly, *Cist. Ent.*, 2 : 438.

1926. *Paropsides chennelli* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 76.

Diagnostic characters : Entirely brown without any markings; more elongated species with ten regular rows of punctures on each elytron; length 10.0 mm.

Material examined : East Khasi Hills : Shillong Bot. Garden, 25.ii. 1966 (1 ex.), S. Biswas coll.

Distribution : India : Meghalaya (East Khasi Hills), Assam and Sikkim. No report from elsewhere.

Remarks : First record from Meghalaya.

Genus *Potanina* Weise

1889. *Potanina* Weise, *Horae Soc. Ent. Ross.*, 23 : 603.

1926. *Potanina* : Maulik, *Fauna Brit. India, Col. Chry. (Chry. & Halti.)* : 92.

Only one species is known from India but no record from Meghalaya.

89. *Potanina assamensis* Baly

1879. *Entomoscelis assamensis* Baly, *Cist. Ent.*, 2 : 437.

1896. *Potanina assamensis* : Jacoby, *Ann. Soc. ent. Belg.*, 40 : 253.

1926. *Potanina assamensis* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 93.

Diagnostic characters : Dorsal side blackish red; ventral side blackish; body broadly rounded posteriorly; prothorax shorter near side than at middle; length 5.5-8.0 mm.

Material examined : West Garo Hills : Above Tura, — ix. 1917 (1 ex.), Mrs. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Assam, Sikkim and West Bengal.
Elsewhere : Nepal.

Remarks : First record from Meghalaya.

90. *Potanina* sp.

Material examined : Ri-Bhoi : Umling, 1.x. 1988)2 exs.), A. R. Lahiri coll.

Subfamily (x) GALERUCINAE

Key to the Genera of Galerucinae from Meghalaya

(Largely after Gressitt & Kimoto, 1963)

1. Mesosternum free, horizontal or inclined, not covered by metasternum2
 Mesosternum largely covered by the anterior process of metasternum 94
- 2(1). Mid coxae contiguous or close, the space between them much less than the width of a coxae;
 prosternum narrow or lacking between the coxae.....3
 Mid coxae widely separated, with space between them at least as wide as a coxa; hind coxae
 more widely separated; prosternum broad..... **Capula***
- 3(2). Antennal insertions generally close, at level of anterior margins of eyes or further anterior;
 occiput and pronotum deeply punctured; last abdominal sternite of male with a triangular or
 rounded depression with posterior border often emarginate, but never trilobed..... 4
 Antennal insertions generally separated, situated near, but behind the anterior borders of
 eyes, but weakly separated or placed further forward, occiput and pronotum not heavily
 punctured; last abdominal sternite of male trilobed, with median lobe always distinct26.
- 4(3). Anterior coxal cavities closed behind 5
 Anterior coxal cavities open or partly open behind 9
- 5(4). Tarsal claws bifid on insissed 6
 Tarsal claws simple **Theone***
- 6(5). Lateral border of pronotum rounded, widest near middle; elytra hardly wider than prothorax
 basally; antenna rather robust 7
 Lateral border of pronotum squarish; elytra distinctly wider than prothorax basally; antenna
 rather slender, with remarkable sexual diamorphism..... **Triplatarthris***
- 7(6). Lateral border of elytron with flat reflexed area; pronotum and elytron not thickly covered by
 fine hairs 8
 Lateral border of elytron without flat area; pronotum and elytron thickly covered by fine
 hairs **Menippus***

- 8(7). Mid tibia spined in both sexes, onychium of hind tarsus not longer than segment 1: segment 3 broad, simply emarginate apically; tibiae generally carinate; elytra generally widened behind *Galeruca**
 Mid tibia simple in female; onychium of hind tarsus longer than segment 1; segment 3 narrow, deeply emarginate, nearly bilobed; tibiae not carinate above *Diorhabda**
- 9(4). Elytral epipleuron obsolete *Swargia**
 *Geinula**
 Elytral epipleuron distinct..... 10
- 10(9). Tarsal claws bifid or appendiculate 12
 Tarsal claws simple 11
- 11(10). Elytron metallic, with short pubescence; epipleuron narrow, reaching to middle of elytra *Melaxioides**
 Elytron non-metallic, without pubescence; epipleuron broad at base, narrowing behind middle *Madurasia**
- 12(10). Primary setigerous pore on anterior part of lateral margin of pronotum..... 13
 Primary setigerous pore on anterior corner of pronotum 14
- 13(12). Nearly wingless; lateral margin of pronotum feebly margined; claws bifid in both sexes *Pterophthinus**
 Winged; side of pronotum unmargined; claws bifid in male, appendiculate in female..... *Apophyllia*
- 14(12). Side of prothorax with lateral margin incomplete; tibiae unspined 15
 Side of prothorax with complete lateral margin..... 16
- 15(14). Side of Prothorax without distinct lateral margin, dorsal surface pubescent, densely punctured but more heavily so on occiput and pronotum, anterior border of pronotum weakly margined *Atysa*
 Side of prothorax with margin disappearing towards anterior one-third; dorsal surface glabrous, densely and grossly punctured, anterior border of pronotum unmargined; tibiae long *Pseudadimonia*
- 16(14). Pronotum with separate lateral depressions, and median portion raised and often grooved 17
 Pronotum with lateral depressions confluent, forming a deep transverse impression occupying much of disc, but not reaching lateral margin; elytron densely and finely punctured *Anadimonia**
- 17(16). Subbasal area of elytron raised and distinctly separated behind by a transverse depression 18
 Subbasal area of elytron not separated from behind by a transverse depression 19

- 18(17). Elytral epipleuron distinct in about basal one-fourth *Periclitena*
 Elytral epipleuron distinct at least to apical one-fourth..... *Clitenella**
- 19(17). Dorsal Surface entirely glabrous..... 20
 Elytra covered with hairs 21
- 20(19). Elytral epipleuron distinct in basal one-third; large species, over 10 mm in length; elytron without any costa along lateral margin *Doryxenoides**
 Elytral epipleuron distinct for almost entire length; smaller species, about 6 mm in length; elytron with a costa along lateral margin *Lochmaea**
- 21(19). Pronotum glabrous and elytra thickly or sparsely covered with hairs..... 22
 Pronotum and elytra thickly or sparsely covered with hairs 23
- 22(21). Lateral margin of pronotum angulated anterior to middle; elytron sub-parallel sided, without longitudinal costa near side *Mimastracella*
 Lateral margin of pronotum straight or feebly rounded; elytron with a long costa from a little behind base to near apex, which is parallel to and near lateral margin, and with anterior costa extending posteriorly from humerus *Sastra**
- 23(21). Elytral epipleuron distinct at least in basal half, lateral border of pronotum somewhat rounded or sinuate 24
 Elytral epipleuron distinct only in basal one-fourth or less; pronotum subquadrate; antenna slender, with segment 2 short, barely one-third as long as segment 3..... *Chujoa**
- 24(23). Labrum with a transverse row of six to eight setigerous pores; head deeply sunken into prothorax; occiput without a longitudinal groove; gena longer than eye; pronotum more or less convex..... 25
 Labrum with irregular setigerous pores on each side; head large, not deeply sunken into prothorax; occiput with a longitudinal groove; gena shorter than eye; pronotum more or less concave, raised on anterior border..... *Clitena**
- 25(24). Disc of pronotum with a large glabrous space at middle *Galerucella*
 Disc of pronotum entirely covered with hairs but in some cases anterior and lateral margins glabrous *Pyrrhalta*
- 26(3). Tarsal claws bifid 27
 Tarsal claws not bifid 35
- 27(26). Anterior coxal cavities closed behind 28
 Anterior coxal cavities open behind 29

- 28(27). Elytron glabrous; anterior and posterior borders of pronotum not margined or hairy
 *Meristata*
 Elytron pubescent; anterior and posterior borders of pronotum margined; pronotum with
 some hairs on anterior and posterior margins *Trichocerophysa**
- 29(27). Pronotum without a transverse depression; disc subevenly convex 30
 Pronotum with a transverse depression, sometimes divided at middle 31
- 30(29). Body elongate, subrectangular or parallel sided; elytral epipleuron fairly narrow and simple
 *Clerotilia**
 *Falsoexosoma**
 Body broadly oval; elytral epipleuron wide, inferior, recurved basally *Oides*
- 31(29). Tibiae distinctly spined apically 32
 Tibiae not distinctly spined apically; elytral epipleuron narrow but distinct almost to apex
 *Hoplasoma*
- 32(31). Elytral epipleuron strongly narrowed behind basal one-third 33
 Elytral epipleuron gradually narrowed posteriorly 34
- 33(32). Elytral epipleuron abbreviated behind middle *Aulacophora*
 Elytral epipleuron continued to apex *Pseudocophora*
- 34(32). Elytron carinate behind humerus *Paragetocera**
 Elytron not carinate behind humerus *Agetocera*
- 35(26). Tarsal claws appendiculate or simple 36
 Tarsal claws strongly lamellate but produced and appearing as if bifid; eye large; segment 3
 of maxillary palpi strongly swollen; occiput grooved; prothorax twice as broad as long,
 unmargined anteriorly; tibiae unspined *Haplomela**
- 36(35). Anterior coxal cavities open behind or partly open 37
 Anterior coxal cavities closed behind 71
- 37(36). Tarsal claws simple; each tibia with a short spine at apex *Luperus**
 *Marseulla**
 Tarsal claws appendiculate 38

- 38(37). Lateral border of pronotum distinctly margined 39
 Lateral border of pronotum unmargined; pronotum with distinct lateral depressions, obtusely prominent anterior angles; labrum with many irregular setigerous pores *Meristoides**
- 39(38). Elytral epipleuron distinct..... 40
 Elytral epipleuron not developed; pronotum with a shallow transverse impression near base, and with anterior border unmargined; tibiae unspined *Phyllobrotica**
- 40(39). Metasternum between mid and hind coxae longer than coxa; elytra largely or entirely covering abdomen; hind wing developed 41
 Metasternum shorter than coxa; elytra short, only covering base of abdomen, with apices obliquely truncate internally; hind wing not developed; head as broad as, and slightly longer than, pronotum..... *Geina**
- 41(40). Posterior tibia unspined 42
 Mid and posterior tibiae spined 56
- 42(41). Anterior and posterior borders of pronotum unmargined 43
 Posterior border of pronotum margined..... 47
- 43(42). Pronotum with a distinct depression on each side or with a transverse depression 44
 Pronotum without any depression..... *Sumatrasia**
- 44(43). Posterior border of pronotum rectangularly emarginate near angle, which is displaced anteriorly 45
 Posterior border of pronotum without rectangular emargination near angle, sometimes obliquely truncate 46
- 45(44). Elytron with two carinae behind humerus..... *Japonitata**
 Elytron without carinae behind humerus *Euliroetis**
- 46(45). Prothorax not broader than long with a longitudinal depression on each side; basal margin twice angularly raised near scutellum; antennal segments 4-8 each less than twice as long as broad; body slender, parallel *Cerophysella**
 Prothorax atleast one and half times as broad as long, with a transverse groove behind middle which reaches side; basal margin simple; antennal segments beyond 3 atleast three times as long as broad; body ovoid, broadened behind *Paridea*
- 47(42). Anterior border of prothorax unmargined..... 48
 Anterior border of prothorax margined; elytron more or less glabrous 52
- 48(47). Pronotal disc with distinct depressions 49
 Pronotal disc convex, without depressions; body large elongate oval; elytron without carinae or erect hairs; epipleuron narrow..... *Pseudoliroetis*

- 49(48). Elytron not carinate50
 Elytron longitudinally carinate behind humerus, generally with a groove separating two carinae posteriorly; gena short; eye very large in male.....***Haplosomoides***
- 50(49). Gena much shorter than depth of eye; groove behind postantennal tubercles disappearing towards side, frons smaller51
 Gena not shorter than smallest diameter of eye; groove behind postantennal tubercles complete; antennal segment 4 shorter than 3; frons of male with a large deep cavity with a prominent process near antennal insertions ***Fleutiauxia****
- 51(50). Dorsal surface with erect hairs; body slender, parallel sided; occiput finely shagreened; penultimate segment of maxillary palpi strongly swollen; antenna much more than half as long as body; similar in male as female, with segment 4 much longer than segment 5
 ***Trichomimastra****
 Dorsal surface glabrous; body elongate-oval widened posteriorly; occiput smooth; penultimate segment of maxillary palpi moderately thickened; antenna slightly more than half as long as body, segments 3-6, or 7-8, or some of these enlarged in male, 3-4 subequal in female***Cerophysa****
- 52(47). Mesosternum wide..... 53
 Mesosternum narrow and not connected with metasternum 54
- 53(52). Segment 3 of maxillary palpi large, segment 4 very small; elytra slightly wider than prothorax at base***Cneoranidea****
 Segment 3 of maxillary palpi as broad as long, segment 4 not much smaller than segment 3; elytra distinctly wider than prothorax at base***Arthrotidea****
- 54(52). Elytral epipleuron wide basally and narrow apically 55
 Elytral epipleuron narrow basally; antennal segments with close pubescence beyond segment 3, segment 4 not longer than segment 2 and 3 combined ***Liroetis****
- 55(54). Labrum with a row of 6-8 setigerous pores; pronotum with distinct depressions; antennal segments with close pubescence beyond segment 4, segment 4 longer than segment 2 and 3 combined; elytral epipleuron broad basally, gradually narrowing in basal one-third; maxillary palpi with penultimate segment long, somewhat thick, and last segment long and acute ***Mimastra***
 Labrum with numerous setigerous pores irregularly arranged in each side; pronotum convex; antennal segments with close pubescence beyond segment 3; elytral epipleuron broad basally, gradually narrowing to apex; maxillary palpi with penultimate segment long and last segment short and conical.....***Cneorane***

- 56(41). Basal border of pronotum margined; pronotal disc without a transverse depression, rarely with sublateral depressions 57
 Basal border of pronotum unmargined; pronotum with a broad transverse depression, deeper sublaterally; elytron with rows of punctures basally *Paridea* (Part)
- 57(56). Head simple; postgena shorter than diameter of eye; thorax never longer than broad..... 58
 Head elongated behind eyes; postgena not shorter than smallest diameter of eye; prothorax longer than broad; elytron short in female, with short recumbent hairs *Tshitsherinula**
- 58(57). First segment of posterior tarsus distinctly shorter than reminder combined..... 59
 First segment of posterior tarsus as long as, or longer than, reminder combined 66
- 59(58). Elytral epipleuron not abbreviated basally 60
 Elytral epipleuron narrow, abbreviated or obsolete at base *Siemssenius**
- 60(59). Preapical segments of maxillary palpi large, rounded, segment 4 much smaller than segment 3 and somewhat conical..... 61
 Preapical segments of maxillary palpi not so large, slender, segment 4 much smaller than segment 3 and not conical..... 62
- 61(60). In male antennal segments 2 and 3 minute and 4-10 with fairly long projections endoapically; in female segment 2 minute, segment 3 twice as long as 2, and 5-11 each somewhat flattened and 5-10 slightly produced endoapically; elytral epipleuron distinct until apex *Miltina*
 Antenna filiform but not very slender, elytral epipleuron distinct only before middle
 *Morphosphaera*
- 62(60). Elytron without any reflexed area on suture 63
 Elytron with posterior portion of suture reflexed upwards and forming a narrow smooth space; disc distinctly convex basally, then transversely impressed; epipleuron broad postmedially, narrowed apically *Parexosoma**
- 63(62). Pygidium punctured uniformly 64
 Basal half of pygidium shiny, glabrous, finely shagreened, apical half densely punctured, pubescent; lateral margin of elytron visible from above; body ovoid, dilated posteriorly; tibiae carinate and finely grooved above *Agelastica**
- 64(63). Antennal segment 3 as long as, or one and half times as long as segment 2 65
 Antennal segment 3 almost, or more than, twice as long as segment 2; pygidium uniformly punctured throughout; external margin of elytron not clearly visible throughout from above; oblong-oval, weakly broadened posteriorly; tibiae not distinctly carinate *Luperus**

- 65(64). Postantennal process elevated between coxal cavities, separating them, atleast anteriorly; apices of epimera distinct, never reaching intra coxal lobe; coxal cavities open or partly open *Exosoma**
- Postantennal process narrow and not elevated between coxal cavities and not separating them; apices of epimera distinct; coxal cavities open *Calomicrus**
- 66(58). Dorsal surface glabrous or elytron sparsely covered with short hairs 67
- Dorsal surface thickly covered with fine hairs; densely and finely punctured; elytral epipleuron narrowed near middle *Hesperomorpha**
- 67(66). Elytral epipleuron wide at base 68
- Elytral epipleuron narrow, feebly and gradually narrowed from base to apex; pronotum transversely rectangular with straight sides and with distinct sublateral depressions; hind femur slightly thickened *Stenoluperus**
- 68(67). Antennal insertions situated at level of middle of inner margin of eyes or slightly behind middle; anterior border of pronotum unmarginated 69
- Antennal insertions situated just behind anterior margin of eyes; anterior border of pronotum finely margined; setigerous pores at or near apex of anterior angle of pronotum
..... *Calomicrus* (Part)*
- 69(68). Anterior margin of labrum entire; postantennal tubercles not widely separated by frons; frons not depressed but with a longitudinal interantennal ridge *Atrachya** *Medythia**
- Anterior margin of labrum emarginate; postantennal swellings widely separated by frons; frons broad, depressed in middle, without a longitudinal internantennal ridge *Sinoluperus**
- 71(36). First segment of posterior tarsus distinctly longer than remainder combined; tibia with long spine at apex 77
- First segment of posterior tarsus usually shorter than, or sometimes subequal to, remainder combined 77
- 72(71). Elytral epipleuron gradually narrowed behind, and wider at middle than half width in basal position 73
- Elytral epipleuron suddenly narrowed at end of basal one-third and distinctly narrower at middle than half width in basal position *Monolepta*
- 73(72). Apex of elytron truncate 74
- Apex of elytron not truncate but rounded *Sermyloides**
- 74(73). Dorsal surface of body not covered with fine pubescence 75
- Dorsal surface of body covered with fine pubescence; body oval *Trichosepharia**

- 75(74). Elytra subparallel sided or feebly rounded, truncated apically; elytral epipleuron not usually wide for Galerucinae 76
 Elytra strongly widened and rounded laterally; elytral epipleuron abnormally wide for Galerucinae *Pseudosepharia**
- 76(75). In male elytron with a pair of depressions; head without an excavation in male
 *Paleosepharia**
 In male elytron without such depression; head with excavation in male *Macrima**
- 77(71). Basal border of pronotum not margined except near side 78
 Basal border of pronotum entirely margined 83
- 78(77). Posterior corner of pronotum rounded and subobtus 81
 Posterior corner of pronotum distinctly angulated 79
- 79(78). Tarsal segment 3 entire, not splitup *Aplosonyx*
 Tarsal segment 3 bilobed 80
- 80(79). Prothorax strongly constricted behind middle; apterous *Khasia*
 Prothorax not constricted, wing present *Spitiella**
- 81(78). Antenna robust, segment 2 and 3 subequal 82
 Antenna slender, segment 3 twice as long as segment 2 *Leptarthra**
- 82(81). Pronotum with a large and deep fovea on each side of middle *Sermylassa**
 Pronotum without a distinct fovea laterally *Sphenoraia*
- 83(77). Pronotum without longitudinal furrows 84
 Pronotum with a pair of longitudinal furrows start from basal margin *Cassena*
- 84(83). Posterior tibia with a single spine at apex 85
 Posterior tibia with many short spines at apex 89
- 85(84). Pronotum without a distinct depression laterally; antenna barely longer than half the body length *Erganoides* Euluperus* Brachyphora**
 Pronotum with a distinct depression laterally 86
- 86(85). Elytral punctures regularly and longitudinally striated 87
 Elytral punctures not regularly striated *Haplosaenidea**
- 87(86). Each elytron with double rows of punctures with an indistinct short scutellar row; interstices raised between double rows 88
 Each elytron with 11 longitudinal rows of punctures including a short scutellar row, the rows equidistant; pronotum without distinct depression *Strobiderus**

- 88(87). Dorsal surface of elytron thickly covered with hairs *Trichobalya*
 Elytral surfaces sparsely covered with hairs *Theopea**
- 89(84). Pronotum not very short, with or without a pair of depressions, elytron without rugosities 90
 Pronotum very short, with a large depression which covers much of surface; elytral epipleuron narrow and disc with rugosities *Paraplotes**
- 90(89). Eye rather small; gena subequal to, deeper than, half transverse diameter of an eye.....
 *Paraenidea** *Palpoxena**
 Eye rather large; gena shallower than half transverse diameter of an eye..... 91
- 91(90). Anterior border of pronotum unmarginated, or indistinctly marginated..... *Epaenidea**
 *Acroxena**
 *Hyphaenia**
 Anterior border of pronotum distinctly marginated 92
- 92(91). Gena distinctly narrower than one-third of transverse diameter of an eye 93
 Gena wider than, or subequal to, one-third of transverse diameter of an eye; in male antennal segment 4 more than three times as long as segment 2 and 3 combined; pronotum subquadrate..... *Proegmena**
- 93(92). In male antennal segment 2 subequal to or slightly longer than, segment 3; segment 4 more than twice as long as segment 2 and 3 combined..... *Arthrotus**
 In male antennal segment 3 distinctly longer than segment 2; segment 4 distinctly shorter than segment 2 and 3 combined..... *Dercetina*
- 94(1). Posterior tibia without any spine at apex *Doryidomorphy**
 *Haemodoryida**
 *Doryida**
 Posterior tibia with a minute but distinct spine at apex..... 95
- 95(94). Antennal segment 3 subequal to, or twice as long as, segment 2 96
 Antennal segment 3 four times as long as segment 2 *Laphris**
- 96(95). Pronotum with or without a pair of depression 97
 Pronotum with a transverse furrow which is narrow and runs more than three-fourth width of pronotum *Agelasa**
- 97(96). Apical area of elytron somewhat depressed; length 9.5-12.00 mm..... *Hylaspes*
 Apical area of elytron not depressed; length 6.0-9.5 mm *Gallerucida*

Genus *Apophyllia* Duponchel & Chevrolat

1842. *Apophyllia* Dup. & Chev., *In d'Orbigny, Dict. Univ. Hist. nat.*, 2 : 31.

1936. *Apophyllia* : Maulik, *Fauna Brit. India. Col., Chry. (Gal.)* : 78.

Ten species of this genus were recorded so far from India of which only two species were from Meghalaya.

91. *Apophyllia sericea* (Fabricius)

1798. *Cantharis sericea* Fabricius, *Ent. Syst. Suppl.* : 69

1936. *Apophyllia sericea* : Maulik, *Fauna Brit. India. Col. Chry. (Gal.)* : 84.

Diagnostic characters : Head brown with a black patch; pronotum brown with median black patch; antenna brown with apex black; elytra green; ventral side black with legs brown; length 4.0-7.0 mm.

Material examined : Jaintia Hills : Kheletsriat, 20.v. 1990, (2 exs.), Muktapur, 21.v. 1990 (6 exs.), all M. S. Shishodia coll.

Distribution : India : Meghalaya (Jaintia Hills, East Khasi Hills), Assam, Bihar, Himachal Pradesh, Uttar Pradesh and West Bengal. No report from elsewhere.

92. *Apophyllia metallica* Jacoby

1904. *Apophyllia (Malaxia) metallica* Jacoby, *Ann. Soc. ent. Belg.*, 48 : 969.

1936. *Apophyllia metallica* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 86.

Diagnostic characters : Head black; pronotum brown; suture with a golden tinct; length 5.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Tamil Nadu. Elsewhere : Sri Lanka.

Remarks : Maulik (1936) recorded this species from Meghalaya.

Genus *Pseudadimonia* Duvivier

1891. *Pseudadimonia* Duvivier, *Comptes-Rendus Soc. ent. Belg.*, 35:46.

1936. *Pseudadimonia* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 92.

Out of two Indian species only one species was recorded from Meghalaya.

93. *Pseudadimonia variolosa* (Hope)

1831. *Colaspis variolosa* Hope, *In Gray, Zool. Miscell.* : 30.

1891. *Pseudadimonia variolosa* : Duvivier, *Comptes-Rendus Soc. ent. Belg.*, 35 : 47.

1936. *Pseudadimonia variolosa* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 94.

Diagnostic characters : Dorsal surface black with a bronzy tinge; abdominal apex brown; antennal segment 3 and 4 subequal; prothorax strongly rounded at middle of side and suddenly widened between basal portion and middle; length 7.0-14.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (W. Garo Hills and E. Khasi Hills), Assam, Manipur, Nagaland, Sikkim and West Bengal. Elsewhere : Bhutan, Burma, China, Nepal, Thailand and Yunnan.

Genus *Atysa* Baly

1864. *Atysa* Baly, *Trans. ent. Soc. London* (3) 2 : 238.

1936. *Atysa* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 243.

Two species of this genus were recorded so far from India of which one species was from Meghalaya. The present paper includes two species of which one is recorded here for the first time from India.

94. *Atysa marginata* (Hope)

1831. *Auchenia marginata* Hope, *In Gray, Zool. Miscell.* : 29.

1936. *Atysa marginata* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 245.

Diagnostic characters : Head, antennae and legs black; ventral side shining black with varying shades of blue; pronotum blackish with the sides brownish, scutellum blackish; elytra blackish with the margins including epipleuron brownish; length 5.0-7.25 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Assam, Punjab and Uttar Pradesh. Elsewhere : Burma, China, Nepal and Pakistan.

Remarks : Kimoto (1982) recorded this species from Meghalaya.

95. *Atysa gigantea* Maulik

1936. *Atysa gigantea* Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 248.

Diagnostic characters : General colour red brown; antennae (except three basal segments) and legs almost wholly blackish; abdominal sternites with black markings; elytral punctures stronger than those on pronotum; larger size; length 10.0 mm.

Material examined : East Khasi Hills : Shillong, 28.vii.1961 (2 exs.), S. N. Prasad coll.

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : Burma.

Remarks : First record from India (Meghalaya).

Genus *Periclitena* Weise

1902. *Periclitena* Weise, *Archiv. f. Naturgesch.*, 68(1) : 157.

1936. *Periclitena* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 210.

Out of two Indian species only one was recorded from Meghalaya.

96. *Periclitena vigorsi* (Hope)

1831. *Galleruca vigorsi* Hope, *In Gray, Zool. Miscel.* : 29.

1922. *Periclitena vigorsi* : Weise, *Tijdschr. Ent.*, **65** : 66.

1936. *Periclitena vigorsi* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 211.

Diagnostic characters : Ventral side entirely deep blue-violet; dorsal side very variable in colour, generally bluish to golden green; in male antennal segment 8 normal, not enlarged, and segments 9-11 not greatly shortened; length 8.0-13.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills and E. Garo Hills), Assam, Arunachal Pradesh, Bihar, Manipur, Punjab, Sikkim, Tamil Nadu/Kerala (Malabar coast) and West Bengal.

Remarks : Maulik (1936) recorded this species from Meghalaya.

Genus *Mimastracella* Jacoby

1903. *Mimastracella* Jacoby, *Ann. Soc. ent. Belg.*, **47** : 120.

1936. *Mimastracella* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 208.

Only one species of this genus was recorded so far from Southern India. The present species is somewhat close to a Chinese species *brunea* Gressitt & Kimoto from Hainan Island.

97. *Mimastracella* sp.

Material examined : East Khasi Hills : Shillong, 7.vii. 1971 (1 ex.), S. Biswas coll., 17.vi. 1965 (1 ex.), S. N. Prasad coll.

Genus *Galerucella* Crotch

1873. *Galerucella* Crotch, *Proc. Acad. Sci. Philad* : 55.

1936. *Galerucella* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 214.

Four species of this genus were recorded from India but none was from Meghalaya. The present paper includes one species from the area.

98. *Galerucella grisescens* (Joannis)

1866. *Galeruca grisescens* Joannis, *Abeille*, **3** : 98.

1878. *Galerucella placida* Baly, *Cist. Ent.*, **2** : 381.

1989. *Galerucella grisescens* : Kimoto, *Esakia, Kyushu Univ.*, **27**: 21 (Synonymized).

Diagnostic characters : General colour dirty brown; antenna, apical area of head, scutellum, ventral side and legs black; sometimes basal halves of femora brown, abdomen wholly or central portion may be brown; apex of scutellum may be brownish in some cases; front part of the middle area of pronotum not plane, and covered with coarse punctures; antennal segment 3 about one and a half times as long as segment 4; length 5.0 mm.

Material examined : W. Garo Hills : Dobasipara, 20.x. 1988 (1 ex.), K. K. Roy coll.; E. Khasi Hills : Mawphlong, 27.iii. 1991 (3 exs.), S. K. Saha coll.; Jaintia Hills : Jawai, 27.ix. 1988 (1 ex.), V. D. Srivastava coll.

Distribution : India : Meghalaya (West Garo Hills, E. Khasi Hills and Jaintia Hills), Bihar, Jammu & Kashmir, Punjab, Kerala, Tamil Nadu (Coromandel), Uttar Pradesh and West Bengal. Elsewhere : Afghanistan, Bangladesh, Bhutan, Burma, Java, Nepal and Sumatra.

Genus *Pyrrhalta* Joannis

1866. *Pyrrhalta* Joannis, *Abeille*, 3 : 82.

1963. *Pyrrhalta* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 438.

Four species of this genus were recorded so far from India of which only one was from Meghalaya.

99. *Pyrrhalta dimidiaticornis* (Jacoby)

1889. *Menippus dimidiaticornis* Jacoby, *Ann. Mus. Civ. Genova*, 27: 218.

1979. *Pyrrhalta dimidiaticornis* : Kimoto, *Ent. Basiliensia*, 4 : 464.

Diagnostic characters : General colour pale brown; intermediate segments of antennae black; finely pubescent; length 6.0 mm.

Material examined : Nil.

Distribution : India : Meghalaya (E. Garo Hills), Assam. Elsewhere : Burma, China and Taiwan.

Remarks : Kimoto (1979) recorded this species from Meghalaya.

Genus *Meristata* Strand

1878. *Merista* Chapuis, *Gen. Col.*, 11 : 224, 228.

1935. *Meristata* Strand, *Folla. Zool. Hydro-biol.*, 7 : 297.

Eight species of this genus were recorded from India of which two species were from Meghalaya.

100. *Meristata dohrni* Baly

1861. *Leptarthra dohrni* Baly, *J. Ent.* : 203.

1936. *Merista dohrni* : Maulik, *Fauna Brit. India, Col., Chry. (Foll.)*: 143.

1983. *Meristata dohrni* : Kimoto & Takizawa, *Bull. Nat. Sci. Mus., Tokyo* (A) 9(2) : 94.

Diagnostic characters : Head, prothorax, scutellum, ventral side and legs greenish with bronzy sheen, sometimes metallic blue; elytra red-brown; three basal segments of antennae metallic colour, the rest brown; length 12.0-15.0 mm.

Material examined : East Khasi Hills : Shillong, 22.iii. 1991 (1 ex.), A. K. Sanyal coll.

Distribution : India : Meghalaya (East Khasi Hills), Assam, Arunachal Pradesh, Manipur, Sikkim and West Bengal. Elsewhere : Bhutan, Burma and Nepal.

101. *Meristata fraternalis* (Baly), new combination

1879. *Leptarthra fraternalis* Baly, *Cist. Ent.*, 2 : 455.
 1922. *Merista fraternalis* : Weise, *Tijdschr. Ent.*, 45 : 68.
 1936. *Merista fraternalis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 146.

Diagnostic characters : General colour brown; three transverse metallic bands on each elytron, one along base one before and another behind middle, these sometimes broken into spots, and a small spot at apical area; suture pale; length 10.0-12.0 mm.

Material examined : East Khasi Hills : Shillong, 7.iii. 1991 (1 ex.), S. Biswas coll.

Distribution : India : Meghalaya (East Khasi Hills), Arunachal Pradesh, Assam and Manipur. Elsewhere : Burma and China.

Genus *Oides* Weber

1801. *Oides* Weber, *Obs. Ent.* : 26.
 1936. *Oides* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 105.

Eleven species of this genus were recorded from India of which five species were from Meghalaya.

102. *Oides andrewesi* Jacoby

1781. *Chrysomela bipuncta* Fabricius, (nec Linnaeus, 1758), *Spec. Ins.*, 1 : 127.
 1801. *Oides bipuncta* : Weber, *Obs. Ent.* : 53.
 1900. *Oides andrewesi* Jacoby, *Mem. Soc. ent. Belg.*, 7 : 127.
 1936. *Oides bipuncta* var. *andrewesi* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 109.
 1963. *Oides andrewesi* : Gresitt & Kimoto, *Pac. Ins. Monogr.*, 1B: 475.

Diagnostic characters : General colour black with the following parts black; apical part of antennal segment 4 and segments 5-11 (except extreme end of segment 11), greater part of tibiae; all tarsi; metasternum; abdominal sternites (except margins); and one large subrounded postmedian patch on elytron occupying about one-fourth area of disc; length 10.0-15.5 mm.

Material examined : West Garo Hills : Tura, 15.vii.-30. viii. 1917 (4 exs.), S. Kemp coll.

Distribution : India : Meghalaya (W. Garo Hills), Assam, Bihar, Maharashtra, Orissa and West Bengal. Elsewhere : Burma, Laos and Vietnam.

103. *Oides coccinelloides* Gahan

1891. *Oides coccinelloides* Gahan, *Ann. Mag. nat. Hist.* 7 : 458.
 1936. *Oides coccinelloides* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 110.

Diagnostic characters : General colour yellow-brown; pronotum with two elongated black patches on lateral area; elytra with three pairs of black patches; meso- and metasternum black; a row of five black patches on each side of abdomen; form almost hemispherical with the elytra extra ordinarily extended beyond epipleura; length 10.0-13.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (E. Khasi Hills), Manipur, Sikkim and West Bengal. No report from elsewhere.

Remarks : Maulik (1936) recorded this species from Meghalaya.

104. *Oides maculata* (Olivier)

1807. *Adorium maculata* Olivier, *Entomologie*, 5 : 611.

1936. *Oides maculata* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 113.

Diagnostic characters : General colour shining brown; three to six apical segments of antennae black; metasternum and a patch on each side of each abdominal sternite black; sides of elytra attain an extraordinary expansion beyond epipleura; length 10.5-13.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills and Ri-Bhoi), Andaman Is., Assam, Bihar, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Burma, Cambodia, Indonesia, Java, Malaya, Nepal and Penung.

Remarks : Maulik (1936) recorded this species from Meghalaya.

105. *Oides livida* (Fabricius)

1801. *Adorium livida* Fabricius, *Syst. Eleuth.*, 1 : 410.

1865. *Rambopalpa pectoralis* Clark, *Ann. Mag. nat. Hist.*, (3), 15 : 144.

1884. *Oides pectoralis* : Jacoby, *Notes Leyd. Mus.*, 6 : 37.

1982. *Oides livida* : Kimoto, *Ent. Rev. Japan*, 37(1) : 9 (=pectoralis).

Diagnostic characters : General colour brown; head black with vertex brown; upper side of four or five basal segments of antennae brown; on the ventral side head, mouthparts, antenna, breast, legs and a spot on each side of each abdominal sternite, black; elytral punctures of two sizes, the larger ones several times larger than smaller ones; length 9.0-13.5 mm.

Material examined : West Garo Hills : Tura, — ix. 1917 (1 ex.), Mrs. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills and Khasi Hills), Arunachal Pradesh, Manipur, Orissa, Sikkim and West Bengal. Elsewhere : Bhutan, Burma, China, Malaya Peninsula, Nepal, Sumatra and Thailand.

106. *Oides scutellata* (Hope)

1831. *Adorium scutellata* Hope, *In Gray, Zool. Miscell.* : 28.

1936. *Oides scutellata* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 119.

Diagnostic characters : General colour brown; antennae mostly blackish except segments 4 and 5 which are brownish; scutellum and suture narrowly blackish; ventral side black; prothorax with the anterior margin deeply concave, anterior lateral angles acute, posterior margin forms a continuous curve with the rounded sides; length 9.5-10.5 mm.

Material examined : Nil.

Distribution : India : Meghalaya (East Khasi Hills), Himachal Pradesh, Sikkim and Uttar Pradesh. Elsewhere : Burma, Malaya, Nepal, Sumatra and Thailand

Remarks : Maulik (1936) recorded this species from Meghalaya.

Genus *Hoplasoma* Jacoby

1884. *Hoplasoma* Jacoby, *Notes Leyd. Mus.*, 6 : 233.

1936. *Hoplasoma* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 151.

Seven species of this genus were recorded from India of which three were from Meghalaya.

107. *Hoplasoma sexmaculata* (Hope)

1831. *Auchenia sexmaculata* Hope, *In Gray, Zool. Miscell.* : 29.

1899. *Hoplasoma sexmaculata* : Jacoby, *Entomologist*, 32 : 82.

1936. *Hoplasoma sexmaculata* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 154.

Diagnostic characters : General colour dark brown to pale yellow mixed with gray; antennae, scutellum, one postbasal and two postmedian patches on each elytron, whole ventral surface and legs, black; length 8.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Bihar, Himachal Pradesh, Manipur, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Bhutan, China, Nepal, Pakistan and Sri Lanka.

Remarks : Maulik (1936) recorded this species from Meghalaya.

108. *Hoplasoma costatipennis* Jacoby

1896. *Hoplasoma costatipennis* Jacoby, *Ann. Soc. ent. Belg.*, 40: 273.

1938. *Hoplasoma costatipennis* Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 157.

Diagnostic characters : General colour entirely brown except abdomen, which is black; sometimes antennae and legs blackish, each elytron with distinct lateral longitudinal costa, and the apical sutural angle with a tooth; length 6.0-8.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Ri-Bhoi), Assam, Pondichery, Tamil Nadu and West Bengal. Elsewhere : Bangladesh and Sri Lanka.

Remarks : Kimoto (1979) recorded this species from Meghalaya.

109. *Hoplasoma unicolor* (Illiger)

1800. *Galleruca unicolor* Illiger, *In Wiedem., Arch. fuer. Zool. u. Zoot.*, 1 (2) : 135.

1889. *Hoplasoma unicolor* : Allard, *Ann. Soc. ent. Fr.* (6) 8 : 327.

1936. *Hoplasoma unicolor* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 161.

Diagnostic characters : General colour shining yellow brown; ventral side black; prothorax with sides slightly sinuate and with basal and apical angles prominent; pronotal disc with transverse depression barely reaching forward of middle; elytron subregularly punctured and without any carinae on disc; length 7.0-8.5 mm.

Material examined : West Garo Hills : Tura, 15.vi.-15.vii 1917 (1 ex.), S. Kemp coll.; Barangapara, 23.vi. 1991 (1 ex.), B. N. Das coll.; Tura, 220 m, 5.x. 1991 (1 ex.), R. K. Varshney coll.; 30.vi. 1990 (10 exs.), M. S. Shishodia coll.; William Nagar, 300 m., 30.x. 1991 (1 ex.), R. K. Varshney coll.; Tura, 20.iv. 1991 (1 ex.), B. N. Das coll.; East Garo Hills : Nongal, 25.v. 1990 (1 ex.), M. S. Shishodia coll.; East Khasi Hills; Ranikor, 4.viii. 1981 (7 exs.), M. R. Rynth coll.

Distribution : India : Meghalaya (West Garo Hills, East Garo Hills and East Khasi Hills), Andaman Is., Arunachal Pradesh, Assam, Bihar, Karnataka, Kerala, Maharashtra, Orissa, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal. Elsewhere : Bhutan, China, Malaya, Nepal, Phillipine and Sunda Is.

Genus *Aulacophora* Chevrolat

1837. *Aulacophora* Chevrolat, In Dejean, *Cat., Col. ed. 2* : 378

1936. *Aulacophora* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 167.

Nineteen species of this genus were recorded from India of which five species were from Meghalaya.

110. *Aulacophora almora* Maulik

1936. *Aulacophora almora* Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 170.

Diagnostic characters : Head, prothorax and elytra shining yellow-brown; antenna generally brown; sometimes seven apical segments blackish; scutellum entirely or largely black; in male sides of humerus not distinctly hairy; antenna simple not modified; legs generally blackish; length 7.0 mm.

Material examined : Jaintia Hills : Garampani, 19.ix 1979 (1 ex.), C. Radhakrishnan coll.

Distribution : India : Meghalaya (Jaintia Hills and East Khasi Hills), Arunachal Pradesh, Assam, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : China, Nepal and Tibet.

111. *Aulacophora foveicollis* (Lucas)

1849. *Galeruca foveicollis* Lucas, *Explor. Alger. Ent.* : 542.

1879. *Aulacophora foveicollis* : Baly, *Cist. Ent.*, 2 : 445.

1936. *Aulacophora foveicollis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 173.

Diagnostic characters : General colour brown; metasternum and abdominal sternites entirely or largely black; in the male humerus covered with erect hairs; length 6.0-7.0 mm.

Material examined : West Garo Hills : Dabasipara, 20.x. 1988 (1 ex.), K. K. Roy coll., Tura, Garobadha, 10.iii. 1991 (1 ex.), A. K. Sanyal coll.; Dungalgi, 20.iv. 1991 (1 ex.), B. N. Das, coll., 17.iii. 1991 (1 ex.), Nehru Park, 17.iii. 1991 (1 ex.), all A. K. Hazra coll.; East Khasi Hills : Shillong, 16.iii. 1991 (2 exs.), B. C. Das coll.; Shillong Botanical Garden, 3.vi. 1975 (1 ex.), M. S. Jyrwa coll.

Distribution : India : Meghalaya (W. Garo Hills, E. Khasi Hills and Ri-Bhoi), Arunachal Pradesh, Assam, Andaman Is., Bihar, Gujarat, Kerala, Maharashtra, Orissa, Punjab, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal. Elsewhere : Bangladesh, Burma, Nepal, Sri Lanka and also in Europe.

112. *Aulacophora lewisii* Baly

1886. *Aulacophora lewisii* Baly, *J. Linn. Soc. Lond.*, 20 : 5, 24.

1963. *Aulacophora lewisii* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 488.

Diagnostic characters : General colour bright yellow-brown to dark yellow-brown; elytra black; antenna of male not modified but fairly stout; elytron slightly uneven, not very shiny, with punctures mostly one-third to half as wide as interspaces; length 5.5 mm.

Material examined : East Khasi Hills : Sheela, 18.ix. 1988 (2 exs.), A. R. Lahiri coll.; Umling, 1.x. 1988 (9 exs.), A. R. Lahiri coll.

Distribution : India : Meghalaya (West Garo Hills and East Khasi Hills), Assam, Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Sikkim, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Bhutan, Burma, China, Japan, Taiwan and Sri Lanka.

113. *Aulacophora bicolor* (Weber)

1801. *Galleruca bicolor* Weber, *Obs. Ent.* : 56

1886. *Aulacophora bicolor* : Baly, *J. Linn. Soc. Lond.*, 20 : 3, 4, 19.

1936. *Aulacophora bicolor* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 187.

Diagnostic characters : Head, antennae, pronotum and scutellum always brown; elytral pattern variable, humerus bearing a small dark spot, or with two basal spots and often one or two postmedian spots, each group sometimes merged into a large black area, but at least leaving pale antemedian and apical areas; pronotum with a broad groove; antenna simple; ventral side clothed with silvery pubescence; length 5.0-10.0 mm.

Material examined : West Garo Hills : Tura, 15.vi.-15. vii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Arunachal Pradesh, Andaman and Nicobar Is., and West Bengal. Elsewhere : Burma, Java, Phillipines, Sumatra and Taiwan.

114. *Aulacophora rosea* (Fabricius)

1801. *Galleruca rosea* Fabricius, *Syst. Eleuth.*, 1 : 479.

1936. *Aulacophora rosea* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 196.

Diagnostic characters : General colour shining red; basal two thirds or more of elytra shining black; tibiae and tarsi blackish; antenna brown to dark brown with the basal two segments red, epipleuron always black; length 6.75-10.75 mm.

Material examined : West Garo Hills : Tura, 15.vi.-15.vii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills). Elsewhere : Burma, Java, Phillipines, Thailand and Sumatra.

Genus *Pseudocophora* Jacoby

1884. *Pseudocophora* Jacoby, *Notes Leyd. Mus.*, 6: 69, 214.

1936. *Pseudocophora* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 198.

Four species of this genus were recorded from India of which two species were from Meghalaya.

115. *Pseudocophora biclor* Jacoby

1887. *Pseudocophora bicolor* Jacoby, *Proc. Zool. Soc. Lond.* : 111.

1936. *Pseudocophora bicolor* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 201.

Diagnostic characters : General colour yellow to dark brown, with the elytra shining black; epipleuron lighter at base, darker for the rest; anterior side of postscutellar prominence in male with a pit; length 5.0-6.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (West Garo Hills), Tamil Nadu and West Bengal. Elsewhere : Sri Lanka.

Remarks : Maulik (1936) recorded this species from Meghalaya.

116. *Pseudocophora pectoralis* Baly

1888. *Pseudocophora pectoralis* Baly, *J. Linn. Soc. Lond.*, 20: 169, 174.

1936. *Pseudocophora pectoralis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 202.

Diagnostic characters : General colour shining brown except for much of metasternum and abdomen black; in the male the postscutellar region not excavated, nearly flat, impunctate, with a foveum near suture; length 5.2-5.5 mm.

Material examined : West Garo Hills: Tura, 3500-3900 ft., 15.vii.-30.viii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Assam, Manipur and West Bengal. Elsewhere : China.

Genus *Agetocera* Hope

1840. *Agetocera* Hope, *Col. Man.*, 3 : 170

1936. *Agetocera* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 125.

Five species of this genus were recorded from India of which two species were from Meghalaya.

117. *Agetocera hopei* Baly

1865. *Agetocera hopei* Baly, *Trans. ent. Soc. Lond.* (3) 2(5):438.

1936. *Agetocera hopei* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 130.

Diagnostic characters : General colour yellow-brown; elytra greenish to purplish black; forebody pale yellow; last 2-3 antennal segments blackish, segment 9 of male with a very strong external protuberance at base and a weak one at apex, forming a deep crescent between; length 10.5-13.0 mm.

Material examined : East Khasi Hills: Shillong, 7.vii. 1971 (1 ex.), S. Biswas coll.; Ri-Bhoi : Nongpoh, (1 ex.), A. R. Lahiri coll.; West Khasi Hills : Nongstoin, 30.ix. 1988 (1 ex.), A. R. Lahiri coll.; West Khasi Hills : Nongstoin, 30.ix. 1988 (1 ex.), A. R. Lahiri coll.; West Garo Hills : Tura, — ix. 1917 (1 ex.), Mrs. Kemp coll.

Distribution : India : Meghalaya (East Khasi Hills, Ri-Bhoi, West Khasi Hills and West Garo Hills, Arunachal Pradesh, Assam, Manipur, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Bhutan, Burma, Tibet, Java and Nepal.

118. *Agetocera lobicornis* Baly

1865. *Agetocera lobicornis* Baly, *Trans. ent. Soc. Lond.*, (3)2(5) : 437.

1936. *Agetocera lobicornis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 133.

Diagnostic characters : General colour red-brown; elytra shining black; tarsi, middle tibiae and upper side of front tibiae, and the apical halves of hind femora, blackish; antennae of male with segment 9 enlarged; length 10.0 mm.

Material examined : West Garo Hills : Tura, 15.vii.-30. viii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Assam, Nagaland, Sikkim and West Bengal. Elsewhere : Burma.

Genus - *Paridea* Baly

1886. *Paridea* Baly, *J. Linn. Soc. Lond.*, 20 : 26.

1936. *Paridea* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*:498.

Thirteen species of this genus were recorded from India of which three species were from Meghalaya. The present work includes another four species from the area.

119. *Paridea tetraspilota* (Hope)

1831. *Galleruca tetraspilota* Hope, *In Gray, Zool. Miscell.*: 29.

1936. *Paridea tetraspilota* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 501.

Diagnostic characters : General colour shining brown; each elytron with two black patches, one basal and the other postmedian, spots much larger than space between them and than apical pale area; breast always black; abdominal sternites with three longitudinal series of spots, one median and the two lateral (one on each side); prothorax twice as broad as long; length 5.0-5.5 mm.

Material examined : East Khasi Hills : Shillong, 20.ix. 1975 (1 ex.), M. S. Jyrwa coll.

Distribution : India : Meghalaya (East Khasi Hills), Assam and Manipur. Elsewhere : Burma, China, Nepal, Taiwan and Thailand.

120. *Paridea balyi* Jacoby

1898. *Paridea balyi* Jacoby, *Ann. Soc. ent. Belg.*, 42 : 190.

1936. *Paridea balyi* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 502.

Diagnostic characters : General colour shining brown; elytra with two large black spots (one basal and the other postmedian) on each elytron, the basal patch large, quadrate and stains the basal margin, humerus and extending to the suture, leaving only a narrow brown strip, postmedian patch roundish, extending to near lateral margin and suture but without touching either; length 6.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills.)

Remarks : Maulik (1936) recorded this species from Meghalaya.

121. *Paridea unifasciata* Jacoby

1892. *Paridea unifasciata* Jacoby, *Ann. Mus. Civ. Genova*, 32 : 957

1936. *Paridea unifasciata* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 503.

Diagnostic characters : General colour black; head, antenna, prothorax, legs, a transverse band across the middle of elytra, and a spot at extreme apical area, light brown to yellowish white; labrum and scutellum black; upper margins of all femora, tibiae and posterior tarsi, black; length 4.0mm.

Material examined : East Khasi Hills : Umling, 9.xi. 1991 (1 ex.), R. C. Basu coll.

Distribution : India : Meghalaya (East Khasi Hills), West Bengal. Elsewhere : Burma and Nepal.

Remarks : First record from Meghalaya.

122. *Paridea octomaculata* (Baly)

1886. *Aulacophora octomaculata* Baly, *J. Linn. Soc. Lond.*, 20 : 17.

1936. *Paridea octomaculata* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 504.

Diagnostic characters : General colour shining brown; head with two black patches; elytron with four black patches, two basal and two apical; these patches are variable, but elytron with suture and margins all round red-brown; abdominal tergites with a broad median black stripe; exposed pygidium with two black patches, one on each side; abdominal sternites with three series of black spots, one median and one on each lateral side; length 5.0-6.5 mm.

Material examined : East Garo Hills : Songsok, 20.xi. 1974 (5 exs.), T. Sengupta coll.

Distribution : India : Meghalaya (East Garo Hills), Arunachal Pradesh, Assam, Manipur, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Bhutan, Nepal and Tibet.

Remarks : First record from Meghalaya.

123. *Paridea perplexa* (Baly)1879. *Aulacophora perplexa* Baly, *Cist. Ent.*, 2 : 447.1889. *Paridea perplexa* : Baly, *Trans. ent. Soc. Lond.* : 304.1936. *Paridea perplexa* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 505.

Diagnostic characters : In form, structure and coloration it resembles *P. octomaculata* Baly but differs in having elytral spots smaller and rounded, somewhat larger in size (7.75 mm) and more rounded in form.

Material examined : West Garo Hills : Tura, 15.vi.-15.vii. 1917 (1 ex.), S. Kemp coll.; East Khasi Hills : Shillong, — viii-x.1919 (1 ex.), R. K. Varshney coll. Jaintia Hills, 26.ix.1991 (1ex.) R.K. Varshney coll.

Distribution : India : Meghalaya (West Garo Hills, East Khasi Hills and Jaintia Hills), Assam, Manipur, Sikkim and West Bengal. Elsewhere : Burma and Nepal.

Remarks : First record from Meghalaya.

124. *Paridea ruficollis* Jacoby1892. *Paridea ruficollis* Jacoby, *Ann. Mus. Civ. Genova* 32 : 935.1836. *Paridea ruficollis* : Maulik, *Fauna Brit. India, Col. Chry. (Gal.)*: 510.

Diagnostic characters : General colour shining brown; breast, middle and hind tibiae and tarsi, black; prothorax shining red; length 5.75 mm.

Material examined : East Garo Hills : Songsok, 20.xi. 1974 (4 exs.), T. Sengupta coll.

Distribution: India : Meghalaya (East Garo Hills), Assam and West Bengal. Elsewhere : Burma.

Remarks : First record from Meghalaya.

125. *Paridea livida* Duvivier1892. *Paridea livida* Duvivier, *Ann. Soc. ent. Belg.*, 36 : 432.1936. *Paridea livida* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 510.

Diagnostic characters : General colour dark brown; metasternum, abdomen (except last segment), upper side of anterior tibia, tibia and tarsi of middle and posterior legs, black; apex of antenna darker; palpi, head and pronotum reddish to red brown; length 6.5 mm.

Material examined : East Khasi Hills : Shillong, 20.iv. 1975 (2 exs.), M. S. Jyrwa coll.

Distribution : India : Meghalaya (East Khasi Hills), West Bengal.

Genus *Haplosomoides* Duvivier1890. *Haplosomoides* Duvivier, *Ann. Soc. ent. Belg.*, 34 : 35.1963 *Haplosomoides* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B: 517.

Eight species of this genus were recorded from India of which only a single species was recorded so far from Meghalaya. In this paper two species are recorded here for the first time from Meghalaya of which one is from India also.

126. *Haplosomoides chinmatra* (Maulik), new combination

1936. *Hoplasomedia chinmatra* Maulik, *Fauna Brit. India. Col., Chry. (Gal.)* : 494.

Diagnostic characters : Elytra and legs pale yellowish-white; head and prothorax darker; breast and abdomen black; antenna pitch-brown to light brown with the four apical segments black, in male apical segments thickened; length 5.5-7.0 mm.

Material examined : Ri-Bhoi : Burmihat, 2.iv.1991 (2 exs.), S. K. Saha coll.

Distribution : India : Meghalaya (Ri-Bhoi). Elsewhere : Burma.

Remarks : First record from India (Meghalaya).

127. *Haplosomoides krishila* (Maulik)

1936. *Hoplasomedia krishila* Maulik, *Fauna Brit. India Col., Chry. (Gal.)* : 497.

1993. *Haplosomoides krishila* : Basu, *Fauna West Bengal : State Fauna Series* (In Press).

Diagnostic characters : General colour brown; elytra pale yellowish-white; breast and abdominal sternites black; head and pronotum shining; elytra dull with the punctures not distinct; length 5.75 mm.

Material examined : East Garo Hills : Rongzeng, 26.v. 1990 (2 exs.), M. S. Shishodia coll.; Williumnagar, 10.iii. 1991 (4 exs.), 12.iii. 1991 (2 exs.), all B. C. Das coll.

Distribution : India : Meghalaya (East Garo Hills), West Bengal. Elsewhere : Burma and Nepal.

Remarks : First record from Meghalaya.

128. *Haplosomoides egena* Weise

1922. *Haplosomoides egena* Weise, *Tijdschr. Ent.*, 65 : 74.

1979. *Haplosomoides egena* : Kimoto, *Ent. Basiliensia*, 4 : 470.

Diagnostic characters : Dorsal side entirely pale yellowish; abdomen blackish; elytral carinae not very sharp, often quite weak; anterior margin of prothorax slightly emarginate at middle; length less than 6.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Garo Hills), Assam and West Bengal. Elsewhere : Bhutan, China, Nepal, Taiwan and Vietnam.

Remarks : Kimoto (1979) recorded this species from Meghalaya.

Genus *Mimastra* Baly

1865. *Mimastra* Baly, *Ann. Mag. nat. Hist.*, (3) 16 : 253.

1936. *Mimastra* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 524.

Eleven species of this genus were recorded from India of which two species were from Meghalaya.

129. *Mimastra limbata* Baly

1879. *Mimastra limbata* Baly, *Cist. Ent.*, 2 : 449.

1936. *Mimastra limbata* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 531.

Diagnostic characters : General colour brown; antennae blackish with three basal segments brown; three patches on head and five patches on pronotum blackish; scutellum blackish; basal margin of elytra, suture and lateral margin, brown, rest of the surface blackish with metallic sheen; femore, tibiae and tarsi blackish; breast and abdomen black with metallic sheen; length 8.5 mm.

Material examined : East Khasi Hills : Shillong, 27.iii. 1991 (1 ex.), A. K. Hazra coll., 1400 m., 11.iv. 1991 (2 exs.), 1500 m. 10.iv. 1991 (3 exs.), all S. K. Ghosh coll.; Moaloi, 20.iii. 1991 (1 ex.), A. K. Sanyal coll.; West Khasi Hills : Nongstoin, 22.iii. 1991 (1 ex.), A. K. Hazra coll.; Jaintia Hills: Jowai, 20.iii. 1991 (11 exs.), B. C. Das coll.; 17. iii. 1991 (11 exs.), 18.iii. 1991 (2 exs.), 16.iii. 1991 (12 exs.), all A. K. Sanyal coll.; 23.iii. 1991 (2 exs.), A. K. Hazra coll.

Distribution : India : Meghalaya (East Khasi Hills, West Khasi Hills and Jaintia Hills), Assam. Elsewhere : China.

130. *Mimastra scutellata* Jacoby

1904. *Mimastra scutellata* Jacoby, *Ann. Soc. ent. Belg.*, 48: 395.

1936. *Mimastra scutellata* : Maulik, *Fauna Brit. India, Col. Chry. (Gal.)*: 537.

Diagnostic characters : General colour dark red-brown; antennae and legs black; scutellum, breast and abdomen blackish; length 7.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Ri-Bhoi), Maharashtra (Igatpuri) and Tamil Nadu. Elsewhere : Burma.

Remarks : Kimoto (1982) recorded this species from Meghalaya.

Genus *Cneorane* Baly

1865. *Cneorane* Baly, *Ent. Monthly Mag.*, 2 : 97.

1936. *Cneorane* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 335.

Twelve species of this genus were recorded from India of which three were from Meghalaya. The present paper includes another species from the area.

131. *Cneorane rubicollis* (Hope)

1831. *Galleruca rubicollis* Hope, *In Gray, Zool. Miscell.* : 29.

1936. *Cneorane rubicollis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 338.

Diagnostic characters : Head, prothorax, scutellum, breast and legs partly bright brown; scutellum sometimes dark brown with metallic sheen; antennae, tibiae, apices of femora and tarsi, blackish; three basal segments and two apical segments of antennae and the under side of rest light brown, three apical segments of male modified; length 9.0 mm.

Material examined : East Khasi Hills: Shillong, 10.v. 1988 (1 ex.), C. Radhakrishnan coll.

Distribution : India : Meghalaya (East Khasi Hills), Arunachal Pradesh, Assam, Bihar, Sikkim and West Bengal. Elsewhere : Nepal.

Remarks : First record from Meghalaya.

132. *Cneorane rugulipennis* Baly

1886. *Cneorane rugulipennis* Baly, *Trans. ent. Soc. Lond.* : 27.

1936. *Cneorane rugulipennis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 339.

Diagnostic characters : Elytra bronzy; head, pronotum, pro- and mesothorax, front and middle femora deep rich brown; antennae, front and middle tibiae and tarsi blackish; metathorax, abdominal sternites and hindlegs black mixed with slight bronze; length 5.5-9.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Arunachal Pradesh, Assam, Himachal Pradesh, Manipur, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Bhutan, Burma, Nepal, Pakistan and Taiwan.

Remarks : Kimoto (1982) recorded this species from Meghalaya.

133. *Cneorane rubyana* Maulik

1936. *Cneorane rubyana* Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 343.

Diagnostic characters : Head, antennae and prothorax blackish to pitch brown; pronotum sometimes reddish-brown; elytra and epipleura dark blue-green; scutellum black to dark pitch brown; underside and legs black; lateral margins of elytra distinctly explanate; length 6.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Garo Hills, East Khasi Hills, Ri-Bhoi). Elsewhere : Burma.

Remarks : Kimoto (1982) recorded this species from Meghalaya.

134. *Cneorane carlosipennis* Fairmaire

1888. *Cneorane carlosipennis* Fairmaire, *Ann. Soc. ent. Belg.*, 82: 45.

1982. *Cneorane carlosipennis* : Kimoto, *Ent. Rev. Japan*, 37 (1) : 16.

Diagnostic characters : Head, prothorax and mesothorax reddish brown; elytron blackish or bluish; abdomen and legs bluish or blackish blue, except fore and mid femora reddish; length 8.5-9.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : China

Remarks : Kimoto (1982) recorded this species from Meghalaya.

Genus *Miltina* Chapuis

1878. *Miltina* Chapuis, *Gen. Col.*, 11 : 172.

1936. *Miltina* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 313.

This is a monotypic genus.

135. *Miltina dilatata* Chapuis

1875. *Miltina dilatata* Chapuis, *Gen. Col.*, 11 : 173.

1936. *Miltina dilatata* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 316.

Diagnostic characters : General colour shining brown; dorsal side varies from pale-brown to red-brown; legs sometimes black, but sometimes tibiae and tarsi only are black; sometimes abdominal sternites darker; body three-fifth as broad as long; hind angle of prothorax rounded; length 7.5-11.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (Ri-Bhoi), Arunachal Pradesh, Assam, Manipur, Sikkim and West Bengal. Elsewhere : Bhutan, Burma, China, Malaya, Sumatra and Vietnam.

Remarks : Kimoto (1982) recorded this species from Meghalaya.

Genus *Morphosphaera* Baly

1861. *Morphosphaera* Baly, *J. Ent.*, 1 (4) : 298.

1938. *Morphosphaera* : Maulik, *Fauna Brit. India, Col. Chry. (Gal.)*: 316.

Three species were recorded from India but there was no report from Meghalaya. The present paper reports one species from the area.

136. *Morphosphaera japonica* (Hornstedt)

1788. *Chrysomela japonica* Hornstedt, *Schrift. Ges. Naturf. Freunde Berl.*, 8 : 1.

1924. *Morphosphaera japonica* : Weise, *Col. Cat.*, 78 : 129.

1936. *Morphosphaera japonica* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 318.

Diagnostic characters : General colour blue; pronotum yellow-brown to red-brown with four round black spots arranged almost transversely, sometimes an additional spot near basal margin; elytron and scutellum blue, sometimes mixed with violet or purple; length 7.0-9.0 mm.

Material examined : East Khasi Hills : Shillong Bot. Garden, 31.i. 1966 (1 ex.), B. K. Tikader coll.

Distribution : India : Meghalaya (East Khasi Hills), Assam, Uttar Pradesh and West Bengal. Elsewhere : China and Japan.

Remarks : First record from Meghalaya.

Genus *Monolepta* Erichson

1843. *Monolepta* Erichson, *Archiv. f. Naturgesch.*, 9 (1): 265.

1936. *Monolepta* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 373.

About fifty species of this genus were recorded from India out of which six species were from Meghalaya. In the present paper another three species are recorded here for the first time from the state.

137. *Monolepta albomaculata* Maulik

1892. *Monolepta alboplagiata* Jacoby, *Ann. Mus. Civ. Genova*, 32: 983 (preoccupied).

1936. *Monolepta albomaculata* Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 399(new name).

Diagnostic characters : General colour black; each elytron with two round white spots, one before and the other behind the middle; three basal segments of antenna, prothorax and legs yellow-brown; length 3.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : Bhutan, Burma and Nepal.

Remarks : Takizawa (1983) recorded this species from Meghalaya.

138. *Monolepta khasiensis* Weise

1900. *Candezea quadrimaculata* Jacoby, *Mem. Soc. ent. Belg.*, 7: 138 (preoccupied).

1916. *Monolepta khasiensis* Weise, *Deut. ent. Zeitschr.* : 40 (new name for *quadrimaculata* Jac.).

1936. *Monolepta khasiensis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 400.

Diagnostic characters : General colour brown; the following parts black : apical portion of labrum; antennae (except three basal segments); two patches on elytron, one basal and other apical (larger); abdominal sternites. Tibiae and tarsi dark brown; length 5.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Maharashtra.

Remarks : Maulik (1936) recorded this species from Meghalaya.

139. *Monolepta scripta* (Motschulsky)

1866. *Luperodes scripta* Motschulsky, *Bull. Soc. nat. Mosc.*, 39(1): 416.

1936. *Monolepta scripta* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 403.

Diagnostic characters : General colour brown with several spots and patches on the dorsal surface. Head often with a black spot on vertical area and suture always black in its entire length; length 3.25-5.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Maharashtra and Tamil Nadu. Elsewhere : Burma and Sri Lanka.

Remarks : Maulik (1936) recorded this species from Meghalaya.

140. *Monolepta orientalis* Jacoby

1889. *Monolepta orientalis* Jacoby, *Ann. Mus. Civ. Genova*, 27 : 227.

1936. *Monolepta orientalis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 407.

Diagnostic characters : General colour brown; sometimes head dark brown to black; sometimes most of the middle and hind femora black; elytra with variable colour pattern but usually the successive transverse bands are (1) black, (2) red, (3) black, (4) brown, (5) black, (6) red; length 4.5 mm.

Material examined : East Garo Hills : Nongal, 28.v. 1990 (1 ex.), M. S. Shishodia coll.

Distribution : India : Meghalaya (East Garo Hills), Assam, Karnataka, Kerala, Maharashtra, Tamil Nadu and West Bengal. Elsewhere : Burma, Nepal and Sri Lanka.

Remarks : First record from Meghalaya.

141. *Monolepta signata* (Olivier)

1808. *Galeruca signata* Olivier, *Entomologie*, 6 : 665.

1889. *Monolepta signata* : Jacoby, *Ann. Mus. Civ. Genova*, 27 : 229.

1936. *Monolepta signata* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 410.

Diagnostic characters : Head, pronotum, legs and abdominal sternites, reddish brown; antennae black-with three basal segments brown; breast black; elytron black with two yellowish spots, before and behind middle, both the spots free from basal, lateral, apical and sutural margins; length 3.00-8.00 mm.

Material examined : East Khasi Hills : Shillong, vi-vii. 1918 (1 ex.), Fletcher coll., 21.vi. 1918 (3 exs.), A. G. R. Coll.; Shillong Peak, 26.xi. 1974 (1 ex.), T. Sengupta coll., 16.iii. 1991 (2 exs.), B. C. Das coll., Nongkram, 13.xi.1991 (1 ex.), R. C. Basu coll.; West Khasi Hills : Hatmawdon vill, 125 m., 5.xii. 1977 (4 exs.), Balat, 125 m., 8.xii. 1977 (2 exs.), all K. R. Rao coll.; East Garo Hills : Williamnagar, 21.1. 1991 (2 exs.), B. N. Das coll.; West Garo Hills : Nongstoin, 25. ix. 1988 (3 exs.), A. R. Lahiri coll.; Tura, Dobasipara, 9.x. 1988 (2 exs.), K. K. Roy coll., Tura, 30.vi. 1990 (1 ex.), M. S. Shishodia coll., Garobadha, 10.iii. 1991 (3 exs.), A. K. Sanyal coll., Ganol, 22.iv. 1992 (1 ex.), B. N. Das coll.; Jaintia Hills : Safai Basti, 3.x. 1988 (2 exs.), Jowai, 27.ix. 1988 (3 exs.), 29.ix. 1988 (1 ex.), 24.ix. 1988 (1 ex.), 19.ix. 1988 (1 ex.), all V. D. Srivastava coll.; Garampani, 4.x. 1988 (1 ex.), V. D. Srivastava coll.; Ri-Bhoi : Burnihat, 2. vi. 1991 (14 exs.), S. K. Saha coll.

Distribution : India : Meghalaya (West Garo Hills, East Garo Hills, West Khasi Hills, East Khasi Hills, Ri-Bhoi and Jaintia Hills), Arunachal Pradesh, Assam, Gujarat, Haryana, Kerala, Karnataka, Maharashtra, Orissa, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal. Elsewhere : Bangladesh, Bhutan, Burma, China, Hongkong, Nepal, Pakistan, Sri Lanka, Tibet, Thailand and Vietnam.

142. *Monolepta nigripes* (Olivier)

1808. *Galeruca nigripes* Olivier, *Entomologie*, 6 : 648.

1936. *Monolepta nigripes* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 414.

Diagnostic characters : General colour yellow brown to dark chocolate-brown; sometimes antennae black with three basal segments brown; sometimes tibiae and tarsi black; length 8.0 - 10.5 mm.

Material examined : East Khasi Hills : Shillong, Umtru forest, 6. vii. 1979 (1 ex.), P. T. Cherian coll.

Distribution : India : Meghalaya (East Khasi Hills), West Bengal. Elsewhere : Bangladesh, Borneo, Burma, Phillipines, Malaya and Sri Lanka.

Remarks : First record from Meghalaya.

143. *Monolepta erratica* (Jacoby)

1900. *Candezea erratica* Jacoby, *Mem. Soc. ent. Belg.*, 7: 137

1936. *Monolepta erratica* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 441.

Diagnostic characters : General colour entirely pale brown; sometimes elytra darker brown; a broad variable reddish patch covering the basal area of elytra including humerus but not scutellum, sometimes a similar patch at apical area; sometimes underside and antennae (except three basal segments) blackish; length 4.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Karnataka.

Remarks : Maulik (1936) recorded this species from Meghalaya.

144. *Monolepta leechi* Jacoby

1890. *Monolepta leechi* Jacoby, *Entomologist*, 23 : 216.

1982. *Monolepta leechi* : Kimoto, *Ent. Rev. Japan*, 37(1) : 19.

Diagnostic characters : Elytron black with a yellowish or reddish band, which is broader than long and always touches the lateral margins but sometimes free from sutural margins; head yellowish to reddish; abdomen entirely black; fore femur entirely yellowish brown; length 3.0-3.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Sikkim and West Bengal. Elsewhere : China, Nepal and Taiwan.

Remarks : Kimoto (1982) recorded this species from Meghalaya.

145. *Monolepta lunata* Gressitt & Kimoto

1963. *Monolepta tunata* Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 620.

Diagnostic characters : General colour reddish; eytron with a large pale yellowish rounded oblong spot behind the middle; antenna black with the segment 1 reddish; elytron reddish basally and somewhat blackish apically and slightly pitchy on parts on external margin and humerus in Chinese examples as described by the authors, but in Indian example elytron uniformly reddish, and tibiae and tarsi completely dirty black; hind tarsal segment 1 about 1/4 longer than remaining segments combined, segment 2 slightly longer than segment 3; length 5.5 mm (Type 6.6 mm Chinese sp.).

Material examined : Jaintia Hills : Jowai, Dawki, 25.ix.1988 (5 exs.), V. D. Srivastava coll.; Safei Basti, 3.x. 1988 (1 ex.), V. D. Srivastava coll.

Distribution : India : Meghalaya (Jaintia Hills), West Bengal. Elsewhere : China (Hainan).

Remarks : First record from Meghalaya.

146. *Monolepta* sp. 1. (nr. *brevipennis* Chen)

Material examined : West Garo Hills : Nongstoin Forest, 21.iii. 1991 (1 ex.), A. K. Hazra coll.

147. *Monolepta* sp. 2 (nr. *mordelloides* Chen)

Material examined : East Khasi Hills : Laitkor, 10.vii. 1974(1 ex.), R. S. Giri coll.

Genus *Aplosonyx* Chevrolat

1837. *Aplosonyx* Chevrolat, In Dejean, *Cat. Col.*, ed. 2 : 376.

1936. *Aplosonyx* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 612.

Five species of this genus were recorded from India of which three species from Meghalaya. The present paper includes another species from the state.

148. *Aplosonyx chalybaeus* (Hope)

1831. *Galleruca chalybaeus* Hope, In Gray, *Zool. Miscell.* : 28.

1892. *Haplosonyx chalybaeus* : Duvivier, *Ann. Soc. ent. Belg.*, 36: 440.

1936. *Aplosonyx chalybaeus* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 614.

Diagnostic characters : Head and prothorax red; elytron blackish blue or purplish blue with fine punctures, irregular in strips alternating with impunctate of strips; ventral side entirely pale; antennal segment 5-8 and apices of tibiae and tarsi black with metallic tinge; pronotum with four raised areas in front of median transverse line; length 13.0-18.0 mm.

Material examined : West Garo Hills : Balphakram Nat. Park, 12.v. 1988 (1 ex.), V. T. Darlong coll.

Distribution : India : Meghalaya (West Garo Hills), Arunachal Pradesh, Assam, Sikkim and West Bengal. Elsewhere : Bhutan, Burma, Nepal, Tibet and Vietnam.

149. *Aplosonyx scutellatus* (Baly)

1879. *Haplosonyx scutellatus* Baly, *Cist. Ent.*, 2 : 452.

1936. *Aplosonyx scutellatus* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 616.

Diagnostic characters : Entirely brown; antenna, scutellum, breast and legs black; length 9.0-9.5 mm.

Material examined : East Khasi Hills : Lydow, 29.iii. 1991 (1 ex.), S. K. Saha coll.; Jaintia Hills : Jowai, 23.ix. 1988 (1 ex.), V. D. Srivastava coll.

Distribution : India : Meghalaya (East Khasi Hills and Jaintia Hills), Arunachal Pradesh, Assam, Himachal Pradesh, Sikkim and West Bengal. Elsewhere : Nepal and Pakistan.

Remarks : First record from Meghalaya.

150. *Aplosonyx duvivieri* (Jacoby)

1900. *Haplosonyx duvivieri* Jacoby, *Mem. Soc. ent. Belg.*, 7 : 130.

1936. *Aplosonyx duvivieri* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 618.

Diagnostic characters : Entirely warm brown not shining; antenna and legs black; length 12.0 mm.

Material examined : East Khasi Hills : Shillong, 5000 ft., 29.v. 1924 (1 ex.), Bose coll.; Ri-Bhoi : Nongpoh, 3000-5000 ft., — vi. 1905 (1 ex.).

Distribution : India : Meghalaya (Ri-Bhoi and East Khasi Hills); Arunachal Pradesh and West Bengal.

151. *Aplosonyx orientalis* (Jacoby)

1892. *Haplosonyx orientalis* Jacoby, *Ann. Mus. Civ. Genova*, 32 : 962.

1936. *Aplosonyx orientalis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 619.

Diagnostic characters : General colour shining brown; antennae and legs black; length 12.0 mm.

Material examined : East Khasi Hills : Shillong, Old Barapani Road, 6.vi. 1973 (1 ex.), A. K. Ghosh coll.

Distribution : India : Meghalaya (East Garo Hills and E. Khasi Hills). Elsewhere : Burma.

Genus *Khasia* Jacoby

1899. *Khasia* Jacoby, *Entomologist*, 32 : 83.

1936. *Khasia* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 273.

Two species of this genus were recorded from India of which one was from Meghalaya.

152. *Khasia kraatzi* Jacoby

1899. *Khasia kraatzi* Jacoby, *Entomologist*, 32 : 83

1836. *Khasia kraatzi* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 274

Diagnostic characters : General colour shining dark brown, almost blackish; pronotum reddish brown; six basal segments of antennae dark brown, segments 7 and 8 yellowish, last three segments black; legs yellow-brown tibiae alternately lighter and darker colour patches, tarsi always darker; length 4.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Punjab and West Bengal. Elsewhere : Burma and Nepal.

Remarks : Maulik (1936) recorded this species from Meghalaya.

Genus *Kanarella* Jacoby

1896. *Kanarella* Jacoby, *Ann. Soc. ent. Belg.*, **40** : 280.

1936. *Kanarella* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 297.

This is a monotypic genus.

153. *Kanarella unicolor* Jacoby

1896. *Kanarella unicolor* Jacoby, *Ann. Soc. ent. Belg.*, **40** : 280.

1936. *Kanarella unicolor* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 299.

Diagnostic characters : Entirely yellowish brown to dark brown; eyes black; length 5.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Assam, Karnataka, Sikkim and West Bengal.
Elsewhere : Nepal.

Remarks : Kimoto (1979) recorded this species from Meghalaya.

Genus *Sphenoraia* Clark

1865. *Sphenoraia* Clark, *Ann. Mag. nat. Hist.*, (3) **16** : 261.

1963. *Sphenoraia* Gressitt & Kimoto, *Pac. Ins. Monogr.*, **1B** : 655.

Four species of this genus were recorded from India of which two species were from Meghalaya.

154. *Sphenoraia (Sphenoraiodes) rutilans* (Hope)

1831. *Eumolpus rutilans* Hope, *In Gray, Zool. Miscell.* : 30.

1936. *Gallerucida rutilans* : Maulik, *Fauna Brit. India, Col. Chry. (Gal.)* : 547.

1963. *Sphenoraia (Sphenoraiodes) rutilans* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, **1B** : 657.

Diagnostic characters : Dorsal side with varying metallic colours, blue, blue-green, purple-blue, purple, green, pure blue etc.; ventral side always metallic deep blue; legs blackish; antenna dull black with brownish pubescence; mouth parts generally black with edges of parts brownish; length 8.5-9.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Bhutan, Burma, China and Nepal.

Remarks : Maulik (1936) recorded this species from Meghalaya.

155. *Sphenoraia (Sphenoraia) bicolor* (Hope)

1831. *Galleruca bicolor* Hope, *In Gray, Zool. Miscell.* : 29.

1936. *Gallerucida bicolor* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 554.

1972. *Sphenoraia (Sphenoraia) bicolor* : Kimoto & Takizawa, *Kontyu*, 40(4) : 220.

Diagnostic characters : General colour dark brown with black spots and patches on dorsal and ventral side in a great number of varieties; but generally each elytron with seven spots (2:2:2:1) and pronotum with four spots; scutellum always black; ventral area of head, labrum and antennae (except three basal segments) always black; pronotum distinctly convex at before middle; elytral punctures more regularly arranged in rows; length 8.0-8.5 mm.

Material examined : Ri-Bhoi : Nongpoh, —v. 1905 (1 ex.), Umling, 3.iv. 1991 (2 exs.), Umsning, 3.iv. 1991 (2 exs.), Umran, 1.iv. 1991(1 ex.), all S. K. Saha coll.

Distribution : India : Meghalaya (Ri-Bhoi), Assam, Himachal Pradesh, Kerala, Maharashtra, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Burma and Nepal.

Genus *Cassena* Weise

1892. *Cassena* Weise, *Dtsch-ent. Zeit.*, 1892 : 388.

1936. *Solephyma* Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 329.

1962. *Cassena* : Bryant, *Ann. Mag. nat. Hist. (13)* 5 : 369(=*Solephyma*).

Only one species of this genus was recorded from India (Tamil Nadu).

156. *Cassena* sp.

Material examined : Ri-Bhoi : Umling, 1.x. 1988 (1 ex.), A. R. Lahiri coll.

Genus *Trichobalya* Weise

1890. *Trichidea* Baly, (nec Haan, 1838), *Ent. Monthly Mag.*, 26: 13.

1924. *Trichobalya* Weise, *Col. Cat.*, 78: 152 (new name for *Trichidea* Baly).

Out of three Indian species only one species was recorded from Meghalaya.

157. *Trichobalya bowringii* Baly

1890. *Trichidea bowringii* Baly, *Ent. Monthly Mag.*, 26 : 13.

1924. *Trichobalya bowringii* : Weise, *Col. Cat.*, 78 : 152.

Diagnostic characters : Head, pronotum, antenna, ventral side and legs yellow to brown; elytron generally green or red and green; length 5.0-7.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Garo Hills), West Bengal. Elsewhere : China, Hong Kong and Vietnam.

Remarks : Kimoto (1982) recorded this species from Meghalaya.

Genus *Dercetina* Gressitt & Kimoto

1865. *Dercetis* Clark, *Ann. Mag. nat. Hist.*, (3) 15 : 146 (nec *Dercetis* Muenster & Agassiz, 1834)

1936. *Dercetis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 348.

1963. *Dercetina* Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 704 (new name for *Dercetis* Clark).

Out of twenty Indian species only one species was recorded from Meghalaya. The present paper includes another two species from the area.

158. *Dercetina flavocincta* (Hope)

1831. *Galleruca flavocincta* Hope, *In Gray, Zool. Miscell.* : 29.

1936. *Dercetis flavocincta* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 355.

1967. *Dercetina flavocincta* : Kimoto, *Esakia* (8) : 70.

Diagnostic characters : Variable colour pattern, but head always dark brown; general colour always uniform black; elytral transverse band extending to suture and lateral margins, never tending to form a transverse ovate patch; length 5.0-6.5 mm.

Material examined : East Khasi Hills : Shillong, ix. 1917 (1 ex.), Fletcher coll.; iii. 1907 (1 ex.), Patel coll.; Upper Shillong, Elephant Falls, 28.vii. 1979 (1 ex.), P. T. Cherian coll.; Ri-Bhoi : Nongpoh, vii. 1907 (1 ex.), D. Nowrojee coll.; East Garo Hills : Dainadubi, 18.xi.1974 (1 ex.), T. Sengupta coll.; Sangsok, 17.xi. 1973 (1 ex.), S. Biswas coll.

Distribution : India : Meghalaya (East Khasi Hills, Ri-Bhoi and East Garo Hills), Arunachal Pradesh, Assam, Himachal Pradesh, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Nepal.

Remarks : First record from Meghalaya.

159. *Dercetina histrio* (Baly)

1879. *Antipha histrio* Baly, *Cist. Ent.*, 2 : 456.

1936. *Dercetis histrio* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 358.

1992. *Dercetina histrio* : Basu, *Fauna West Bengal* (In press).

Diagnostic characters : Mouth parts blackish; frons and clypeus pale brown; a large transverse area on vertex black; pronotum light brown to pale brown; elytra with alternate bands of black, red, black, pale brown, black and red; ventral side varying from brown to blackish; length 4.5-5.5 mm.

Material examined : East Garo Hills : Dainadubi, 19.xi. 1974 (1 ex.), T. Sengupta coll.; West Garo Hills : Tura, 3.vi. 1990 (2 exs.), M. S. Shishodia coll.

Distribution : India : Meghalaya (East Garo Hills and West Garo Hills). Assam and West Bengal. Elsewhere : Bangladesh.

Remarks : First record from Meghalaya.

160. *Dercetina subcaerulea* (Jacoby), new combination

1891. *Antipha subcaerulea* Jacoby, *Entomologist, Supple.*, 24 : 33.

1936. *Dercetis subcaerulea* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 364.

Diagnostic characters : Completely shining red-brown; elytra with purplish sheen; length 7.25 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Assam and Manipur. Elsewhere : Bangladesh and Burma.

Remarks : Maulik (1936) recorded this species from Meghalaya.

Genus *Hylaspes* Baly

1865. *Hylaspes* Baly, *Trans. ent. Soc. Lond.*, (3) 2 : 436.

1936. *Hylaspes* : Maulik, *Fauna Brit. India. Col.*, (Gal.) : 601.

Two species of this genus were recorded from India but none was from Meghalaya.

161. *Hylaspes longicornis* Baly

1865. *Hylaspes longicornis* Baly, *Trans. ent. Soc. Lond.*, (3), 2 : 436.

1936. *Hylaspes longicornis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 602.

Diagnostic characters : General colour light brown to dark brown; antennae (except three basal segments), tibiae and tarsi, black; colour of elytra varies from complete brown to partly black, apical portion always brown; length 10.0-12.0 mm.

Material examined : West Khasi Hills : Nongstion, 20.xi. 1988 (1 ex.), A. R. Lahiri coll.; Ri-Bhoi : Umsning, 3.iv. 1991 (1 ex.), S. K. Saha coll.

Distribution : India : Meghalaya (West Khasi Hills & Ri-Bhoi), Assam, Sikkim and West Bengal. Elsewhere : Bhutan, Burma and Nepal.

Remarks : First record from Meghalaya.

Genus *Gallerucida* Motschulsky

1860. *Gallerucida* Motschulsky, *Etud. Ent.*, 9 : 24.

1936. *Gallerucida* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 545.

Six species of this genus were recorded from India but none was from Meghalaya.

162. *Gallerucida singularis* Harold

1880. *Gallerucida singularis* Harold, *Stett. ent. Zeit.*, 41 : 146.

1936. *Gallerucida singularis* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*; 551.

Diagnostic characters : General colour shining light brown to dark reddish brown, sometimes with purplish sheen; antenna and legs black; elytra with some yellowish portion on apical area, in which three round reddish spots arranged in a triangle; humerus with a yellowish patch; length 7.0-8.5 mm.

Material examined : Ri-Bhoi : Umsning, 3.iv. 1991 (1 ex.), S. K. Saha coll.

Distribution : India : Meghalaya (Ri-Bhoi), Assam and West Bengal. Elsewhere : Burma, China, Taiwan and Vietnam.

Remarks : First record from Meghalaya.

Genus *Doryxena* Baly

1861. *Doryxena* Baly, *J. Ent.*, 1 : 202.

1936. *Doryxena* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 121.

Three species of this genus were recorded from India and two of these were from Meghalaya.

163. *Doryxena grossa* (Hope)

1831. *Galleruca grossa* Hope, *In Gray, Zool. Miscell.* : 28.

1861. *Doryxena grossa* : Baly, *J. Ent.*, 1 : 202.

1936. *Doryxena grossa* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 122.

Diagnostic characters : Pronotum, antenna, underside and legs always brown; elytra black to dark brown; crests of undulations of lateral margins of pronotum strongly pronounced; length 12.0-17.5 mm.

Material examined : Nil.

Distribution : India ; Meghalaya (Jaintia Hills), Assam. Elsewhere : Nepal.

Remarks : Takizawa (1983) recorded this species from Meghalaya.

164. *Doryxena geniculata* Baly

1879. *Doryxena geniculata* Baly, *Cist. Ent.*, 2 : 451.

1936. *Doryxena geniculata* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 123

Diagnostic characters : General colour brown; elytra varies from dark chestnut brown to light brown; scutellum, points of articulation between femora and tibiae, and tarsi, black; crests of undulations of lateral margins of pronotum not strongly pronounced; length varies to 16.0 mm.

Material examined : East Khasi Hills: Shillong: 4.i. 1963 (4 exs.), M. R. Rynth coll., 21.iii. 1963 (3 exs.), S. N. P. coll.; Malki Forest, 17.viii. 1974 (9 exs.), M. S. Jyrwa coll.; Mawblong, 14.xii. 1973 (2 exs.), S. Biswas coll.; Upper Shillong, Elephant Falls, 20.viii. 1974 (1 ex.), A. K. Ghosh coll.; Shillong Peak, 26.xi. 1974 (1 ex.) T. Sengupta coll.

Distribution : India : India : Meghalaya (East Khasi Hills), Manipur.

No other report from elsewhere.

Genus *Mimagitocera* Maulik

1936. *Mimagitocera* Maulik, *Fauna Brit. India, Col., Chry. (Gal.)*: 453

This is a monotypic genus.

165. *Mimagitocera flava* (Jacoby)

1904. *Agetocera flava* Jacoby, *Ann. Soc. ent. Belg.*, 48 : 394.

1936. *Mimagitocera flava* : Maulik, *Fauna Brit. India, Col., Chry. (Gal.)* : 454.

Diagnostic characters : Entirely yellow-brown with the breast and eyes black; In male antennal segment 8 characteristically modified, and the last visible abdominal segment deeply concave and trilobed; length 7.25 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills). No other record from elsewhere.

Remarks : Maulik (1936) recorded this species from Meghalaya.

Subfamily (xi) ALTICINAE

Key to the Genera of Alticinae from Meghalaya

(largely after Scherer, 1969)

- 1(4). Antenna 9 or 10-segmented.
- 2(3). Antenna 9-segmented; oval shaped.....*Nonarthra*
- 3(2). Antenna 10-segmented; elliptical shaped*Psylliodes*
- 4(1). Antenna 11-segmented.
- 5(6). Hind femur with a long apical spine, longer than tibia *Aphthonoides**
- 6(5). Hind femur not as above.
- 7(10). Hind tibia with broad apical spine with two or three teeth.
- 8(9). Hind tibia with apical spine bifid; body ovate or subrounded; metallic; tarsal segment 3 bilobed.....*Paradibolia**
- 9(8). Hind tibia with apical spine distinctly tridentate; body oblong; not metallic; tarsal segment 3 entire.....*Tribolia**
- 10(7). Hind tibia with apical spine simple or absent.
- 11(14). Claw segment of hind tarsus strongly dilated.
- 12(13). Pronotum with an antebasal transverse impression.....*Philopona*
- 13(12). Pronotum without an antebasal transverse impression.....*Hyphasis*
- 14(11). Claw segment of hind tarsus not strongly dilated.
- 15(65). Pronotum without an antebasal impression.
- 16(51). Anterior coxal cavities open behind
- 17(18). Pronotum and elytra densely pubescent..... *Hespera*

- 18(17). Pronotum and elytra not densely pubescent,
- 19(29). Tarsal segment 3 entire, not bilobed.
- 20(21). Hind tibia produced apically, projection usually curved, tibial spine and tarsus inserted subapically; rounded ovate, very convex, head declined beneath.....**Argopistes**
- 21(20). Hind tibia not produced apically, tibial spine and tarsus inserted at apex.
- 22(23). All femora incrassate, dilated at middle; front tibia of male elbowed, with posterior 1/2 sulcate on outer surface.
- 22A(22B) Clypeus entire, anterior margin not marginate**Pentamesa**
- 22B(22A) Clypeus bilobed, anterior margin strongly emarginate.....**Maulika***
- 23(22). Legs not as above.
- 24(30). Prosternal process not longitudinally channeled.
- 25(26). Clypeus bilobed with anterior margin emarginate**Argopus***
- 26(25). Clypeus entire, anterior margin truncate.
- 27(28). Anterior angles of pronotum not produced**Sphaeroderma**
- 28(27). Anterior angles of pronotum distinctly produced**Bhamoina**
- 29(19). Tarsal segment 3 bilobed.
- 30(24). Prosternal process distinctly channeled.
- 31(50). Elytron confusedly punctate.
- 32(37). Antennae widely separated, distance between them is the same or larger than diameter of eye.
- 33(36). Pronotum twice as broad as long.
- 34(35). Antennal calli very plain, not raised, yet with good recognizable equilateral triangles, with 1 angularly directed forward between antennae; pronotum not extremely convex; elytra extremely convex, with or without humeral calli (wingless), surface very finely and confusedly punctate; length 6.0-6.5 mm..... **Chabria**
- 35(34). Antennal calli absent; pronotum very convex; elytra convex as pronotum, strongly and confusedly punctate; length 2.0 mm**Amphimeloides***
- 36(33). Pronotum longer, not twice as broad as long; elytra not more convex than pronotum, body ovate; antennal calli as in *Chabria*; length 3.3-3.5 mm**Parathrylea***
- 37(32). Antennae not widely separated, much less than diameter of an eye.
- 38(41). Hind tibia with an axial excavation extending from apex to basal 1/4 or more.
- 39(40). Antennal calli subquadrate or transverse; interantennal space carinate; body usually ovate ...
.....**Hemipyxis**

- 40(39). Antennal calli triangular; interantennal space not carinate; body subquadrate
*Sebaethoides**
- 41(38). Hind tibia without, or with a short, subapical excavation.
- 42(43). Hind tarsus with segment 1 equal to or exceeding 1/2 length of tibia and inserted always on a small callosity at apex of tibia *Longitarsus*
- 43(42). Hind tarsus with segment 1 shorter and never inserted on a callosity at apex of tibia.
- 44(45). Elytron with sparse, fine pubescence on apical edge; prosternum narrow; antennae with segments 2 and 3 small, nearly equal in length.....*Luperomorpha**
- 45(44). Elytron not pubescent apically.
- 46(47). Antennal calli obsolete; hind tibia with apical spine inserted medially*Phyllotreta**
- 47(46). Antennal calli prominent; hind tibia with apical spine inserted laterally on apex.
- 48(49). Antennal calli subovate, with no process to interantennal space; their hind margin enclose a right angle in middle; preocular lines distinct and sharp; some species with a very shallow antebasal depression on pronotum.....*Aphthona*
- 49(48). Antennal calli more or less triangular, laterally most not limited, preocular lines mostly only indicated by a shallow depression, a pointed process of antennal calli extending to interantennal space, their hind margin a more or less horizontal line
 *Trachyaphthona** etc. etc.
- 50(31). Elytron with puncturation regularly arranged in 9 rows*Thrylaea** etc.
- 51(16). Anterior coxal cavities closed behind.
- 52(53). Mid and hind tibiae with an obtuse tooth behind middle which is continued by an excavation with a marginal row of stiff bristles *Chaetocnema*
- 53(52). Mid and hind tibia without a subapical excavation.
- 54(57). Pronotum with short longitudinal impressions on each side of middle on anterior or basal margin, or on both of them.
- 55(56). These longitudinal impressions on anterior and basal margin; body ovate. Elytra confusedly punctured or in narrow more or less correct rows or double rows.....*Nisotra*
- 56(55). Longitudinal impressions only on basal margin; body longitudinal ovate *Podagricra**
- 57(54). Pronotum without longitudinal impressions on front or hind margin if there are impressions then pronotum with additional fossettes.
- 58(66). Elytral punctures arranged in 9 single rows (excluding marginal and scutellar rows); interantennal space usually broad.
- 59(62). Body massive, length 8.0-17.0 mm; pronotum with fossettes; claws bifid.
- 60(61). Prosternum triangularly excavated to the meso-tergum; hind femur angularly dilated
 edge *Podontin*

- 61(60). Prosternum truncate along posterior margin; hind femur not angularly dilated..... *Ophrida*
- 62(59). Pronotum without fossettes and very convex; interantennal space very broad, antennae inserted near inner margin of eyes; head and pronotum, often also elytra finely granulose.
- 63(64). Body round-ovate; only head and pronotum finely granulose*Amphimela**
- 64(63). Body elongate ovate; head, pronotum and elytra finely granulose *Clitea*
- 65(15). Pronotum with a distinct antebasal depression.
- 66(58). Elytron with punctuation indistinct or confused; interantennal space distinctly carinate.
- 67(70). Not metallic coloured.
- 68(69). Head and pronotum not or scarcely punctured; antennae pubescent; elytron punctured and narrowed apically from middle; body elliptical; length 2.2-2.5.....*Bimala**
- 69(68). Head and pronotum distinctly punctured; antennae not pubescent; elytron more strongly punctured than pronotum and is broadened from apical 2/3 of humeri, last 1/3 being rounded; body not elliptical; length 2.5 mm..... *Mlcraphthona*
- 70(67). Metallic green, blue or purplish coloured.....*Mesopa**
.....*Chalaenosoma** etc.
- 71(74). Pronotum strongly constricted antebasally.
- 72(73). Elytron with closely placed indistinct rows of punctures.....*Eudolia*
- 73(72). Elytron with punctuation arranged in 9 exact rows (excluding marginal and scutellar rows)....
.....*Lipromorpha**
- 74(71). Pronotum not as above.
- 75(82). Antebasal transverse impression of pronotum extends to sides or posterior angles.
- 76(79). Elytron with punctuation arranged in 9 exact rows (excluding marginal and scutellar ones).
- 77(78). Antebasal depression of pronotum distinctly impressed; basal calli of elytron distinctly raised
.....*Manobia*
- 78(77). Antebasal depression of pronotum and basal calli of elytron weakly developed.....*Tegyrius**
..... *Manobidia** etc.
- 79(76). Elytron with punctuation confused or in more or less regular narrow rows.
- 80(81). Clypeus with a distinct vertical and horizontal carina, from behind T-shaped; antennal calli large, more or less rounded; base of pronotum only less narrow than elytral base; basal tarsal segment of hind leg strong and only about as long as the two following segments combined; length always more than 3.5 mm *Altica*
- 81(80). Clypeus only with a vertical carina; antennal calli narrow, lancet-shaped and directed to hind margin of eye; base of pronotum distinctly narrower than elytral base; basal tarsal segment of hind leg thin and distinctly longer than two following segments together (5:3); length always less than 3.0 mm*Asialtica**

- 82(75). Antebasal depression on pronotum limited on sides by a short longitudinal impression.
- 83(86). Elytron confusedly punctate; anterior coxal cavities open behind.
- 84(85). Base of pronotum nearly as broad as elytral base; pronotum with a fine margin; antennal calli small; clypeal carina sharp; antebasal depression of pronotum very distinct and limited on sides by very exact longitudinal impressions; length about 4.0 mm*Parlina**
- 85(84). Base of pronotum narrower than elytral base; sides of pronotum distinctly margined; clypeal carina narrow, but not sharp; antennal calli large and distinctly limited; longitudinal depressions on sides of antebasal depression of pronotum not sharply impressed; length 4.5-6.0 mm.....*Phygasia*
- 86(83). Elytron with punctuation in single or double rows; anterior coxal cavities closed behind.
- 87(88). Clypeus without a proper carina, in its place a double carina which is formed by the anterior processes of antennal calli; elytron often, not always with row of punctures 2 and 3, 4 and 5 paired; length from 4.0 to 11.5 mm*Pseudodera*
- 88(87). Clypeus with carina simple; the longitudinal impressions by which the antebasal depression is laterally bounded anteriorly longer than basal depression itself or antebasal depression lateral to longitudinal impressions produced and deepened; antennal calli small, reduced or rounded, raised, also well delimited, lancet-shaped to triangular, but always well delimited; always metallic green or blue; length 4.5-8.5 mm.*Xuthea*

Genus *Nonarthra* Baly

1862. *Nonarthra* Baly, *J. Ent.*, 1 : 455.

1969. *Nonarthra* : Scherer, *Pacif. Ins. Monogr.*, 22 : 239.

Three species of this genus were recorded from India of which only one was from Meghalaya.

166. *Nonarthra variabilis* Baly

1862. *Nonarthra variabilis* Baly, *J. Ent.*, 1 : 456.

1969. *Nonarthra variabilis* : Scherer, *Pac. Ins. Monogr.*, 22 : 239.

Diagnostic characters : Extremely variable in colouration, unicolourous to spotted or transverse banded; ground colour is generally yellow or yellowish brown but never metallic coloured; length below 5.0 mm, usually 2.9-4.5 mm.

Material examined : East Khasi Hills : Shillong, Risa colony, 26.xi. 1974 (1 ex.), T Sengupta coll.

Distribution : India : Meghalaya (East Khasi Hills). Assam, Himachal Pradesh, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Afghanistan, Burma, China, Hainan Is., Nepal, Sri Lanka, Taiwan and Vietnam.

Genus *Psylliodes* Latreille

1825. *Psylliodes* Latreille, *Fam. Nat. Regne Anim* : 405.

1969. *Psylliodes* : Scherer, *Pac. Ins. Monogr.*, 22 : 234

Five species of this genus were recorded from India but there was no record from Meghalaya. The present paper includes one species from the area which also first time recorded from India.

167. *Psylliodes balyi* Jacoby

1884. *psylliodes balyi* Jacoby, *Notes Leiden Mus.*, 6 : 30.

1969. *Psylliodes balyi* : Scherer, *Pac. Ins. Monogr.*, 22 : 237.

Diagnostic characters : General colour metallic bluish green to bronze; legs pitch brown, hind femora metallic; antennal segments 1-3 reddish brown, other segments dark pitch brown; antennal calli feebly present; prothoracic sides convergent towards front; length 2.5-3.0 mm.

Material examined : Jaintia Hills : Safai Basti, 3.x. 1968 (2 exs.), V. D. Srivastava coll.

Distribution : India : Meghalaya (Jaintia Hills). Elsewhere : China, Philippines, Sumatra, Taiwan and Vietnam.

Remarks : This species is recorded here for the first time from India (Meghalaya).

Genus *Argopistes* Motschulsky

1860. *Argopistes* Motschulsky, *In Schrenck, Reisen Amur.*, 2 : 236.

1969. *Argopistes* : Scherer, *Pac. Ins. Monogr.*, 22 : 227.

Five species of this genus were recorded from India but none was from Meghalaya. The present paper records two species from the area.

168. *Argopistes lamprotes* Maulik

1926. *Argopistes lamprotes* Maulik, *Fauna Brit. India, Col., Chry. (Chryso. & Halti)* : 297.

1969. *Argopistes lamprotes* : Scherer, *Pac. Ins. Monogr.*, 22 : 228.

Diagnostic characters : Upper side dark pitch brown with the sides of pronotum and elytra brown; length 3.5 mm.

Material examined : East Khasi Hills : Around Dowki Road, 29.v. 1979 (1 ex.), G. K. Srivastava coll.

Distribution : India : Meghalaya (East Khasi Hills), Karnataka.

Remarks : First record from Meghalaya.

169. *Argopistes quadrimaculatus* Jacoby

1903. *Argopistes quadrimaculatus* Jacoby, *Ann. Soc. ent. Belg.*, 47: 107.

1969. *Argopistes quadrimaculatus* : Scherer, *Pac. Ins. Monogr.*, 22: 228.

Diagnostic characters : General colour brown; each elytron with two black spots; length 3.0 mm.

Material examined : East Khasi Hills : Around Dowki Road, 29.v. 1979 (1 ex.), G. K. Srivastava coll.

Distribution : India : Meghalaya (East Khasi Hills), Tamil Nadu.

Remarks : First record from Meghalaya.

Genus *Philopona* Weise

1903. *Philopona* Weise, *Archiv Naturg.*, (69) 1 : 216.

1969. *Philopona* : Scherer, *Pac. Ins. Monogr.*, 22 : 173.

Six species of this genus were recorded from India of which only one was recorded from Meghalaya.

170. *Philopona shima* Maulik

1926. *Philopona shima* Maulik, *Fauna Brit. India, Col., Chry. (Chryso & Halti.)* : 153.

1969. *Philopona shima* : Scherer, *Pac. Ins. Monogr.*, 22 : 176.

Diagnostic characters : General colour yellowish brown, the suture and elytral margins with the epipleura all round, black or dark pitch brown; length 4.5-5.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : Burma.

Remarks : Scherer (1969) recorded this species from Meghalaya.

Genus *Hyphasis* Harold

1877. *Hyphasis* Harold, *Deut. Ent. Zeitschr.*, 21 : 434.

1903. *Hyphasoma* Jacoby, *Ann. Soc. ent. Belg.*, 47 : 110.

1969. *Hyphasis* : Scherer, *Pac. Ins. Monogr.*, 22 : 176 (=Hyphasoma).

Eighteen species of this genus were recorded from India of which only one was from Meghalaya.

171. *Hyphasis limbatipennis* Jacoby

1889. *Hyphasis limbatipennis* Jacoby, *Ann. Mus. Civ. Genova* (2) 7 (27) : 197.

1926. *Hyphasoma limbatipennis*: Maulik, *Fauna Brit. India, Col., Chry. (Chryso. & Halti.)* : 169.

1969. *Hyphasis limbatipennis* : Scherer, *Pac. Ins. Monogr.*, 22 : 184.

Diagnostic characters : General colour yellow-brown; elytra pitchy with yellow-brown margins; antennal segment 4-11 black; length 4.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Sikkim. Elsewhere : Burma and Nepal.

Remarks : Scherer (1969) recorded this species from Meghalaya.

172. *Hyphasis* sp.

Material examined : Jaintia Hills : Garampani, 19.ix. 1979 (2 exs.), C. Radhakrishnan coll.

Genus *Hespera* Weise

1889. *Hespera* Weise, *Horae Soc. ent. Ross.*, **23** : 638.

1969. *Hespera* : Scherer, *Pac. Ins. Monogr.*, **22** : 38.

Seventeen species of this genus were recorded from India. Of these five species are recorded from Meghalaya.

173. *Hespera sericea* Weise

1889. *Hespera sericea* Weise, *Horae Soc. ent. Ross.*, **23** : 638

1969. *Hespera sericea* : Scherer, *Pac. Ins. Monogr.*, **22** : 47.

Diagnostic characters : General colour deep black with the pubescence yellowish - grey; antenna of male shorter than the body; front and vertex shining, finely wrinkled and not hairy; length 3.0-4.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Tamil Nadu and West Bengal. Elsewhere : China, Nepal and Vietnam.

Remarks : Scherer (1969) recorded this species from Meghalaya.

174. *Hespera rufipes* Maulik

1926. *Hespera rufipes* Maulik, *Fauna Brit. India, Col., Chry. (Chryso. & Halti.)* : 139.

1969. *Hespera rufipes* : Scherer, *Pac. Ins. Monogr.*, **22** : 46.

Diagnostic characters : General colour greyish-black; the legs and four basal segments of antennae reddish-brown to brownish yellow; seven apical segments of antennae and the apices of hind femora blackish; length 2.4-3.2 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Nagaland and Uttar Pradesh.

Remarks : Maulik (1926) recorded this species from Meghalaya.

175. *Hespera nigripes* Maulik

1926. *Hespera nigripes* Maulik, *Fauna Brit. India, Col. Chry. (Chryso. & Halti.)* 143.

1969. *Hespera nigripes* : Scherer, *Pac. Ins. Monogr.*, **22** : 47.

Diagnostic characters : General colour black; sometimes three basal segments of antennae yellow-brown; antennae shorter than the body and segment 3 longer than segment 2; prothoracic sides parallel or converging towards front; length 3.0-3.2 mm.

Material examined : East Khasi Hills : Shillong; 9.x.1920 (3 exs.), Fletcher coll., 21.x.1911 (3 exs.), C. C. G. Coll.

Distribution : India : Meghalaya (East Khasi Hills), Nagaland and Uttar Pradesh. Elsewhere : Nepal.

Remarks : Maulik (1926) recorded this species from Meghalaya.

176. *Hespera punctata* Chen

1932. *Hespera punctata* Chen, *Bull. Soc. ent. France*, **37** : 196.

1969. *Hespera punctata* : Scherer, *Pac. Ins. Monogr.*, **22** : 46.

Diagnostic characters : Dorsal side black, legs red-brown; head rugosely punctate and hairy; elytral hairs inclined towards posterior; antennal calli horizontal and terminated by a distinct transverse furrow; length 2.4-2.6 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills).

Remarks : Scherer (1969) recorded this species from Meghalaya.

177. *Hespera flavipes* Chen

1939. *Hespera flavipes* Chen, *Sinensis*, **10** : 39.

1969. *Hespera flavipes* : Scherer, *Pac. Ins. Monogr.*, **22** : 46.

Diagnostic characters : General colour black; legs red-brown; antennae of male longer than the body; head smooth and shining, vertex with a few fine scattered hairs; length 2.8-3.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Sikkim.

Remarks : Chen (1939) recorded this species from Meghalaya.

Genus *Pentamesa* Harold

1876. *Pentamesa* Harold, *Col. Hefte* **15** : 124.

1969. *Pentamesa* : Scherer, *Pac. Ins. Monogr.*, **22** : 219.

Seven species of this genus were recorded from India and one species was from Meghalaya.

178. *Pentamesa duodecimmaculata* Harold

1876. *Pentamesa duodecimmaculata* Harold, *Col. Hefte*, **15** : 124.

1969. *Pentamesa duodecimmaculata* : Scherer, *Pac. Ins. Monogr.*, **22**: 220.

Diagnostic characters : General colour yellow to red-brown; dorsal surface with twelve black spots, two on pronotum and ten on elytra; pronotum with finer punctures than elytra; front tibiae of male remarkably broad, flat and twisted; length 4.5-5.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Himachal Pradesh, Sikkim and Uttar Pradesh.
Elsewhere : Burma, U. S. S. R.

Remarks : Maulik (1926) recorded this species this species from Meghalaya.

Genus *Sphaeroderma* Stephens

1831. *Sphaeroderma* Stephens, *Illus Brit. ent. Mandib.*, 4 : 328.

1969. *Sphaeroderma* : Scherer, *Pac. Ins. Monogr.*, 22 : 203.

Eleven species of this genus were recorded from India of which three species were from Meghalaya. The present paper includes another species from the area.

179. *Sphaeroderma himalayensis* Scherer

1969. *Sphaeroderma himalayensis* Scherer, *Pac. Ins. Monogr.*, 22 : 208.

1984. *Sphaeroderma himalayensis* : Lopatin, *Ent. Basiliensia*, 9 : 339.

Diagnostic characters : Head, pronotum, basal five segments of antennae and legs yellow-brown; elytra dark pitch brown to black; underside dark pitch brown, last two sternites yellowish; length 1.8-2.2 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Garo Hills), West Bengal.

Remarks : Lopatin(1984) recorded this species from Meghalaya.

180. *Sphaeroderma luteipenne* Weise

1922. *Sphaeroderma luteipenne* Weise, *Tijdschr. Ent.*, 65 : 118.

1969. *Sphaeroderma luteipenne* : Scherer, *Pac. Ins. Monogr.*, 22 : 211.

Diagnostic characters : General colour red-brown; three to four basal segments of antennae yellowish, rest red-brown to dark brown; tibia and tarsi darker; elytra with paired rows of punctures at sides; length 2.4-2.6 mm.

Material examined : Ri-Bhoi : Umtihar, 6.iv. 1991 (1 ex.), S. K. Saha coll.

Distribution : India : Meghalaya (Ri-Bhoi), Assam. Elsewhere : Vietnam

Remarks : First record from Meghalaya.

181. *Sphaeroderma minuta* Chen

1934. *Sphaeroderma minuta* Chen, *Sinensia*, 5 : 334.

1969. *Sphaeroderma minuta* : Scherer, *Pac. Ins. Monogr.*, 22 : 211.

Diagnostic characters : Dorsal surface uniformly brown; legs brown with hind femora darker ; antennae entirely yellow-brown; elytra confused at middle and moderately regular rows at sides; length 1.8 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Garo Hills), Tamil Nadu.

Remarks : Lopatin (1984) recorded this species from Meghalaya.

182. *Shaeroderma mandarensis* Jacoby

1900. *Shaeroderma mandarensis* Jacoby, *Mem. Soc. ent. Belg.*, 7 : 123.

1969. *Sphaeroderma mandarensis* : Scherer, *Pac. Ins. Monogr.*, 22: 211.

Diagnostic characters : General colour dark reddish-brown to blackish; five to six basal segments of antennae brown, the rest black; legs brown; extreme margins of abdominal segments lighter brown; length 3.0-3.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Garo Hills), Bihar.

Remarks : Lopatin (1984) recorded this species from Meghalaya.

Genus *Bhamoina* Bechyne

1957. *Bhamoina* Bechyne, *Mauritius Inst. Bull.*, 5 : 91.

Only one species of this genus was recorded from India.

183. *Bhamoina varipes* (Jacoby)

1884. *Eucycla varipes* Jacoby, *Not. Leiden Mus.*, 6 : 210.

1889. *Sphaeroderma varipes* : Jacoby, *Ann. Mus. Civ. Genova ser. 2*, 7 (27) : 193.

1957. *Bhamoina varipes* : Bechyne, *Mauritius Inst. Bull.*, 5 : 91.

Diagnostic characters : General colour shining dark brown, sometimes prothorax and elytra blackish; four to five apical segments of antennae and breast black; length 4.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Uttar Pradesh. Elsewhere : Burma and Sumatra.

Remarks : Maulik (1926) recorded this species from Meghalaya.

Genus *Chabria* Jacoby

1887. *Chabria* Jacoby, *Proc. Zool. Soc. Lond.* : 92.

1969. *Chabria* : Scherer, *Pac. Ins. Monogr.*, 22 : 215.

Two species of this genus were recorded from India of which only one was from Meghalaya.

184. *Chabria marginata* Chen

1935. *Chabria marginata* Chen, *Sinensia*, 6 : 650.

1969. *Chabria marginata* : Scherer, *Pac. Ins. Monogr.*, 22 : 216.

Diagnostic characters : Head and pronotum red-brown; antennal segment 1-4 red-brown, rest black, segment 11 small and thick; elytra yellow with the margins all round narrowly black; tibia and tarsi black; femora reddish; length 4.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills).

Remarks : Scherer (1969) recorded this species from Meghalaya.

Genus *Hemipyxis* Dejean

1837. *Hemipyxis* Dejean, *Cat. Col.* ed. 3 : 411.

1864. *Sebaethe* Baly, *Ann. Mag. nat. Hist.* ser. 3, 14 : 438.

1963. *Hemipyxis* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 837

Twentyone species of this genus were recorded from India of which only two species were from Meghalaya. The present paper includes another two species from the area.

185. *Hemipyxis moseri* (Weise)

1922. *Sebaethe moseri* Weise, *Tijdschr. Ent.*, 65 : 114

1963. *Hemipyxis moseri* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 844.

Diagnostic characters : Head and pronotum brown, elytra metallic green or blue or violet; three basal segments of antennae brown and eight apical segments black; under side and hind legs black, front and middle legs brown with the tarsi black; length 5.5-6.2 mm.

Material examined : Jaintia Hills : Khelietsriat, 20.v. 1990 (1 ex.), M. S. Shishodia coll.

Distribution : India : Meghalaya (East Khasi Hills and Jaintia Hills). Elsewhere : Burma, China and Vietnam.

186. *Hemipyxis fulvipennis* (Illiger), new combination

1807. *Haltica fulvipennis* Illiger, *Mag. Inskde.*, 6 : 156.

1808. *Altica troglodytes* Olivier, *Entomologie*, 6 : 700.

1876. *Sphaeroderma fulvipennis* : Gemminger & Harold, *Cat. Col.*, 12 : 3548.

1963. *Hemipyxis troglodytes* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 850.

1969. *Sebaethe fulvipennis* : Scherer, *Pac. Ins. Monogr.*, 22 : 190 (=troglodytes).

Diagnostic characters : General colour dark pitch brown to black; elytra brown; length 3.5-4.5 mm.

Material examined : East Khasi Hills : Shillong, 11.iv. 1918 (1 ex.), A. G. R. coll., - v. 1918 (1 ex.), Fletcher coll.

Distribution : India : Meghalaya (East Khasi Hills), Assam, Bihar, Punjab, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Burma, China, Nepal and Vietnam.

Remarks : First record from Meghalaya.

187. *Hemipyxis lusca* (Fabricius)

1801. *Crioceris lusca* Fabricius, *Syst. Eleuth.*, 1 : 456.
 1807. *Haltica lusca* : Illiger, *Mag. Inskde.*, 6 : 158.
 1876. *Sphaeroderma lusca* : Gemminger & Harold, *Cat. Col.*, 12 : 3548.
 1963. *Hemipyxis lusca* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 843.

Diagnostic characters : Pronotum generally brown, sometimes pitch-brown to black; antennae black, sometimes three basal segments brown; elytron pitch-brown to black with a pale yellowish oval spot behind the middle; length 4.0-5.0 mm.

Material examined : West Garo Hills : Above Tura, - ix. 1917 (1 ex.), Mrs. Kemp coll.; East Khasi Hills : Shillong (1 ex.).

Distribution : India : Meghalaya (West Garo Hills & East Khasi Hills), Sikkim. Elsewhere : Borneo, Burma, China, Hainan Is., Java, Malaya Peninsula, Sumatra and Vietnam.

Remarks : First record from Meghalaya.

188. *Hemipyxis elongata* (Jacoby), new combination

1892. *Sebaethe elongata* Jacoby, *Ann. Mus. Civ. Genova ser.2*, 12(32): 922.
 1969. *Sebaethe elongata* : Scherer, *Pac. Ins. Monogr.*, 22 : 192.

Diagnostic characters : Elongated and parallel-sided; general colour pale brown; three basal segments of antennae brown, rest black; tarsi black; upper half of antennal calli excavated; length 5.5-6.8mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), West Bengal. Elsewhere : Burma and China.

Remarks : Scherer (1969) recorded this species from Meghalaya.

Genus *Longitarsus* Latreille apud Berthold

1827. *Longitarsus* Berthold, In Latreille, *Nat. Fam. Thierreichs* : 410.
 1969. *Longitarsus* : Scherer, *Pac. Ins. Monogr.*, 22 : 55.

Thirty three species of this genus were recorded so far from India of which only three were from Meghalaya.

189. *Longitarsus puncti* Maulik

1926. *Longitarsus puncti* Maulik, *Fauna Brit. India, Col., Chry.* (Chryso. & Halti.) : 350.
 1969. *Longitarsus puncti* : Scherer, *Pac. Ins. Monogr.*, 22.: 67.

Diagnostic characters : Colour usually entirely shining dark red-brown, sometimes suture blackish; antennal calli reaching to inner margin of eye; elytral punctures bold, large and more or less arranged in longitudinal rows or atleast tendency to form rows; separable only by the genetelia which has characteristic bend at sides in ventral view; length 2.2 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills), Assam and Sikkim. Elsewhere : Burma and Vietnam.

Remarks : Scherer (1969) recorded this species from Meghalaya.

190. *Longitarsus khasiensis* Chen

1939. *Longitarsus khasiensis* Chen, *Sinensia*, **10** : 47.

1969. *Longitarsus khasiensis* : Scherer, *Pac. Ins. Monogr.*, **22** : 60.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills).

Remarks : Scherer (1969) recorded this species from Meghalaya.

191. *Longitarsus hsienweni* Chen

1939. *Longitarsus hsienweni* Chen, *Sinensis*, **10** : (1-6) : 44.

1969. *Longitarsus hsienweni* : Scherer, *Pac. Ins. Monogr.*, **22** : 60.

Diagnostic characters : General colour metallic green or blue; antennae almost entirely black with three basal segments reddish at apex.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : Bhutan, China, Indo-China, Nepal and Vietnam.

Remarks : Scherer (1969) recorded this species from Meghalaya.

Genus *Aphthona* Chevrolat

1842. *Aphthona* Chevrolat, *In d'Orbigny, Dict. d'Hist. Nat.*, **2** : 5.

1969. *Aphthona* : Scherer, *Pac. Ins. Monogr.*, **22** : 69.

Thirteen species of this genus were recorded from India of which only one species was from Meghalaya. The present paper includes another species from the area.

192. *Aphthona nigrilabris* Duvivier

1892. *Aphthona nigrilabris* Duvivier, *Ann. Soc. ent. Belg.*, **36** : 426.

1969. *Aphthona nigrilabris* : Scherer, *Pac. Ins. Monogr.*, **22** : 76.

Diagnostic characters : General colour shining yellow-brown; apical antennal segments, acutellum, labrum, hindfemora, tarsi, black; sometimes elytral suture darker; length 3.0-3.6 mm.

Material examined : West Garo Hills : Garobadha, 1.iv. 1991 (1 ex.), S. K. Saha coll.

Distribution : India : Meghalaya (West Garo Hills). Assam, Bihar, Maharashtra, Uttar Pradesh and West Bengal. Elsewhere : Laos, Nepal, Sri Lanka, Sumatra and Vietnam.

Remarks : First record from Meghalaya.

193. *Aphthona andrewesi* Jacoby

1896. *Aphthona andrewesi* Jacoby, *Ann. Soc. ent. Belg.*, **40** : 256.

1969. *Aphthona andrewesi* : Scherer, *Pac. Ins. Monogr.*, **22** : 73.

Diagnostic characters : Upper side metallic dark blue, underside bluish-black; labrum and scutellum black; legs and antennae dark pitch brown, basal 3-4 segments brownish; puncturation of pronotum concentrated at basal area; length 1.7-2.2 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Himachal Pradesh, Jammu & Kashmir, Uttar Pradesh and West Bengal. Elsewhere : Nepal.

Remarks : Scherer (1969) recorded this species from Meghalaya.

194. *Aphthona* sp. (nr. *malaisei* Bryant)

Material examined : East Khasi Hills : Upper Shillong, Elephanta Falls, 28.vii. 1979 (1 ex.), P. T. Cherian coll.

Genus *Chaetocnema* Stephens

1831. *Chaetocnema* Stephens, *Illus. Brit. ent. Mandib.*, **4** : 325.

1969. *Chaetocnema* : Scherer, *Pac. Ins. Monogr.*, **22** : 154.

Twentyone species of this genus were recorded so far from India of which only one from Meghalaya. The present paper records another species from the state.

195. *Chaetocnema (Chaetocnema) harita* Maulik

1926. *Chaetacnema harita* Maulik, *Fauna Brit. India, Col. Chry. (Chryso. & Halti.)* : 211.

1969. *Chaetocnema (Chaetocnema) harita* : Scherer, *Pac. Ins. Monogr.*, **22** : 160.

Diagnostic characters : General colour bronzy-green; six basal segments of antennae, front and middle legs, posterior tibiae and tarsi, brown; apical segments of antennae blackish; front and vertex distinctly and uniformly punctate; scutellar area of elytra confusedly punctate and produced a triangle; length 2.4 mm.

Material examined : Jaintia Hills : Muktapur, 21.v. 1990 (3 exs.), M. S. Shishodia coll.

Distribution : India : Meghalaya (Jaintia Hills), Tamil Nadu.

Remarks : First record from Meghalaya.

196. *Chaetocnema (Tlanoma) assamensis* Scherer

1969. *Chaetocnema (Tlanoma) assamensis* Scherer, *Pac. Ins. Monogr.*, **22** : 161.

Diagnostic characters : Head, prothorax and elytra metallic bronze; palpi, antennae, tibiae, tarsi and apices of femora of two front pair of legs, bright red-brown; apical 3-4 antennal segment blackish; underside pitch-brown; clypeus between the antennae very broad, sides with large punctures; length 1.9-2.2 mm.

Material examined : Nil.

Distribution : India : Meghalaya (East Khasi Hills).

Remarks : Scherer (1969) described this species from Meghalaya.

Genus *Nisotra* Baly

1864. *Nisotra* Baly, *Ann. Mag. nat. Hist. ser. 3*, **14** : 437.

1969. *Nisotra* : Scherer, *Pac. Ins. Monogr.*, **22** : 143.

Ten species of this genus were recorded from India and only one species from Meghalaya. Out of three species deals with here two are new records from Meghalaya of which one from India also.

197. *Nisotra viridipennis* Motschulsky

1866. *Nisotra viridipennis* Motschulsky, *Bull. Soc. nat. Mosc.*, **39** (2) : 420.

1969. *Nisotra viridipennis* : Scherer, *Pac. Ins. Monogr.*, **22** : 148.

Diagnostic characters : Head, pronotum, legs, underside, antennal segments 1-5, reddish brown; antennal segment 6-11 dark pitch-brown; elytra shining metallic green; length 4.2 mm.

Material examined : E. Khasi Hills : Shillong, 30.v. 1918 (1 ex.), A. G.R. coll.

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : Sri Lanka.

Remarks : First record from India.

198. *Nisotra gemella* (Erichson)

1834. *Haltica gemella* Erichson, *Nov. Acta, Leop. Carol.*, **16** (suppl.) : 275.

1885. *Nisotra gemella* : Jacoby, *Ann. Mus. Civ. Genova, ser., 2*, **2** (22):34.

1969. *Nisotra gemella* : Scherer, *Pac. Ins. Monogr.*, **22** : 149.

Diagnostic characters : Elytra metallic blue or blue green; underside, scutellum and seven apical segments of antennae, blackish; legs, prothorax and head light brown to dark brown; eyes black; length 3.0-3.8 mm.

Material examined : W. Garo Hills : Above Tura, 15.vii-30.viii. 1917 (1 ex.), S. Kemp coll.; E. Khasi Hills : Shillong, 31.v. 1918 (3 exs.), A. G. R. coll.

Distribution : India : Meghalaya (W. Garo Hills and E. Khasi Hills), Assam, Andaman Is., Nicobar Is., Orissa, Sikkim, Tamil Nadu and West Bengal. Elsewhere : Bhutan, Burma, China, Java, Malaya, Nepal, Phillipines, Sumatra, Taiwan, Tailand Vietnam.

Remarks : First record from Meghalaya.

199. *Nisotra khasiensis* Scherer

1969. *Nisotra khasiensis* Scherer, *Pac. Ins. Monogr.*, **22** : 149.

Diagnostic characters : Head, pronotum and legs bright red-brown; elytra dark metallic green; first four or five antennal segments red-brown, the rest black; prosternum red-brown and its process margined with black; length 3.5-3.7 mm.

Material examined : Nil

Distribution : India : Meghalaya (East Khasi Hills).

Remarks : Scherer (1969) described this species from Meghalaya.

Genus *Podontia* Dalman

1824. *Podontia* Dalman, *Ephemerides Ent.* : 23.

1969. *Podontia* : Scherer, *Pac. Ins. Monogr.*, **22** : 166.

Out of five India species only three species were from Meghalaya.

200. *Podontia rufocastanea* Baly

1865. *Podontia rufocastanea* Baly, *Ann. Mag. nat. Hist.*, (3) **16** : 405.

1926. *Podontia pitalohita* Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 224.

1969. *Podontia rufocastanea* : Scherer, *Pac. Ins. Monogr.*, **22** : 169 (= *pitalohita*).

Diagnostic characters : General colour deep chocolate red or chestnut-red; antennae, underside and legs, black; length 11.0-14.0 mm.

Material examined : E. Khasi Hills: Shillong, Motinagar, 10.vi. 1981 (3 exs.), Shillong, 25.vi. 1979 (4 exs.), Malki Forest, 19.viii. 1980 (3 exs.), Risa colony, 4.v. 1977 (4 exs.), all M. S. Jyrwa coll.; Shillong, 7.viii. 1971 (1 ex.), S. Biswas coll.; Mawphlong, 2. iii. 1991 (1 ex.), K. K. Roy coll.; W. Garo Hills : Tura, 15.vii.-30. viii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (East Khasi Hills and W. Garo Hills), Assam.

201. *Podontia quatuordecimpunctata* (Linnaeus)

1767. *Chrysomela quatuordecimpunctata* Linnaeus, *Syst. Nat.*, **12** : 509.

1824. *Podontia quatuordecimpunctata* : Dalman, *Ephem. Ent.* : 24.

1969. *Podontia quatuordecimpunctata* : Scherer, *Pac. Ins. Monogr.*, **22** : 169.

Diagnostic characters : General colour light brown to dark red brown; elytra with fourteen black spots; length 9.0-16.9 mm.

Material examined: E. Khasi Hills : Cherrapunji, 15.xi. 1988 (1 ex.), A. R. Lahiri coll.; Shella, 25.vii. 1981 (1 ex.), C. Radhakrishnan coll.; W. Garo Hills : Tura -x. 1917 (1 ex.), Mrs. Kemp coll.

Distribution : India : Meghalaya (Ri-Bhoi, W. Garo Hills and E. Khasi Hills), Assam, Andaman Is., Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Bangladesh, Burma, Cambodia, Laos, Malaya and Nepal.

202. *Podontia affinis* (Grondal)

1808. *Galleruca affinis* Grondal, In Schonherr, *Syn. Ins.* (1) 2 : 289.

1824. *Podontia affinis* : Dalman, *Ephem. Ent.* : 25

1969. *Podontia affinis* : Scherer, *Pac. Ins. Monogr.*, 22 : 170.

Diagnostic characters : General colour shining brown; pronotum and underside darker shining red-brown; elytra with following black spots or patches : two common spots on suture, one behind scutellum and another at apical area; one larger spot at humeral calli; one transverse band behind middle; one spot on apex of each elytron near elytral margin; length 8.0-12.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Ri-Bhoi), Uttar Pradesh and West Bengal. Elsewhere : Burma, China, Java, Laos and Vietnam.

Remarks : Maulik (1926) recorded this species from Meghalaya.

Genus *Ophrida* Chapuis

1875. *Ophrida* Chapuis, In Lacordaire, *Gen. Col.*, 11 : 31.

1969. *Ophrida* : Scherer, *Pac. Ins. Monogr.*, 22 : 171.

Four species of this genus were recorded so far from India and two species from Meghalaya. The present paper includes another species from the state.

203. *Ophrida marmorea* (Wiedemann)

1819. *Haltica marmorea* Wiedemann, *Zool. Mag.*, 1 (3) : 181.

1926. *Ophrida marmorea* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti)*: 231.

1969. *Ophrida marmorea* : Scherer, *Pac. Ins. Monogr.*, 22 : 173.

Diagnostic characters : Head, pronotum and elytra without hairs; general colour dark red-brown; elytra spotted with yellow or red-brown on yellow background and indistinctly arranged in three transverse series ; length 9.5-11.0 mm.

Material examined : E. Garo Hills : Williamnagar, 1.x. 1991 (1 ex.), R. K. Varshney coll.

Distribution : India : Meghalaya (E. Garo Hills), Nagaland, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Burma, Java, Laos, Nepal, Thailand and Vietnam.

Remarks : First record from Meghalaya.

204. *Ophrida flavopustulata* (Baly)

1879. *Blephardia flavopustulata* Baly, *Cist. Ent.*, 2 (3) : 181.

1926. *Ophrida flavopustulata* : Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 232.

Diagnostic characters : General colour shining red-brown; tarsi, labrum, and thirtyeight small roundish spots arranged longitudinally on elytra, yellow; the spots arranged on the sutural interval, then two rows on alternate intervals, and then along the three marginal intervals; length 8.5-10.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills).

Remarks : Maulik (1926) reported this species from Meghalaya.

205. *Ophrida scaphoides* (Baly)

1865. *Podontia scaphoides* Baly, *Trans. ent. Soc. London*, (3) 2: 430.

1926. *Ophrida binduta* Maulik, *Fauna Brit. India. Col., Chry. (Chry. & Halti.)* : 233.

1934. *Ophrida scaphoides* : Chen, *Sinensia* 5 (3-4) : 271.

1969. *Ophrida scaphoides* : Scherer, *Pac. Ins. Monogr.*, 22 : 172 (=binduta).

Diagnostic characters : General colour dark red-brown with numerous yellow spots arranged longitudinally along elytral intervals; breast, tibiae, posterior femora partly, apices of mandibles and apical segments of antennae, blackish; length 9.0-10.0 mm.

Material examined : Nil

Distribution : India: Meghalaya (East Khasi Hills); Elsewhere : China, Nepal, Taiwan and Vietnam.

Remarks : Maulik (1926) recorded this species from Meghalaya.

Genus *Clitea* Baly

1877. *Clitea* Baly, *Trans. ent. Soc. London* : 287.

1969. *Clitea* : Scherer, *Pac. Ins. Monogr.*, 22 : 200.

Two species of this genus were recorded from India and a single one from Meghalaya.

206. *Clitea picta* Baly

1877. *Clitea picta* Baly, *Trans. ent. Soc. Lond.* : 287.

1969. *Clitea picta* : Scherer, *Pac. Ins. Monogr.*, 22 : 200.

Diagnostic characters : General colour red-brown with a large black patch covering the central area of pronotum and continue to basal area of elytra covering the humeral callus; another two patches on each elytron, one behind the middle and another at apical area; posterior femora black; pronotum and elytra with larger and fine punctures; length 3.7-4.5 mm.

Material examined : W. Garo Hills : Barangapara, 17.x. 1988 (1 ex.), K. K. Roy coll.

Distribution : India : Meghalaya (W. Garo Hills), Bihar, Karnataka, Orissa and West Bengal. Elsewhere : Burma and Nepal.

Remarks : First record from Meghalaya.

Genus *Eudolia* Jacoby

1885. *Eudolia* Jacoby, *Ann. Mus. Civ. Genova*, (2) 2 (23) : 69.

1969. *Eudolia* : Scherer, *Pac. Ins. Monogr.*, 22 : 94.

Members of this genus were so long unknown from Meghalaya although four of them were recorded from India. The present paper included two species from the area.

207. *Eudolia nila* Maulik

1926. *Eudolia nila* Maulik, *Fauna Brit. India, Col., Chry. (Chry. & Halti.)* : 200.

1969. *Eudolia nila* : Scherer, *Pac. Ins. Monogr.*, 22 : 95.

Diagnostic characters : Head and pronotum dark pitch brown with metallic lusture; elytra metallic blue, sometimes tinged with violet; length 4.5-5.0 mm.

Material examined : W. Garo Hills : Above Turo, 15.vii.-30. viii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (W. Garo Hills), Assam and Manipur. Elsewhere : Burma.

Remarks : First record from Meghalaya.

208. *Eudolia ratula* Maulik

1926. *Eudolia ratula* Maulik, *Fauna Brit. India. Col., Chry. (Chry. & Halti.)* : 201.

1969. *Eudolia ratula* : Scherer, *Pac. Ins. Monogr.*, 22 : 94.

Diagnostic characters : Head and pronotum red-brown; elytra metallic blue violet; length 3.0-4.5 mm.

Material examined : Jaintia Hills : Muktapur, 21.v. 1990 (2 exs.), M. S. Shishodia coll.

Distribution : India : Meghalaya (Jaintia Hills), Assam and Manipur. Elsewhere : Burma.

Remarks : First record from Meghalaya.

Genus *Manobia* Jacoby

1885. *Manobia* Jacoby, *Ann. Mus. Civ. Genova*, (2) 2 (22) : 73.

1969. *Manobia* : Scherer, *Pac. Ins. Monogr.*, 22 : 102.

Four species of this genus were recorded from India but there was no representation from Meghalaya. In the present collection two examples are available which seem to be two individual species. Specific identifications are not possible due to shortage of material.

209. *Manobia* spp.

Material : Jaintia Hills : Safai Basti, 3.x. 1988 (2 exs.), V. D. Srivastava coll.

Genus *Altica* Fabricius

1762. *Altica* Geoffroy, *Hist. Ins.*, 1 : 244 (nom. nud.).

1775. *Altica* : Fabricius, *Syst. Ent.* : 112.

1969. *Altica* : Scherer, *Pac. Ins. Monogr.*, **22** : 126.

Six species of this genus were recorded from India of which only a single species was recorded from Meghalaya.

210. *Altica himalayensis* (Chen)

1936. *Haltica himalayensis* Chen, *Sinensis*, **7** (1) : 80.

1960. *Haltica himensis* Shukla, *Agra. Univ. J. Res.*, **9** : 79.

1973. *Altica himalayensis* : Kimoto & Takizawa, *Kontyu*, **41**(2) : 179 (=himensis).

Material : Not examined.

Distribution : India : Meghalaya (Khasi Hills), Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttar Pradesh and West Bengal. Elsewhere : Nepal, Taiwan and Tibet.

Remarks : Scherer (1969) recorded this species from Meghalaya.

Genus *Phygasia* Baly

1837. *Phygasia* Dejean, *Cat. Col. ed. 3* : 387 (*in litt.*)

1876. *Phygasia* Baly, *Trans. ent. Soc. Lond.* : 445.

1969. *Phygasia* : Scherer, *Pac. Ins. Monogr.*, **22** : 112.

Seven species of this genus were recorded from India of which two were from Meghalaya.

211. *Phygasia dorsata* Baly

1878. *Phygasia dorsata* Baly, *Trans. ent. Soc. Lond.* : 445.

1969. *Phygasia dorsata* : Scherer, *Pac. Ins. Monogr.*, **22** : 114.

Diagnostic characters : Head, prothorax, legs and antenna completely black; elytra straw coloured; sutural margin black forming a large patch at middle on both the elytron; apical area of elytron black; length 5.5-7.0 mm.

Material examined : W. Garo Hills : Above Tura, 15.vii-30.viii. 1917 (2 exs.), S. Kemp coll.

Distribution : India : Meghalaya (W. Garo Hills and Khasi Hills), West Bengal. Elsewhere : China, Sumatra and Vietnam.

212. *Phygasia hookeri* Baly

1876. *Phygasia hookeri* Baly, *Trans. ent. Soc. Lond.* : 445.

1969. *Phygasia hookeri* : Scherer, *Pac. Ins. Monogr.*, **22** : 113.

Diagnostic characters : General colour yellow to red brown; apices of femora, tibiae and tarsi, black; antennae black; elytra with stronger punctures than any other species; length 5.6-6.0 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Sikkim.

Remarks : Maulik (1926) recorded this species from Meghalaya.

Genus *Crepicnema* Scherer

1969. *Crepicnema* : Scherer, *Pac. Ins. Monogr.*, **22** : 152.

This is a monotypic genus.

213. *Crepicnema tenimberensis* (Jacoby)

1894. *Chaetocnema tenimberensis* Jacoby, *Novit. Zool.* : 297.

1896. *Crepidodera tenimberensis* : Jacoby, *Ann. Mus. Civ. Genova*, (2) **16** : 441.

1969. *Crepicnema tenimberensis* : Scherer, *Pac. Ins. Monogr.*, **22** : 153.

Diagnostic characters : General colour metallic greenish bronze; antennae and legs bright red-brown, apical antennal segments darker; hind femora dark pitch with bronzy lusture; length 2.0 mm.

Material examined : Not seen.

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : Palawan Is., Sumatra and Tenimber Is.

Remarks : Scherer (1969) recorded this species from Meghalaya.

Genus *Pseudodera* Baly

1862. *Pseudodera* Baly, *J. Ent.*, **1** : 200.

1969. *Pseudodera* : Scherer, *Pac. Ins. Monogr.*, **22** : 139.

Two species of this genus were recorded so far from India and there was no record from Meghalaya. The present study includes one species which is new to science.

214. *Pseudodera khasiensis* n. sp.

Almost entirely red-brown with the legs and antenna black.

Head (fig. 3) smooth and impunctate with 3-4 strong punctures behind each eye; antennal calli heart-shaped, strongly developed, contiguous, divided by a longitudinal impression along middle, and bounded behind by a deep transverse furrow, which passed obliquely behind eye. Antenna reaching behind the middle of elytra, the ratio of corresponding segments of male : 18:7:14:14:14:13:13:12:12:12:15 and of female : 12:5:8:9:9:9:8:8:7:7:10; the apices of segments 3-10 in male much thicker than those of female (fig. 5). *Prothorax* (fig.1,2) transverse, gently rounded and strongly convex. Ante-basal transverse impression short but very strongly impressed at middle with two rows of strong punctures and form a cavity, it terminated before touching the longitudinal fold, and the space between them with a few strong punctures; pronotum finely punctate with one or two rows of strong punctures along lateral margins. In female the ante basal transverse impression not so strong, straight and continued to the longitudinal fold, and pronotal disc less convex. Scutellum smooth and impunctate. *Elytra* broader at base than prothorax. Each elytron with eleven rows of punctures including short scutellar and marginal ones, puncturation fine and slightly stronger at sides, especially near numeral calli, interstices flat, except for a few ones near humeral calli, and with a few fine punctures; basal calli and humeral calli prominent. Apex of elytra, especially in male, with fine bristle. Tarsal segment 1 of front and middle legs in male slightly dilated. In the female elytral punctures strongly impressed and the interstices finely punctate. Aedeagus (fig. 4) as figured.

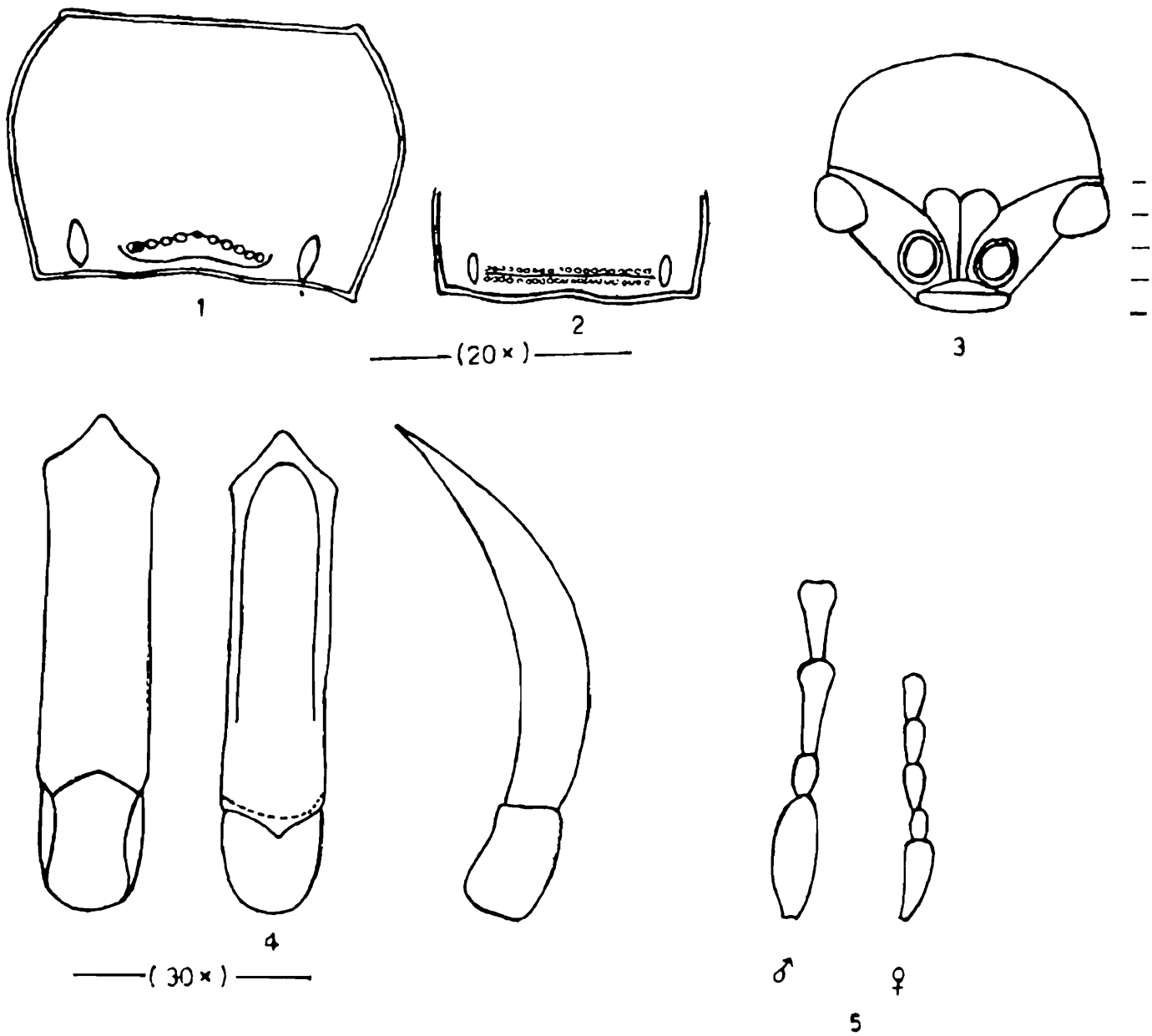


Fig. 1-5. Prothorax of *Pseudodera khasiensis* n. sp. 1. Male, 2. Female
3. Front view of head.4. Aedeagus (Ventral, Dorsal and Lateral views).
5. Antenna (Drawn only basal segments, showing the difference in ♂ and ♀).

Measurements of Holotype ♂ : Length 5.25 mm (with head), 3.50 mm (without head); Width 2.30 mm (across middle of elytra); Length of Aedeagus 1.5 mm.

Measurements of Paratypes ♂ : Length 4.25-5.50 mm; ♀ Length 3.60-5.75 mm.

Holotype ♂ : India : Meghalaya, Shillong, Nongthymmai, 20.ix. 1975, M. S. Jyrwa coll. Paratype 4 ♂♂ 5 ♀♀ : As in holotype.

This species is close to *P. Himalayensis* Scherer but differs in having the gently rounded lateral margin of prothorax, a completely different type of ante-basal transverse impression and aedeagus.

Genus *Xuthea* Baly

1865. *Xuthea* Baly, *Ann. Mag. nat. Hist.* (3) 16 : 248.

1969. *Xuthea* : Scherer, *Pac. Ins. Monogr.*, 22 : 135.

Seven species of this genus were recorded from India of which two were from Meghalaya.

215. *Xuthea orientalis* Baly

1865. *Xuthea orientalis* Baly, *Ann. Mag. nat. Hist.* (3) 16 : 249

1969. *Xuthea orientalis* : Scherer, *Pac. Ins. Monogr.*, 22 : 136.

Diagnostic characters : General colour dark metallic blue, greenish blue, violet or dark bronze; four basal segments of antennae, labrum in part and palpi, yellow-brown; apical seven segments of antennae blackish; tibia and tarsi brown; ante-basal transverse furrow strong and deep; tarsal segment 1 of hind leg in male strongly dilated; length 6.5-8.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills), Arunachal Pradesh, Assam, Himachal Pradesh, Maharashtra, Manipur, Sikkim, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Bangladesh, Bhutan, Burma, China and Nepal.

Remarks : Maulik (1926) recorded this species from Meghalaya.

216. *Xuthea yunnanensis* Heikertinger

1948. *Xuthea orientalis yunnanensis* Heikertinger, *Kol. Rundsch.*, 31:42

1969. *Xuthea yunnanensis* : Scherer, *Pac. Ins. Monogr.*, 22 : 137.

Diagnostic characters : In form and colour it is very similar to *orientalis* Baly, but it is much smaller in length, ranging from 5.0-6.3 mm; tarsal segment 1 of hind leg in male moderately thickened and with difference in aedeagus.

Material : Not seen.

Distribution : India : Meghalaya (Khasi Hills); Elsewhere : China (Yunnan).

Remarks : Scherer (1969) recorded this species from Meghalaya.

Genus *Micraphthona* Jacoby

1900. *Micraphthona* Jacoby, *Mem. Soc. ent. Belg.*, 7 : 125.

1969. *Micraphthona* : Scherer, *Pac. Ins. Monogr.*, 22 : 88.

It is a monotypic genus.

217. *Micraphthona nigrita* Jacoby

1900. *Micraphthona nigrita* Jacoby, *Mem. Soc. ent. Belg.*, 7 : 126.

1969. *Micraphthona nigrita* : Scherer, *Pac. Ins. Monogr.*, 22 : 88.

Diagnostic characters : General colour black; legs brownish-yellow; three basal segments of antennae brownish; apical half of hind femora black; length 2.5 mm.

Material examined : Nil

Distribution : India : Meghalaya (Khasi Hills).

Remarks : Jacoby (1900) described this species from Meghalaya.

Subfamily (xii) HISPINAE

Key to the Genera of Hispinae from Meghalaya

(Largely after Gressitt & Kimoto, 1963)

1. Body not spiny; form generally subcylindrical, oval or wedge-shaped 2
 - Body with spines on dorsal surface and lateral margin; form generally flattened and more or less oblong 13
- 2(1). Elytron without a scutellar row of punctures 3
 - Elytron with a scutellar row of punctures 5
- 3(2). Prothorax subcylindrical, lateral margin not dentate 4
 - Prothorax transverse, broadened in middle, lateral margin dentate *Gonophora*
- 4(3). Each elytron with three costae and seven to eight rows of punctures *Agonita*
 - Each elytron with two costae and six rows of punctures *Agoniella**
- 5(2). Frons small; upper border of mouth cavity close to antennal insertions 6
 - Frons as long as broad; upper border of mouth cavity is separated from antennal insertions by a clypeus bearing protuberance *Oncocephala*
- 6(5). Either anterior or posterior lateral angles of prothorax bearing a fine bristle 7
 - No such bristle in any of the lateral angles of prothorax 9

- 7(6). A fine bristle near anterior angles of prothorax; body elongate; prothorax subcylindrical 8
 A fine bristle near posterior angles of prothorax; body broadly oblong-oval, dorso-ventrally compressed; prothorax transverse..... **Callispa**
- 8(7). Prothorax with anterior margin emarginate in middle; elytral interstices smooth **Estigmene**
 Prothorax with anterior margin not emarginate in middle; elytral interstices raised posteriorly **Lasiochila**
- 9(6). Body subparallel-sided, dorsal surface fairly even and smooth 10
 Body broad, wedge-shaped, being angularly widened at posterior angle of elytra, dorsal surface ridged or tuberculated 12
- 10(9). Mouth cavity separated from antennal insertions by a small clypeus **Leptispa**
 Mouth cavity close to antennal insertions; clypeus lacking 11
- 11(10). Antennae fairly robust and cylindrical; elytra flattened towards apex, and projecting a little beyond abdomen..... **Botryonopa***
 Antennae slender; elytra convex and projecting much beyond abdomen **Macrispa**
- 12(9). Labial palpi absent..... **Chaeridiona***
 Labial palpi present **Prionispa**
- 13(1). Antennae without any dorsal spine 15
 Antennae with dorsal spine..... 14
- 14(13). Six basal segments of antennae with dorsal spines **Hispa**
 Only segment 1 with a dorsal spine **Rhadinosa**
- 15(13). Front border of prothorax without spines **Dicladispa**
 Front border of prothorax with spines **Dactylispa**

Genus **Gonophora** Baly

1858. *Gonophora* Baly, *Cat. Hisp.* : 108.

1919. *Gonophora* : Maulik, *Fauna Brit. India. Col., Chry. (Hisp. & Cass.)*: 142.

Three species of this genus were recorded from India but there was none from Meghalaya. The present study includes one species from the area.

218. *Gonophora pulchella* Gestro

1888. *Gonophora pulchella* Gestro, *Ent. Mon. Mag.* : 85.

1919. *Gonophora pulchella* : Maulik, *Fauna Brit. India. Col., Chry. (Hisp. & Cass.)* : 64.

Diagnostic characters : General colour yellowish brown; head generally with a black spot at posterior part; pronotum with five spots and each elytron with eight large spots and a patch at apex; length 5.5-6.0 mm.

Material examined : Jaintia Hills : Jowai, Shungphung, 22.ix. 1988 (1 ex.), V. D. Srivastava coll.

Distribution : India : Meghalaya (Jaintia Hills), Assam and Manipur. Elsewhere : Bangladesh and Burma.

Remarks : First record from Meghalaya.

Genus *Agonita* Strand

1905. *Agonia* Weise (nec Forster), *Dtsch. Ent. Zschr.*, : 116.

1942. *Agonita* Strand, *Folia Zool. Hydrobiol.*, 11 : 391 (new name for *Agonia* Ws.)

1963. *Agonita* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 908.

Eleven species of this genus were recorded from India of which two were from Meghalaya

219. *Agonita cherapunjiensis* (Maulik)

1916. *Agonia cherapunjiensis* Maulik, *Proc. Zool. Soc. Lond.* : 573.

1958. *Agonita cherapunjiensis* : Uhmann, *Col. Cat. Suppl.*, 35(2) : 237.

Diagnostic characters : Head, antennae, underside, legs, a longitudinal middle line on pronotum, and scutellum black; elytra yellow-brown to red-brown; elytral space between first and second costae with more than three rows of punctures; length 14.5 mm.

Material examined : Not available

Distribution : India : Meghalaya (East Khasi Hills).

Remarks : Maulik (1919) recorded this species from Meghalaya.

220. *Agonita immaculata* (Gestro)

1888. *Gonophora immaculata* Gestro, *Ann. Mus. Civ. Genova*, 26 : 175.

1911. *Agonia immaculata* : Weise, *Col. Cat.*, 35 : 56.

1958. *Agonita immaculata* : Uhmann, *Col. Cat. Suppl.*, 35(2) : 238.

Diagnostic characters : General colour red; under-side, legs and antennae black; elytral space between first and second costae with two rows of punctures; length 5.0 mm.

Material examined : Not available

Distribution : India : Meghalaya (East Khasi Hills), West Bengal. Elsewhere : Burma, China and Vietnam.

Remarks : Maulik (1919) recorded this species from Meghalaya.

Genus *Oncocephala* Chevrolat

1847. *Oncocephala* Chevrolat, *In d'Orbigny, Dict. Univ. Hist. Nat.*, 9 : 110.

1919. *Oncocephala* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 98.

Five species of this genus were recorded from India but none was from Meghalaya. The present paper includes one species from Meghalaya.

221. *Oncocephala quadrilobata* Guerin

1844. *Onchocephala quadrilobata* Guerin, *Icon. Regre Anim. Ins.*, : 281.

1897. *Oncocephala quadrilobata* : Weise, *Deut. Ent. Zeits.* : 121.

Diagnostic characters : General colour almost completely brown with black spots on elytra; cephalic protuberance not quadrilobed but seven-lobed considering the apical edge to be two-lobed; length 5.0 mm.

Material examined : E. Garo Hills : Nongwalbibra, 200 m., 1.x. 1991 (1 ex.), R. K. Varshney coll.

Distribution : India : Meghalaya (E. Garo Hills). Andaman Is., Podicherry and Tamil Nadu. Elsewhere : Burma and Sri Lanka.

Genus *Callispa* Baly

1858. *Callispa* Baly, *Cat. Hisp.* : 4.

1919. *Callispa* : Maulik, *Fauna Brit. India. Col. Chry. (Hisp. & Cass.)* : 43.

Twenty species of this genus were recorded from India but there was no record from Meghalaya. In the present study three species are being recorded here for the first time from Meghalaya.

222. *Callispa dimidiatipennis* Baly

1858. *Callispa dimidiatipennis* Baly, *Cat. Hisp.* : 7.

1919. *Callispa dimidiatipennis* : Maulik, *Fauna Brit. India. Col., Chry. (Hisp. & Cass.)* : 56.

Diagnostic characters : Elytra with the anterior part red or reddish-yellow, posterior part bright metallic blue, antennae black with the basal segments reddish; length 7.5-9.0 mm.

Material examined : W. Garo Hills : Above Tura, 15.vii-30. viii. 1917 (8 exs.), S. Kemp coll.

Distribution : India : Meghalaya (W. Garo Hills), Assam. Elsewhere : Burma.

Remarks : First record from Meghalaya.

223. *Callispa karena* Maulik

1919. *Callispa karena* Maulik, *Fauna Brit. India. Col., Chry. (Hisp. & Cass.)* : 62.

Diagnostic characters : Head, prothorax, underside and scutellum bright red; antennae black; elytra shining dark blue with the front margin and anterior part of lateral margins red; length 8.5-10.0 mm.

Material examined : W. Garo Hills : Above Tura, 15.vii.-30.viii. 1917. (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (W. Garo Hills). Elsewhere : Burma, Laos and Vietnam.

Remarks : First record from India.

224. *Callispa insignis* Baly

1858. *Callispa insignis* Baly, *Cat. Hisp.* : 4

1919. *Callisa insignis* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 67.

Diagnostic characters : Head, antennae and prothorax black; lateral margin of prothorax narrowly edges with brown; elytra bright metallic blue; underside reddish-yellow; length 9.0 mm.

Material examined : W. Garo Hills : Above Tura, 15.viii-30.viii. 1917(1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (W. Garo Hills); Maulik (1919) mentioned only Northern India.

Remarks : First record from Meghalaya.

Genus *Estigmene* Hope

1840. *Estigmene* Hope, *Col. Man.*, 3 : 174.

1919. *Estigmene* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 26.

Out of two Indian species only one was recorded from Meghalaya.

225. *Estigmene chinensis* Hope

1840. *Estigmene chinensis* Hope, *Col. Man.*, 3 : 175.

1919. *Estigmene chinensis* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 27.

Diagnostic characters : Colour and size of this species is very variable; prothorax and elytra may be or may not be of same colour, generally light brown to black; under side always darker than that of upper side; elytra never scaly; length 10.0-16.0 mm.

Material examined : Not available

Distribution : India : Meghalaya (Khasi Hills), Assam, Karnataka, Madhya Pradesh, Tamil Nadu and West Bengal. Elsewhere : Bangladesh, Burma, Cambodia, China, Pegu, Thailand and Sumatra.

Remarks : Uhmann (1964) recorded this species from Meghalaya.

Genus *Anisodera* Chevrolat

1837. *Anisodera* Chevrolat, *In Dej. Cat.* : 363.

1919. *Anisodera* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 30.

Out of three Indian species only one was recorded from Meghalaya.

226. *Anisodera guerini* Baly

1858. *Anisodera guerini* Baly, *Cat. Hisp.* : 168.

1919. *Anisodera guerini* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 35.

Diagnostic characters : General colour dark brown; under side, legs and antennae black; ventral side shining and dorsal side opaque; pronotum rugosely punctate; clypeus flat and rugose; length 15.0-19.0 mm.

Material examined : W. Garo Hills : Above Tura, 15.vii-30.viii. 1917. (2 exs.), S. Kemp coll.

Distribution : India : Meghalaya (W. Garo Hills and Khasi Hills), Assam, Bihar, Karnataka, Kerala and West Bengal. Elsewhere : Burma, Indo-China, Java, Malacca and Sumatra.

Genus *Lasiochila* Weise

1916. *Lasiochila* Weise, *Dtsch. Ent. Zschr.* : 37

1963. *Lasiochila* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 898.

Five species of this genus were recorded from India but there was no record from Meghalaya. In the present study two species are recorded here for the first time from Meghalaya.

227. *Lasiochila cylindrica* (Hope)

1831. *Trogosita cylindrica* Hope, *Zool. Misc.* : 27.

1885. *Anisodera cylindrica* : Baly, *Cat. Hist.* : 106.

1919. *Anisoderopsis cylindrica* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 40.

1958. *Lasiochila cylindrica* : Uhmman, *Col. Cat. Suppl.*, 35(2) : 162.

Diagnostic characters : Moderately elongate and subcylindrical in form; entirely dark brown; antennae dusky; length 8.5-9.5 mm.

Material examined : W. Garo Hills : Above Tura, 15.vii.-30.viii. 1917 (3 exs.), S. Kemp. Coll.; Ri-Bhoi : Umran, 1.iv. 1991 (1 ex.), S. K. Saha coll.

Distribution : India : Meghalaya (W. Garo Hills and Ri-Bhoi), Assam and West Bengal. Elsewhere : Burma and Nepal.

Remarks : First record from Meghalaya.

228. *Lasiochila excavata* (Baly)

1858. *Anisodera excavata* Baly, *Cat. Hisp.*: 105.

1919. *Anisoderopsis excavata* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 37

1958. *Lasiochila excavata* : Uhmman, *Cpl. Cat. Supple*, 35(2) : 162.

Diagnostic characters : Generally head, antennae, prothorax, sternum and legs black; elytra and rest of the body chestnut-brown; pronotum with a lateral excavation shorter than the length of disc., sometimes obsoleted; length 13.0-19.0 mm.

Material examined : E. Khasi Hills : Shillong, 10.v. 1988 (2 exs.), C. Radhakrishnan coll.

Distribution : India : Meghalaya (E. Khasi Hills), Assam and West Bengal. Elsewhere : Burma and Vjetnam.

Remarks : First record from Meghalaya.

Genus *Leptispa* Baly

1858. *Leptispa* Baly, *Cat. Hisp.* : 1.

1919. *Leptispa* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* 37

Four species of this genus were recorded from India but there was no record from Meghalaya. Present paper records one species from the area.

229. *Leptispa pygmaea* Baly

1858. *Leptispa pygmaea* Baly, *Cat. Hisp.* : 2

1919. *Leptispa pygmaea* : Maulik, *Fauna Brit. India, Col. Chry. (Hisp. & Cass.)* : 76.

Diagnostic characters : Upper side completely shining deep metallic green; underside black; length 4.5-5.0 mm.

Material examined : Jaintia Hills : Jawai, Mooralong, 27.ix. 1988 (2 exs.), V. D.Srivastava coll.; E. Khasi Hills : Pynursla, 11.xi. 1991 (1 ex.), R. C. Basu coll.

Distribution : India : Meghalaya (E. Khasi Hills and Jaintia Hills), Karnataka, Maharashtra and Tamil Nadu. Elsewhere : Sri Lanka.

Remarks : First record from Meghalaya.

Genus *Macrispa* Baly

1857. *Macrispa* Baly, *Cat. Hisp.* : 90.

1919. *Macrispa* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)*: 23.

Two species of this genus were recorded from India but there was no record from Meghalaya. The present paper includes one species from the area.

230. *Macrispa krishnalohita* Maulik

1915. *Macrispa krishnalohita* Maulik, *Rec. Ind. Mus.*, 11 : 369.

1919. *Macrispa krishnalohita* : Maulik, *Fauna Brit. India. Col., Chry. (Hisp. & Cass.)* : 25

Diagnostic characters : Head, antennae, prothorax, abdomen and legs shining black; elytra red and subnitid; apices of antennal segments not clavate; length 22.0 mm.

Material examined : W. Garo Hills : Above Ture, viii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (W. Garo Hills), Assam.

Remarks : First record from Meghalaya.

Genus *Prionispa* Chapuis

1875. *Prionispa* Chapuis, *Gen. Col.*, 11 : 337.

1919. *Prionispa* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 88.

Seven species of this genus were recorded from India of which only two species were from Meghalaya. The third species of this genus is available in the present collection but its specific identification is not possible at this moment due to shortage of material.

231. *Prionispa sonata* Maulik

1919. *Prionispa sonata* Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 93.

Diagnostic characters : Head, prothorax and elytra black; apical margin of elytra and legs pale yellowish; antennae and abdomen reddish brown; length 5.0 mm.

Material examined : Not available

Distribution : India : Meghalaya (Khasi Hills).

Remarks : Maulik (1919) recorded this species from Meghalaya.

232. *Prionispa tenuicornis* Gestro

1910. *Prionispa tenuicornis* Gestro, *Ann. Mus. Civ. Genova*, 44 : 554.

1919. *Prionispa tenuicornis* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 96.

Diagnostic characters : Dorsal surface black with bronzy reflection, apical margin of elytra reddish with its apical angle blue-black; four basal segments of antennae yellowish brown, next three whitish and four apical segments black; underside blackish with the abdomen yellowish brown; anterior lateral angles of prothorax not toothed; external apical angles of elytra broadly expanded; length 5.0 mm.

Material examined : Not available.

Distribution : India : Meghalaya (Khasi Hills).

Remarks : Maulik (1919) recorded this species from Meghalaya.

233. *Prionispa* sp. (nr. *inermis* Gestro)

Material examined : Jaintia Hills : Safai Basti, 3.x. 1988(1 ex.), V. D. Srivastava coll.

Genus *Hispa* Linnaeus

1767. *Hispa* Linnaeus, *Syst. Nat.*, (12) 1 (2) : 603.

1875. *Hispella* Chapuis, *Gen. Col.*, 11 : 260, 334.

1899. *Hispa* : Gestro, *Ann. Mus. Stor. nat. Genova.* (2) 40 : 330 (= *Hispella*).

1963. *Hispa* : Gressitt & Kimoto, *Pac. Ins. Monogr.*, 1B : 915

Four species of this genus were recorded from India of which one from Meghalaya.

234. *Hispa brachycera* Gestro

1897. *Hispella brachycera* Gestro, *Ann. Mus. Civ. Genova* : 123.

1958. *Hispa brachycera* : Uhmman, *Col. Cat. Supple.*, 35 (2) : 271.

Diagnostic characters : General colour black; elytra with long yellowish brown or dark brown spines, the tips black; antennal segment 1 with five dorsal spines; length 3.6-4.0 mm.

Material examined : Not available.

Distribution : India : Meghalaya (Khasi Hills), Bihar, Himachal Pradesh, Orissa and Uttar Pradesh.

Remarks : Maulik (1919) recorded this species from Meghalaya.

Genus *Rhadinosa* Weise

1905. *Rhadinosa* Weise, *Deut. ent. Zeits.* : 318.

1919. *Rhadinosa* : Maulik, *Fauna Brit. India. Col., Chry. (Hisp. & Cass.)*: 164.

Three species of this genus were recorded from India of which only one from Meghalaya.

235. *Rhadinosa lebongensis* Maulik

1919. *Rhadinosa lebongensis* Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 168.

Diagnostic characters : General colour black, opaque; elytra blue-black, subnitid and its punctation small, round and deep; length 4.5 mm.

Material examined : E. Khasi Hills : Shillong, Moulai, 20. iii. 1991 (2 exs.), A. K. Sanyal coll., Cherrapunji, Shella, 7.xii. 1991 (2 exs.), R. C. Basu coll., Sohrarin, 26.iii. 1991(1 ex.), A. K. Hazra coll., Jaintia Hills : Jawai, 20.iii. 1991 (1 ex.), B. C. Das coll.; E. Garo Hills : Rongzeng, 26.v. 1990 (1 ex.), M. S. Shishodia coll.

Distribution : India : Meghalaya (E. Khasi Hills, Jaintia Hills and E. Garo Hills), Manipur, Uttar Pradesh and West Bengal. Elsewhere : Yunnan.

Genus *Dicladispa* Gestro

1875. *Hispa* : Chapuis (nec Linnaeus), *Gen. Col.*, 11 : 334.

1897. *Hispa* (Dicladispa) Gestro, *Ann. Mus. Civ. Genova*, 38 : 81.

1898. *Dicladispa* Gestro, t. c. : 712.

Five species of this genus were recorded from India of which only one from Meghalaya.

236. *Dicladispa birendra* (Maulik)

1919. *Hispa birendra* Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 250.

1958. *Dicladispa birendra* : Uhmman, *Col. Cat.*, 35(2) : 327.

Diagnostic characters : General colour shining black, with bronzy reflections on elytra; the anterior prothoracic spines curved and long, much longer than two basal segments of antennae; length 3.5-4.0 mm.

Material examined : Ri-Bhoi : Umran, 1.iv. 1991 (1 ex.), 5.iv. 1991 (1 ex.), all S. K. Saha coll.

Distribution : India : Meghalaya (East Khasi Hills and Ri-Bhoi); West Bengal. Elsewhere : Burma.

Genus *Dactylispa* Weise

1897. *Dactylispa* Weise, *Dtsch. Ent. Zschr.* : 137

1919. *Dactylispa* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 170.

Fortysix species of this genus were recorded from India of which four species were from Meghalaya. The present paper adds another species from the area.

237. *Dactylispa assamensis* Weise

1904. *Dactylispa assamensis* Weise, *Deut. Ent. Zeits.* : 451.

1919. *Dactylispa assamensis* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 178.

Diagnostic characters : General colour entirely black and opaque; elytra slightly shining and with greenish tinge; pronotal disc with a smooth oval area; length 3.0 mm.

Material examined : Not available.

Distribution : India : Meghalaya (Khasi Hills).

Remarks : Maulik (1919) recorded this species from Meghalaya.

238. *Dactylispa brevispinosa* (Chapuis)

1877. *Hisp. brevispinosa* Chapuis, *Ann. Soc. ent. Belg.* 20 : 56

1919. *Dactylispa brevispinosa* ; Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 183.

Diagnostic characters : General colour black, subnitid; prothoracic spines without setae; discal and marginal spines of elytra minute; length 4.0-6.0 mm.

Material examined : Not available

Distribution : India : Meghalaya (East Khasi Hills), Assam, Himachal Pradesh, Manipur, Punjab, Sikkim, Uttar Pradesh, West Bengal and Tamil Nadu. Elsewhere : Burma, Bhutan, Nepal and Vietnam.

Remarks : Maulik (1919) recorded this species from Meghalaya.

239. *Dactylispa bindusara* Maulik

1919. *Dactylispa bindusara* Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 193.

Diagnostic characters : General colour brown to red-brown; head, a large spot on pronotum, elytral spines, two basal segments of antennae, sternum and underside of head, black or brownish black; abdominal segments and legs yellow; length 4.5 mm.

Material examined : Not available.

Distribution : India : Meghalaya (Khasi Hills), Uttar Pradesh and West Bengal. Elsewhere : Bhutan and Nepal.

Remarks : Maulik (1919) recorded this species from Meghalaya.

240. *Dactylispa lohita* Maulik

1919. *Dactylispa lohita* Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 197.

Diagnostic characters : General colour red; antennae, discal and alternate marginal spines of elytra, and underside black; length 5.5 mm.

Material examined : Not available

Distribution : India : Meghalaya (East Khasi Hills), Manipur and Uttar Pradesh.

Remarks : Maulik (1919) recorded this species from Meghalaya.

241. *Dactylispa praefica* Weise

1897. *Dactylispa praefica* Weise, *Deut. Ent. Zeits.* : 135.

1919. *Dactylispa praefica* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 220.

Diagnostic characters : General colour almost completely reddish-brown; antennae, pronotal disc, long spines and sternam nearly blackish; legs yellowish; length 3.5-4.0 mm.

Material examined : W. Garo Hills : Above Tura, 15.vii-30. viii. 1917 (2 exs.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Karnataka.

Remarks : First record from Meghalaya.

Subfamily (xiii) CASSIDINAE

Key to the Genera of Cassidinae from Meghalaya

(after Gressitt & Kimoto, 1963)

1. Head visible from above, not covered by explanate margin of pronotum 2
 - Head not visible from above, covered by explanate margin of pronotum 5
- 2(1). Vertex not produced anteriorly; elytral margin narrow at base; pronotum grooved laterally 3
 - Vertex strongly produced into a forward projecting plate above antennal insertions; pronotum very broad, lacking submarginal groove *Notosacantha*
- 3(2). Pronotal and elytral margins narrowly expanded; anterior margin of pronotum feebly emarginate; elytra fully or partly metallic, very deeply and subseriately punctured 4
 - Pronotal and elytral margins broadly expanded; anterior margin of pronotum deeply and arcuately or very broadly emarginate; elytra not metallic, finely and irregularly punctured *Basiprionota*
- 4(3). Pronotum grooved medially and nearly impunctate, its anterior margin obtusely emarginate; elytra entirely metallic, iridescent *Craspedonta*
 - Pronotum coarsely punctured, not grooved medially, its anterior margin broadly and transversely emarginate; elytra partly metallic *Epistictina*
- 5(1). Tarsal claws bearing a comb-like structure at base 6
 - Tarsal claws lacking a comb-like structure at base 9
- 6(5). Comb-like structure present on both sides of tarsal claws 7
 - Comb-like structure present on inner side of tarsal claws *Sindia**

- 7(6). Body somewhat triangular or pentagonal, fairly deep; elytron rugose and deeply punctured, with moderately broad, declivitus lateral expansion..... 8
 Body nearly rounded and depressed, elytron fairly smooth, with broad, subhorizontal lateral expansion.....*Aspidomorpha*
- 8(7). Comb-like structures long on both sides of tarsal claws *Sindiola**
 Comb-like structures short on uter sides of tarsal claws*Laccoptera*
- 9(5). Prosternum lacking a groove on side for reception of antenna 10
 Prosternum with a groove on side for reception of at least basal segments of antenna..... 11
- 10(9). Apical margin of elytron lacking a row of fine hairs on undrside; claws often toothed basally *Cassida*
 Apical margin of elytron with a row of fine hairs on underside; tarsal claws lacking basal teeth or appendices*Thlaspida*
- 11(9). Tarsal claws not apendiculate basally; antenna more robust, hardly reaching beyond posterior margin of prothorax; pronotum transversely elliptical; body less convex, and paralld sided.....*Glyphocassis*
 Tarsal claws strongly appendiculate basally, antenna slender, with two apical segments passing beyond posterior margin of prothorax; body more convex, and more narrowed posteriorly..... *Chiridopsis*

Genus *Notosacantha* Chevrolat

1837. *Notosacantha* Chevrolat, In Dejean, *Cat. Col.*, 3 : 367, 397.

1840. *Hoplionota* Hope, *Col. Man.*, 3 : 153.

1952. *Notosacantha* : Gressitt, *Proc. Calif Acad. Sci.*, (4) 27: 444.

Sixteen species of this genus were recorded from India of which two were from Meghalaya.

242. *Notosacantha maculipennis* (Boheman)

1856. *Hoplionota maculipennis* Boheman, *Cat. Col. Ins. Brit. Mus.*, 9 : 5.

1973. *Notosacantha maculipennis* : Kimoto & Takizawa, *Kontyu*, 41(2): 180.

Diagnostic characters : General colour reddish brown; scutellum and two spots on pronotum, black (sometimes obsolete); each elytron with ten black spots and a few tubercles; a black patch on each of four corners of elytral expansion; length 5.0-5.5 mm.

Material : Not available.

Distribution : India : Meghalaya (East Khasi Hills), Arunachal Pradesh, Uttar Pradesh, Sikkim and West Bengal. Elsewhere : Nepal.

Remarks : Kimoto (1981) recorded this species from Meghalaya.

243. *Notosacantha tenuicula* Spaeth

1913. *Hoplionota tenuicula* Spaeth, *Verh. Zool.-bot. Ges. Wien*, **63**: 505.

1981. *Notosacantha tenuicula* : Kimoto, *Ent. Rev. Japan*, **36** (1) : 56.

Diagnostic characters : General colour brownish black, with margins all round lighter, and a small yellowish patch on each elytral expansion nearly at middle; length 5.0 mm.

Material : Not available

Distribution : India : Meghalaya (East Khasi Hills), Assam, Maharashtra and West Bengal.

Remarks : Kimoto (1981) recorded this species from Meghalaya.

Genus *Basiprionota* Chevrolat

1837. *Basiprionota* Chevrolat, In Dejean, *Cat. Col.*, **3** : 392.

1840. *Prioptera* Hope, *Col. Man.*, **3** : 153.

1952. *Basiprionota* : Gressitt, *Proc. Calif. Acad. Sci.*, (4) **27** : 454.

Ten species of this genus were recorded from India of which two were from Meghalaya.

244. *Basiprionota decemmaculata* (Boheman)

1850. *Prioptera decemmaculata* Boheman, *Mon. Cassid.*, **1** : 60.

1972. *Basiprionota decemmaculata* : Vazirani, *Rec. zool. Surv. India*, **66** (1-4) : 149.

Diagnostic characters : General colour varying from light yellow to black, sometimes partly blackish; pronotum with two round black spots; each elytron with four black spots, posterior outer one reaching the margin; metasternum with a black patch; length 9.0 mm.

Material : West Garo Hills : Above Tura, 15.vi.-15.vii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (East Garo Hills and West Garo Hills), Arunachal Pradesh, Assam, Sikkim and West Bengal. Elsewhere : Bhutan and Burma.

245. *Basiprionota maculipennis* (Boheman)

1850. *Prioptera maculipennis* Boheman, *Mon. Cassid.*, **1** : 50.

1981. *Basiprionota maculipennis* Boheman, *Ent. Rev. Japan*, **36** (1) : 56.

Diagnostic characters : General colour yellowish brown; tubercles on elytra, scutellum, and two small spots on pronotum, black; each of the four corners of elytral expansion with a black patch; length 9.0 mm.

Material examined : West Garo Hills : Tura, vii-viii. 1917 (1 ex.), S. Kemp coll.

Distribution : India : Meghalaya (East Garo Hills, West Garo Hills), Arunachal Pradesh and Assam. Elsewhere : Nepal.

Genus *Craspedonta* Chevrolat

1837. *Craspedonta* Chevrolat, In Dejean, *Cat. Col.*, 3 : 391.
 1840. *Calopepla* Hope, *Col. Man.*, 3 : 152.
 1919. *Calopepla* : Maulik, *Fauna Brit. India, Col. Chry. (Hisp. & Cass.)* : 306.
 1952. *Craspedonta* : Gressitt, *Proc. Calif. Acad. Sci.*, (4) 27: 451.

Two species of this genus were recorded from India of which one from Meghalaya.

246. *Craspedonta leayana* (Latreille)

1807. *Imatidium leayana* Latreille, *Gen. Crust. et. Ins.*, 3 : 50.
 1850. *Calopepla leayana* : Boheman, *Mon. Cassid.*, 1 : 9.
 1952. *Craspedonta leayana* : Gressitt, *Proc. Calif. Acad. Sci.*, (4) 27 : 451.

Diagnostic characters : General colour variable; prothorax varies from light yellow to red-brown, with the basal margin edged with black; antenna black except for two basal segments which are yellow to red-brown; elytra greenish bronze with bluish violet-margins, sometimes the whole elytra bluish violet; ventral side and legs yellow to red-brown with the tarsi darker; length 14.0-15.5 mm.

Material examined : East Garo Hills : Williamnagar, 1.x. 1991 (10 exs.), R. K. Varshney coll.

Distribution : India : Meghalaya (East Khasi Hills and East Garo Hills), Arunachal Pradesh, Assam, Maharashtra, Nagaland, Tamil Nadu and West Bengal. Elsewhere : Burma, Laos and Vietnam.

Genus *Epistictina* Hincks

1850. *Epistictia* Boheman (nec. Amyot), *Mon. Cassid.*, 1 : 12.
 1919. *Epistictia* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 318.
 1950. *Epistictina* : Hincks, *Ann. Mag. nat. Hist.* (12) 3 : 59 (new name for *Epistictia* Boh.).
 Three species of this genus were recorded from India of which one from Meghalaya.

247. *Epistictina viridimaculata* (Boheman)

1850. *Epistictia viridimaculata* Boheman, *Mon. Cassid.*, 1 : 15.
 1919. *Epistictia viridimaculata* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 320.
 1963. *Epistictina viridimaculata* : Gressitt & Kimoto, *Pac. Ins. Monogr.* 1B : 945.

Diagnostic characters : General colour varies from red to light brown or orange brown; antenna black; pronotum with two roundish greenish or bluish spots; each elytron with seven or nine greenish or bluish spots; length 8.0-12.0 mm.

Material examined : East Khasi Hills : Shillong, 16.viii. 1963 (1 ex.), A. K. Sen coll.; West Garo Hills : Tura, 15.vi-15. vii. 1917 (2 exs.), S. Kemp coll.

Distribution : India : Meghalaya (East Garo Hills, West Garo Hills and East Khasi Hills), Arunachal Pradesh, Assam, Manipur, Punjab, Sikkim and West Bengal. Elsewhere : Burma, China, Cambodia, Nepal, Thailand and Vietnam.

Genus *Aspidomorpha* Hope

1840. *Aspidomorpha* Hope, *Col. Man.*, 2 : 158.

1919. *Aspidomorpha* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 324.

Thirteen species of this genus were recorded from India of which four from Meghalaya. In the present work two species were recorded from Meghalaya for the first time.

248. *Aspidomorpha indica* Boheman

1854. *Aspidomorpha indica* Boheman, *Mon. Cassid.*, 2 : 318.

1919. *Aspidomorpha indica* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 327.

Diagnostic characters : General colour shining yellowish brown; elytral disc (except explanate margins) dark brown; four corners of explanate margins with darker or blackish patches; pronotum almost impunctate; elytra strongly punctate with one or two depressions; body nearly rounded; length 8.0 mm.

Material examined : West Garo Hills : Rongria, 12.i. 1991 (1 ex.), B. N. Nandi coll.; Jaintia Hills : Dawki, 29.iii. 1980 (1 ex.), A. Singh coll.

Distribution : India : Meghalaya (West Garo Hills and Jaintia Hills), Arunachal Pradesh, Assam, Orissa, Sikkim, Tamil Nadu and West Bengal. Elsewhere : China, Indo-China, Japan, Korea, Nepal, Pakistan, Taiwan and U. S. S. R.

Remarks : First record from Meghalaya.

249. *Aspidomorpha sanctaecrucis* (Fabricius)

1792. *Cassida sanctaecrucis* Fabricius, *Ent. Syst.*, 4 : 446.

1854. *Aspidomorpha sanctaecrucis* : Boheman, *Mon. Cassid.*, 2 : 287.

1919. *Aspidomorpha sanctaecrucis* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 329.

Diagnostic characters : General colour varying from light brown to dark brown; explanate margins transparent with a faint brown border all round; anterior and posterior lateral angles of elytral explanate margins with a dark patch; sometimes only anterior ones having such patch, elytral disc irregular; length 11.0-15.0 mm.

Material examined : East Garo Hills : Williamnagar, 11.iii. 1991 (1 ex.), B. C. Das coll.; East Khasi Hills : Mawphlong, 23.iv. 1970 (1 ex.), G. N. Yazdani coll.

Distribution : India : Meghalaya (East Garo Hills and East Khasi Hills), Arunachal Pradesh, Assam, Karnataka, Kerala, Orissa, Sikkim, Tamil Nadu and West Bengal. Elsewhere : Bhutan, Burma, China, Indo-China, Hainan, Malaya, Sri Lanka and Thailand.

250. *Aspidomorpha chandrika* Maulik

1918. *Aspidomorpha chandrika* Maulik, *Ann Mag. nat. Hist.*, (9) 1 : 322.

1919. *Aspidomorpha chandrika* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 331.

Diagnostic characters : The pronotum and elytra with their discs, anterior lateral angles of explanate margins of elytra and suture at apex, yellow brown to dark brown; explanate margins light yellowish and transparent; two apical segments of antennae black; length 7.0-9.0 mm.

Material examined : West Garo Hills : Above Tura, 15.vii.-30.viii. 1917 (2 exs.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills), Arunachal Pradesh and West Bengal. Elsewhere : Burma.

Remarks : First record from Meghalaya.

251. *Aspidomorpha dorsata* (Fabricius)

1787. *Cassida dorsata* Fabricius, *Mant. Ins.*, 1 : 64.

1854. *Aspidomorpha dorsata* Boheman, *Mon. Cassid.*, 2 : 296.

1919. *Aspidomorpha dorsata* : Maulik, *Fauna Brit. India. Col., Chry. (Hisp. & Cass.)* : 332.

Diagnostic characters : Dorsal surface varies from yellowish brown to red; more or less subtriangular in form, broadest at anterior angles of explanate margin; anterior lateral angles of elytral explanate margin only with dark patch; length 8.5-13.0 mm.

Material examined : West Garo Hills : Tura, 9.iii. 1991 (1 ex.), A. K. Sanyal coll.; East Khasi Hills : Shillong (2 exs.).

Distribution : India : Meghalaya (West Garo Hills and East Khasi Hills). Assam, Karnataka, Nagaland, Sikkim, Tamil Nadu and West Bengal. Elsewhere : Bangladesh, Bhutan, Burma, Celebes, Java, Malaya, Sumatra, and Thailand.

252. *Aspidomorpha furcata* Thunberg

1789. *Cassida furcata* Thunberg, *Nov. Ins. Spec.*, 5 : 87.

1919. *Aspidomorpha furcata* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 333.

Diagnostic characters : Dorsal surface varying from pale yellow to yellowish brown; only anterior angles of elytral explanate margin with dark patch; one or two apical segments of antenna black, except the extreme apex on the underside; length 6.5-7.5 mm.

Material : Not available

Distribution : India : Meghalaya (East Garo Hills). Assam, Arunachal Pradesh, Karnataka, Kerala, Orissa, Sikkim, Tamil Nadu and West Bengal. Elsewhere : Burma, China, Malaya, Phillipines, Sri Lanka, Sumatra, Sunda Is., Thailand and Vietnam.

Remarks : Kimoto (1981) recorded this species from Meghalaya.

253. *Aspidomorpha miliaris* (Fabricius)

1775. *Cassida miliaris* Fabricius, *Syst. Ent.* : 91.
 1854. *Aspidomorpha miliaris* : Boheman, *Mon. Cassid.*, 2, 261.
 1919. *Aspidomorpha miliaris* : Maulik, *Fauna Brit. India. Col., Chry. (Hisp. & Cass.)* : 334.

Diagnostic characters: General colour pale yellow brown to dark brown; elytra with variable black markings, and its explanate margins transparent with a black spot or patch on each of four corners; elytra without any post basal tubercles; ventral side either entirely brown or entirely black or partly black; explanate margins of elytra at the widest almost as broad as disc; length 9.5-15.0 mm.

Material : Not available.

Distribution : India : Meghalaya (East Khasi Hills), Andaman Is., Assam, Bihar, Karnataka, Orissa, Tamil Nadu and West Bengal. Elsewhere : Burma, China, Indo-China, New Ghinea, Phillipines, Sri Lanka and Sunda Is.

Remarks : Maulik (1919) recorded this species from Meghalaya.

Genus *Laccoptera* Boheman

1855. *Laccoptera* Boheman, *Mon. Cassid.*, 3 : 55.
 1919. *Laccoptera* : Maulik, *Fauna Brit. India. Col., Chry. (Hisp. & Cass.)* : 346.

Four species of this genus were recorded from India of which two were from Meghalaya.

254. *Laccoptera quadrimaculata* (Thunberg)

1789. *Cassida quadrimaculata* Thunberg, *Nov. Ins. Spec.*, 5 : 86.
 1910. *Laccoptera quadrimaculata* var *bohemani* : Weise, *Verh. Naturf. Ver. Brunn*, 48 : 42.
 1919. *Laccoptera quadrimaculata* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 347.

Diagnostic characters : General colour varies from dark brown to light brown; elytral margin between antero-and posterolateral spots yellowish; dorsal surface of the body generally with less than thirteen spots; pronotum with two small spots, one on each side; metasternum with transverse black patch; body more or less triangular; length 8.0 - 9.0 mm.

Material examined : Jaintia Hills : Jowari : Mooralong, 27.ix. 1988 (2 exs.), Dawki, 25.ix. 1988 (1 ex.), all V. D. Srivastava coll. ; E. Khasi Hills : Shillong, 6.viii. 1959 (2 exs.), S. N. Prasad coll. , 29.ix. 1966 (2 exs.), S. Biswas coll.

Distribution : India : Meghalaya (East Khasi Hills, East Garo Hills and Jaintia Hills), Andaman Is., Assam, Arunachal Pradesh, Bihar, Karnataka, Orissa, Sikkim, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Bhutan, Burma, China, Indo-China, Nepal, Sunda Is. and Taiwan.

255. *Laccoptera vigintisexnotata* Boheman

1855. *Laccoptera vigintisexnotata* Boheman, *Mon. Cassid.*, 3 : 66.
 1919. *Laccoptera vigintisexnotata* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 352.

Diagnostic characters : General colour brown; pronotum with four or six black spots; elytra with sixteen or nineteen or twenty six black spots; anterior angles of elytra rounded; length 10.0-10.5 mm.

Material examined : W. Garo Hills : Tura, 15.vii-15.vi. 1917 (5 exs.), S. Kemp coll.

Distribution : India : Meghalaya (East Khasi Hills and West Garo Hills), Assam. Elsewhere : Burma, Java, Malaya, Sumatra and Vietnam.

Genus *Cassida* Linnaeus

1758. *Cassida* Linnaeus, *Syst. Nat.* ed. 10, 1 : 362.

1919. *Cassida* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)*: 361.

Forty eight species of this genus were recorded from India of which four were from Meghalaya. In the present study one species is recorded from Meghalaya for the first time.

256. *Cassida obtusata* Boheman

1854. *Cassida obtusata* Boheman, *Mon. Cassid.*, 2 : 405.

1919. *Cassida obtusata* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 376.

Diagnostic characters : General colour yellowish brown; metasternum and abdominal segments (except sides) black; pronotum and elytra without markings; elytral punctures with blackish centres; tarsal claws simple not appendiculate; length 4.0 mm.

Material : Not available.

Distribution : India : Meghalaya (East Garo Hills), West Bengal. Elsewhere : Burma, China, Indo-China, Philippines, Sunda Is. and Taiwan.

Remarks : Kimoto (1981) recorded this species from Meghalaya.

257. *Cassida syratica* Boheman

1856. *Cassida syratica* Boheman, *Cat. Col. Ins. Brit. Mus.*, 9 : 129.

1919. *Cassida syratica* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 388.

Diagnostic characters : General colour yellow-brown, three or four apical segments of antennae blackish; pronotum with three black spots at base, sometimes absent or joined together; elytra generally with its elevated portions yellowish and rest black; the black spots coalescing to form lateral bands; length 5.0-5.5 mm.

Material examined : West Garo Hills : Tura, 15.vii-30.viii. 1917 (2 exs.), S. Kemp coll.

Distribution : India : Meghalaya (West Garo Hills and East Khasi Hills), Himachal Pradesh, Kerala, Sikkim, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Bhutan, Nepal and Pakistan.

258. *Cassida occursans* Spaeth

1914. *Cassida occursans* Spaeth, *Duet. Ent. Zeits.* : 560.

1919. *Cassida occursans* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 395.

Diagnostic characters : General colour shining reddish yellow; last two segments of antennae black; each elytron with a common spot on suture in front of elevation, two spots on second interstice behind middle; all these spots and bands black; length 7.5 mm.

Material examined : Ri-Bhoi : Umsning, 3.iv. 1991 (2 exs.), S. K. Saha coll.

Distribution : India : Meghalaya (East Khasi Hills and Ri-Bhoi), Arunachal Pradesh, Assam, Sikkim and West Bengal. Elsewhere : Burma.

259. *Cassida cherrapunjiensis* Maulik

1919. *Cassida cherrapunjiensis* Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 397.

Diagnostic characters : The disc of elytra black which extends obliquely along the external anterior angles of explanate margins; disc of pronotum yellow-brown; the common transverse costa at apex of basal triangular depression on elytra black; antennae yellow with two or three apical segments black; underside dark brown; length 5.5 mm.

Material : Not available.

Distribution : India : Meghalaya (East Khasi Hills).

Remarks : Maulik (1919) described this species from Meghalaya.

260. *Cassida varians* Herbst

1799. *Cassida varians* Herbst, *Natursyst. Kaf.*, 8 : 269.

1919. *Cassida varians* : Maulik, *Fauna Brit. India. Col., Chry. (Hisp. & Cass.)* : 405.

Diagnostic characters : General colour brown; a faint reddish stripe forming a U-shaped marking on each elytron, and a faint reddish line on anterior half of suture; underside yellow-brown; apical segments of antennae blackish; length 5.0 mm.

Material examined : East Khasi Hills : Cherrapunji, 2-8.x. 1914 (1 ex.) S. Kemp coll.

Distribution : India : Meghalaya (East Khasi Hills), West Bengal.

Remarks : First record from Meghalaya.

Genus *Thlaspida* Weise

1899. *Thlaspida* Weise, *Arch. f. Naturg.*, 65 (1) : 272.

1919. *Thlaspida* : Maulik, *Fauna Brit. India, Col. Chry. (Hisp. & Cass.)* : 428.

Only a single species of this genus was recorded from India.

261. *Thlaspida cribrosa* (Boheman)

1855. *Coptocyclus cribrosa* Boheman, *Mon. Cassid.*, 3 : 404.

1899. *Thlaspida cribrosa* : Weise, *Arch. f. Naturg.*, 65 : 273.

1919. *Thlaspida cribrosa* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* 428.

Diagnostic characters : General colour shining dark brown; explanate margins pale, transparent and with honeycomb structure; sternum black; length 9.0-10.0 mm.

Material : Not available

Distribution : India : Meghalaya (Khasi Hills). Elsewhere : Bangladesh, Burma and Laos.

Remarks : Maulik (1919) recorded this species from Meghalaya.

Genus *Glyphocassis* Spaeth

1914. *Glyphocassis* Spaeth, *Deut. Ent. Zeits.* : 547.

1919. *Glyphocassis* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 359.

Only one species of this genus was recorded from India but there was no record from Meghalaya.

262. *Glyphocassis trilineata* (Hope)

1831. *Cassida trilineata* Hope, In Gray, *Zool. Miscell.* : 30.

1914. *Glyphocassis trilineata* var *melanosticta* Spaeth, *Deut. Ent. Zeits* : 548.

1919. *Glyphocassis trilineata*: Maulik, *Fauna Brit. India, Col. Chry. (Hisp. & Cass.)* : 360.

Diagnostic characters : General colour varying from pale yellow to red-brown; pronotum and elytra with a black pattern which mainly consists of three broad stripes united by transverse bands; five apical segments of antennae black; length 6.0 mm.

Material examined : Jaintia Hills : Nartiana, 20.ix. 1988 (4 exs.), Jowai, Dawki, 25.ix. 1988 (2 ex.), all V D. Srivastava coll; E. Khasi Hills : Shillong, Risa Colony, 23.vi. 1975 (1 ex.), S. Biswas coll.

Distribution : India : Meghalaya (Jaintia Hills and E. Khasi Hills), Sikkim, Uttar Pradesh and West Bengal. Elsewhere : China and Nepal.

Remarks : First record from Meghalaya.

Genus *Chiridopsis* Späeth

1837. *Delovala* Chevrolat, In Dejean, *Cat. Col.*, 3 : 371, 395 (Part)

1896. *Chirida* : Weise, *Deut. Ent. Zeits.* : 12 (Part).

1919. *Chirida* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)*: 412.

Thirteen species of this genus were recorded from India of which only one from Meghalaya. The present paper includes another species from the area.

263. *Chiridopsis scalaris* (Weber) new combination

1801. *Cassida scalaris* Weber, *Observ. Ent.*, 1 : 51.

1919. *Chirida scalaris* : Maulik, *Fauna Brit. India, Col. Chry. (Hisp. & Cass.)* : 417.

Diagnostic characters : General colour varying from pale yellow to reddish brown; disc of pronotum red with six yellow spots; disc of elytra black, each with one yellow stripe which sends out several irregular transverse yellow line on either side; length 4.5-6.0 mm.

Material examined : E. Garo Hills : Williamnagar, 12.iii. 1991 (1 ex.), 11. iii. 1991 (1 ex.), 10.iii. 1991 (1 ex.), all B. C. Das coll.; W. Garo Hills : Tura, 6.iii. 1991 (1 ex.), B. C. Das coll.

Distribution : India : Meghalaya (East Khasi Hills, E. Garo Hills and W. Garo Hills), Assam, Andaman Is. and Sikkim. Elsewhere : Burma, Java, Malaya and Sumatra.

264. *Chiridopsis mimica* (Weise)

1905. *Chirida mimica* Weise, *Deut. Ent. Zeits* : 210.

1919. *Chirida mimica* : Maulik, *Fauna Brit. India, Col. Chry. (Hisp. & Cass.)* : 417.

1981. *Chiridopsis mimica* : Kimoto, *Ent. Rev. Japan*, 36(1) : 62.

Diagnostic characters : Disc of pronotum red with four yellow spots, margin yellow; disc of elytra black, each with two longitudinal dentate lines and the explanate margin yellow; length 5.0 mm.

Material : Not available.

Distribution : India : Meghalaya (East Garo Hills), Assam.

Remarks : Kimoto (1981) recorded this species from Meghalaya.

265. *Chiridopsis septemnotata* (Boheman)

1855. *Coptocycla septemnotata* Boheman, *Mon. Cassid.*, 3 : 133.

1919. *Chirida septemnotata* : Maulik, *Fauna Brit. India, Col., Chry. (Hisp. & Cass.)* : 420.

1981. *Chiridopsis septemnotata* : Kimoto, *Ent. Rev. Japan*, 36 (1) : 61.

Diagnostic characters : General colour brown, sometimes pronotum and elytra green with reddish reflection, suture with red stripes, sometimes continued to pronotum; pronotum with or without two parallel black lines in front of scutellum; each elytron with a curved row of three black spots; ventralside black except sides of abdominal sternites; length 6.0-7.0 mm.

Material examined : West Khasi Hills : Mawiong, 3.v. 1968 (1 ex.), R. K. Varshney coll.

Distribution : India : Meghalaya (West Khasi Hills), Assam, Orissa, Sikkim and West Bengal. Elsewhere : Bangladesh, Bhutan and Malaya.

Remarks : First record from Meghalaya.

SUMMARY

Two hundred sixtyfive species belonging to one hundred twenty-three genera distributed in thirteen subfamilies are reported in this paper. One new species *Pseudodera khasiensis* is described. Nine species are new records from India and eightyeight species are from Meghalaya. Key to the subfamilies and genera, and a district wise distributional chart of all the species have been provided.

ACKNOWLEDGEMENT

The author is grateful to the Director, Zoological Survey of India, Calcutta, for providing laboratory facilities for this work. He is thankful to Mr. H. Takizawa and Prof. S. Kimoto of Japan for their help and co-operation. He is also thankful to Dr. T. Sengupta and Dr. S. Biswas, Senior Coleopterists of this department, for their constant encouragement and help.

REFERENCES

- Chen, S. H. 1939. New genera and species of Chinese Halticinae. *Sinensia*, **10**(1-6) : 1-91.
- Daccordi, M. 1979. Nuove specie di Crisomelide della Regione Orientale (Coleoptera : Chrysomelidae : Chrysomelinae). *Ent. Basiliensis*, **4** : 443-461.
- Gressitt, J. L. and Kimoto, S. 1961. The Chrysomelidae (Coleoptera) of China and Korea, Part I. *Pac. Ins. Monogr.*, **1A** : 1-299.
- Gressitt, J. L. and Kimoto, S. 1963. Ibid, Part II. *Pac. Ins. Monogr.*, **1B** : 301-1026.
- Jacoby, M. 1908. *The Fauna of British India, including Ceylon and Burma. Coleoptera, Chrysomelidae*, **1** : XX + 554 pp.
- Kimoto, S. 1970. A list of Nepalese Chrysomelid specimens preserved in Zoologische Sammlung des Bayerischen Staates, Munchen. *Khumbu Himal*. Bd. 3, Lfg. 3 : 412-421.
- Kimoto, S. 1979. The Galerucinae (Coleoptera : Chrysomelidae) of Nepal, Bhutan and Northern Territories of India, in the National Museum in Basel, I. *Ent. Basiliensis*, **4** : 463-478.
- Kimoto, S. 1981. The Cassidinae of Nepal, Bhutan and Northern Territories of India, in the National History Museum in Basel (Coleoptera : Chrysomelidae). *Ent. Rev. Japan*, **36**(1) : 55-62.
- Kimoto, S. 1982. Ibid, part II. *Ent. Rev. Japan*, **37**(1) : 7-24.
- Kimoto, S. and H. Takizawa, 1983. Chrysomelid beetles of Nepal collected by the Himalayan Expedition 1979 of the National Science Museum, Tokyo (Part I). *Bull. Nat.-Sci. Mus., Tokyo*, (A) **9** (2) : 83-96.
- Lopatin, I. 1979. Neue und wenig bekannte Chrysomeliden (Coleoptera) Von Nord - Indien aus der Sammlung des Naturhistorischen Museums Basel. *Ent. Basiliensis*, **4** : 431-441.
- Lopatin, I. 1982. Übersicht der Cryptocephalus - Arten der Gruppe exsulans suffr. aus dem Himalaya (Coleoptera : Chrysomelidae : Cryptocephalinae). *Ent. Basiliensis*, **7** : 413-421.
- Lopatin, I. 1984. Chrysomelidae aus dem Himalaya (Coleoptera). *Ent. Basiliensis*, **9** : 329-339.
- Maulik, S. 1919. *The Fauna of British India, including Ceylon and Burma. Coleoptera Chrysomelidae (Hispinæ & Cassidinæ)* : XII + 440 pp.
- Maulik, S. 1926. *The Fauna of British India including Ceylon and Burma. Coleoptera Chrysomelidae (Chrysomelinae & Halticinae)* : XIII + 442 pp.

- Maulik, S. 1936. *The Fauna of British India including Ceylon and Burma. Coleoptera Chrysomelidae (Galerucinae)* : XIV + 648 pp.
- Scherer, G. 1969. Die Alticinae des indischen Subkontinentes (Coleoptera - Chrysomelidae). *Pac. Ins. Monogr.*, **22** : 1-251.
- Takizawa, H. 1983. Chrysomelid - beetles of India in the collection of the National Institute of Agricultural Science, Tsukuba. (Coleoptera). *Ent. Rev. Japan*, **38**(1): 65-79.

The District-wise Distribution of the Chrysomelid Species known from Meghalaya

Name of the Species	Garó Hills							
	W. Garo	E. Garo	S. Garo	Khasi Hills	W. Khasi	E. Khasi	Ri-Bhoi	Jaintia Hills
	1	2	3	4	5	6	7	8
Subfamily Sagrinae								
1. <i>Sagra femorata</i> (Drury)						+		
2. <i>S. carbunculus</i> Hope						+		
Subfamily Megalopodinae								
3. <i>Colabaspis quinquemaculata</i> (Baly)	+							
Subfamily Criocerinae								
4. <i>Lema coromandelina</i> (F)	+							
5. <i>L. fulvula</i> Lacord.	+							
6. <i>L. rufotestacea</i> Clark	+							
7. <i>L. trifasciata</i> Jac.	+							
8. <i>L. gahani</i> Jac.				+				
9. <i>L. cyanea</i> F.							+	+
10. <i>Lema</i> sp.								+
1. <i>L. nigricollis</i> Jac		+						+
12. <i>L. constrictofasciata</i> Jac.					+			
13. <i>Liliocerus impressa</i> (F.)	+			+				
14. <i>L. locuples</i> (Clark)						+		
15. <i>L. cyaneicollis</i> (Pic)						+		

Name of the Species	1	2	3	4	5	6	7	8
Subfamily Clytrinae								
16. <i>Aspidolopha nitidicollis</i> Jac.					+			
17. <i>Diapromorpha pallens</i> (F.)		+				+	+	+
18. <i>Epimela viridicollis</i> (Jac.)				+				
19. <i>Clytra gracilis</i> (Locord.)								+
20. <i>C. montana</i> (Jac.)				+				
21. <i>Smaragdina subdivisa</i> (Jac.)						+		
Subfamily Zeugophorinae								
22. <i>Zeugophora yunnanica</i> Chen & Pu						+		
Subfamily Cryptocephalinae								
23. <i>Adiscus</i> sp.	+							
24. <i>Coenobius fulvicornis</i> Jac.						+		
25. <i>C. baronii</i> Lopatin						+		
26. <i>Melixanthus assamensis</i> Jac.								+
27. <i>Cryptocephalus exsulans</i> Suffr.								+
28. <i>C. pallidipennis</i> Jac.						+		
29. <i>C. dificiens</i> Suffr.						+		
30. <i>C. herbsti</i> Suffr.	+							
31. <i>C. guttifer</i> Suffr.				+				
32. <i>C. baroniurbanii</i> Lopatin						+		
33. <i>C. senguptai</i> Lopatin						+		
34. <i>Cryptocephalus</i> sp.		+						

Name of the Species	1	2	3	4	5	6	7	8
Subfamily Chlamisinae								
35. <i>Chlamisus stercoralis</i> (Gressitt)						+		
Subfamily Eumolpinae								
36. <i>Chrysolampra flavipes</i> Jac.		+				+		
37. <i>C. thoracica</i> Jac.		+				+		+
38. <i>C. indica</i> Jac.						+		
39. <i>Callisina assamensis</i> Jac.	+							
40. <i>Pagria signata</i> (Mots.)								+
41. <i>P. kancraensis</i> (Jac.)		+				+		
42. <i>Pagria</i> sp.						+		
43. <i>Nodina tarsalis</i> Duv.						+		
44. <i>Basilepta duvivieri</i> Jac.						+		
45. <i>B. plagiosum</i> Baly				+				
46. <i>B. pretiosum</i> (Jac.)	+							
47. <i>B. inconspicuum</i> (Jac.)								+
48. <i>B. subdepressum</i> (Jac.)						+		
49. <i>Basilepta</i> sp.						+		
50. <i>Chrysonopa rotundicollis</i> (Jac.)				+				
51. <i>Rhyparida khasianensis</i> Jac.				+				
52. <i>Rhyparida</i> sp.						+		
53. <i>Scelodonta vittata</i> Olivier	+							
54. <i>S. indica</i> Duv.								+
55. <i>S. dillwyni</i> (Stephens)	+							
56. <i>Colasposoma semicostatum</i> Jac.						+	+	

Name of the Species	1	2	3	4	5	6	7	8
57. <i>C. pretiosum</i> Baly	+	+		+				
58. <i>C. metallicum</i> Clark							+	
59. <i>C. downesi</i> Baly						+		
60. <i>C. splendidum</i> (F.)	+							
61. <i>Trichochrysea vestita</i> Baly	+			+				
62. <i>Aoria nigripes</i> (Baly)	+					+		
63. <i>A. bowringi</i> (Baly)	+					+	+	
64. <i>A. nigrita</i> Jac.	+							
65. <i>Pseudaoria burmanica</i> Jac.	+							
66. <i>Macrocoma rufotibialis</i> (Jac.)				+				
67. <i>Abirus</i> sp.						+		
68. <i>Pachnephorus</i> sp.	+							
69. <i>Cleoporus variabilis</i> (Baly)						+		+
70. <i>Cleorina aeneomicans</i> (Baly)	+							
71. <i>C. jacobyi</i> Duvivier						+		
72. <i>C. assamensis</i> Jac.						+	+	
73. <i>Colaspoides montana</i> Jac.				+				
74. <i>Platycorynus peregrinus</i> (Herbst)							+	
75. <i>P. mouhoti</i> (Baly)	+							
76. <i>P. gratiosus</i> Baly						+		
77. <i>P. asphodelus</i> Marshall	+						+	
Subfamily Chrysomelinae								
78. <i>Chrysolina aurata aurata</i> (Suff.)	+							
79. <i>Chrysolina</i> sp.								+

Name of the Species	1	2	3	4	5	6	7	8
80. <i>Agrosteomela indica</i> (Hope)						+		
81. <i>A. fallaciosa</i> Stal	+						+	
82. <i>Humba cyanicollis</i> (Hope)						+		
83. <i>Plagiodera versicolora</i> (Laich.)						+		
84. <i>Agasta formosa</i> Hope	+					+	+	
85. <i>Chrysomela populi</i> Linn.						+		
86. <i>Paropsides duodecimpustulata</i> (Gebler)						+		
87. <i>P. nigropunctata</i> Jac.						+		
88. <i>P. chennelli</i> Baly						+		
89. <i>Potanina assamensis</i> Baly	+							
90. <i>Potanina</i> sp.							+	
Subfamily Galerucinae								
91. <i>Apophylia sericea</i> (F.)						+		+
92. <i>A. metallica</i> Jac				+				
93. <i>Pseudadimonia variolosa</i> (Hope)	+					+		
94. <i>Atysa marginata</i> (Hope)						+		
95. <i>A. gigantea</i> Maulik						+		
96. <i>Periclitena vigorsi</i> (Hope)		+		+				
97. <i>Mimastracella</i> sp.						+		
98. <i>Galerucella grisescens</i> (Joannis)	+					+		+
99. <i>Pyrrhalta dimidiaticornis</i> (Jac.)		+						
100. <i>Meristata dohrni</i> Baly						+		
101. <i>M. fraternalis</i> (Baly)						+		
102. <i>Oides andrewasi</i> Jac	+							

Name of the Species	1	2	3	4	5	6	7	8
103. <i>O. coccinelloides</i> Gahan						+		
104. <i>O. maculata</i> (Oliv.)						+	+	
105. <i>O. livida</i> (F.)	+			+				
106. <i>O. scutellata</i> (Hope)						+		
107. <i>Hoplasoma sexmaculata</i> (Hope)		.				+		
108. <i>Hoplasoma costatipennis</i> Jac.							+	
109. <i>H. unicolor</i> (Illiger)	+	+				+		
110. <i>Aulacophora almora</i> Maulik						+		
111. <i>A. foveicollis</i> (Lucas)	+					+	+	
112. <i>A. lewisii</i> Baly	+					+		
113. <i>A. bicolor</i> (Weber)	+							
114. <i>A. rosea</i> (F.)	+							
115. <i>Pseudocophora bicolor</i> Jacoby	+							
116. <i>P. pectoralis</i> Baly	+							
117. <i>Agetocera hopei</i> Baly	+				+	+	+	
118. <i>A. lobicornis</i> Baly	+							
119. <i>Paridea tetraspilota</i> (Hope)						+		
120. <i>P. balyi</i> Jac.				+				
121. <i>P. unifasciata</i> Jac.						+		
122. <i>P. octomaculata</i> (Baly)		+						
123. <i>P. perplexa</i> (Baly)	+					+		
124. <i>P. ruficollis</i> Jac.		+						
125. <i>P. livida</i> Duv.						+		
126. <i>Haplosomoides chinmatra</i> (Maulik)							+	

Name of the Species	1	2	3	4	5	6	7	8
127. <i>H. krishila</i> (Maulik)		+						
128. <i>H. egena</i> Weise		+						
129. <i>Mimastra limbata</i> Baly					+	+		+
130. <i>M. scutellata</i> Jac.							+	
131. <i>Cneorane rubicollis</i> (Hope)						+		
132. <i>C. rugulipennis</i> Baly						+		
133. <i>C. rubyana</i> Maulik		+						
134. <i>C. cariosipennis</i> Fairm.						+		
135. <i>Miltina dilatata</i> Chap.							+	
136. <i>Morphosphaera japonica</i> (Hornst.)						+		
137. <i>Monolepta albomaculata</i> Maulik						+		
138. <i>M. khasiensis</i> Weise				+				
139. <i>M. scripta</i> (Mots.)				+				
140. <i>M. orientalis</i> Jac.		+						
141. <i>M. signata</i> (Oliv.)	+	+			+	+	+	+
142. <i>M. nigripes</i> (Oliv.)						+		
143. <i>M. erratica</i> (Jac.)				+				
144. <i>M. leechi</i> Jac.						+		
145. <i>M. lunata</i> Gressitt & Kimoto								+
146. <i>Monolepta</i> sp. 1	+							
147. <i>Monolepta</i> sp. 2						+		
148. <i>Aplosonyx chalybaeus</i> (Hope)	+							
149. <i>A. scutellata</i> (Baly)						+		+
150. <i>A. duvivieri</i> (Jac.)						+	+	

Name of the Species	1	2	3	4	5	6	7	8
151. <i>A. orientalis</i> (Jac.)		+				+		
152. <i>Khasia kraatzi</i> Jac.				+				
153. <i>Kanarella unicolor</i> Jac.						+		
154. <i>Sphenoraia (Sphenoraiodes) rutilans</i> (Hope)						+		
155. <i>S. (Sphenoraia) bicolor</i> (Hope)							+	
156. <i>Cassena</i> sp.						+		
157. <i>Trichobalya bowringii</i> Baly		+						
158. <i>Dercetina flavocincta</i> (Hope)		+				+	+	
159. <i>D. histrio</i> (Baly)	+	+						
160. <i>D. subcaerulea</i> (Jac.)				+				
161. <i>Hylaspes longicornis</i> Baly					+		+	
162. <i>Gallerucida singularis</i> Harold							+	
163. <i>Doryxena grossa</i> (Hope)								+
164. <i>D. geniculata</i> Baly						+		
165. <i>Mimagitocera flava</i> (Jac.)				+				
Subfamily Alticinae								
166. <i>Nonarthra variabilis</i> Baly						+		
167. <i>Psylliodes balyi</i> Jac.								+
168. <i>Argopistes lamprotes</i> Maulik						+		
169. <i>A. quadrimaculatus</i> Jac.						+		
170. <i>Philopona shima</i> Maulik						+		
171. <i>Hyphasis limbatipennis</i> Jac.						+		
172. <i>Hyphasis</i> sp.								+
173. <i>Hespera sericea</i> Weise						+		

Name of the Species	1	2	3	4	5	6	7	8
174. <i>H. rufipes</i> Maulik				+				
175. <i>H. nigripes</i> Maulik						+		
176. <i>H. punctata</i> Chen				+				
177. <i>H. flavipes</i> Chen				+				
178. <i>Pentamesa duodecimmaculata</i> Harold						+		
179. <i>Sphaeroderma himalayensis</i> Scherer		+						
180. <i>S. luteipenne</i> Weise							+	
181. <i>S. minuta</i> Chen		+						
182. <i>S. mandarensis</i> Jac.		+						
183. <i>Bhamoina varipes</i> (Jac.)				+				
184. <i>Chabria marginata</i> Chen						+		
185. <i>Hemipyxis moseri</i> (Weise)						+		+
186. <i>H. flavipennis</i> (Illiger)						+		
187. <i>H. lusca</i> (F.)	+					+		
188. <i>H. elongata</i> (Jac.)						+		
189. <i>Longitarsus puncti</i> Maulik						+		
190. <i>L. khasiensis</i> Chen				+				
191. <i>L. hsienweni</i> Chen						+		
192. <i>Aphthona nigrilabris</i> Duv.	+							
193. <i>A. andrewesi</i> Jac.				+				
194. <i>Aphthona</i> sp.						+		
195. <i>Chaetocnema (Chaetocnema) harita</i> Maulik								+
196. <i>C. (Tlanoma) assamensis</i> Scherer						+		
197. <i>Nisotra viridipennis</i> Mots.						+		

Name of the Species	1	2	3	4	5	6	7	8	
198. <i>N. gemella</i> (Erichson)	+					+			
199. <i>N. khasiensis</i> Scherer						+			
200. <i>Podontia rufocastanea</i> Baly	+					+			
201. <i>P. quatuordecimpunctata</i> Linn.	+					+	+		
202. <i>P. affinis</i> (Grondal)							+		
203. <i>Ophrida marmorea</i> (Wiedemann)		+							
204. <i>O. flavopustulata</i> (Baly)				+					
205. <i>O. scaphoides</i> (Baly)						+			
206. <i>Clitea picta</i> Baly	+								
207. <i>Eudolia nila</i> Maulik	+								
208. <i>E. ratula</i> Maulik								+	
209. <i>Manobia</i> sp.								+	
210. <i>Altica himalayensis</i> (Chen)				+					
211. <i>Phygasia dorsata</i> Baly	+			+					
212. <i>P. hookeri</i> Baly				+					
213. <i>Crepinema tenimberensis</i> (Jac.)						+			
214. <i>Pseudodera khasiensis</i> n. sp.						+			
215. <i>Xuthea orientalis</i> Baly				+					
216. <i>X. yunnanensis</i> Heikertinger				+					
217. <i>Micraphthona nigrita</i> Jac.				+					
Subfamily Hispinae									
218. <i>Gonophora pulchella</i> Gestro								+	
219. <i>Agonita cherapunjiensis</i> (Maulik)						+			
220. <i>A. immaculata</i> (Gestro)						+			

Name of the Species	1	2	3	4	5	6	7	8	
221. <i>Oncocephala quadrilobata</i> Guerin		+							
222. <i>Callispa dimidiatipennis</i> Baly	+								
223. <i>C. karena</i> Maulik	+								
224. <i>C. insignis</i> Baly	+								
225. <i>Estigmena chinensis</i> Hope				+					
226. <i>Anisodera guerini</i> Baly	+					+			
227. <i>Lasiochila cylindrica</i> (Hope)	+						+		
228. <i>L. excavata</i> (Baly)						+			
229. <i>Leptispa pygmaea</i> Baly						+		+	
230. <i>Macrispa krishnalohita</i> Maulik	+								
231. <i>Prionispa sonata</i> Maulik				+					
232. <i>P. tenuicornis</i> Gestro				+					
233. <i>Prionispa</i> sp.								+	
234. <i>Hispa brachycera</i> Gestro				+					
235. <i>Rhadinosa lebongensis</i> Maulik		+				+		+	
236. <i>Dicladispa birendra</i> (Maulik)						+	+		
237. <i>Dactylispa assamensis</i> Weise				+					
238. <i>D. brevispinosa</i> (Chapuis)						+			
239. <i>D. bindusara</i> Maulik				+					
240. <i>D. lohita</i> Maulik						+			
241. <i>D. praefica</i> Weise	+								
Subfamily Cassidinae									
242. <i>Notosacantha maculipennis</i> (Boh.)						+			
243. <i>N. tenuicula</i> Spaeth						+			

Name of the Species	1	2	3	4	5	6	7	8
244. <i>Basiprionota decemmaculata</i> (Boh.)	+	+						
245. <i>B. maculipennis</i> (Boh.)	+	+						
246. <i>Craspedonta leayana</i> (Lat.)		+				+		
247. <i>Epistictina viridimaculata</i> (Boh.)	+	+				+		
248. <i>Aspidomorpha indica</i> Boh.	+							+
249. <i>A. sanctaegrucis</i> (F.)		+				+		
250. <i>A. chandrika</i> Maulik	+							
251. <i>A. dorsata</i> (F.)	+					+		
252. <i>A. furcata</i> Thunberg		+						
253. <i>A. miliaris</i> (F.)						+		
254. <i>Lacoptera quadrimaculata</i> (Thunb.)		+				+		+
255. <i>L. vigintisexnotata</i> Boh.	+					+		
256. <i>Cassida obtusata</i> Boh.		+						
257. <i>C. syratica</i> Boh	+					+		
258. <i>C. occursans</i> Spaeth						+	+	
259. <i>C. cherrapunjiensis</i> Maulik						+		
260. <i>C. varians</i> Herbst						+		
261. <i>Thalaspida cribrosa</i> (Boh.)				+				
262. <i>Glyphocassis trilineata</i> (Hope)						+		+
263. <i>Chiridopsis scalaris</i> (Weber)	+	+				+		
264. <i>C. mimica</i> (Weise)		+						
265. <i>C. septemnotata</i> (Boh.)					+			

Remarks : The present chart shows that the collections were made mainly around Shillong and Tura. As a result very poor collections are available from E. Garo Hills, W. Khasi Hills, Ri-Bhoi and Jaintia Hills districts and totally absent from S. Garo Hills district.

A few species are included here from literature whose locality where mentioned only "Khasi Hills" These are kept in a separate column.

COLEOPTERA : FAMILY SILVANIDAE

T. K. PAL AND T. SENGUPTA

Zoological Survey of India
Calcutta - 700 053

INTRODUCTION

Silvanidae is a sufficiently distinct moderately large family of the section Clavicornia under the superfamily Cucujoidea of the suborder Polyphage. The representatives of Silvanidae are commonly known as 'flat bark beetles'. They are usually small (1.3-4.5 mm), reddish-brown and occasionally with dorsal spots. The Silvanidae can be recognised by its 5-5-5 tarsal formula in both sexes with smallest penultimate segment, usually closed behind front coxal cavities, outwardly opened mesocoxal cavities, 11-segmented antennae usually clubbed. Though a few-species damage stored food products of vegetable origin the silvanids are largely subcorticolous by habit, and a good number of species are associated with vegetable debris. The works of Pal and Sengupta (1977, 1979, 1984); Pal (1981, 1985); Pal, Sengupta and Crowson (1984) and Sengupta and Pal (in press) have contributed to the knowledge of silvanid fauna of Meghalaya. These record some seventeen species from the State which are dealt with in the present account. The place 'Phulbari' as noted in earlier publications under ASSAM for the data in specimen-labels, should come under MEGHALAYA as per present demarcation of this State.

SYSTEMATIC ACCOUNT

- Family SILVANIDAE
Subfamily SILVANINAE
Genus 1. *Silvanus* Latreille

1. *Silvanus lewisi* Reitter

1876. *Silvanus lewisi* Reitter, *Col. Hefte* 15 : 76 (Japan).
1908. *Silvanus lewisi* ; Grouvelle, *Annl. Soc. ent. Fr.* 77 : 491.
1912. *Silvanus lewisi* ; Grouvelle, *Annl. Soc. ent. Fr.* 81 : 33.
1973. *Silvanus lewisi* ; Halstead, *Bull. Br. Mus. nat. Hist. (Ent.)* 29 (2) : 52.
1977. *Silvanus lewisi* ; Pal and Sengupta, *Oriental Ins.* 11 (2) : 272.

This is a common, widely distributed species in India and some Oriental and African countries. This species can be recognised by its large eyes, temple shorter than one eye facet with pointed outer apical angle; elongated prothorax slightly convergent posteriorly, anterior spine about half as long as eye and its tip pointed. Length 2.08 - 2.47 mm.

Material : 8 ex. Meghalaya : Phulbari, 4 ex., 24. xi. 1974, Sengupta, under bark of *Shorea robusta*; 1 ex., 24.xi.1974, Sengupta, under bark of *Bombax* sp., Dainadubi Reserve Forest, 3 ex., 18.xi.1974, T. Sengupta, under bark of fallen *Shorea robusta* tree.

Distribution : India : Assam, Meghalaya, West Bengal, Himachal Pradesh, Tamil Nadu, Karnataka, Kerala, Andaman Is.; Sri Lanka; Vietnam; Taiwan; Japan; Malaysia; Singapore; Indonesia; Philippines; New Guinea; Solomon Is.; Australia; Congo; Ghana.

2. *Silvanus imitatus* Pal and Sengupta

1977. *Silvanus imitatus* Pal and Sengupta, *Oriental Ins.* 11 (2) : 273 (Phulbari, Meghalaya).

This species is closely related to *S. lewisi* but can be distinguished by its prothorax comparatively broader, excluding anterior spines the prothorax hardly longer than broad (1.00 : 0.98), anterior one-third of lateral margin of prothorax not sinuate before formation of anterior spine, puncturation on head and pronotum slightly coarser and lateral margins of elytra more distinctly wavy near middle. So far this species is known only from its type - locality. Length 2.41 mm.

Material : 1 ex. *Holotype*, Meghalaya : Phulbari, 24.xi.1974, T. Sengupta, under bark of log.

3. *Silvanus difficillis* Halstead

1973. *Silvanus difficillis* Halstead, *Bull. Br. Mus. nat. Hist. (Ent.)* 29 (2) : 73 (Keruing, Malay).

1977. *Silvanus difficillis* : Pal and Sengupta, *Oriental Ins.* 11 (2) : 279.

This species is characterised by its eyes about half as long as head, temple about as long as 1.5 to 2 eye facets with broad outer apical angle; elongated prothorax, anterior spine about half as long as eye with slightly blunt tip, well developed lateral depressions on pronotal disc; aedeagus with apical projection of median lobe short and blunt, apex of each paramere bilobed, one lobe with single long seta and other lobe with two short setae. Length 2.20 - 2.282 mm.

Material : 1 ex. Meghalaya : Dainadubi Reserve Forest, 18.xi.1974, T. Sengupta, under bark of *Shorea robusta*.

Distribution : India : Arunachal Pradesh, Assam, Meghalaya, West Bengal, Himachal Pradesh, Uttar Pradesh, Madhya Pradesh, Maharashtra, Karnataka, Kerala, Tamil Nadu, Andaman Is.; Sri Lanka; Burma; Vietnam; Taiwan; Malaysia; Singapore; Indonesia; Phillipines; Moluccas; I. Delcas; Solomon Is., Samoan Is., Australia; New Ireland; West Africa.

Genus 2. *Silvanoprus* Reitter

2. *Silvanoprus scuticollis* (Walker)

1859. *Silvanus scuticollis* Walker, *Ann. Mag. nat. Hist.*, 2 : 53 (Sri Lanka).

1876. *Silvanus triangulus* Reitter, *Col. Hefte* 15 : 60.

1908. *Silvanus scuticollis* : Grouvelle, *Annls. Soc. ent. Fr.*, 77 : 491.

1912. *Silvanoprus scuticollis* : Pal and Sengupta, *Entomological Basiliensia* 4 : 70.

This is a common and widespread species of *Silvanoprus* in India. This species can easily be distinguished from other species of the genus by its characteristic transverse and triangular shape of prothorax gradually narrowed posteriorly. Length 2.17-2.55 mm.

Material : 3 ex. Meghalaya : Phulbari, 3 ex., 24.xi.1974, T. Sengupta, leaf garbage.

Distribution : India : Assam, Sikkim, West Bengal, Bihar, Uttar Pradesh, Tamil Nadu; Sri Lanka; Malaysia; Indonesia; Japan; East Africa; Madagascar; France; Guyana; West Indies.

5. *Silvanoprus indicus* Pal and Sengupta

1979. *Silvanoprus indicus* Pal and Sengupta, *Entomologica Basiliensia* 4 : 71 (Mikir hills, Assam).

This is a distinct species of *Silvanoprus*, can be characterized by its temple about as long as 2 to 3 eye facets, not flattened beneath eye and its outer apical margin broad; short anterior spine of prothorax rather broadly pointed at apex; median lobe of aedeagus distinctly elongated, narrowed posteriorly and rather blunt at apex. Length 2.29 - 2.33 mm.

Material : 3 ex. *Paratypes*, Meghalaya : Tura, 23.xi. 1974, T. Sengupta, under dry cut grass.

Distribution : India : Assam, Meghalaya, Sikkim, Bhutan.

6. *Silvanoprus cephalotes* (Reitter)

1876. *Silvanus cephalotes* Reitter, *Col. Hefte* 15 : 62 (Japan).

1908. *Silvanus longicollis* : Grouvelle (nec. Reitter), *Annl. Soc. ent. Fr.* 77 : 492.

1912. *Silvanoprus longicollis* : Grouvelle (nec. Reitter), *Annl. Soc. ent. Fr.* 81 : 342.

1979. *Silvanoprus cephalotes* : Pal and Sengupta, *Entomologica Basiliensia* 4 : 70

1984. *Silvanoprus cephalotes* : Pal, *Rec. zool. Surv. India* 81(3-4) : 339.

This species can be distinguished by its very short temple, lateral margin of prothorax slightly rounded and anterior spine of prothorax minute, front and middle femora with a distinct spine near middle of posterior margin in both sexes; aedeagus with median lobe slightly tapered at apex, each paramere with a pair of setae - one long and other short. Length 2.02-2.42 mm.

Material : 9 ex. Meghalaya : Shillong, 5 ex., 27.iv.1976, T. Sengupta, haystack; Tura, 3 ex., 25.xi.1974, T. Sengupta, under dry cut grass; Phulbari, 1 ex., 24.xi. 1974, T. Sengupta, leaf garbage.

Distribution : India : Assam, Meghalaya, Sikkim, West Bengal, Bihar, Delhi, Uttar Pradesh, Karnataka, Tamil Nadu; Bhutan; Nepal; Sri Lanka; Indonesia; Japan; China.

7. *Silvanoprus angusticollis* (Reitter)

1876. *Silvanus angusticollis* Reitter, *Col. Hefte* 15 : 59 (Japan).

1912. *Silvanoprus angusticollis* : Grouvelle, *Annl. Soc. ent. Fr.* 81 : 341.

1979. *Silvanoprus angusticollis* : Pal and Sengupta, *Entomologica Basiliensia* 4 : 71.

This species resembles *S. cephalotes* (Reitter) but can be distinguished by its prothoracic anterior spine larger and lateral margin of prothorax distinctly sinuate near anterior one-third; front and middle femora devoid of any spine; aedeagus with median lobe distinctly acuminate at apex, parameres

bilobed at apex and lobes are almost equally long, inner lobe with a long seta and outer lobe with two shorter setae. Length 2.55-3.0 mm.

Material : 3 ex. Meghalaya : Shillong, 3 ex., 29.xi.1974, T. Sengupta, leaf garbage.

Distribution : India : Meghalaya, Sikkim, West Bengal (Darjeeling District), Uttar Pradesh, Kashmir, Tamil Nadu; Bhutan; Nepal; Japan.

8. *Silvanoprus longicollis* (Reitter)

1876. *Silvanus longicollis* Reitter, *Col. Hefte* 15 : 60 (Sri Lanka).

1908. *Silvanus longicollis* : Grouvelle (nec. Reitter), *Ann. Soc. ent. Fr.* 77 : 491.

1912. *Silvanoprus longicollis* : Grouvelle (nec. Reitter), *Annls. Soc. ent. Fr.* 81 : 341.

1984. *Silvanoprus longicollis* : Pal, *Rec. zool. Surv. India* 81 (3-4) : 339.

This species is characterized by its long temple, large antennal scape, and ocellate punctures on head and prothorax; aedeagus with median lobe slightly tapered at apex, each paramere with a long apical seta. Length 2.17-2.38 mm.

Material : 14 ex. Meghalaya : Dainadubi Reserve Forest, 9 ex., 18.xi.1974, T. Sengupta, leaf garbage; Sarengina, Dainadubi, 3 ex., 19.xi.1974, T. Sengupta, dead cut grass with hays; Tura, 2 ex., 23.xi.1974, T. Sengupta, under dry cut grass.

Distribution : India : Assam, Meghalaya, West Bengal, Uttar Pradesh, Tamil Nadu; Sri Lanka; Malaysia; Indonesia; China; Japan; Madagascar; East Africa.

Genus 3. *Silvanoides* Halstead

9. *Silvanoides cribricollis* (Grouvelle)

1897. *Silvanus cribricollis* Grouvelle, *Annli Mus. civ. Stor. nat. Ciacmo Doria* 38 (series 2 18) : 397 (Engano, Sumatra).

1912. *Neosilvanus cribricollos* : Grouvellé, *Annls. Soc. ent. Fr.* 81 : 324.

1985. *Silvanoides cribricollis* : Pal, *Rec. zool. Surv. India* 82 (1-4) : 196.

This species can be recognised by its dorsally flattened, parallel-sided shiny body, short antenna with segments 4 to 8 somewhat moniliform, anterior spines of prothorax prominent and situated beneath the level of anterior margin, lateral depressions on pronotal disc. & slightly developed; aedeagus with outer apical lobe of each paramere with two long setae and inner lobe with two short setae. Length 2.64 mm.

Material : 2 ex. Meghalaya : Songsak, 2 ex., 20.xi.1974, T. Sengupta, under bark of fallen tree.

Distribution : India : Meghalaya, Arunachal Pradesh; Indonesia (Sumatra).

Genus 4. *Protosilvanus* Grouvelle

10. *Protosilvanus lateritius* (Reitter)

1878. *Silvanus lateritius* Reitter, *Verh. zool. bot. Ges. Wien* 28 : 194 (Sri Lanka).

1908. *Silvanus lateritius* : Grouvelle, *Anns. Soc. ent. Fr.* 77 : 490.
 1912. *Silvanus (Protosilvanus) lateritius* : Grouvelle, *Anns. Soc. ent. Fr.* 81 : 336.
 1973. *Protosilvanus lateritius* : Halstead, *Bull. Brit. Mus. nat. Hist. (Ent.)* 29 (2) : 96.
 1984. *Protosilvanus lateritius* : Pal and Sengupta, *Oriental Ins.* 18 : 237.

This is one of the most common species of Indian Silvanidae found under bark of various trees. This species can be easily recognised by its flat dorsum, antennal segments 9 to 10 with apical spines, temple flattened beneath eye and shelf-like; front angle of prothorax with short prominent anterior spine; 7th elytral interstice carinate; aedeagus with median lobe tapered at apex, each paramere with a few apical setae, of which three are longer than the others. Length 2.94-4.64 mm.

Material : 16 ex. Meghalaya : Dainadubi Reserve Forest, 8 ex., 18.xi. 1974, T. Sengupta, under bark of *Shorea rubusta* : Songsak Reserve Forest, 8 ex., 21.xi.1974, T. Sengupta, under bark of *Shorea robusta*.

Distribution : India : Arunachal Pradesh, Meghalaya, Assam, West Bengal, Bihar, Uttar Pradesh, Himachal Pradesh, Kerala, Tamil Nadu, Andaman, Is.; Nepal; Bangladesh; Burma; Sri Lanka; Thailand; Vietnam; Malaysia; Singapore; Indonesia (Sumatra); Philippines; Taiwan; China; Japan.

Genus 5. *Monanus* Sharp

11. *Monanus concinnulus* (Walker)

1858. *Monotoma concinnulus* Walker, *Ann. Mag. nat. Hist. (3)* 2 : 207 (Sri Lanka).
 1867. *Silvanus signatus* Frauentfeld, *Verh. zool.-bot. Ges Wien* 17 : 438.
 1874. *Cryptamorpha fasciatus* Wollaston, *Entomologist's mon. Mag.* 10 : 169.
 1876. *Cryptamorpha concinnula* : *Entomologist's mon. Mag.* 13 : 122.
 1876. *Cathartus fascipennis* Reitter, *Col. Hefte* 15 : 129.
 1899. *Emporius signatus* : Ganglbauer, *Die Käfer von Mitteleuropa* 3 : 586.
 1908. *Emporius concinnulus* : Grouvelle, *Anns. Soc. ent. Fr.* 77 : 489.
 1911. *Emporius concinnulus* : Reitter, *Fauna Germanica* 3 : 48.
 1912. *Monanus (s. str.) concinnulus* : Grouvelle, *Anns. Soc. ent. Fr.* 81 : 371.
 1981. *Monanus (s. str.) concinnulus* : Pal, *Oriental Ins.* 15 (3) : 247.
 1984. *Monanus concinnulus* : Pal, *Rec. zool. Surv. India* 81 (3-4) : 346.

Distinct transverse median blackish spot on shiny ovoid elytra, laterally deniticate prothorax and clavate antennae are the most conspicuous character of this species in the field; aedeagus with elongated parameres, each paramere with an apical long and two short setae. This is one of the common and fast-moving species of Indian Silvanide. Length 1.60-2.35 mm.

Material : 6 ex. Meghalaya : Phulbari, 6 ex., 24.xi.1974, T. Sengupta, leaf garbage.

Distribution : India : Meghalaya, West Bengal, Bihar, Uttar Pradesh, Delhi, Tamil Nadu, Karnataka; Outside India this species is widely distributed in both the Old and New worlds.

Genus 6. *Psammoecus* Latreille12. *Psammoecus andrewesi* Grouvelle

1908. *Psammoecus andrewesi* Grouvelle, *Anns. Soc. ent. Fr.* 77 : 476 (Nilgiri hills, Tamil Nadu).
 1979. *Psammoecus andrewesi* : Pal and Sengupta, *Entomologica Basiliensia* 4 : 75.
 1984. *Psammoecus andrewesi* : Pal, *Rec. zool. Surv. India* 81 (3-4) : 346.
 1985. *Psammoecus andrewesi* : Pal, *Misc. Publ. Rec. zool. Surv. India, Occ. Pap.* 71 : 10.

This is a rather distinct species and can be recognised by its elytra being clearly narrowed behind middle and subacuminate at apex, antennae unicolourous, blackish linear longitudinal spots on each elytron, head across eyes distinctly narrower than prothorax across anterior margin, lateral margins of prothorax and elytra explanate and six large glandular punctures along lateral margin of each elytron. Length 2.60-3.35 mm.

Material : 1 ex. Meghalaya : Garo Hills, Songsak, 19.v.1976, W. Wittmer and C. Baroni.

Distribution : India : Meghalaya, Tamil Nadu; Nepal.

13. *Psammoecus trimaculatus* Motschulsky

1858. *Psammoecus trimaculatus* Motschulsky, *Etud. Ent.* 7 : 45 (Sri Lanka).
 1859. *Cucujus incommodus* Walker, *Ann. Mag. nat. Hist.* (3) 3 : 53.
 1876. *Psammoecus trimaculatus* : Waterhouse, *Entomologist's mon. Mag.* 13 : 124.
 1876. *Telephanus cruciger* Waterhouse, *Entomologist's mon. Mag.* 13 : 125.
 1879. *Psammoecus trimaculatus* : Reitter, *Verh. zool.-bot. Ges. Wien* 29 : 509.
 1906. *Psammoecus trimaculatus* : Grouvelle, *Anns. Soc. ent. Fr.* 75 : 125.
 1908. *Psammoecus trimaculatus* : Grouvelle, *Anns. Soc. ent. Fr.* 77 : 476.
 1979. *Psammoecus trimaculatus* : Pal and Sengupta, *Entomologica Basiliensia* 4 : 75.
 1984. *Psammoecus trimaculatus* : Pal, *Rec. zool. Surv. India* 81 (3-4) : 352.
 1985. *Psammoecus trimaculatus* : Pal, *Misc. Publ. Rec. zool. Surv. India, Occ. pap.* 71 : 41.

This species shows resemblance with the South Indian species, *P. nitidus* Grouvelle but can be distinguished by its convex pronotum not explanate on lateral sides and shorter prothoracic teeth. This species also has close similarity with *P. impressicollis* Grouvelle but can be separated by the presence of longitudinal sutural spot on elytra, prothorax less transverse, transverse depression in front of prothoracic base indistinct, and teeth on lateral margin of prothorax hardly twice longer than wide. This is the most widely distributed species of Indian *Psammoecus*. Length 2.23-2.94 mm.

Material : 5 ex. Meghalaya : Phulbari, 1 ex., 24.xi.1974, T. Sengupta, leaf garbage; Tura, 2 ex., 23.xi.1974, T. Sengupta, under dry cut grass; Shillong, 1 ex., 29.xi.1974, T. Sengupta, leaf garbage; 1 ex., 27.iv.1971, T. Sengupta, haystack.

Distribution : India : Arunachal Pradesh, Assam, Meghalaya, West Bengal, Bihar, Orissa, Uttar Pradesh, Jammu & Kashmir, Delhi, Karnataka, Tamil Nadu, Kerala; Nepal; Bhutan; Sri Lanka; Malaysia; Japan; Madagascar.

14. *Cryptamorpha kaszabi* Pal and Sengupta

1979. *Cryptamorpha kaszabi* Pal and Sengupta, *Entomologica Basiliensia* 4 : 78 (Cherapunji, Musmai, Meghalaya).

This species can be characterized by its elongate prothorax being widest near front margin and lateral margin distinctly sinuate before posterior angle, transverse impressed line across prothoracic base indistinct, pedicel about as long as antennal segment 3, a more or less rounded blackish spot present on posterior half of each elytron and a longitudinal sutural spot posterior to them. Length 2.82-2.83 mm.

Material : 14 ex. *Holotype* and 13 *paratypes* : *Holotype*, Meghalaya : Cherapunji, Musmai, 18.xi.1967, Gy. topal, beaten material; *Paratypes*, 10 ex., data same as holotype; *Paratypes*, 2 ex., Charapunji, Musmai, 18.xi.1967, Gy. Topal, netting in grasses; *Paratype* 1 ex., Cherapunji, 19.xi.1967, Gy. Topal, beaten material.

Distribution : India : Meghalaya, West Bengal, (Darjeeling District).

15. *Uleiota spinicollis* (Gory)

1829-44. *Brontes spinicollis* Gory : In Guérin-Meneville, *Iconographie du Regne Animal de G. Curvier. Insects* : 205 (Java, Indonesia).

1877. *Hyliota atrata* Reitter, *Mitt. Munch. Ent. Ver.* 1 : 427.

1901. *Hyliota spinicollis* : Arrow, *Trans. ent. Soc. London* 1901 : 596.

1930. *Uleiota spinicollis* : Hetschko, *Coleopt. Cat.* 109 : 7.

1984. *Uleiota spinicollis* : Pal, Sengupta and Crowson, *Oriental Ins.* 18 : 219.

1985. *Uleiota spinicollis* : Pal, *Rec. zool. Surv. India*, 82 (1-4) : 198.

This species can be easily recognised by its lateral sides of prothorax with large and distinct teeth, antennal segments 5 to 10 about as broad as scape; aedeagus with median lobe broadly elongated, parameres slender and elongated, each paramere with a few long apical setae and short setae on its surface. Length 9.37-11.56 mm.

Material : 3 ex. Meghalaya, Shillong, 1960 m., 1 ex., v. 1925, C.F.C. Beeson; Shillong, Mowphlong, 2 ex., 27.xi.1974, T. Sengupta, under bark of *Shorea robusta*.

Distribution : India : Arunachal Pradesh, Meghalaya; Burma, Indonesia.

16. *Uleiota alticola* Pal, Sengupta and Crowson

1984. *Uleiota alticola* Pal, Sengupta and Crowson, *Oriental Ins.* 18 : 221 (Shillong, Meghalaya).

1985. *Uleiota alticola* : Pal, *Rec. zool. Surv. India* 82 (1-4) : 198.

This species resembles a Ceylonese species, *Uleiota serricollis* Candeze but can be distinguished by its elytral interstices distinctly narrower than rows of punctures, transverse depression on vertex absent, temple about as long as 4 to 5 eye facets; aedeagus with median lobe broadly elongated and tapered at apex, parameres short and slender, each paramere with a single long apical seta and few short setae on inner margin. Length 5.20-5.50 mm.

Material : 4 ex. *Holotype* and 3 *paratypes*. *Holotype*, Meghalaya : Shillong, Police Bazar, 28.xi.1974, T. Sengupta, under bark of Orkhol tree; *Paratypes* 3 ex., data same as holotype;

Distribution : India : Arunachal Pradesh, Meghalaya, West Bengal, (Darjeeling District).

17. *Uleiota puberula* (Reitter)

1878. *Uleiota puberula* Reitter, *Stettin ent. Ztg.* 39 : 316 (India).

1888. *Hyliota puberula* : Grouvelle, *Annali Mus. civ. Stor. Nat. Giacomo Doria* (2) 6 : 625.

1930. *Uleiota puberula* : Hetschko, *Coleopt. Cat.* 109 : 7.

1984. *Uleiota puberula* : Pal, Sengupta and Crowson, *Oriental Ins.* 18 : 223.

This species can be recognised by its short temple whose outer apical angle pointed, antennal segment 3 about as long as pedicel, sublateral ridges present on flat pronotum; aedeagus with median lobe broadly elongated and broadly pointed at apex, each paramere with single long apical seta.

Material : 1 ex. Meghalaya : Garo hills, Tura, 350-440 m., 15.vi-15.vii. (19) 17, S. Kemp.

Distribution : India : Meghalaya, West Bengal, Bihar; Burma.

Key to the Genera and Species of Silvanidae from Meghalaya

1. Front coxal cavities externally closed behind; tarsi simple or lobed; antennal scape moderately long; facies subconvex or ovoid, if markedly flattened and parallel-sided, antenna clubbed 2
 - Front coxal cavities externally open behind, tarsi simple; antennal scape markedly long, antenna long and filiform; facies parallel-sided with dorsal surface markedly flattened..... (*Uleiota*) 15
2. Head without fronto- clypeal suture and devoid of longitudinal groove or striae; antennal insertions hidden under projection of frons, antennal club distinct..... 3
 - Head with distinct fronto-clypeal suture and a pair of longitudinal grooves or striae on vertex; antennal insertions somewhat exposed, antennal club not distinguished 13
3. Lateral margin of prothorax finely serrated and without large teeth or denticles. Elytra unicolourous 4
 - Lateral margin of prothorax with 8 to 10 blunt denticles. Transverse blackish spot near middle of elytra.....
.....*Monanus concinnulus*
4. Dorsal surface markedly flattened; sterno- pleural suture of prothorax extending to lateral margin, front coxae widely separated; apical segments of maxillary and labial palpi shorter than segment 2; antennal segments 9 to 10 with apical spines; 7th elytral interstice carinate
.....*Protosilvanus lateritius*

- Dorsal surface moderately flattened; sterno-pleural suture of prothorax extending to anterior spine, front coxae less widely separated, apical segments of maxillary and labial palpi longest; antennal segments 9 and 10 devoid of apical spines; elytral interestices not carinate 5
- 5. Apex of anterior spines lying beneath front margin of prothorax; antennal segments 4 to 8 about as broad as long; femoral lines on abdominal ventrite 1 opened; dorsal surface of head and prothorax rather sparsely punctured and somewhat shiny.....
..... *Silvanoides cribricollis*
- Apex of anterior spines lying in a same level or beyond front margin of prothorax; antennal segments 4 to 8 elongated; femoral lines on ventrite 1 closed; dorsal surface of head and prothorax with dense, coarse punctures and rather dull 6
- 6. Tarsi Simple and not lobed (*Silvanus*)
..... 7
- Tarsal segment 3 strongly lobed below.....(*Silvanoprus*)
..... 9
- 7. Temple markedly short and represented by a thin platform. Length of temple shorter than width of one eye facet and its outer apical angle pointed 8
- Temple distinct and thick, length of temple longer than one eye facet and its outer apical angle broad.....
.....*Silvanus difficillis*
- 8. Prothorax distinctly elongated, distinctly longer than broad excluding anterior spines (1.00 : 0.84-0.88), anterior one-third of lateral margin sinuate before formation of anterior spine
..... *Silvanus lewisi*
- Prothorax short and broad, hardly larger than broad excluding anterior spine (1.00 : 0.98), anterior one-third of lateral margin not sinuate before formation of anterior spine
.....*Silvanus imitatus*
- 9. Prothorax broader than long, width of prothorax across anterior spines more than 1.5 times as broad as width across posterior angles, prothorax distinctly narrowed posteriorly, lateral margins almost straight, shape of prothorax somewhat triangular
..... *Silvanoprus scuticollis*
- Prothorax longer than broad, width of prothorax across anterior spines less than 1.25 times as broad as width across posterior angles, prothorax slightly narrowed posteriorly behind middle, lateral margin distinctly curved, shapes of prothorax different..... 10
- 10. Temple of head moderately long and not flattened beneath eye, about as long as two to three eye facets and inwardly notched
.....*Silvanoprus indicus*

- Temple of head very short or long and distinctly flattened beneath eye; temple either short, thin with outer apical angle pointed or long with outer apical margin rounded 11
11. Temple of head short, length of temple about as long as one or two eye facets and its outer apical angle somewhat pointed; puncturation of head and prothorax reticulate-type, coarse and dense 12
- Temple of head long, length of temple about as long as eye or longer than eye and its outer apical margin rounded; puncturation of head and prothorax ocellate-type, coarse and somewhat globular *Silvanoprus longicollis*
12. Front and middle femora with a distinct spine near middle; lateral margins of prothorax more or less uniformly curved outwardly; anterior spine of prothorax small, projected in front and about as long as one-fourth of eye *Silvanoprus cephalotes*
- Front and middle femora devoid of any spine; lateral margins of prothorax distinctly wavy and sinuate across anterior one-third; anterior spine of prothorax larger, about half as long as eye and projected somewhat outwardly, *Silvanoprus angusticollis*
13. Apical segments of labial and maxillary palpi securiform or strongly transverse; elytra ovoid and without scutellary strioles; head devoid of curved transverse groove on anterior part of gular region; tarsal segments 1 to 3 lobed below (*Psammoecus*) 14
- Apical segments of labial and maxillary palpi elongated and more or less fusiform; elytra more or less parallel-sided with distinct scutellary strioles; head with a distinct curved transverse groove on anterior part of gular region; tarsal segment 3 bilobed and segments 1 and 2 slightly uniobed. Longitudinal grooves of head unite on posterior side of vertex and forming an U-shaped structure; elongated prothorax; yellowish species with black markings on elytra *Cryptamorpha kaszabi*
14. Elytra distinctly narrowed behind middle and subacuminate at apex, blackish linear longitudinal spots on each elytron; antenna unicolourous *Psammoecus andrewesi*
- Elytra narrowed behind middle and rounded at apex, single globular spot on each elytron with longitudinal extension along suture; antennal segments 7 to 10 blackish *Psammoecus trimaculatus*
15. Lateral sides of prothorax with large and distinct teeth; aedeagus with long parameres *Uleiota spinicollis*
- Lateral sides of prothorax with small denticles; aedeagus with short parameres 16
16. Temple of head long, about as long as 4 to 5 eye facets and its outer apical angle broad *Uleiota alticola*
- Temple of head short, about as long as 1 to 2 eye facets and its outer apical angle somewhat pointed *Uleiota puberula*

SUMMARY

17. Species belonging to 8 genera under 4 subfamilies are dealt with in this paper. Of these, 4 species viz., *Silvanus imitatus*, *Silvanoprus indicus*, *Cryptamorpha kaszabi* and *Uleiota alticola* are restricted to the Northeast India (including Darjeeling-Sikkim Himalaya) only.

ACKNOWLEDGEMENT

The authors are indebted to the Director, Zoological Survey of India for providing necessary facility for the work.

REFERENCES

- Pal, T. K. 1981. On *Monanus* Sharp (Coleoptera : Silvanidae) from India. *Oriental Ins.* 15 (3) : 241-255.
- Pal, T. K. 1985. A revision of Indian *Psammoecus* Latreille (Coleoptera : Silvanidae) from India. Occ. pap. no 71, *Misc. Publ. Rec. zool. Surv. India*, 1-54 pp.
- Pal, T. K. and Sengupta, T. 1977. A revision of *Silvanus* (Coleoptera : Silvanidae) from India. *Oriental Ins.* 11 (2) : 269-284.
- Pal, T. K. and Sengupta, T. 1979. Ergebnisse der Bhutan Expedition 1972 des Naturhistorischen Museums in Basel. Coleoptera : Fam. Silvanidae. *Entomologica Basiliensia* 4 : 69-82.
- Pal, T. K. and Sengupta, T. 1984. On *Protosilvanus* (Coleoptera : Silvanidae) from India. *Oriental Ins.* 18 : 235-240.
- Pal, T. K., Sengupta, T and Crowson, R. A. 1984. Revision of *Uleiota* Latreille (Coleoptera : Silvanidae) from India and Sri Lanka and its systematic position. *Oriental Ins.* 18 : 213-233.
- Sengupta, T. and Pal, T. K. *Fauna of India and neighbouring Countries* Coleoptera : Family Silvanidae. Zoological Survey of India, Calcutta (in press).

INSECTA : SATYRIDAE

D. P. BHATTACHARYA

Zoological survey of india

M-Block, New Alipore

Calcutta 700 053

INTRODUCTION

Shield (1989) recorded about two thousand four hundred species of Satyridae from the world while Gaede (1931) listed some sixteen hundred species. The family is represented by more than one hundred eighty species and subspecies from India (Talbot, 1947) of which fifty one species and subspecies are recorded from Meghalaya.

Swinhoe (1893) published a list of lepidoptera from the Khasi Hills. Marshall and de Niceville (1882) and de Niceville (1886, 1890), Moore (1890-91), Bingham (1905), Fruhstorfer (1911), Antram (1924), Evans (1932), Talbot (1947), Wynter-Blyth (1957), Smart (1985) and D'Abrera (1985) are some of the selected references of this family from the Indian regions including Meghalaya. Parsons and Cantlie (1951) and Cantlie (1952) recorded some more butterflies from Khasis and Jaintia Hills.

De Niceville and Marshall are among the oldest collector's name available in the National Zoological Collection of the Zoological Survey of India, Calcutta and these collections were made during the years 1879, 1882, 1886, 1896, 1919 and 1870 respectively. Also old collections purchased or received from Shillong Museum during 1880-1886 are also included here. The collections of the recent years were mainly conducted by different survey parties of Zoological Survey of India from time to time and included in the National Collection during the years 1974 to 1991.

The present paper contains a full systematic account of forty two species and subspecies of Satyridae along with nine more species and subspecies added as appendix at the end with part systematic account etc., in view of non availability of material at hand. Talbot (1947) described only eighteen species and subspecies from Meghalaya in *Fauna British India* while parsons and Cantlie (1951) recorded some forty six species and subspecies from Khasis and Jaintia hills in Meghalaya and also from Assam. Presently fifty one species and subspecies are recorded from Meghalaya of which six are new locality records. For keys, diagnostic characters, distribution etc. mainly Talbot's work (1947) has been followed.

Key to the genera of Satyridae

1. Eyes hairy 2
Eyes not hairy 4
2. Fore wing with vein 1A & 2A swollen at base *Mycalesis*
Fore with vein 1A & 2A not swollen at base 3

3. Hind wing with vein R_s and M_1 well separated at their origin *Lethe*
 Hind wing with veins R_s and M_1 close together at their origin *Orinoma*
4. Hind wing with a precostal cell *Elymnias* Hubner
 Hind wing without a precostal cell 5
5. Fore wing with median vein swollen 6
 Fore wing with median vein not swollen 9
6. Fore wing with anterior margin of cell not longer than the lower margin 7
 Fore wing with anterior margin of cell markedly longer than the lower margin 8
7. Fore wing with $1dc$ excurved *Erebia*
 Fore wing with $1dc$ \straight or incurved *Ypthima*
8. Fore wing with vein R_2 from cell *Orsotrioena*
 Fore wing with vein R_2 from R_5 *Ragadia*
9. Palpi with hairs porrect *Neorina*
 Palpi with hairs appressed 10
10. Hind wing with vein Cu_{1a} from just before end of cell *Ethope*
 Hind wing with vein Cu_{1a} from well before end of cell *Melantis*

1. Genus *Mycalesis* Hubner

1818. *Mycalesis* Hubner, *Zutr. Samml. exot. Schmett.*, 1 : 17.

Forty one species and subspecies under this genus are known from India of which eight species and subspecies are recorded from Meghalaya, all of which are represented here.

Key to the groups of *Mycalesis*

1. Fore wing upperside with a cavity along vein $1A + 2A$, covered by hair pencil in male *Francisca* Group
 2
 Fore wing upperside without a cavity along vein $1A + 2A$, and no hair pencil in male 2
2. Fore wing with R_2 from or near end of cell 3
 Fore wing with R_2 well beyond end of cell *Oroatis* Group
3. Hind wing with Cu_{1a} arising before end of cell *Nicotia* Group
 Hind wing with Cu_{1a} arising from or beyond end of cell 4
4. Hind wing with vein Cu_{1a} shortly stalked with M_3 *Patnia* Group
 Hind wing with vein Cu_{1a} not stalked with M_3 5

5. Fore wing with 1dc nearly straight *Fuscum* Group
 Fore wing with 1dc incurved or angled 6
6. Hind wing with a hair pencil on vein 1A + 2A.....*Mystes* Group
 Hind wing without a hair pencil on vein 1A + 2A..... *Mineus* Group

Francisca Group

Nine species and subspecies under this group are known from India of which three are recorded from Meghalaya.

Key to the species of *Francisca* Group

1. Fore wing upperside with a subapical white band*anaxias*
 Fore wing upperside without a subapical white band 2
2. Hind wing with vein Cu_{1a} from end of cell*francisca*
 Hind wing with vein Cu_{1a} from before end of cell *gotama*

1. *Mycalesis anaxias aemata* Fruhstorfer

1911. *Mycalesis anaxias aemata* Fruhstorfer, In Seitz's *Macrolep. World, Fauna Indo-Australia*, 9 : 353.

1947. *Mycalesis anaxias aemata*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 119 - 120.

Material examined : 1 ex., Cherrapunji, Nov. 1861, 1 ex., Khasi Hills, 2 exs., Shillong (Shillong Mus. Coll.) and 1 ex., Khasi Hills (De Niceville Coll.), all old collections from National Zoological Collection of Z.S.I.

Diagnostic Characters : Upperside deep brown in colour, paler in female; a marginal and a submarginal pale line. Fore wing with a subapical white oblique band. Hind wing with the band ashy-grey. Underside of both wings with a narrower pale distal border, more or less dusted with lilac; and the marginal line ochraceous. Fore wing with three ocelli on pale border, a large one in area 2 and two subapical in 5 and 6. Hind wing with seven ocelli. Wing exp. 48-55 mm.

Distribution India : Meghalaya (E. Khasi Hills, Jaintia Hills), Assam, Manipur, Nagaland, Sikkim, West Bengal; also Bangladesh and Myanmar.

Remarks : Commonly known as "The White-Bar Bushbrown", the subspecies was recorded from Dawki, South Jaintia hills and Syndai, 60 miles of Shillong-Sylhet road by Parsons and Cantlie, 1951.

2. *Mycalesis francisca sanatana* Moore

1857. *Mycalesis sanatana* Moore, *Cat. Lep. Ins. E.I.C.*, 1 : 231.

1947. *Mycalesis francisca sanatana*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 121-124.

Material examined : Three exs., Khasi Hills, 3 exs., Shillong (Old collections of Z.S.I. with no other data).

Diagnostic characters : Colour upperside deep brown and the outer borders paler. Fore wing with a large ocellus in area 2 and a smaller one in area 5. Hind wing unmarked. Underside both wings proximal two thirds dark brown, distal third light unber brown; ocelli minute or nearly obsolete in dry season form. Wing exp. 48-55 mm.

Distribution : India : Meghalaya (Khasis, Shillong), Assam, Himachal Pradesh, Nagaland, Sikkim; also Myanmar and Vietnam (Annam).

Remarks : The subspecies popularly known as 'Lilacine Bushbrown' is not rare in status and is recorded earlier from Umran, 21 miles from Shillong.

3. *Mycalesis gotama charaka* Moore

1874. *Mycalesis charaka* Moore, *Proc. zool. Soc. Lond.*, 1874. p. 566.

1974. *Mycalesis gotama charaka*, Talbot, *Fauna Brit. India*, Butterflies, Vol. 2 : 124-125.

Material examined : Seven exs., Shillong, E. Khasis, (de Niceville coll.), old collection of N.Z.C.

Diagnostic characters : Colour upperside dark brown; outer margin paler and with dark brown line. Fore wing with a large ocellus in area 2 and a smaller one in area 5. Hind wing without any mark. Underside paler brown. Fore wing with a third ocellus in area 6, other two same as on upperside. Hind wing normally with seven small ocelli of which the third from the tornus is largest and the fourth small or absent. Wing exp. 45-50 mm.

Distribution : India : Meghalaya (Shillong), Assam, Manipur, Nagaland, also Bangladesh (Sylhet); Myanmar and Vietnam (Annam, Tong-King).

Remarks : Commonly known as the "Chinese Bushbrown", the species is recorded ro the first time from Meghalaya.

Key to the species of *Nicotia* group

1. Upperside unmarked.....*malsarida*
 Upperside marked 2
2. Cilia white *mestra*
 Cilia pale brown 3
3. Fore wing upperside with blind ocelli *malsara*
 Fore wing upperside with pupilled ocelli 4
4. Both wings underside nearly back. Brands salmon-coloured, hair-pencil yellow-brown
 *misenus*
 Both wings underside brown. Brands and hair-pencil black..... *nicotia*

4. *Mycalesis malsara* Moore

1857. *Mycalesis malsara* Moore, *Cat. Lep. Ins. E.I.C.*, 1 : 231.

1947. *Mycalesis malsara*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 157-159.

Material examined : Two exs., Khasi hills, 1 ex., Shillong (de Niceville coll.). Old NZ Collection.

Diagnostic characters : Upperside a clearly defined pale discal band. Underside mottled; darker in male, paler in female; pale yellow or white discal line; male brands black and tuft brown. Wing exp. 40-45 mm.

Distribution : India : Meghalaya (Khasis, Shillong and Syndai), Assam to Sikkim also recorded from Orissa and Kumaon (U.P.); and Myanmar (Rangoon).

Remarks : The species popularly known as "The White-Line Bushbrown", is common in status except Orissa and Kumaon where it is rare.

5. *Mycalesis misenus* de Niceville

1889. *Mycalesis (Samanta) misenus* de Niceville, *J. Bombay Nat. Hist. Soc.*, 4, pl. A., fig. 8 (o).

1947. *Mycalesis misenus* Talbot, *Fauna Brit. India, Butterflies*, 2 : 156.

Material examined : Three exs., Khasi Hills (O. Moller and de Niceville coll.). Old collection from N.Z.C. with no other data.

Diagnostic characters : Underside darker, outer area before discal line almost black, mottled at base; male brands salmon-coloured and tuft yellow-brown. Upperside fore wing with an ocellus in area 2 and two to three smaller subapical ones. Hind wing with a spot in area 2, others minute. Upperside fore wing usually with four ocelli and hind wing seven. Wing exp. 40-45 mm.

Distribution : India : Meghalaya (Khasi Hills) and Assam to Sikkim.

Remarks : The species commonly known as "The Salmon – Branded Bushbrown", is rare in status.

6. *Mycalesis nicotia* Hewitson

1851. *Mycalesis nicotia* Hewitson, In Doubleday, Westwood and Hewitson, *Gen. Diurn. Lep.*, p. 394, pl. 66, fig. 4 (♀).

1957. *Mycalesis nicotia*, Wynter-Blyth, *Butterflies of the Indian Region*, p. 89.

Material examined : Five exs., Khasi Hills (de Niceville coll.), 1 ex., Shillong (Shillong Mus. coll.) and 1 ex., Khasi Hills (Purchased), all old collection from N.Z.C.

Diagnostic characters : Upperside both wings with a large ocellus in area 2 and with submarginal and marginal pale lines. Underside fore wing with four and hind wing with seven ocelli. Wing exp. 55-60 mm.

Distribution : India : Meghalaya (Khasi Hills and Shillong), Manipur, Nagaland, Sikkim, Uttar Pradesh (Kumaon, Mussouri), West Bengal; also Myanmar.

Remarks : The species commonly known as "The Bright-Eye Bushbrown", is generally rare but not rare in status according to Talbot (1947).

7. *Mycalesis malsarida* Butler

1868. *Mycalesis malsarida* Butler, *Cat. Satyr. Brit. Mus.*, p. 134, pl. 3, fig. 14.

1957. *Mycalesis malsarida*, Wynter-Blyth, *Butterflies of the Indian Region*, p. 89.

Material examined : Four exs., Khasi Hills, and 1 ex., Shillong (de Niceville coll.). No other details available.

Diagnostic characters : Colour vandyke-brown. Wings rounded; upperside with double terminal lines. Underside with violet discal line; fore wing with five ocelli, hind wing with seven in wet-season form. Wing exp. 45-50 mm.

Distribution : India : Meghalaya (Dawki, Khasi Hills and Shillong), also Assam.

Remarks : The species is commonly known as 'The Plain Bushbrown' and is rare in status. The distribution of the species is restricted to eastern India in Assam and Meghalaya only.

8. *Mycalesis mestra mestra* Hewitson

1862. *Mycalesis mestra mestra* Hewitson, *Exot. Bull.*, 3 : 79, pl. 1, fig. 2.

1947. *Mycalesis mestra mestra*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 154.

Material examined : Six exs., Khasi Hills, 1 ex., Cherrapunji, 26.9.1896 (de Niceville coll.) and 3 exs., Shillong (Shillong Mus. coll.), all old collections from N.Z.C.

Diagnostic characters : Upperside with a small ocellus in area 2 on both wings. Underside with the proximal area of both wings speckled; post discal band very prominent. Hind wing in female with submarginal and marginal lines white and prominent. Wing exp. 60-70 mm.

Distribution : India : Meghalaya (Cherrapunji, Khasi Hills, Shillong) and Assam.

Remarks : The subspecies commonly known as 'The White-Edged Bushbrown', is rare in status and its distribution is restricted to eastern India in Assam and Meghalaya states only.

2. Genus *Lethe* Hubner

1819. *Lethe* Hubner, *Verz. bek. Schmett.*, p. 56.

Sixty two species and subspecies are recorded from India under this genus of which twenty four are known from Meghalaya. Seventeen species and subspecies have been represented here, others are appended at the end due to paucity of material at hand.

Key to groups of *Lethe*

1. Hind wing underside without an ocellus in area 7 2
Hind wing underside with an ocellus in area 7 *Yama* group
2. Hind wing underside with more than one band in the cell *Sura* group
Hind wing underside with not more than one band in the cell *Minerva* group

Key to the species of *Sura* group

- Hind wing with vein Cu_{1a} arising before end of cell *sidonis*
Hind wing with vein Cu_{1a} arising from end of cell *sura*

9. *Lethe sidonis* (Hewitson)

1863. *Debis sidonis* Hewitson, *Exot. Butt.*, p. 77.

1947. *Lethe sidonis*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 172-175.

Material examined : Four exs., Shillong (Purchased), 2 exs., Khasi Hills (de Niceville coll). All old NZ Collection.

Diagnostic characters : Underside fore wing with apical spots or ocelli; hind wing ocelli on an even arc. Wing exp. 45-60 mm.

Distribution : India : Meghalaya (Khasis, Shillong), Assam, Himachal Pradesh, Manipur, Nagaland, Sikkim, Uttar Pradesh, West Bengal; also Afghanistan; Bhutan; Myanmar; Nepal and Tibet.

Remarks : The species popularly known as 'The Common Woodbrown' is not rare in status.

10. *Lethe sura* (Doubleday)

1849. *Zophoessa sura* Doubleday, In Doubleday and Westwood, *Gen. Diurn. Lep.*, 1 : 201-242, pl. 61, fig. 1(♀).

1947. *Lethe sura*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 187-188.

Material examined : One ex., Shillong, 1 ex., Khasi Hills (de Niceville coll.) and 3 exs., Shillong (Shillong Mus. coll.). All old NZ Collection.

Diagnostic characters : Upperside fore wing uniform dark brown. Underside hind wing inner edge of the discal band more or less straight between veins M_1 and M_3 and widening to costa; pale areas lilac in male and yellowish in female.

Distribution : India : Meghalaya (Khasi Hills and Shillong), Nagaland, Sikkim, West Bengal; also Bangladesh (Sylhet); Bhutan and Myanmar.

Remarks : Commonly known as 'The Lilacfork' the species is not rare in status.

Key to the species of *Minerva* group

- | | |
|--|----------------|
| 1. Hind wing with vein Cu_{1a} arising at or close to end of cell..... | 2 |
| Hind wing with vein Cu_{1a} arising before end of cell | 11 |
| 2. Fore wing with cilia chequered..... | 3 |
| Fore wing with cilia not chequered | 5 |
| 3. Fore wing upperside without a white band in male | 4 |
| Fore wing upperside with a white band in male | <i>confusa</i> |
| 4. Fore wing underside with a single pale band across the cell..... | <i>europa</i> |
| Fore wing underside with broad dark inner bar in the cell | <i>rohria</i> |
| 5. Hind wing underside with the ocelli more or less incomplete | 6 |
| Hind wing underside with the ocelli entire | 8 |

6. Fore wing upperside with discal line prominent in female *mekara*
 Fore wing upperside unmarked in female..... 7
7. Hind wing underside with discal dark line strongly bent outwards
 in the middle..... *chandica*
 Hind wing underside with discal dark line less bent outwards in the middle*distans*
8. Fore wing with the apex not produced *insana*
 Fore wing with the apex produced..... 9
9. Underside with distal area prominently paler *vindhya*
 Underside uniform..... 10
10. Hind wing upperside with a spot in area 4.....*kansa*
 Hind wing upperside without a spot in area 4*sinorix*
11. Fore wing upperside with an even oblique white discal band..... *verma*
 Fore wing upperside without an even oblique white discal band *latiaris*

11. *Lethe europa niladana* Fruhstorfer

1911. *Lethe europa niladana* Fruhstorfer, In Seitz's *Macrolep. World*, 9 : 315.

1947. *Lethe europa niladana*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 198-199.

Material examined : Two exs., Khasi Hills (de Niceville coll.), 2 exs., Shillong (Shillong Mus. coll.), all old collections from N.Z.C.

Diagnostic characters : Fore wing fringe chequered. Female upperside fore wing always with a continuous white band. Male without bands. Underside pale dark blackish brown. Hind wing with no discal band. Wing exp. 65-75 mm.

Distribution : India : Meghalaya (Khasi Hills and Shillong), Assam, Sikkim, Uttar Pradesh, West Bengal; also Myanmar; Thailand and Vietnam (Tong-King).

Remarks : Popularly known as 'The Bamboo Treebrown' the subspecies is common in status.

12. *Lethe rohria rohria* (Fabricius)

1787. *Papilio rohria* Fabricius, *Mant. Ins.*, 2 : 45.

1947. *Lethe rohria rohria*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 200-201.

Material examined : One ex., Shillong, Mid Nov. 1870 (G.F.L. Marshall coll.), old collection from N.Z.C.

Diagnostic characters : Upperside vandyke-brown, female slightly darker at apex of fore wing. Fore wing with apical and costal white spots. Underside hind wing with discal band, ocelli in areas 3 and 4, sometimes 5, elongated and distorted. Wing exp. 60-70 mm.

Distribution : India : Meghalaya (Byrnihat, Dowki, Nongpoh, Shillong), Jammu and Kashmir, Panjab, Sikkim, Uttar Pradesh, West Bengal; also Java; Malaya; Myanmar and Yunnan.

Remarks : The subspecies popularly known as 'The Common Treebrown' is common in status.

13. *Lethe confusa confusa* Aurivillius

1898. *Lethe confusa* Aurivillius, *Ent. Tidskr.*, **18** [1897] : 147.

1947. *Lethe confusa confusa*, Talbot, *Fauna Brit. India, Butterflies*, **2** : 205-207, fig. 67.

Material examined : Two exs., Khasi Hills, (Purchased) and 2 exs., Shillong (Shillong Mus coll.), old collection from N.Z.C., also 1 ex., Shillong, 9.v.1976 (G.S. Arora coll.).

Diagnostic characters : Upperside vandyke-brown. Hind wing dentate at vein M_3 . Fore wing with a discal, oblique, slightly curved, white band; two subapical white spots. Wing exp. 50-55 mm.

Distribution : India : Meghalaya (Khasi hills, Shillong), Assam, Nagaland, Sikkim, Uttar Pradesh, West Bengal; also China; Malaya; Myanmar; Thailand and Vietnam (Tong-King).

Remarks : Popularly known as 'The Banded Treebrown' the subspecies is common in status. This is the first specific report of the subspecies from Meghalaya.

14. *Lethe mekara zuchara* Fruhstorfer

1911. *Lethe mekara zuchara* Fruhstorfer, In Seitz's *Macrolep. World*, **9** : 319.

1947. *Lethe mekara zuchara*, Talbot, *Fauna Brit. India, Butterflies*, **2** : 210.

Material examined : One ex., Khasi Hills (de Niceville coll.) and 2 exs., Shillong (Shillong Mus. coll.), all old collection from N.Z.C.

Diagnostic characters : Upperside male umber-brown. Hind wing with a strongly marked posterior submarginal ochraceous-red patch with four ocelli. Upperside fore wing of female without ocelli. Wing exp. 45-75 mm.

Distribution : India : Meghalaya (Byrnihat, Dawki, Khasi Hills, Nongpoh, Shillong and Syndai), Assam, Nagaland; also Mergui Islands and Myanmar.

Remarks : The subspecies popularly known as 'The Common Red Forester' is common in status. This is the first specific report of the subspecies from Meghalaya.

15. *Lethe chandica chandica* (Moore)

1857. *Debis chandica* Moore, *Cat. Lep. Ins., E.I.C.*, **1** : 219.

1947. *Lethe chandica chandica*, Talbot, *Fauna Brit. India, Butterflies*, **2** : 211-213.

Material examined : Two exs., Shillong, (Shillong Mus. and de Niceville coll.), all old collections from N.Z.C.

Diagnostic characters : Upperside of both wings in male velvety brownish-black, in female dull ochraceous-red. Fore wing underside with four to six pale ocelli in straight series and hind wing with six ocelli. Female upperside fore wing with a post-discal, broad, angulate white bar ending in a white spot and a subapical white small spot. Hind wing with a series of black spots; discal band angulated at M_3 in both sexes. Wing exp. 65-75 mm.

Distribution : India : Meghalaya (Byrnihat, Cherrapunji, Khasi Hills and Shillong), Arunachal Pradesh, Assam, Nagaland, Sikkim and West Bengal; also Myanmar and Thailand.

Remarks : Commonly known as 'The Angled Red Forester', the subspecies is not rare in status.

16. *Lethe distans* Butler

1870. *Lethe distans* Butler, *Trans. ent. Soc. Lond.*, Pt. 4: 485-520.

1957. *Lethe distans*, Wynter-Blyth, *Butterflies of the India Region*, p. 93.

Material examined : 1 ex., Khasi Hills (de Niceville coll.), old collection from N.Z.C.

Diagnostic characters : Upperside male bright ochraceous brown. Fore wing with one or two subapical white spots. Hind wing with apical half orange-red; a post discal curved row of five black spots. Underside very similar to *chandica*. Female upperside ground colour deeper. Fore wing with a discal, oblique, short and broad bar, with two detached white spots, bent inwards at an angle to it. Wing exp. 70-80 mm.

Distribution : India : Meghalaya (Khasi Hills), Sikkim, West Bengal; and Myanmar.

Remarks : The species commonly known as 'The Scarce Red Forester', is very rare in status and this is the first specific locality report of the species from Meghalaya.

17. *Lethe insana dinarbas* (Hewitson)

1863. *Debis dinarbas* Hewitson, *Exot. Butt.*, 3 : 77, pl. 3, fig. 15.

1947. *Lethe insana dinarbas*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 217.

Material examined : One ex., Khasi hills, 1 ex., Shillong, (de Niceville coll.), old collection from N.Z.C.

Diagnostic characters : Underside pale metallic-violet. Hind wing ocelli with a silvery purple ring. Wing exp. 55-60 mm.

Distribution : India : Meghalaya (Cherrapunji, Khasi hills, Shillong), Assam, Nagaland, Sikkim, Uttar Pradesh; also Myanmar; Pakistan and Nepal.

Remarks : Popularly known as 'The Common Forester', the subspecies is not rare in status except Nepal where it is rare. According to Parsons and Cantlie (1951) it is rare in Meghalaya.

18. *Lethe vindhya* (C. Felder)

1859. *Debis vindhya* C. Felder, *Wien. Ent. Mon.*, 3 : 402.

1957. *Lethe vindhya*, Wynter-Blyth, *Butterflies of the Indian Region*, p. 96, pl. 10.

Material examined : Two exs., Shillong, (Shillong Mus. coll.), 5 exs., Khasi hills, (de Niceville coll.), all old collections from N.Z.C.

Diagnostic characters : Upperside dark umber-brown sometimes suffused with ochraceous. Male without subapical spots, sometimes present in female. Hind wing more produced at vein M₂ than *kansa* and with a post discal series of black, fulvous-ringed spots. Underside much darker than *knasa*. Wing exp. 65-70 mm.

Distribution : India : Meghalaya (Khasi hills, Shillong), Nagaland, Sikkim, Uttar Pradesh; also Malaya; Myanmar and Tong-King (Vietnam).

Remarks : Commonly known as 'The Black Forester', the species is not rare in status except Sikkim where it is rare.

19. *Lethe kansa* (Moore)

1857. *Debis kansa* Moore, *Cat. Lep. Ins. E.I.C.*, 1 : 220.

1957. *Lethe kansa*, Wynter-Blyth, *Butterflies of the Indian Region*, p. 96.

Material examined : Two exs., Khasi hills (de Niceville coll.), 1 ex., Shillong (Shillong Mus. coll.), old collection from N.Z.C.

Diagnostic characters : Upperside brown with an olivaceous-green or ochraceous-red tint. Fore wing with three obscure subapical spots. Hind wing conspicuously caudate at M_3 and with five black ocelli; submarginal and marginal lines. Underside fore wing apical area lilacine-white and with five pale ocelli. Hind wing with six black ocelli with white centres. Wing exp. 65-75 mm.

Distribution : India : Meghalaya (Cherrapunji, Khasi hills, Nongpoh, Shillong and Syndai), Arunachal Pradesh, Assam, Nagaland, Sikkim, Uttar Pradesh, West Bengal; also Myanmar; Thailand and Vietnam (Tong-king).

Remarks : Popularly known as 'The Bamboo Forester', the species is common in status.

20. *Lethe sinorix* (Hewitson)

1863. *Debis sinorix* Hewitson, *Exot. Butt.*, 3 : 78.

1947. *Lethe sinorix*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 224.

Material examined : Three exs., Khasi hills (de Niceville coll.). Old NZ Collection.

Diagnostic characters : Upperside, fore wing male with a very distinct dark discal line, female ground colour of both wings ochraceous-red, rarely olivaceous brown; fore wing with discal white band and subapical white spots more distinctly marked. Resembles *kansa* in other characters mostly. Wing exp. 70-78 mm.

Distribution : India : Meghalaya (Cherrapunji, Khasi hills, Mawsmi), Assam, Nagaland, Sikkim; also Malaya and Myanmar.

Remarks : The species commonly known as 'The Tailed Red Forester', is rare in status.

21. *Lethe latiaris latiaris* (Hewitson)

1863. *Debis latiaris* Hewitson, *Exot. Butt.*, 3 : 74.

1947. *Lethe latiaris latiaris*, *Fauna Brit. India*, Butterflies, 2 : 225-226.

Material examined : Two exs., Shillong, May, (de Niceville coll.), 1 ex., Khasi hills (de Niceville coll.), 1 ex., Shillong (Shillong Mus. coll.), 1 ex., Cherrapunji, (Shillong Mus. coll.). Old NZ Collection.

Diagnostic characters : Upperside, dark vandyke-brown; Underside paler. Fore wing with two dark lines across the cell; a post-discal series of four partially obsolescent small ocelli. Hind wing with a subbasal and a discal band and a curved series of six ocelli. Wing exp. 55-65 mm.

Distribution : India : Meghalaya (Cherrapunji, Khasi hills and Shillong), Assam, Nagaland, Sikkim; also Bhutan and Myanmar.

Remarks : The subspecies commonly known as 'The Pale Forester', is rare in status.

22. *Lethe verma sintica* Fruhstorfer

1911. *Lethe verma sintica* Fruhstorfer, In Seitz's *Macrolep. World*, 9 : 324.

1947. *Lethe verma sintica*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 230-231.

Material examined : One ex., Shillong, June 1880 (Purchased), 1 ex., Shillong (Shillong Mus. coll.), all old collections from N.Z.C.

Diagnostic characters : Upperside brown. Fore wing with a discal, broad, even, oblique, white band, sometimes yellow. Hind wing with an ocellus in areas 2 and 3. Underside of hind wing with the lines distinctly bluish and a post discal, strongly arched, series of white-centered black ocelli. Wing exp. 55-60 mm.

Distribution : India : Meghalaya (Shillong), Arunachal Pradesh, Assam, Manipur, Nagaland, Sikkim, West Bengal; also Myanmar and Nepal.

Remarks : Popularly known as 'The Straight Banded Treebrown', the subspecies is common in status.

Yama Group

Three species and subspecies under this group are known from Meghalaya of which two are included here. Due to paucity of material at hand the third species *armandi* is appended at the end.

Key to Yama Group

- Upperside with a number of large yellow spots..... *bhadra*
 Upperside without large yellow spots..... *yama*

23. *Lethe bhadra* (Moore)

1857. *Lasiommata bhadra* Moore, *Cat. Lep. Ins. E.I.C.*, 1 : 227.

1947. *Lethe bhadra*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 236.

Material examined : One ex., Shillong, (Shillong Mus. coll.), 1 ex., Khasi hills, (de Niceville coll.), all old collections from N.Z.C.

Diagnostic characters : Upperside blackish. Base of fore wing, anterior half of hind wing clothed with long, soft, ochraceous hairs. Fore wing with a streak in area 1A + 2A, and a spot beyond it; two oblique streaks in the cell; white spots beyond it. Hind wing broadly caudate at vein M₃, post-discal, brighter ochraceous spots. Underside hind wing with post-discal, strongly curved series of nine ocelli. Wing exp. 80-100 mm.

Distribution : India : Meghalaya (Khasi hills, Shillong), Assam, Sikkim, West Bengal; also Bhutan; Myanmar and Vietnam (Tong King).

Remarks : Popularly called as 'The Tailed Labyrinth, the species is not rare according to Talbot (1947), while Wynter-Blyth (1957) described it as 'rare' This is the first specific report of the species from Meghalaya.

24. *Lethe yama yama* (Moore)

1857. *Zophoessa yama* Moore, *Cat. Lep. Ins. E.I.C.*, 1 : 221.

1947. *Lethe yama yama*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 238-239.

Material examined : One ex., Khasi Hills, (de Niceville coll.), 4 exs., Shillong, (Shillong Mus. coll.), 1 ex., Shillong, (de Niceville coll.), all old collections from N.Z.C.

Diagnostic characters : Upperside blackish-brown. Fore wing two or three obscure post-discal ocelli in male, more numerous and prominent in female; costa narrowly marked with two white median and two subapical short streaks. Hind wing with a post-discal series of dark ocelli; a submarginal, faint, dark-brown band. Underside pale brown. Fore wing cell crossed by four narrow greyish-white bars; a discal and a post-discal band; a submarginal row of broadly pale-ringed ocelli. Wing exp. 70-85 mm.

Distribution : India : Meghalaya (Khasi hills, Shillong), Assam, Nagaland, Sikkim; also Bhutan; Upper Myanmar to the Dawna Range.

Remarks : Commonly known as 'The Dusky Labyrinth', the subspecies is rare in status.

3. Genus *Orinoma* Gray

1846. *Orinoma* Gray, *Lep. Ins. Nepal*, p. 14.

The single species *damaris* under this genus is recorded from India and also from Meghalaya.

25. *Orinoma damaris* Gray

1846. *Orinoma damaris* Gray, *Lep. Ins. Nepal*, p. 14, pl. 7, figs. 2, 2a.

1957. *Orinoma damaris*, Wynter-Blyth, *Butterflies of the Indian Region*, p. 104.

Material examined : Two exs., Cherrapunji, 25.ix.1886 (de Niceville coll.) and 1 ex., Shillong, Autumn, (de Niceville coll.).

Diagnostic characters : Upperside, creamy-white bearing broadly dark-brown veins. Fore wing basal half of cell bright orange with two black spots. Wing exp. 75-80 mm.

Distribution : India : Meghalaya (Cherrapunji, Mawsmi, Shillong), Assam, Bengal (undivided), Nagaland, Sikkim, Uttar Pradesh; also Bangladesh; Myanmar and Nepal.

Remarks : Commonly known as 'The Tiger Brown', the species is rare in status. It mimics a Danaid or a Pierid and has little of the appearance of a Satyrid. The species flies during autumn in the Khasi and Naga Hills and in May in Sikkim.

4. Genus *Erebia* Dalman

1816. *Erebia* Dalman, *K. Vet. Acad. Handl.*, 37 : 48-101, 199-225, pl. 2.

Eleven species and subspecies under this genus are known from India of which one species and subspecies is recorded from Meghalaya.

26. *Erebia annada orixa* (Moore)

1872. *Callerebia orixa* Moore, *Proc. zool. Soc. Lond.*, pp. 553-583, pl. 3.

1947. *Erebia annada orixa*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 311.

Material examined : Two exs., Shillong, May, (de Niceville coll.), 3 exs., Shillong, (Shillong Mus. coll.), 2 exs., Cherrapunji, 25.ix.1882, 1 ex., 28.ix.1886 (de Niceville coll.), 1 ex., Khasi Hills (de Niveville coll.), all old collections from N.Z.C. and 1V, Shillong, Barapani, 7.ix.1975 (N, Muraleedharan and Party coll.).

Diagnostic characters : Smaller brownish. Fore wing with rounded apex. Upperside fore wing ocellus prominent. Underside hind wing with two small indistinct tornal ocelli; post-discal and submarginal bands usually absent. Wing exp. 58-60 mm.

Distribution : India : Meghalaya (Cherrapunji, Khasi hills, Shillong), Assam, Naga hills; also North Myanmar.

Remarks : Popularly known as 'The ringed Argus, the subspecies is not rare in status. Wynter-Blyth (1957) reported that in the subspecies from Assam and Meghalaya the ocellus on the upper fore wing is very prominently yellow-ringed and the under hind wing is heavily white-frosted.

5. Genus *Ypthima* Hubner

1818. *Ypthima* Hubner, *Zutr. Samml. exot. Schmett.*, 1 : 17.

Twenty seven species and subspecies under this genus are known from India of which seven species and subspecies are recorded from Meghalaya.

Key to the species of *Ypthima*

1. Hind wing underside with single apical ocellus.....2
 Hind wing underside with more than one apical ocellus4
2. Hind wing underside with two tornal ocelli.....3
 Hind wing underside with three tornal ocelli.....*ceylonica*
3. Fore wing underside with no bands*lycus*
 Fore wing underside with prominent marginal bands.....*nareda*
4. Hind wing underside with two apical ocelli not prominently larger than rest.....5
 Hind wing underside with two apical ocelli much larger than the rest*sakra*

5. Wing expanse less than 45 mm *baldus*
 Wing expanse more than 45 mm *methora*

27. *Ypthima lycas lycas* de Niceville

1889. *Ypthima lycas* de Niceville, *J. Bombay nat. Hist. Soc.*, 4 : 165, pl. A, fig. 2 (♂).

1947. *Ypthima lycas lycas*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 320-321.

Material examined : Seven exs., Khasi hills, Nov. 1919, 4 exs., Shillong, April, (all de Niveville coll.), old collection from N.Z.C.

Diagnostic characters : Upperside glossy brown. Fore wing with a subapical large, black, bipupilled ocellus; hind wing with a smaller subtoral unipupilled ocellus. Underside with ochraceous striae. Fore wing with one subapical ocellus. Hind wing with three ocelli, subapical, subtornal and tornal. Wing exp. 37-40 mm.

Distribution : India : Meghalaya (Khasi hills, Shillong), Assam.

Remarks : Popularly known as 'The Plain Threering', the subspecies is rare in status. Though Talbot (1947) reported the distribution of the species from Khasi Hills, the then undivided Assam, at present it is the state of Meghalaya and the subspecies is endemic to this region only.

28. *Ypthima nareda newara* Moore

1874. *Ypthima newara* Moore, *Proc. zool. Soc. Lond.*, p. 567, (♂ & ♀ Nepal).

1947. *Ypthima nareda newara*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 322-323, fig. 89.

Material examined : One ex. each, Shillong, June, 1886 and May, 1880, 1 ex., Thadalaskein Lake, Jowai, 27.ix.1991, 2 exs., Dymtring, near Jowai, 26.ix.1991 and 1 ex., Palo hill Forest, Shillong, 20.ix.1991 (R. K. Varshney and party coll.).

Diagnostic characters : Upperside pale vandyke-brown. Underside, hind wing ocelli more or less in line; fore wing with prominent submarginal band; striation coarser and less uniform than the nominotypical form. Hind wing subapical ocellus much larger. Wing exp. 45-50 mm.

Distribution : India : Meghalaya (Khasis, Jowai, Shillong), Arunachal Pradesh, Assam, Manipur, Nagaland, Sikkim; also Myanmar and Nepal.

Remarks : Popularly known as 'The Large Threering', the subspecies is not rare in status.

29. *Ypthima ceylonica hubneri* Kirby

1871. *Ypthima hubneri* Kirby, *Syn. Cat. Diurn. Lep.*, p. 95.

1947. *Ypthima ceylonica hubneri*, Talbot, *Fauna Birt. India, Butterflies*, 2 : 329-330.

Material examined : One ex., Shillong, Barapani, 7.ix.1975 (N. Muraleedharan and party coll.).

Diagnostic characters : Upperside greyish-brown to dark sepia-brown. Fore wing with a single large subapical bipupilled ocellus with yellow ring. Hind wing with two or three small posterior ocelli. Underside greyish-white. Fore wing with a subapical ocellus. Hind wing with one apical and typically three posterior post-discal ocelli placed in a curve. Wing exp. 30-40 mm.

Distribution : India : Meghalaya (Shillong), throughout Peninsular India to Assam; also Malaya and Myanmar.

Remarks : Popularly known as 'The Common Fourring' the subspecies is very common in status.

30. *Ypthima methora methora* Hewitson

1865. *Ypthima methora* Hewitson, *Trans. ent. Soc. Lond.*, (3)2 281-293, pls. 17-18.

1947. *Ypthima methora methora*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 341.

Material examined : One ex., Khasi hills, (de Niceville coll.) and 1 ex., Shillong, (No date), all old collections from N.Z.C.

Diagnostic characters : Male, upperside dark-vandyke brown, outer margin darker. Fore wing with a very large subapical, bipupilled, yellow-ringed, black ocellus. Hind wing with three to five small unipupilled, post-discal ocelli. Underside pale yellowish-brown, Fore wing ocellus on upperside. Hind wing six ocelli in pairs in echelon. Female larger and paler than male. Wing exp. 50-55 mm.

Distribution : India : Meghalaya (Cherrapunji, Dawki, Khasi hills and Shillong), Assam, Nagaland and Sikkim.

Remarks : The subspecies commonly known as 'The Variegated Fivering', is rare in status.

31. *Ypthima sakra austeni* (Moore)

1892. *Thymia austeni* Moore, *Lep. Indica*, 2 : 69, pl. 109, fig. 3, 3a (♂♀).

1947. *Ypthima sakra austeni*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 344.

Material examined : One ex., Shillong, June, 1883, (Old collection from N.Z.C.), also 8 exs., Mawphland, E. Khasi Hills, 17.ix.1991, 1 ex., Mawsmai, 26.ix.1991, 1ex., 8 miles, Jaintia hills, 25.ix.1991 and 3 exs., E. Garo hills, 1.x.1991 (R. K. Varshney and party coll.).

Diagnostic characters : Upperside pale umber-brown. Fore wing with a large, bipupilled, yellow ringed ocellus, with a dark brown outer ring. Hind wing with four similar unipupilled ocelli; subapical and tornal ocelli absent or faintly marked and minute; Underside ochraceous-brown. Fore wing with subapical ocellus. Hind wing with five prominent ocelli, two subapical ocelli large, geminate, encircled in a common yellow ring; posterior three ocelli in echelon; tornal bipupilled. Fore wing underside with obscure discal and submarginal bands, rarely present on hind wing. Wing exp. 48-55 mm.

Distribution : India : Meghalaya (Shillong, Mawphlong, E. Khasi hills, Jaintia hills and E. Garo hills), Arunachal Pradesh, Assam, Manipur, Nagaland; and Myanmar.

Remarks : Popularly known as 'The Himalayan Fivering', the subspecies is common in status.

32. *Ypthima baldus baldus* (Fabricius)

1775. *Papilio baldus* Fabricius, *Syst. Ent.*, (3) 1 : 829.

1947. *Ypthima baldus baldus*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 337-338.

Material examined : Three exs., Walbakgri, Tura; W. Garo hills, 5.ix.1991 (R. K. Varshney and party coll.), 1 ex., Umiam, Shillong, E. Khasi hills, 19.ix.1991, 4 exs., Old Barapani Road, Shillong, 18.ix.1991, 4 exs., William Nagar, E. Garo hills, 30.ix. and 1.x.1991 (R. K. Varshney and party coll.).

Diagnostic characters : Upperside brown. Fore wing with a large black subapical bipupilled and yellow ringed ocellus. Hind wing with two smaller post-discal ocelli, round and unipupilled; sometimes one or two minute tornal ocelli. Underside pale ochraceous-white. Hind wing ocelli in echelon, two tornal, two median and two subapical. Wing exp. 35-48 mm.

Distribution : India : Meghalaya (Shillong, Tura, William Nagar), Arunachal Pradesh, Assam, Nagaland, Sikkim, Uttar Pradesh, West Bengal; also Myanmar.

Remarks : Popularly known as 'The Common Fivering', the subspecies is very common in status. This is the first specific report of the subspecies from Meghalaya.

6. Genus *Orsotrioena* Wallengren

1859. *Orsotrioena* Wallengren, *Ofv. Kongl. Vet. Akad. Forh.*, 15 [1858] : 79.

One species under this genus known is from India and is also recorded from Meghalaya.

33. *Orstrioena medus medus* (Fabricius)

1775. *Papilio medus* Fabricius, *Syst. Ent.*, (3) 1 : 488.

1947. *Orsotrioena medus medus*, Talbot, *Fauna. Brit. India*, Butterflies, 2 : 349-350.

Material examined : One ex., Shillong, 1 ex., Shillong, ix.1879 (Purchased, de Niceville coll.), 1 ex., Khasi hills, (de Niceville coll.), all old collections from N.Z.C., also 1 ex., Warima, Williamnagar, East Garo hills, 1.x.1991 (R. K. Varshney and party coll.)

Diagnostic characters : Upperside uniform vandyke-brown to blackish brown. Fore wing with a marginal white line. Underside darker, white lines as on upperside; a post-discal pure white band, ocelli black, white pupilled with ochraceous and silvery rings, anterior ocellus smaller than the others; fore wing with two and hind wing with three ocelli. Wing exp. 45-55 mm.

Distribution : India : Meghalaya (Khasis, Shillong, Williamnagar), Andaman Is., Assam, Nagaland, Orissa, Sikkim, Uttar Pradesh, West Bengal; Also Australia; China; Myanmar; Nepal; New Guinea and Vietnam (Tong-King).

Remarks : Popularly known as 'The Nigger', the subspecies is common in status. This is the first specific report of the subspecies from Meghalaya.

7. Genus *Ragadia* Westwood

1851. *Ragadia* Westwood, *Gen. Diurn. Lep.*, 2 : 376.

One species under this genus is known from India of which one subspecies is recorded from Meghalaya.

34. *Ragadia crisilda crisilda* Hewitson

1862. *Ragadia crisilda* Hewitson, *Exot. Butt.*, 3 : figs. 5, 6 (♀).

1947. *Ragadia crisilda crisilda*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 356.

Material examined : Three exs., Shillong, 6 exs., Khasi hills, No date, (de Niceville coll.).

Diagnostic characters : Upperside dull brownish-black; a post-discal white band. Underside of both wings with five white bands. Fore wing with eight silver-centered black ocelli. Hind wing with seven ocelli, the middle three encircled by a single fulvous ring. Wing exp. 42-46 mm.

Distribution : India : Meghalaya, (Cherrapunji, Dawki, Khasis, Shillong) and Assam.

Remarks : Commonly known as 'The Striped Ringlet', the subspecies is not rare in status.

8. Genus *Melanitis* Fabricius

1807. *Melanitis* Fabricius, *Illiger Magaz.*, 4 : 282.

Three species under this genus are known from India and are also recorded from Meghalaya.

Key to the species of *Melanitis*

1. Underside with large prominent ocelli in wet form *leda*
 Underside with small ocelli or spots in wet form 2
2. Underside with small ocelli *phedima*
 Underside with small white spots *zitenius*

35. *Melanitis leda ismene* (Cramer)

1775. *Papilio ismene* Cramer, *Pap. Exot.*, 1 : 40, pl. 26, figs. A. B. (♂).

1947. *Melanitis leda ismene*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 366-369.

Material examined : One ex., Shillong, No date, (Shillong Mus. coll.). Old NZ Collection.

Diagnostic characters : Upperside brown. Fore wing with apex obtuse and more or less falcate; two large subapical black spots, each with a small pure white spot outwardly and bordered narrowly by a yellowish lunule. Hind wing with a white-centred, yellow-ringed dark ocellus in area 2, apical ocellus and other ocelli or minute dots showing through from below. Underside paler. Fore wing with four and hind wing with six ocelli. Wing exp. 60-80 mm.

Distribution : India : Meghalaya (Shillong), Andamans and Nicobar Is., Nagaland, Orissa, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal, throughout India except the extreme North West; also Japan; Malaya; Myanmar; Nepal; Pakistan; Sumatra and Taiwan.

Remarks : Popularly known as 'The Common Evening Brown', the subspecies is very common in status, except the desert parts of Western India, Nicobar Islands and Japan.

36. *Melanitis phedima bela* Moore

1857. *Melanitis bela* Moore, *Cat. Lep. Ins. E.I.C.*, 1 : 223.

1947. *Melanitis phedima bela*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 372-373.

Material examined : Three exs., Shillong, (Shillong Mus. coll.), old collection from N.Z.C.

Diagnostic characters : Upperside similar to *M. ismene*, but the costa of fore wing is more strongly arched and the black subapical spots are smaller, very obscure and not inwardly bordered by yellowish markings, the smaller white spot absent. Hind wing without ocelli, traces of an ocelli in area 2. Underside as in *ismene*. Wing exp. 65-80 mm.

Distribution : India : Meghalaya (Cherrapunji, Shillong), Arunachal Pradesh, Nagaland, Sikkim, West Bengal; Also Myanmar.

Remarks : Popularly known as 'The Dark Evening Brown', the subspecies is common in status.

37. *Melanitis zitenius zitenius* (Herbst)

1796. *Papilio zitenius* Herbst, *Natursyst. Schmett.*, 8 : 5, pl. 182, figs. 1,2.

1947. *Melanitis zitenius zitenius*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 374-375.

Material examined : Five exs., Shillong, No date, (Shillong Mus. coll.), old collection from N.Z.C.

Diagnostic characters : Similar to *ismene*, but darker brown and with a very broad patch of yellow above and beyond the sub-apical spots of the fore wing; patch larger in female. Hind wing with 2 or 3 white subterminal spots. Wing exp. 80-85 mm.

Distribution : India : Meghalaya (Cherrapunji, Mawsmi, Shillong), Manipur, Orissa, Sikkim, Uttar Pradesh; also Myanmar.

Remarks : Popularly known as 'The Great Evening Brown', the subspecies is not rare in status.

9. Genus *Elymnias* Hubner

1818. *Elymnias* Hubner, *Zutr. Samml. exot. Schmett.*, 1 : figs. 37, 38.

Thirteen species and subspecies are known from India under this genus of which six species and subspecies are recorded from Meghalaya.

Key to the groups of *Elymnias*

1. Fore wing upperside without a brand in male..... Hypermnestra group
- Fore wing upperside with a brand in male..... Esaca group

Hypermnestra group

Five species and subspecies are known under this group from Meghalaya.

Key to the species of Hypermnestra group

1. Fore wing with apex not produced *hypermnestra*
- Fore wing with apex produced 2
2. Outer margin of both wings scalloped 3
- Outer margin of both wings entire *penanga*

3. Upperside dull greenish-blue and without any discal markings.....*nesaea*
 Upperside dark brown with discal blue or white markings.....4
4. Fore wing upperside markings consisting of spots.....*malelas*
 Fore wing upperside markings consisting of broad blue or purple stripes.....*patna*

38. *Elymnias hypermnestra undularis* (Drury)

1773. *Papilio undularis* Drury. III. Exot. Ins., 2 : pl. 10, figs. 1, 2 (♂)

1947. *Elymnias hypermnestra undularis*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 386-387.

Material examined : One ex., Chandmari, Tura, 16.x.1974 (S. K. Gupta and party coll.).

Diagnostic characters : Male upperside blackish brown. Fore wing with a subterminal series of blue elongate spots. Hind wing terminal area bright chestnut with some paler spots. Underside brown. Fore wing with a purplish-white, pre-apical triangular mark, both wings with subterminal area purplish white. Hind wing with white spots. Female, upperside reddish-yellow. Fore wing with apical area and costa black, a pre-apical broad white band and three subterminal white spots. Hind wing terminal border dusky black with a subterminal series of white spots. Underside markings similar to male. Wing exp. 72-86 mm.

Distribution : India : Meghalaya (Dawki, Tura), Assam, Orissa, Sikkim, Uttar Pradesh, West Bengal; also Myanmar.

Remarks : Popularly known as 'The Common Palmfly', the subspecies is common in status. The female is an excellent mimic of the 'Plain Tiger', *Danaus chrysippus* or the 'Common Tiger' *Danaus plexippus*. It is a pest of various palm species.

39. *Elymnias nesaea timandra* Wallace

1869. *Elymnias timandra* Wallace, *Trans. ent. Soc. Lond.*, Pt. 4, p. 326.

1947. *Elymnias nesaea timandra*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 393.

Material examined : Six exs., Khasi Hills. (No date), (de Niceville coll.).

Diagnostic characters : Upperside of male black. Fore wing with long streaks in the interspaces; posterior half of cell, streaks on basal half of costa and spots on the apical area, all bluish-green. Hind wing with similar streaks as fore wing and with subterminal white spots. Underside with broad dark brown area on both wings from base to middle of the wing. End of abdominal segments whitish with brown scales. Female underside entirely white with diffuse brown or yellow. Wing exp. 75-85 mm.

Distribution : India : Meghalaya (Dawki, Tura and Khasis), Assam, Sikkim; also Bangladesh and Myanmar.

Remarks : The subspecies popularly known as 'The Tiger Palmfly', is not rare in status except Sikkim where it is very rare.

40. *Elymnias malelas malelas* (Hewitson)

1863. *Melanitis malelas* Hewitson, *Exot. Butt.*, 3; pl. 1, figs. 6, 7 (♂).

1947. *Elymnias malelas malelas*, Talbot, *Fauna Brit. India*, Butterflies 2 : 395.

Material examined : Four exs., Shillong, No date, (Shillong Mus. coll.), old collection from N.Z.C.

Diagnostic characters : Male, upperside dark brown. Fore wing overspread with iridescent purple, a spot beyond apex of cell, discal and post discal spots light purplish blue. Hind wing very dark brown with obscure post-discal bluish-white spots. Underside dark chestnut brown, both wings covered with fine white transverse lines towards the terminal half. Female, fore wing iridescent purple confined to the apical half, spots almost white. In addition fore wing has a dull white streak along inner margin and a broader streak in area 1A + 2A. Hind wing with similar white streaks in the interspaces, crossed pre-apically by round black spots, terminal margin dark brown. Underside paler than male. Wing exp. 80-100 mm.

Distribution : India : Meghalaya (Dawki, Shillong), Assam, Bengal (?), Nagaland, Sikkim; and Myanmar.

Remarks : Commonly known as 'The Spotted Palmfly', the subspecies is not rare in status. The caterpillar feeds on the leaves of banana.

41. *Elymnias patna patna* (Westwood)

1851. *Melanitis patna* Westwood, *Gen. Diurn. Lep.*, 2 : 405, pl. 68, fig. 2.

1947. *Elymnias patna patna*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 397-398.

Material examined : Two exs., Shillong, (de Niceville coll.) and 1 ex., Khasi hills, (de Niceville coll.), all old collection from N.Z.C. with no date.

Diagnostic characters : Male upperside dark brown. Fore wing with three discal streaks and an oblique pre-apical bright blue band. Hind wing reddish-brown with a post-discal series of small white spots and apex shot with blue. Underside brown. Fore wing with three to four and hind wing with seven bluish-white, post-discal spots; hind wing lower margin with short, transverse, pinkish-white streaks and minute spots. Female similar but larger. Upperside sometimes with an obscure blue streak beyond apex of cell. Wing exp. 80-100 mm.

Distribution : India : Meghalaya (Cherrapunji, Dawki, Khasi hills, Shillong), Assam, West Bengal, Nagaland, Sikkim, Uttar Pradesh (Kumaon); also Northern Myanmar.

Remarks : Commonly known as 'The Blue-Stripped Palmfly', the subspecies is not rare in status (Talbot, 1947), but according to Wynter-Blyth (1957) it is rare. It mimics the double-banded Blue Crow, *Euploea harrisi* and flies with it.

42. *Elymnias penanga chelensis* de Niceville

1890. *Elymnias chelensis* de Niceville, *J. Bombay Nat. Hist. Soc.*, 5 : 200-222, pl. D, fig. 3 (♂, Khasi Hills).

1947. *Elymnias penanga chelensis*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 399.

Material examined : Two exs., Khasi Hills, No date, (de Niceville coll.), old collection from N.Z.C.

Diagnostic characters : Male, upperside dark chocolate brown. Fore wing richly glossed with dark-blue and with post-discal streaks of glistening silvery blue. Hind wing uniform. Underside

reddish-brown dusted with whitish streaks and minute spots. Fore wing with the costa pre-apically very densely marked with white specks. Hind wing with a white subcostal spot and a post-discal series of minute white spots in the intraspaces. Female, upperside plumbeous-blue. Fore wing with a white post-discal band not quite reaching the outer margin. Underside fuscous-brown, very finely striated with white, giving the apical half of the fore wing a whitish appearance. Hind wing as in male. Wing exp. 70-75 mm.

Distribution : India : Meghalaya (Khasi Hills), Assam, Manipur, also Myanmar and Peninsular Thailand.

Remarks : Commonly known as 'The Pointed Palmfly', the subspecies is very rare in status. The male is said to mimic *Euploea mazares*.

Appendix

1. *Mycalesis intermedia* (Moore)

1891. *Calysime intermedia* Moore, *Lep. Indica*, 1 : 1-144.

1947. *Mycalesis intermedia*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 139-140.

Distribution : India : Meghalaya (Khasi hills), Assam; also Bangladesh (Sylhet); Myanmar; Thailand and Vietnam (Tong-King).

Remarks : Popularly known as 'The Pale-Brand Bushbrown', the species is common in status.

2. *Mycalesis visala visala* Moore

1857. *Mycalesis visala* Moore, *Cat. Lep. Ins. E.I.C.*, 1 : 230.

1947. *Mycalesis visala visala*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 140-143, fig. 51.

Distribution : India : Meghalaya (Khasis and Jaintia hills), Assam, Madhya Pradesh (Pachmarhi), Nagaland, Sikkim, Uttar Pradesh (Kumaun, Mussouri) and West Bengal (Calcutta); also Myanmar.

Remarks : Popularly known as 'The Long-Brand Bushbrown', the subspecies is common in status except Myanmar where it is rare.

3. *Lethe pulaha pulahoides* (Moore)

1892. *Blanida pulahoides* Moore, *Lep. Indica*, 1 : 304, pl. 94, fig. 2.

1947. *Lethe pulaha pulahoides*, *Fauna Brit. India*, Butterflies, 2 : 233-234.

Distribution : India : Meghalaya (Khasis), Assam, Nagaland; also Myanmar and Vietnam (Tong-King).

Remarks : Commonly known as 'The Veined Labyrinth', the subspecies is rare in status.

4. *Lethe armandii khasiana* (Moore)

1881. *Neope khasiana* Moore, *Trans. ent. Soc. Lond.*, Pt. 3, p. 306.

1947. *Lethe armandii khasiana*, Talbot, *Fauna Brit. India*, Butterflies, 2 : 234-235.

Distribution : India : Meghalaya (Khasi Hills), Manipur and Naga Hills; also North Eastern Myanmar.

Remarks : Commonly known as 'The Chinese Labyrinth', the subspecies is rare in status. According to (Tytler, 1915) it is fairly common in the Naga Hills but rare in Manipur.

5. *Ypthima similis affectata* Elwes and Edwards

1893. *Ypthima affectata* Elwes and Edwards, *Trans. ent. Soc. Lond.*, p. 30, pl. 1, fig. 20.

1947. *Ypthima similis affectata*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 339.

Distribution : India : Meghalaya (Khasi Hills) and Nagaland.

Remarks : Commonly known as 'The Eastern Fivering', the subspecies is rare in status.

6. *Zipoetis scylax* Hewitson

1863. *Zipoetis scylax* Hewitson, *Exot. Butt.*, 3 : 100.

1947. *Zipoetis scylax*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 346-347.

Distribution : India : Meghalaya (Cherrapunji), Assam, Nagaland, Sikkim; also Myanmar.

Remarks : Commonly known as 'The Dark Catseye', the species is not rare in status Talbot, (1947) but rare according to Parsons and Cantlie (1951).

7. *Neorina patria westwoodii* Moore

1891. *Neorina westwoodii* Moore, *Lep. Indica*, 1 : 226, pl. 74, fig. 2, 2a.

1947. *Neorina patria westwoodii*, Talbot, *Fauna Brit. Indica, Butterflies*, 2 : 361.

Distribution : India : Meghalaya (Cherrapunji), Assam; and Myanmar.

Remarks : Commonly known as 'The White Owl', the subspecies is rare in status.

8. *Anadebis himachala* (Moore)

1857. *Theope himachala* Moore, *Cat. Lep. Ins. E.I.C.*, 1 : 234.

1947. *Ethope himachala*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 362-363.

1957. *Anadebis himachala*, Wynter-Blyth, *Butterflies of the Indian Region*, p. 122.

Distribution : India : Meghalaya (Dawki, Khasi hills), Assam, Nagaland, Sikkim; also Bangladesh (Sylhet) and Myanmar.

Remarks : Commonly known as 'The Dusky Diadem', the subspecies is not rare in status.

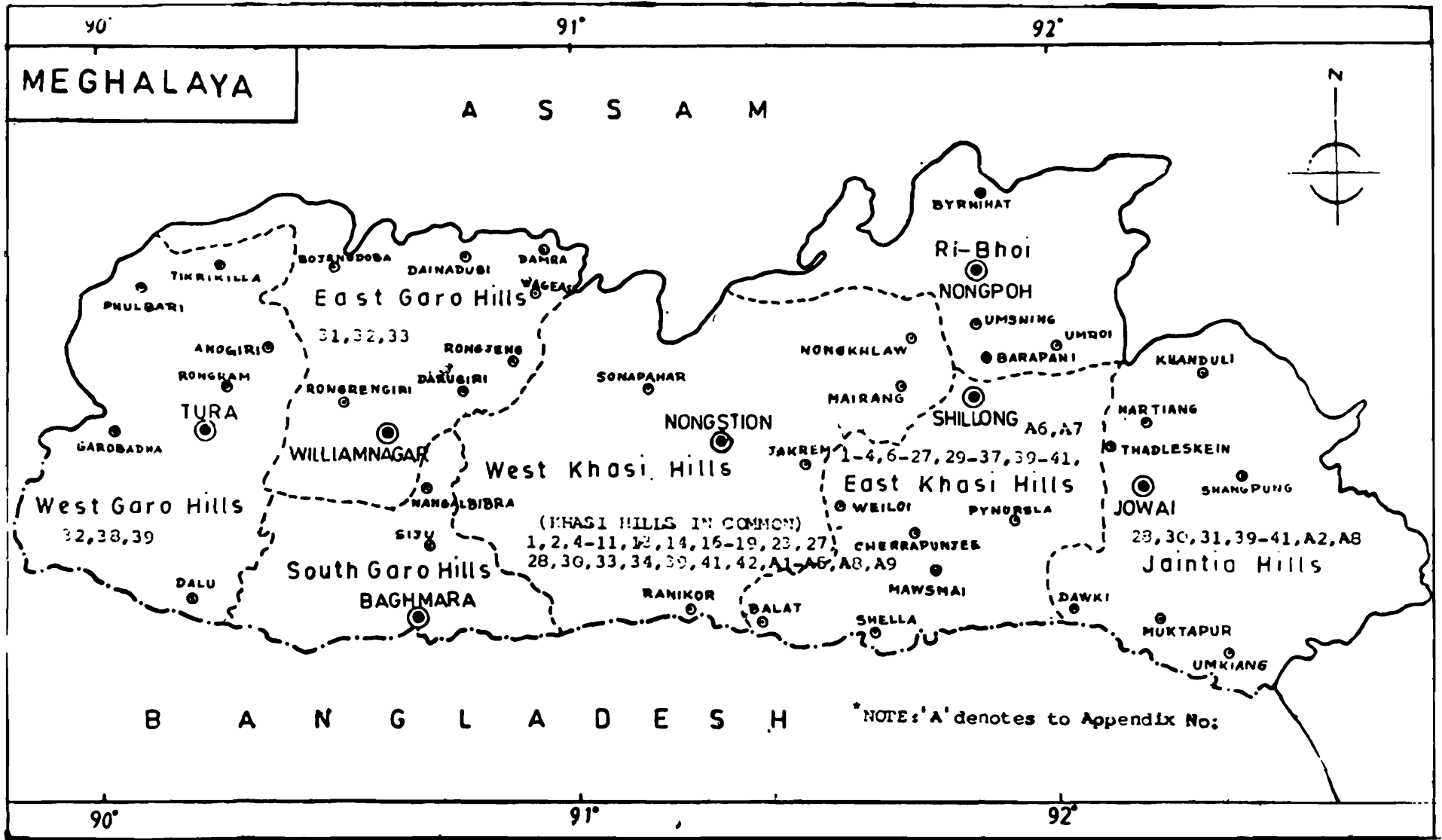
9. *Elymias vasudeva deva* (Moore)

1893. *Mimodielias deva* Moore, *Lep. Indica*, 2 : 167, pl. 142, figs. 2, 2a.

1947. *Elymias vasudeva deva*, Talbot, *Fauna Brit. India, Butterflies*, 2 : 401.

Distribution : India : Meghalaya (Khasi Hills) and Nagaland.

Remarks : Commonly known as 'The Jezebel Palmfly', the subspecies is rare in status.



SUMMARY

The present paper deals with the systematic account, keys, distribution and diagnostic characters etc. of some fifty one species and subspecies of Satyrids under twelve genera from Meghalaya of which six species and subspecies are new locality records from the state. Due to paucity of material nine species and subspecies have been appended at the end.

ACKNOWLEDGEMENT

The author is grateful to the Director, Zoological Survey of India, Calcutta for providing necessary laboratory and other facilities in connection with publication of this work.

REFERENCES

- Antram, C.B. 1924. *Butterflies of India*, XVI + 226 pp., figs. 412 - Calcutta (Thacker Spink and Co.).
- Bingham, C.T. 1905. *Fauna British India, Butterflies*, Vol. II, xxii + 511 pp., figs. 94, pls. 10 - London.
- D'Abrera, B. 1985. *Butterflies of the Oriental Region*, pt. II, Nymphalidae, Satyridae and Amathusiidae, 295-534 pp. - Hill House, Victoria.
- Evans, W. H. 1912. A List of Indian butterflies. *J. Bombay Nat. Hist. Soc.*, 21 : 553-584 and 969-1008.
- Evans, W.H. 1932. *The Identification of the Indian Butterflies*, 2nd ed., x + 454 pp., 32 pls. - Bombay (BNHS).
- Fruhstorfer, H. 1911. Satyridae, In Seitz's *Macrolepidoptera of the world, The Indo-Australian Rhopalocera*, Vol. 9 pp. 285-401 - Stuttgart.
- Gaede, M. 1931. Satyridae, In Junk's *Lepidopterorum Catalogus*, Parts 43, 46, 48, pp. 759 s'Gravenhage.
- Moore, F. 1890-91. *Lepidoptera Indica*, 1 : 1-144, 145-232.
- Parsons, R.E. and Cantlie, K. 1951. Butterflies of the Khasi and Jaintia hills, Assam. *J. Bombay Nat. Hist. Soc.*, 47 (3 & 4) [1948] : 498-522.
- Shields, O. 1989. World numbers of butterflies, *J. Lepidopt. Soc.*, 43 (3) : 178-183.
- Smart, P. 1985. *The Illustrated Encyclopedia of the Butterfly World*, 275 - pp. England (Salamander Books Ltd.).
- Swinhoe, C. 1893. A list of the Lepidoptera of the Khasi hills. *Trans. ent. Soc. Lond.*, 3 : 267-330.
- Varshney, R. K. and Chanda, S. K. 1974. Butterflies of the north eastern India. *Indian Mus. Bull.*, 6 (1) : 28-53.
- Wynter-Blyth, M. A. 1957. *Butterflies of the Indian Region*, xx+523 pp. - Bombay (B.N.H.S.).

NON-MULBERRY SILKMOTHS OF THE FAMILY SATURNIIDAE (LEPIDOPTERA)

I. J. GUPTA

Zoological survey of india
M-Block, New Alipore
Calcutta 700 053

INTRODUCTION

The family Saturniidae includes moths commonly known as wild silkmoths, emperor moths, giant silkmoths or non-mulberry silkmoths. They are medium to large sized with the females of the Atlas moth, *Attacus atlas* (Linnaeus) and the Edward moth, *Archaeoattacus edwardsii* (White) having forewing expanse over 270mm and their wings with the largest area of all the Lepidoptera. The wings of many species are variously and differently marked and coloured, making these lepidopterans strikingly beautiful. Unlike silkmoth, *Bombyx mori* (Linnaeus) with its exclusive food plant of mulberry, the wild silkmoths are polyphagous as in their larval or caterpillar stage they feed upon species of plants of different families.

There are 1100 species of non-mulberry silkmoths known in the world. Of the only 40 species occurring in India, 50% i.e. 20 are found in Meghalaya.

The family Saturniidae is of great economic importance for it includes many species which have contributed to the benefit of mankind in providing strong and durable silk. In India, mainly three species commercially exploited for the yield of silk are, viz., *Antheraea paphia* (Linnaeus) - Tasar silkmoth producing tasar silk, *A. assamensis* (Helfer) - Muga silkmoth yielding muga silk and *Samia cynthia* (Drury) - Eri silkmoth providing eri silk. Jolly (1973) held that hybrids obtained from a chinese species *Antheraea pernyi* Guérin Ménévillie and *A. roylei* Moore have greater potential for the yield of silk. In the State of Manipur, *Attacus atlas* has been exploited for the production of silk called fagara silk. India holds unique position in the World regarding production of all the three varieties of non-mulberry silks (tasar, eri and muga) on a large scale. India occupies first and second position in the World in the yield of eri silk and tasar silk, respectively, whereas it has monopoly in the production of muga silk.

The earlier contributions on non-mulberry silkmoths of the family Saturniidae are mainly by Wardle (1881), Cotes and Swinhoe (1887-89), Cotes (1888, 1889), Hampson (1892, 1894), Packard (1914), Seitz (1924) and Draudt (1930). Schuessler (1933-34) catalogued the World species under three subfamilies. The classification of the family with its seven subfamilies is due to Michener (1954). Sen-Sharma (1956) listed the species of wild silkmoths available in the collection of the Forest Research Institute, Dehra Dun. Arora and Gupta (1979) contributed to the taxonomical studies of subfamily Saturniinae. Chowdhury (1982a,b) provided information on Muga and Eri silk industries facing various problems and suggested measures for their improvement.

The present studies on wild silk moths are based on the material collected during recent faunistic surveys of the State by various parties or individuals of the Zoological Survey of India (ZSI): viz., A. R. Srinivasan (1961); S. N. Prasad (1961, 1963); A.P. Kapur (1969); E. D. Albinus (1971); Chandan Singh (1971); J. K. Prasad (1971); G. M. Yazdani (1971); S. C. Roy (1972); M. Deb (1973); M. S. Jyrwa (1973, 1976); A. C. Sukla (1974), R. Thapa (1976); R. K. Varshney, I. J. Gupta & S. K. Ghosh (1991). The specimens available in the old collection of ZSI have also been examined.

Twenty (20) species of wild silkmoths from Meghalaya are represented by 12 genera belonging to two subfamilies, Saturniinae and Salassinae. A maximum number of 13 spp. is recorded from East Khasi Hills followed by 3 spp. and one sp. from Jaintia Hills and West Garo Hills, respectively. The specimens of wild silk moths from East Garo Hills, South Garo Hills, West Khasi Hills and Ri-Bhoi are not represented in the material studied.

The wild silkmoths thrived well in forests where they had a large number of species of food plants. The increase in deforestation has caused decrease in their food plants and also shrinkage of their habitats. Observing the low number of species of Saturniidae in old collection of ZSI and their poor representation in the material collected during recent faunistic surveys indicates their occurrence as very rare. Though the Wild Life Protection Act (1972) amended from time to time referred to the Protection of Butterflies and moths but only Butterflies have been included in Schedules-I, II & IV of the Act. Therefore, it is suggested that these wild silk moths may be afforded protection by legislation under the Wild Life Protection Act.

For identification, keys to species and genera from Meghalaya have been provided. Common name, measurement of forewing lengthwing expanse, geographical distribution and remarks for each species have been given. Diagnostic characters of two genera, *Dictyoploca* Jordan and *Rinaca* Walker have been given and are not treated in the key to genera of subfamily Saturniinae. The species for which specimens are not available have been reviewed from literature and are marked with a symbol of asterisk (*). The earlier records of species from Khasi Hills and Garo Hills as given in literature have been followed and they have not been assigned to any of the now recognised districts in Meghalaya. An appendix listing species and a map showing their district-wise distribution in Meghalaya have been provided.

SYSTEMATIC ACCOUNT

Family SATURNIIDAE

Key to subfamilies

- In forewing vein R_5 arising from well before apex of discal cell Saturniinae
 In forewing vein R_5 usually arising from anterior angle of discal cell Salassinae

Subfamily SATURNIINAE

Key to genera

1. Cell completely or partly closed in forewing and hindwing 2
 Cell completely open in forewing and hindwing 7

2. Hindwing tailed 3
 Hindwing not tailed 4
3. Forewing with five radials. Hindwing tail shorter than the costa of forewing in male
 *Actias* Maceay
 Forewing with four radials. Hindwing tail longer than costa of forewing in male.....
 *Sonthonnaxia* Watson
4. Cell partly closed in forewing and hindwing. In forewing R₅ stalked with M₁ beyond the upper angle of cell *Rhodinia* Staudinger
 Cell completely closed in forewing and hindwing. In forewing R₅ arising before the upper angle of cell..... 5
5. Forewing with four radials*Antheraea* Huebner
 Forewing with five radials..... 6
6. Frons convex and raised above level of eyes. Antennae with distal ramii of one segment close to basal ramii of the succeeding segment. *Leopa* Moore
 Frons flat and at level of eyes. Antennae with distal ramii of one segment well separated from the basal ramii of the succeeding segment *Cricula* Walker
7. Frons flat; labial palpi one segmented. Forewing with a slender reddish streak between veins R₄ and R₅; antemedial line not sending spurs along veins Cu_{1a} and Cu_{1b}. Mid and hind tibiae without terminal spurs*Attacus* Linnaeus
 Frons convex; labial palpi three segmented. Forewing without reddish streak between veins R₄ and R₅; antemedial line sending whitish spurs at bases of Cu_{1a} and Cu_{1b}. Mid and hind tibiae with terminal spurs 8
8. Forewing with a short blackish patch between veins R₄ and R₅; discocellular spot large and triangular*Archaeoattacus* Watson
 Forewing with a short ocellate spot between veins R₄ and R₅; discocellular spot narrow and lunate..... *Samina* Huebner

Genus *Actias* Macleay, 1815

1815. *Actias* Macleay, In Leach, *Zool. Miscell.*, 2 : 25.

Only a single species, *Actias selene* (Huebner) representing this genus in India is dealt with from Meghalaya.

1. *Actias selene* (Huebner)

1806. *Echidna caudata selene* Huebner, *Samml., exot. Schmett.*, 1 : 3, pl. 172 ♂, pl. 174 ♀

1892. *Actias selene*: Hampson, *Fauna of British India (Moths)*, 1:13.

1979. *Actias selene*, Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 12.

Material examined : East Khasi Hills Dist., Shillong, 1 ♂, 17.viii.1959 (no coll.), 4 ♂ ♂, 4 ♀ ♀ (no further data), 1 ♂, 29.vii. 1963 (*S. N. Prasad coll.*), 1 ♂, 10.iv.1969 (*A. P. Kapur coll.*), 1 ♀, 23.viii 1976 (*M. S. Jyrwa coll.*); Khasi Hills, 1 ♀, 1 ♂, 29.iv.1880 (no coll).

Forewing length : Males 60-80 mm, females 62-85 mm.

Distribution : India : Meghalaya (East Khasi Hills), Andamans, Assam, Bihar, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Orissa, Sikkim, Tamil Nadu and Uttar Pradesh. Elsewhere : Bangladesh, Bhutan, China, Indonesia, Japan, Myanmar, Nepal, Pakistan, Sri Lanka and USSR.

Remarks : This moth is commonly known as 'The Indian Moon Moth'. Fresh specimens of this species are apple green coloured and look very beautiful. It has a large number of food plants.

Genus *Sonthonnaxia* Watson, 1912

1912. *Sonthonnaxia* Watson, *The Wild Silkmoths of the World*.

Only a single species, *Sonthonnaxia maenas* (Doubleday) occurring in India is dealt with from Meghalaya.

2. *Sonthonnaxia maenas* (Doubleday)

1847. *Actias maenas* Doubleday, *Ann. Mag. nat. Hist.*, 19:95, pl.7, fig.1.

1979. *Sonthonnaxia maenas* : Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 9.

Material examined : East Khasi Hills Dist., Shillong, 1 ♂ (no further data).

Forewing length : Male : 55 mm.

Distribution : India : Meghalaya (East Khasi Hills), Assam, Sikkim, South Andamans and West Bengal. Elsewhere : Bangladesh, Bhutan, China, Indonesia, Myanmar, N. Vietnam and Thailand.

Remarks : The hindwing tail is much longer than the length of the costa of forewing.

Genus *Rhodinia* Staudinger 1892

1892. *Rhodinia* Staudinger, In : *Rom. Mem. sur les Lep.* 6 : 327.

Only one species i.e. *Rhodinia newara* (Moore) of this genus occurs in India.

3. *Rhodinia newara* (Moore)

1872. *Rhodia newara* Moore, *Proc. zool. Soc. Lond.* : 578.

1892. *Loepa newara* : Hampson, *Fauna of British India (Moths)*, 1 : 26.

1979. *Rhodinia newara*, Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 18.

Material examined : East Khasi Hills Dist., Shillong, Motinagar, 1 ♂, 11.x.1961 (*S. N. Prasad coll.*), Risa colony, 1 ♂, 2.viii.1971 (*E. D. Albinus coll.*), 2 ♀ ♀, 30.xi.1971 (*J. K. Prashad coll.*), Z.S.I. Office Compound, 1 ♂, 26.xi.1971 (*G. M. Yazdani coll.*), 1 ♀, 21.x.1972, Laban, 1 ♂, 14.xi.1972 (*S. C. Roy coll.*).

Forewing expanse : Males 105-130 mm; Females, 120-135 mm.

Distribution : India : Meghalaya (East Khasi Hills, Jaintia Hills), Sikkim and West Bengal. Elsewhere : Nepal (Kathamandu).

Remarks : Watson (1935) described a new subspecies *Rhodinia newara nissori* from Jaintia Hills on the basis of deep yellow colouration and form of markings and hyaline spots on wings which Arora and Gupta (1979) mentioned, are not constant characters, and these are variations within the species, *R. newara* (Moore).

Genus *Antheraea* Hübner 1816.

1820. *Antheraea* Hübner, *Verz. bek. Schemett.*, : 152.

This genus is represented in India by ten species of which six are found in Meghalaya.

Key to species of the genus *Antheraea*

1. Forewing with vein R_1 stalked with R_{2+3} and R_4 2
 Forewing with vein R_1 free and arising from the cell 4
2. Antennae in female with distal ramii more than half the length of basal ramii. Hindwing with submarginal line from much below the costa to inner margin, ocellus filled, with black on inner one third, with hyaline spot reduced or absent *assamensis*
 Antennae in female with distal ramii less than half the length of the basal ramii. Hindwing with submarginal line nearly from costa to inner margin, ocellus not filled with black 3
3. Hindwing with submarginal line single, smoothly curved, pinkish red and outlined by white; ocellus large *paphia* (Linnaeus)
 Hindwing with the submarginal line double, highly angulated, ocellus small *frithi*
4. Hindwing with submarginal lines black and straight; ocellus filled with black on inner half, hyaline spot obsolescent *compta*
 Hindwing with submarginal line not black, straight or wavy; ocellus with black on the innerside, hyaline spot reduced or well developed *roylei*

4.* *Antheraea assamensis* (Helfer)

1837. *Saturnia assamensis* Helfer, *J. Asiat. Soc. Beng.*, 6 : 43, No.8, ♀.

1979. *Antheraea assamensis* : Arora & Gupta, *Mem. zoo.Surv. India*, 16(1) : 22.

Material examined : Nil.

Wing expanse : Males 110-145 mm, females 112-150 mm.

Distribution : India : Meghalaya, Assam, Gujarat, Himachal Pradesh, Pondicherry, Sikkim, Uttar Pradesh. Elsewhere : Bangladesh, Sri Lanka and Indonesia.

Remarks : This moth is popularly known as 'The Muga Silkmoth'. The cocoon of this moth is a source of muga silk. India has monopoly in the production of muga silk.

5. *Antheraea paphia* (Linnaeus)

1758. *Phalaena Bombyx paphia* Linnaeus, *Syst. Nat.* Ed. X, 1 : 496.

1979. *Antheraea paphia*, Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 25.

Material examined : Meghalaya : East Khasi Hills Dist., Shillong, 1 ♀ (no further data).

Wing expanse : Female 120 mm.

Distribution : India : Meghalaya (East Khasi Hills), Andhra Pradesh, Assam, Bihar, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal. Elsewhere : Bangladesh, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka and South China.

Remarks : The species exhibits considerable variation in respect of general colouration. The cocoons of this moth yield silk commonly known tasar silk. India ranks second in the world as far as the total production of tasar silk is concerned.

6. *Antheraea frithi* (Moore)

1858-59. *Antheraea frithi* Moore, *Cat. Lep. Ins. Mus. E. I. House*, 2 : 396-97.

1979. *Antheraea frithi* : Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 28.

Material examined : Meghalaya, East Khasi Hills Dist., Shillong, 1 ♂, 25.iv.1927.

Wing expanse : Male 110 mm.

Distribution : India : Meghalaya (East Khasi Hills), Andamans, Bihar, Himachal Pradesh, Sikkim and West Bengal. Elsewhere : Bhutan, Indonesia and South Vietnam.

7. *Antheraea compta* Rothschild

1899. *Antheraea compta* Rothschild, *Novit. zool.*, 6(3) : 431-432.

1979. *Antheraea compta* : Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 30.

Material examined : Meghalaya : East Khasi Hills Dist., 1220-1524 mm, 1 ♂, 24.vii.1931 (no coll).

Wing expanse : Male 166 mm.

Distribution : India : Meghalaya (East Khasi Hills), Assam and Sikkim.

8. *Antheraea roylei* (Moore)

(Oak Tasar Moth)

1858-59. *Antheraea roylei* Moore, *Cat. Lep. Ins. Mus. E. I. House*, 2 : 397-398.

1979. *Antheraea roylei* : Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 31.

Material examined : Meghalaya : East Khasi Hills Dist., Shillong, 1 ♀, 26.iv.1927. 1 ♂, 19.iv.1976 (R. Thapa coll.).

Wing expanse : Male 145 mm, female 156 mm.

Distribution : India : Meghalaya (East Khasi Hills), Assam, Himachal Pradesh, Sikkim, Uttar Pradesh and West Bengal.

Remarks : This moth is popularly called 'The Oak silkmoth'. The cocoons of this moth yield 'Oak tasar silk'. The species had not been of much commercial value. However, crossing of *A. roylei* with a Chinese *A. pernyi* Guérin Ménévillè and consequently their hybrid is exploited from commercial point of view.

9.* *Antheraea castanea* Jordan

1910. *Antheraea castanea* Jordan, *Novit. Zool.* 17(3) : 470, No. 1, ♂ ♀

1928. *Antheraea castanea* : Seitz, *The Macrolepidoptera of the World*, 10 : 518.

Material examined : Nil.

Wing Expanse : Not given in the original description.

Distribution : India : Meghalaya and Assam.

Remarks : This species resembles *Antheraea assamensis* (Helfer) but differs in respect of chestnut colour of body and wings much deeper, apex more pointed, outer margin deeply incurved, submarginal line near outer margin anteriorly towards apex but farther away from it posteriorly; marginal area more extensively dusted with white and veins blackish except beyond submarginal line. Underside also much darker than in *assamensis*.

This species was described from Khasi Hills by Jordan (1910). It is not represented in the collection of ZSI and also not available in the material collected during recent faunistic survey of the State.

Genus *Loepa* Moore 1958-59

1858-59. *Loepa* Moore, *Cat. Lep. Ins. E. I. House*, 2 : 399, No. 923.

Only a single species of this genus is represented in India and the same is treated from Meghalaya.

10. *Loepa katinka* (Westwood)

1848. *Saturnia katinka* Westwood, *Cab. Orient. Ent.*: 25, pl.12, fig.2.

1979. *Loepa katinka* : Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 36.

Material examined : Meghalaya, East Khasi Hills Dist., Shillong, Risa colony, 1 ♂, 13.iv.1973. (M. Deb coll.).

Wing-expanse : Male 74 mm.

Distribution : India : Meghalaya (East Khasi Hills), Arunachal Pradesh, Assam, Himachal Pradesh, Sikkim, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Bangladesh, China and Indonesia.

Genus *Cricula* Walker 1855

1855. *Cricula* Walker, *Cat. Lep. Het. Brit. Mus.*, 5 : 1186-1187.

Two species of this genus, viz., *Cricula andrei* Jordan and *C. trifenestrata* (Helfer) occur in India.

Key to species of the genus *Cricula*

Wings usually reddish brown; in male forewing more falcate.....*andrei*

Wings usually yellowish brown to brown and area beyond post-medial line may be grey brown;

in male forewing less falcate *trifenestrata*

11. *Cricula andrei* Jordan

1909. *Cricula andrei* Jordan, *Novit. zool.* 16(2) : 301, ♂ ♀ fig. G (nom. nov. for *zuleika* Westwood, 1848).

1979. *Cricula andrei* : Arora and Gupta, *Mem. zool. Surv. India*, 16(1) : 38.

Material examined : Meghalaya, East Khasi Hills Dist., Shillong, 1 ♂ (no further data), 2 ♂ ♂, 1 ♀, 24.vii.1967 (no coll.), Risa colony, 1 ♂, 18.iii.1971 (*Chandan Singh coll.*), 2 ♂ ♂, 20.vii.1971 (*E. O. Albinus coll.*), Cherrapunjee, at light, 1 ex, 22.ix.1991 (*R. K. Varshney, I. J. Gupta & S. K. Ghosh coll.*).

Wing Expanse : Males, 72-77 mm, female, 78 mm.

Distribution : India : Meghalaya (East Khasi Hills), Manipur and Sikkim. Elsewhere : Bhutan and Indonesia (Java).

12. *Cricula trifenestrata* (Helfer)

1837. *Saturnia* (?) *trifenestrata* Helfer, *J. Asiat. Soc. Beng.*, 6 : 45, No. 10, ♂, ♀

1979. *Cricula trifenestrata* : Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 41.

Material examined : Meghalaya, East Khasi Hills Dist. Shillong, 1 ♂, 1 ♀ (no further data), Lachmiere, 1 ♂, 26.vi.1961 (A. R. Srinivasan coll.). Shillong, Malki, 1 ♂ 8. vii.1980 (M. S. Jyrwa coll.). West Garo Hills, Tura, at light, 290 m, 1 ♂, 4.x.1991 (R. K. Varshney, I. J. Gupta & S. K. Ghosh coll.).

Wing expanse : Males 62-110 mm, females 80 -115 mm.

Distribution : India : Meghalaya (East Khasi Hills, West Garo Hills), Andamans, Assam, Bihar, Kerala, Sikkim and Tamil Nadu. Elsewhere : Bangladesh, Indonesia, Myanmar and Sri Lanka.

Genus *Attacus* Linnaeus 1767

1767. *Phalaena Attacus* Linnaeus, *Syst. Nat.* xii ed., 1(2) : 808.

This genus is represented in India by a single species i.e. *Attacus atlas* (Linnaeus) which is dealt with from Meghalaya.

13.* *Attacus atlas* (Linnaeus)

(Indian Atlas Moth)

1758. *Phalaena Bombyx atlas* Linnaeus, *Syst. Nat.*, Ed. 10, 1:495.

1979. *Attacus atlas* : Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 44.

Material examined : Nil.

Forewing expanse : Males 167-271 mm, females 142-262 mm.

Distribution : India : Meghalaya, Andamans, Assam, Bihar, Gujarat, Karnataka, Maharashtra, Sikkim, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Bangladesh, Indonesia, Myanmar, Singapore, South Asia and Sri Lanka.

Remarks : The cocoon of this moth is a source silk called 'Fagara silk'.

Genus *Archaeoattacus* Watson 1910

1910. *Archaeoattacus* Watson, *Trans. Manchester entom. Soc.*

Only a single species i.e. *Archaeoattacus edwardsii* (White) of this genus occurs in India and is now dealt with from Meghalaya.

14. *Archaeoattacus edwardsii* (White)

1859. *Attacus edwardsii* White, *Proc. zool. Soc. Lond.*, 27 : 115, pl. 57.

1979. *Archaeoattacus edwardsii* : Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 47.

Material examined : Meghalaya, North Khasi Hills, 1 ♂ (no further data).

Forewing length : Male, 101 mm.

Distribution : India : Meghalaya (North Khasi Hills), Assam, Sikkim and West Bengal. Elsewhere : Bhutan and Nepal.

Genus *Samia* Huebner 1820

1820. *Samia* Huebner, *Verz. bek. Schmett.*, : 156.

The genus is represented in India by a single species i.e. *Samia cynthia* (Drury) which is dealt with from Meghalaya.

15. *Samia cynthia* (Drury)

(Eri Silkmoth or Ailanthus Silkmoth)

1773. *Phalanena Attacus cynthia* Drury, *Illust. Nat. Hist. Exot. Ins.*, 2 : 10, pl.6, fig.2.

1979. *Samia cynthia* : Arora & Gupta, *Mem. zool. Surv. India*, 16(1) : 50.

Material examined : Meghalaya; 1 ex (no further data), East Khasi Hills Dist., Shillong, 1 ex (no further data), Risa Colony, 1 ♀, 19.vii. 1963 (*S. N. Prasad coll.*), Shillong, 1 ex, 25.v.1974 (*A. C. Sukla coll.*), Jaintia Hills, Nongthymai, 1 ex., 25.viii.1973 (*M. S. Jyrwa coll.*).

Forewing length : Males 63-65 mm; females 70-72 mm.

Distribution : India : Meghalaya (East Khasi Hills, Jaintia Hills), Arunachal Pradesh, Assam, Bihar Himachal Pradesh, Sikkim, South Andamans, Uttar Pradesh and West Bengal. Elsewhere : Bangladesh, China, Indonesia, Myanmar and Sri Lanka.

Remarks : This moth is commonly called 'The Eri silkmoth' and its cocoon yields 'Eri Silk'. India ranks first in the World in the production of eri silk.

Genus *Dictyoploca* Jordan 1911

1911. *Dictyoploca*, Jordan, In Seitz : *Macrolepidoptera of the World (Palearctic)*, 2 : 218.

Diagnostic characters : Antennae quadripectinate in male and bipectinate in female; 7-8 distal segments more produced at apex than in *Caligula*, pectinations in male short, the apical ones on the middle segments in female shorter but distinct.

The genus is represented in India by two species, *Dictyoploca cachara* (Moore) and *D. Simla* (Westwood) of which the latter is dealt with from Meghalaya.

16.* *Dictyoploca simla jaintiensis* Watson

1927. *Dictyoploca simla jaintiensis* Watson, *The Entomologist*, 60 : 36, fig.

Material examined : Nil.

Wing expanse : Not given in the original description.

Distribution : India : Meghalaya (Jaintia Hills).

Remarks : This subspecies is distinguished from the nominate subspecies (North India, Kashmir, Simla and Dharamshala) by the upperside of wings with general colour richer, reddish chestnut, apex of forewing pronouncely white, space between basal black line and ocellus of hindwing paler pink; more pronounced double, dark serrated submarginal line in forewing, of both sexes; and basal saddle mark and marginal area less distinguished from middle area.

Genus *Rinaca* Walker 1855

1855. *Rinaca* Walker, *Cat. Lep. Het. Brit. Mus.* 6 : 1274.

Diagonostic Characters : Antennae much longer than the thorax. Labial palpi very short. Wings long, moderately broad; ocellus truncate and lunate, with curved discal vitreous line. Forewings almost straight in front, rounded, at tips; outer margin oblique. In male, antennae very deeply pectinated, branches ciliated and in pairs, the latter equal in length; forewing slightly falcate, concave along outer margin. In female, antennae with fewer joints than those in male, branches in pairs, the latter unequal in length.

The genus is represented in India by a single species i.e. *Rinaca zuleika* (Hope).

17.* *Rinaca zuleika* (Hope)

1843. *Saturnia zuleika* Hope, *Trans. Linn. Soc. London. Zool*, 19 : 132, No. 18, t.11, fig. 5.

1936. *Rinaca zuleika* : Schuessler, *Lepid. Cat.*, 56 : 236.

Material examined : Nil.

Wing expanse : 136 mm.

Distribution : India : Meghalaya, Nagaland, Sikkim and West Bengal. Elsewhere : Bangladesh and Tibet.

Subfamily SALASSINAE

This subfamily is represented by a single genus, *Salassa* Moore in Southern Asia.

Genus *Salassa* Moore 1859

1859. *Salassa* Moore, *Proc. zool. Soc. Lond.*, : 246.

Four species of this genus occur in India, of which three are found in Meghalaya.

18. *Salassa lola megastica* Swinhoe

1894. *Salassa lola megastica* Swinhoe, *Trans. ent. Soc. Lond.*: 153.

Material examined : Nil

Wing expanse : Not given in original description.

Distribution : India : Meghalaya (East Khasi Hills) and Assam.

Remarks : This subspecies differs from the nominate subspecies found in Bangladesh (Silhat) by antemedial line white, much closer to base and much excurved. The female differs from male by having brown bands darker and hyaline spots very large on fore- and hindwing.

19.* *Salassa mesosa* Jordan

1910. *Salassa mesosa* Jordan, *Nov. Zool.* 18 (3) : 470, ♂ ♀

1918. *Salassa episcopalis* Kaiser, *Mitt. Muenchen ent. Ges.*, 8:21, Pl.1.

Material examined : Nil

Forewing expanse : Not given in the original description.

Distribution : India : Meghalaya (Khasi Hills) and Assam.

Remarks : This species is distinguished from *S. lola megastica* by the mesonotum being without white transverse band, antemedial line in wings not much oblique posteriorly and vitreous discocellular spots much smaller on wings. The female is more uniformly brown than the female of *S. lola megastica*.

20.* *Salassa royi* (Elwes)

1887. *Saturnia royi* Elwes, *Proc. zool. Soc. Lond.*, : 447 (M).

1936. *Salassa royi* : Schuessler, *Lepid. Cat.*, 56 : 95.

Material examined : Nil.

Wing expanse : Male 149 mm, female 154 mm.

Distribution : India : Meghalaya, Himachal, Sikkim and West Bengal.

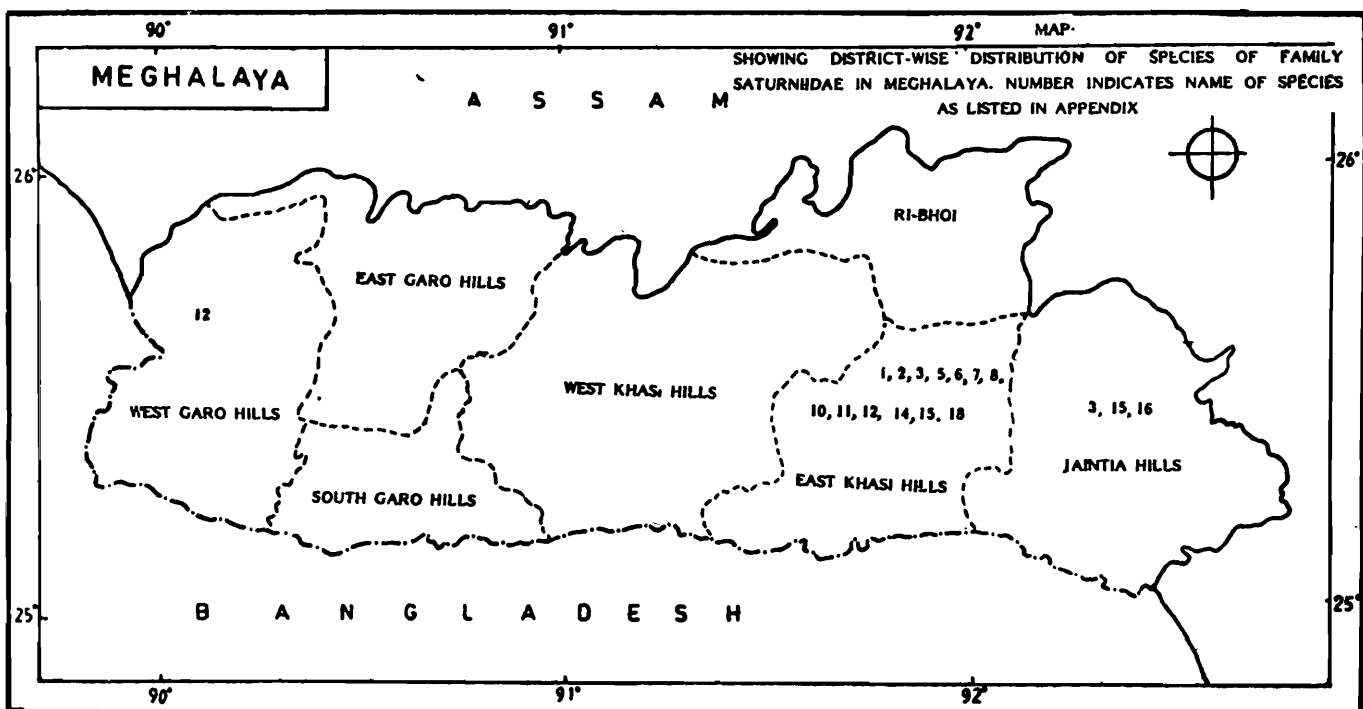
Remarks : This species differs from *S. lola megastica* by the general colour being very dark purplish red brown, hyaline spot rounded and large, hyaline striae on postmediae line absent. In hindwing ocellus with outer ring narrow and black. The female is paler but head and prothorax yellow. The wings are clothed with olive yellow hair and the outer part of postmediae line is greyer.

SUMMARY

The present account deals with 20 species belonging to 12 genera and two subfamilies, Saturniinae and Salassinae of the family Saturniidae from Meghalaya. Keys to species and genera have been given. Measurement of forewing length/wing expanse, geographical distribution and remarks, if any, have been provided for each species. Economic importance of species producing varieties of silk have been mentioned. Districtwise distribution of species of wild silkmoths in Meghalaya shows a maximum number of 13 spp. from East Khasi Hills followed by three and one species from Jaintia Hills and West Garo Hills, respectively. Specimens were not available for study from four districts - East Garo

Hills, South Garo Hills, West Khasi Hills and Ri-Bhoi. The species, in literature, mentioned from Khasi Hills and Garo Hills have not been assigned to any of the now recognised districts in Meghalaya. An Appendix and a map providing list of species of family Saturniidae showing their districtwise distribution have been incorporated.

As the wild silkmths are polyphagous in their larval or caterpillar stage the deforestation in recent years has caused shrinkage of their habitats and, consequently, decreasing the number of species and their population. Further, their poor representation in the collection of ZSI and in the material collected during recent faunistic survey of the State indicate their rare occurrence. The Wild Life (Protection) Act 1972, amended from time to time though included Butterflies and Moths but only species of butterflies have been listed in Schedules-I,II & IV. Therefore, it is suggested that these specialised moths of great economic value may be afforded protection by legislation under the Wild Life (Protection) Act.



Appendix

List of species of family Saturniidae from Meghalaya

	West Garo Hills	East Garo Hills	South Garo Hills	West Khasi Hills'	East Khasi Hills	Ri-Bhoi	Jaintia Hills
1. <i>Actias selene</i> (Huebner)					+		
2. <i>Sonthonnaxia meanas</i> (Doubleday)					+		
3. <i>Rhodinia newara</i> (Moore)					+		+
* 4. <i>Antheraea assamensis</i> (Helfer)							
5. <i>A. paphia</i> (Linnaeus)					+		
6. <i>A. frithi</i> (Moore)					+		
7. <i>A. compta</i> Rothschild					+		
8. <i>A. roylei</i> Moore					+		
* 9. <i>A. castanea</i> Jordan							
10. <i>Loepa katinka</i> (Westwood)					+		
11. <i>Cricula andrei</i> Jordan					+		
12. <i>C. trifenestrata</i> (Helfer)		+			+		
* 13. <i>Attacus atlas</i> (Linnaeus)							
14. <i>Archaeoattacus edwardsii</i> (White)					+		
15. <i>Samia cynthia</i> (Drury)					+		+
* 16. <i>Dictyoploca simla jaintiensis</i> Watson							+
* 17. <i>Rinaca zuleika</i> (Hope)							
18. <i>Salassa lola megastica</i> Swinhoe					+		
* 19. <i>S. mesosa</i> Jordan							
* 20. <i>S. royi</i> (Elwes)							

* Species reviewed from literative

ACKNOWLEDGEMENTS

The author gratefully acknowledges the Director, Zoological Survey of India, for providing necessary facilities to carry out the study on wild silkmths. He is also thankful to Dr. P. K. Maiti, Scientist - SF, Entomology Division (A) for his valuable suggestions and Shri D. K. Mondal, Scientist-SE, Officer-in-Charge of Lepidoptera Section for going through the manuscript critically.

REFERENCES

- Anonymous. 1988. *Subordinate Legislation under The Wild Life (Protection) Act, 1972 (53 of 1972); 38 pp. Published by the Government of India, Ministry of Environment & Forests, New Delhi.*
- Arora, G. S. And Gupta, I. J. 1979. Taxonomic studies on some of the Indian Non-Mulberry Silkmths (Lepidoptera : Saturniidae : Saturniinae). *Mem. zool. Surv. India*; **16**(1) : 63 pp., 17 Text-Figs., 11 pls.
- Chaudhury, S. N. 1982a. *Muga Silk Industry. 178 pp. (Published by the Directorate of Sericulture & Weaving, Government of Assam, Gauhati (Assam).*
- Chaudhury, S. N. 1982b. *Eri Silk Industry. 177 pp. (Published by the Directorate of Sericulture & Weaving, Government of Assam, Gauhati (Assam).*
- Cotes, E. C. 1888. Silkworms in India. *Indian Mus. Notes, Calcutta*, **1** (3) : 129-173.
- Cotes, E. C. 1891. The Wild Silk Insects of India. *Indian Mus. Notes, Calcutta*. **2** (2) : 69-89.
- Cotes, E. C. And Swinhoe, C. 1887-1889. *Catalogue of Moths of India, 1-7 parts, 815 pp. Calcutta, (Indian Museum).*
- Draudt, M. 1929-1930. Saturniidae, In Seitz : *The Macrolepidoptera of the World*. **6** : 713-823.
- Hampson, G. F. 1892. *The Fauna of British India including Ceylon and Burma, (Moths)*, **1** : 12-29. (Published by Taylor & Francis, London).
- Jolly, M. S. 1973. *Discovery of new field of tasar on Oak and its impact on silk production, export and employment. Central Tasar Research Station, Ranchi (Central Silk Board, Bombay).*
- Michener, C. D. 1952. The Saturniidae (Lepidoptera) of the Western Hemisphere, Morphology, Phylogeny and classification. *Bull. Am. Mus. nat. Hist.*, New York, **98** (5) : 335-502, 420 figs.
- Packard, A. S. 1914. Monograph of the Bombycine Moths of North America, including their transformations and origin of the larvae markings and armature. *Mem. natn. Acad, Sci.*, Washington, **12**(1) : 276 pp., 113 pls.
- Schuessler, H. 1933. Saturniidae : I Subfamily Attacinae, II Subfamily Saturniinae. In E. Strand, *Lepid. Cat.* Berlin, **55** : 1-84, **56**: 850324; 1934 (Supplement), **65** : 496-769.
- Schuessler, H. 1936. Syssphingidae. In E. Strand, *Lepid. Cat.*, Berlin, **70** : 1-230.

- Seitz, A. 1924. *The Macrolepidoptera of the World Bombyces Sphinges of the Indo-Australian Region*, 10 : 497-518.
- Sen-Sharma, P. K. 1956. Suborder Heteroneura, Superfamily Bombycoidea. In; a Systematic Catalogue of the main identified entomological collection at the Forest Research Institute, Dehra Dun. *Indian Forest Leaflet* No. 121 (Part 4) Entomology : Part 30 : 288, 290.
- Wardle, Thomas, 1881. *Handbook of the Collection Illustrative of the Wild Silks of India*. xii + 163 pp, 66 pls.

**BUTTERFLIES OF FAMILIES ACRAEIDAE, AMATHUSIIDAE,
LIBYTHEIDAE AND RIODINIDAE (LEPIDOPTERA)**

I. J. GUPTA

Zoological survey of india

M-Block, New Alipore

Calcutta 700 053

INTRODUCTION

North-eastern part of India is well known over the globe for richness and diversity of the butterfly fauna. Among the eight states, Meghalaya is next to Sikkim for abounding these beautiful and delicate insects. Of the 53 species and subspecies found in India, 29 i.e. more than 50% belonging to 14 genera and four families, viz., Acraeidae (2 spp.), Amathusiidae (11 spp.), Libytheidae (3 spp.) and Riodinidae (13 spp.) occur in Meghalaya.

The earlier works on butterflies of India which include their accounts from Meghalaya also, are by de Nicéville (1886), Bingham (1905), Evans (1932) and Wynter-Blyth (1957). Varshney (1994) provided information on genera and species of butterflies of families Satyridae (including Amathusiidae), Libytheidae and Riodinidae from India and neighbouring countries. The contributions on these butterflies from Meghalaya are mainly due to Swinhoe (1893), Parsons and Cantlie (1948) followed by reference to a few species by Cantlie (1951), Varshney and Chanda (1971), Rynth (1977) and Radhakrishnan et al (1989).

The present studies on these butterflies are based on collections made during the last several years by N. Muraleedharan and Party (1975), J. K. Jonathan and Party (1978) and R. K. Varshney, I. J. Gupta and S. K. Ghosh (1991) from Zoological Survey of India (ZSI). The specimens of butterflies collected by Lionel de Nicéville and J. Wood-Mason in 19th Century available in the collection of ZSI have also been examined.

The state of Meghalaya has seven districts, of which East Khasi Hills has the maximum of 17 spp/subspp constituting more than 50% of their total number. The district-wise distribution of species and subspecies in Meghalaya is : East Khasi Hills (19 spp.), Jaintia Hills (13 spp), East Garo Hills (2 spp), West Garo Hills (1 sp.) and Ri-Bhoi (1 sp.). The butterflies from South Garo Hills and West Khasi Hills are not represented in the material collected during recent faunistic surveys of the state. Particular district is not known for species/subspecies as these have been referred to be from 'Khasi Hills' (9 spp. subspp)., Garo Hills (1 sp.) and Meghalaya (Assam to Myanmar) (1 sp.).

Butterflies in their larval or caterpillar stage have a number of plants serving food. With the increase in deforestation there has been decline in their population and diversity. A good number of spp/subspp cited in literature and their specimens available in old collections are not represented in the collection made during recent faunistic surveys of the state. These species and their habitats, therefore, need protection. Subordinate Legislation under The Wild Life Protection Act (1972) amended from time to time included eight spp/subspp belonging to three families (Amathusiidae - (3), Libytheidae - (1) and Riodinidae - (4) among the presently studied butterflies.

The status of occurrence of these butterflies after Evans (1932) and Wynter-Blyth (1957) is that : very rare (3 spp), rare (8 spp), not rare (10 spp), others common and one *Zemerops flegyas indicus* Fruhstorfer as very common. Observing their inadequate number from Meghalaya it is suggested that all the butterflies dealt with, except *Z. flegyas indicus* and *Acraea issoria* (Huebner), may be considered as rare.

Keys to the identification of 29 species/subspecies under four families have been included. Common name, forewing length/wing expanse, distribution and remarks for each of the taxa have been provided. Species/subspecies not available in the collection have been reviewed from literature and marked with the symbol of Asterisk (*). An Appendix and a map listing species and subspecies and their distribution in the districts of Meghalaya have also been provided.

SYSTEMATIC ACCOUNT

Family ACRAEIDAE

Wings sparsely scaled and spotted, cell of forewing and hindwing closed by tubular veins, hindwing flat; and forelegs imperfect in both sexes.

The family is represented by a single genus *Acraea* Fabricius in India.

Genus *Acraea* Fabricius, 1807

1807. *Acraea* Fabricius, *Mag. F. Insektenk* (Illiger), 6 : 284.

Two species, viz., *Acraea violae* (Fabricius) and *A. issoria* (Huebner) occur in India and are dealt with from Meghalaya.

Key to species of genus *Acraea*

Antennae with a short abrupt club. Hindwing with veins M_1 and R_5 not stalked, vein R_5 arising before upper apex of cell..... *violae*

Antennae with a gradually formed club. Hindwing with veins M_1 and R_5 stalked well beyond upper apex of cell..... *issoria*

*1. *Acraea violae* (Fabricius)

(The Tawny Coster)

1775. *Papilio violae* Fabricius, *Syst. ent.*, : 460.

1893. *Telchinia violae* : Swinhoe, *Trans. ent. Soc. Lond.*, : 276.

1947. *Acraea violae* : Talbot, *The Fauna of British India (Butterflies)*, 2 : 466-469.

Material examined : Nil.

Forewing expanse : Male and Female 50-55 mm.

Distribution : India : Meghalaya (East Garo Hills, Khasi Hills). Widely distributed in India. Elsewhere : Sri Lanka.

Remarks : Swinhoe (1893) recorded it from Khasi Hills. Rynth (1977) recorded this species from Darugiri (East Garo Hills).

2. *Acraea issoria issoria* (Huebner)

(The Yellow Coster)

1818. *Telchinia issoria* Huebner, *Zutr. Z. Samml. exot. Schmett.*, 1 : 27.

1893. *Pareba vesta* : Swinhoe, *Trans. ent. Soc. Lond.*, : 276.

1947. *Acraea issoria issoria* : Talbot, *The Fauna of British India (Butterflies)*, 2 : 463.

Material examined : East Khasi Hills Dist., Shillong, Elephant Falls, 1 ex, 6.ix.1975, Shillong, Tripura Castle Road, 2 exs., 8.ix.1975, Shillong, 1 ex, 9.ix.1975 (*N. Muraleedharan and Party coll.*); Cherrapunjee, alt. 300m. 1 ex, 24.iv.1979 (*J. K. Jonathan and Party coll.*).

Forewing length : 27-36 mm.

Distribution : India : Meghalaya (East Khasi Hills), Assam, Sikkim and West Bengal. Elsewhere : Bhutan and Myanmar.

Remarks : Previously the nominate subspecies was reported from Khasi Hills by Swinhoe (1893) and from Shillong and Maphlang (East Khasi Hills) by Radhakrishnan et al (1989).

Family AMATHUSIIDAE

Eyes smooth; labial palpi usually long, prominent and laterally compressed; termen of wings usually entire, underside of hindwing usually with a submarginal ocellus in each of areas 2 and 6; and forelegs imperfect in both sexes.

The family is represented in India by 24 species and subspecies belonging to eight genera and two subfamilies, viz., Amathusiinae and Discophorinae. Of these, 11 species and subspecies distributed over seven genera of both the subfamilies are treated from Meghalaya.

Key to subfamilies

Forewing with discocellular veins tubular throughout. Hindwing with vein 3A longer than abdomen. In male, abdomen not compressed Amathusiinae

Forewing with middle discocellular vein absent. Hindwing with vein 3A not longer than abdomen. In male, abdomen basally ventrally compressed Discophorinae

Subfamily AMATHUSIINAE

Of the 14 species and subspecies occurring in India, seven are dealt with from Meghalaya.

Key to genera

1. Hindwing with cell more or less closed *Amathuxidia*
- Hindwing with cell completely open 2

2. Forewing with vein Cu_{1b} arising about midway between veins Cu_{1a} and M_3 , M_3 not strongly curved proximad.....3
 Forewing with vein Cu_{1b} arising much nearer vein M_3 than to Cu_{1a} , M_3 strongly curved or bent proximad4
3. Forewing with veins R_1 and Sc anastomosed.....*Aemona*
 Forewing with veins R_1 and Sc free*Faunis*
4. Forewing with vein R_2 absent and veins R_1 and Sc free*Stichopthalma*
 Forewing with veins R_2 and R_1 anastomosed with vein Sc.....*Thaumantis*

Genus *Amathuxidia* Staudinger, 1887

1887. *Amathuxidia* Staudinger, In Staudinger & Schatz, *Exot. Schm. 1*, 1 (17) : 188.

This genus is represented by a single species, *Amathuxidia amythaon* (Doubleday) in India and the same is dealt with from Meghalaya.

3. *Amathuxidia amythaon amythaon* (Doubleday)

(The Kohinoor)

1847. *Amathusia amythaon* Doubleday, *Ann. Mag. nat. Hist.*, 19 : 175.

1893. *Amathusia portheos* : Swinhoe, *Trans. ent. Soc. Lond.*, : 275.

1947. *Amathuxidia amythaon amythaon* : Talbot. *The Fauna of British India (Butterflies)* 2 : 439.

Material examined : Khasi Hills, 2 males (σ^7 C^7), (de Nicéville coll.).

Forewing length : 54-58 mm.

Distribution : India : Meghalaya (Khasi Hills, Jaintia Hills), Sikkim. Elsewhere : Bangladesh, Malaya and Myanmar.

Remarks : Swinhoe (1893) recorded it from Khasi Hills whereas Parsons and Cantlie (1948) reported it from Jaintia Hills (near Dawki). This nominate subspecies has been listed in Schedule - II (Part 2) of the Wild Life (Protection) Act.

Genus *Aemona* Hewitson, 1868

1868. *Aemona* Hewitson, *III. exot. Butts.* 4 : (64). *Aemona* pl. figs. 3, 4.

A single species, *Aemona amathusia* (Hewitson) represents this genus in India.

4. *Aemona amathusia amathusia* (Hewitson)

(The Yellow Dryad)

1867. *Clerome amathusia* Hewitson, *Trans. ent. Soc. Lond.*, (3) 5 : 566; ♀

1947. *Aemona amathusia amathusia* : Talbot, *The Fauna of British India (Butterflies)*, 2 : 413.

Material examined : Garo Hills, 1 ex., -iii.- (de Niceville coll.).

Forewing length : 41 mm.

Dsitribution : India : Meghalaya (Garo Hills), Assam and Sikkim. Elsewhere : Northern Myanmar.

Remarks : Only one specimen is represented from Meghalaya in the collection of Zoological Survey of India. This nominate subspecies has been listed in Schedule- II (Part 2) of the Wild Life (Protection) Act.

Genus *Faunis* Huebner, 1819

1819. *Faunis* Huebner, *Verz. bekannt. Schmett.*, (4) : 55.

Two species, viz., *Faunis canens* Huebner and *F. eumeus* Drury of this genus are represented in India.

Key to the species

Underside of forewing and hindwing with discal small yellow spots and obscure dark lines, discal line not joined to outer line *canens*

Underside of forewing and hindwing with discal large yellow spots and prominent dark lines, discal line on both wings joined to outer line posteriorly *eumeus*

5. *Faunis canens arcesilas* Stichel

(The Common Faun)

1787. *Papilio arcesilaus* Fabricius, *Mant. Ins.* 2 : 28, No. 305.

1893. *Clerome arcesilaus*, Swinhoe, *Trans. ent. Soc. Lond.*, : 276.

1947. *Faunis canens arcesilas* Talbot, *The Fauna of British India (Butterflies)*, 2 : 409.

Material examined : Khasi Hills, 1 ex. (*de Nicéville* coll.), East Khasi Hills Dist., Shillong, 6 exs. (in Shillong Museum), 2 exs.

Forewing length : 33-39 mm.

Distribution : India : Meghalaya (East Hills and Jaintia Hills) and Sikkim. Elsewhere : Bhutan, Malaya, Myanmar, Sumatra, Thailand (Siam) and Tong-king.

Remarks : This subspecies was reported from Khasi Hills by Swinhoe (1893) and from Jaintia Hills (Dawki and Syndai) by Parsons and Cantlie (1948).

6. *Faunis eumeus assama* (Westwood)

(The Large Faun)

1858. *Clerome assama* Westwood, *Trans. ent. Soc. Lond.*, (n. s.), 4 : 185.

1948. *Faunis eumeus assama* : Parsons and Cantlie, *J. Bombay nat. Hist. Soc.*, 47(3) : 512.

Material examined : Southern slopes of Khasi Hills, 1 ex (♀) (*J. Wood-Mason* coll.). Khasi Hills, 1 ex (no data), (Shillong Museum), 3 exs. (2 ♂♂, 1 ♀). Khasi Hills, 4 exs. (♂♂) (*de Nicéville* coll.).

Forewing length : Males : 38-40 mm; females 43-47 mm.)

Distribution : India : Meghalaya (East Khasi Hills) and Assam. Elsewhere : Northern Myanmar.

Remarks : Swinhoe (1893) recorded this subspecies from Khasi Hills and later on Parsons and Cantlie (1948) reported it from Mawsmat near Cherrapunjee (East Khasi Hills). Its status is rare. This subspecies has been included in Schedule II (Part 2) of the Wild Life (Protection) Act.

Genus *Stichophthalma* Felder (C.) & Felder (R), 1862

1862. *Stichophthalma* Felder & Felder, *Wien. ent. Monats.*, 6 : 271.

Three species of this genus occur in India of which two species, viz., *Stichophthalma camadeva* (Westwood) and *S. louisa* (Wood-Mason) are dealt with from Meghalaya.

Key to the species

Upperside of hindwing without dark spots inside the submarginal broad dark line

.....*camadeva*

Upperside of hindwing with a post-discal series of conspicuous black spots adjacent to submarginal dark line

.....*louisa*

7. *Stichophthalma camadeva nicevillei* Roerber

(The Northern Jungle Queen)

1900. *Stichophthalma camadeva* var. *nicevillei* Roerber, *Ent. Nachr.*, 26 : 199-204.

1947. *Stichophthalma camadeva nicevillei* : Talbot, *The Fauna of British India (Butterflies)*, 2 : 420.

Material examined : East Khasi Hills Dist., (Shillong Museum), 3 exs. (*no coll*), Cherrapunjee Hills, 1 ex, 24.vii. 1931 (*Purchased*).

Forewing length : 61-68 mm.

Distribution : India : Meghalaya (East Khasi Hills), Assam.

Remarks : Talbot (1947) mentioned its status as 'rare'. Earlier Parsons and Cantlie (1948) reported this subspecies from East Khasi Hills District.

8. **Stichophthalma louisa tyleri* Rothschild

(The Burmese Jungle Queen)

1918. *Stichophthalma tyleri* Rothschild, *Nov. Zool.*, 25 : 310.

1947. *Stichophthalma louisa tyleri* : Talbot, *Fauna of British India (Butterflies)*, 2 : 422.

1948. *Stichophthalma sparta tyleri* : Parsons & Cantlie, *J. Bombay nat. Hist. Soc.*, 47 (3) : 512.

Material examined : Nil.

Wing expanse : 125-150 mm.

Distribution : India : Meghalaya (Jaintia Hills), Arunachal Pradesh, Assam, Manipur and Nagaland. Elsewhere : Myanmar.

Remarks : Parsons and Cantlie (1948) suggested its occurrence in Jaintia Hills. This subspecies is not represented by any specimen from Meghalaya in the collection of Zoological Survey of India.

Genus *Thaumantis* Huebner, 1826

1826. *Thaumantis* Huebner, *Samml. Exot. Schmett.*, 2 : pl. 61.

Only the nominate subspecies, *Thaumantis diores diores* (Doubleday) of this genus occurring in India is dealt with from Meghalaya.

9. *Thaumantis diores diores* (Doubleday)

(The Jungle Glory)

1845. *Thaumantis diores* Doubleday, *Ann. Mag. nat. Hist.*, 16 : 234.

1947. *Thaumantis diores diores* : Talbot, *The Fauna of British India (Butterflies)* 2 : 427.

Material examined : East Khasi Hills dist., (in Shillong Museum), Shillong, 5 exs. (3 ♂♂, 2 ♀♀), Shillong, 1 ex. (♀).

Forewing length : Males 52-53 mm, females 57-59 mm.

Distribution : India : Meghalaya (East Khasi Hills, Jaintia Hills, Ri-Bhoi), Sikkim. Elsewhere : Myanmar.

Remarks : The upperside of forewing with a discal broad irridiscent blue bend from below vein R_4 does not reach inner margin (vs. reaching inner margin, Talbot, 1947). Its status is 'not rare'. Parsons and Cantlie (1948) reported it from Jaintia Hills, Varshney and Chanda (1971) from Khasi Hills, and Radhakrishnan et al (1989) from Nongpoh.

Subfamily DISCOPHORINAE

Of the ten known species and subspecies, four are found in Meghalaya.

Key to genera

Forewing with veins R_2 and R_1 anastomosed with Sc. In male, upperside of hindwing with a patch of plush like scales..... *Discophora*

Forewing with vein R_2 absent, R_1 anastomosed with Sc. In male, upperside of hindwing without the oval patch of plush like scales..... *Enispe*

Genus *Discophora* Boisduval, 1836

1836. *Discophora* Boisduval, (Roret's suits a Buffon), *Hist. nat. Ins. Consd. gen. lepid.*, 1 : pl.4. (=4a), fig. 12 (Larva and pupa) as (*Discophorus*) pl. 12 (= 8B), fig. 3 (as *Discophora*).

Five species of this genus occur in India of which two species, viz., *Discophora sondaica* Boisduval and *D. timora* Doubleday are found in Meghalaya.

Key to the species

- Upperside of forewing marked with blue spots *sondaica*
 Upperside of forewing marked with ochraceous spots *timora*

10. *Discophora sondaica zal* Westwood

(The Common Duffer)

1851. *Discophora zal* Westwood, In Doubleday & Westwood, *Gen. diurn. Lep.*, 2 : 331.
 1893. *Discophora tullia* Swinhoe, *Trans. ent. Soc. Lond.*, : 275
 1947. *Discophora sondaica zal*: Talbot, *The Fauna of British India (Butterflies)*, 2 : 448.
 1948. *Discophora tullia*: Parsons and Cantlie, *J. Bombay nat. Hist. Soc.*, 47 (3) : 512

Material examined : East Khasi Hills Dist., (Shillong Museum), 3 exs. (♀ ♀).

Forewing length : Females 42-47 mm.

Distribution : India : Meghalaya (East Khasi Hills), Sikkim, West Bengal. Elsewhere: Myanmar.

Remarks : Swinhoe (1893) reported this subspecies from Khasi Hills whereas Parsons and Cantlie (1948) about its occurrence, mentioned 'in all forest areas but seldom seen unless bait is used'.

11. **Discophora timora timora* Westwood

(The Great Duffer)

1850. *Discophora timora* Westwood, *Gen. diurn. Lep.*, pl. 40, fig. 2 (female).
 1851. *Discophora celinde* var. *timora*:, Westwood, In Doubleday & Westwood, *Gen. Diurn. Lep.*, 2 : 331
 ("Timora" recte Sylhet).
 1947. *Discophora timora timora*: Talbot, *Fauna of British India Butterflies*, 2 : 455.
 1951. *Discophora continentalis continentalis*, Cantlie, *J. Bombay nat. Hist. Soc.*, 47 (3) : 512.

Material examined : Nil.

Eing expanse : Male and female 85-100 mm.

Distribution : India : Meghalaya (Jaintia Hills, Khasi Hills), Assam, Sikkim and West Bengal. Elsewhere : Annam, Malaya, Myanmar and Tongking.

Remarks : The other subspecies *D. timora andamenensis* Staudinger from Andamans differs from the nominate subspecies by upperside and underside of wings being darker. Cantlie (1951) reported male of the nominate subspecies from Khasi Hills and Jaintia Hills, and remarked rare, possibly very rare'. This subspecies is not represented by any specimen from Meghalaya in the collection of Zoological Survey of India. Evans (1932) mentioned its status as 'not rare'.

Genus *Enispe* Doubleday, 1848

1848. *Enispe* Doubleday, *Gen. diurn. Lep.*, 2 : pl. 40, fig. 2.

Two species viz., *Enispe cycnus* Westwood and *E. euthymius* Doubleday occur in India and are dealt with from Meghalaya.

Key to the species

- Upperside of wings blackish brown *cycnus*
 Upperside of wings bright ochreous with blackish-brown markings *euthymius*

12. *Enispe cycnus cycnus* Westwood

(The Blue Caliph)

1851. *Enispe cycnus* Westwood, In Doubleday & Westwood, *Gen. diurn. Lep.* 2 : 330.1948. *Enispe cycnus cycnus*: Parsons and Cantlie, *J. Bombay nat. Hist. Soc.*, 47 (3) : 512.

Material examined : East Khasi Hills Dist., Cherrapunjee, 1 ex. (abdomen wanting) (no data); Khasi Hills, 2 exs. (1 ♂, 1 ♀) (*de Nicéville coll.*).

Forewing length : Male 40 mm, female 45 mm.

Distribution : India : Meghalaya (East Khasi Hills), Assam. Elsewhere : Northern Myanmar.

Remarks : Swinhoe (1893) and Parsons and Cantlie (1948) reported its occurrence in East Khasi Hills. The species, *E. cycnus* Westwood has been listed in Schedule - II (Part 2) of the Wild Life (Protection) Act.

13. *Enispe euthymius euthymius* (Doubleday)

(The Red Caliph)

1845. *Enispe euthymius* Doubleday, *Ann. Mag. nat. Hist.*, 16 : 179.1947. *Enispe euthymius euthymius*: Talbot, *The Fauna of British India (Butterflies)* 2 : 460.

Material examined : East Khasi Hills Dist., (In Shillong Museum), 2 exs (1 ♂, 1 ♀).

Forewing length : Male 40 mm, female 47 mm.

Distribution : India : Meghalaya (East Khasi Hills), Assam, Sikkim and West Bengal. Elsewhere : Myanmar.

Remarks : Previously, this nominate subspecies was recorded from Khasi Hills by Swinhoe (1893) followed by Parsons and Cantlie (1948) with its occurrence in East Khasi Hills. Its status is 'rare'.

Family LIBYTHEIDAE

Eyes naked; labial palpi very long, porrect and beak-like; wings short and broad with cell closed by tubular veins, forewing falcate and truncate at apex and vein 1A+2A forked at base; forelegs imperfect in male but functionally perfect in female.

The family is represented in the World by the type genus *Libythea* Fabricius with 12 species, of which three occur in India.

Genus *Libythea* Fabricius, 18071807. *Libythea* Fabricius, *Mag. f. Insektenk* (Illiger), 6 : 284.

Of the five species and subspecies of this genus occurring in India, three are found in Meghalaya.

Key to the species

1. Upperside of forewing without a distinct cellular streak *narina*
 Upperside of forewing with a distinct cellular streak 2
2. Upperside of forewing with an elongate oval orange-yellow spot beyond lower apex of cell.....
 *myrrha*
 Upperside of forewing with a quadrate orange spot beyond lower apex of cell *lepita*

14. *Libythea narina rohini* Marshall

(The White Spotted Beak)

1880. *Libythea rohini* Marshall, *J. Asiat. Soc. Beng.* 49 : 248.

1951. *Libythea narina rohini*: Cantlie, *J. Bombay nat. Hist., Soc.*, 51 (1) : 44.

Material examined : Nil

Forewing expanse : 50-55 mm.

Distribution : India : Meghalaya (East Khasi Hills, Jaintia Hills), Assam. Elsewhere : Myanmar.

Remarks : De Nicéville (1886) referred to its occurrence in East Khasi (near Shillong) followed by Swinhoe (1893) who recorded it from Khasi Hills. Cantlie (1951) reported it from Khasi and Jaintia Hills. Its status is 'rare'.

15. *Libythea myrrha sanguinalis* Fruhstorfer

(The Club Beak)

1898. *Libythea myrrha* var. *sanguinalis* Fruhstorfer, *Berl. ent. Zeits.*, 43 : 169.

1932. *Libythea myrrha sanguinalis*: Evans, *J. Bombay nat. Hist. Soc.*, 49 : 508.

Material examined : Meghalaya : East Khasi Hills, Shillong Museum, 1 ex. (no further data), Shillong, 1 ex. (no further data).

Forewing length : 24-26 mm.

Distribution : India : Meghalaya (East Khasi Hills, Jaintia Hills), Arunachal Pradesh and Himachal Pradesh.

Remarks : In one specimen hindwing bears discal orange marking with irregular ending. Previously, this subspecies was recorded from Khasi Hills by Swinhoe (1893) and from Jaintia Hills (Snongpadeng village near Dawki and Laityngkot) by Cantlie (1954).

16. *Libythea lepita lepita* Moore

(The Common Beak)

1857. *Libythea lepita* Moore, *Cat. Lep. Ins. Mus. East India Coy*, 1 : 240.

1932. *Libythea lepita lepita*: Evans, *The Identification of India Butterflies*, : 194.

Material examined : Nil

Forewing expanse : 45-50 mm.

Distribution : India : Meghalaya, Arunachal Pradesh, Assam and Jammu & Kashmir. Elsewhere : Northern Myanmar.

Remarks : D'Abrera (1985) treated it as *L. celtis lepita* Moore whereas Varshney (1994) considered *L. celtis* Laicharting and *L. Lepita* Moore separate and valid species. The species *L. lepita* Moore has been included in Schedule II (Part 2) of the Wild Life (Protection) Act.

Family RIODINIDAE

Antennae a little longer than half the length of forewing costa, club spatulate and broadens rather gradually; eyes naked or hairy; labial palpi porrect, usually small and slender; wings rather narrow and elongate, cells in both wings closed by tubular veins, forewing with vein 1A+2A weakly bifurcate at base, hindwing with a precostal vein, produced at tornus or lobed or dentate or angled at vein Cu_{1b}, Cu_{1a} or M₃.

Of the 21 species and subspecies known from India, 13 are found in Meghalaya.

Key to the genera

1. Hindwing with a precostal spur/vein arising from origin of vein Sc.2
 Hindwing with a precostal spur/vein arising after origin of vein Sc.....3
2. Eyes smooth. Forewing with lower end of discocellular vein at origin of vein Cu_{1b}. Hindwing with veins R_s and M₃ arising from upper end of cell, M₁ and Cu_{1b} from lower end of cell; hindwing lobed *Zemeors*
 Eyes hairy. Forewing with lower end of discocellular vein after origin of vein Cu_{1b}. Hindwing with veins R_s and M₃ forked after end cell, vein Cu_{1b} from before end cell; hindwing produced and lobed *Dodona*
3. Hindwing with vein Sc very short and ending before end cell, R_s also very short and ending long before the apex *Stiboges*
 Hindwing with vein Sc long and ending beyond origin of vein M₃, R_s reaching apex 4
4. Eyes hairy. Hindwing with the cell long and narrow at base *Abisarsa*
 Eyes not hairy. Hindwing with the cell short and broad at base *Taxila*

Genus *Zemeris* Boisduval 1836

1836. *Zemeris* Boisduval, (Roret's Suite a Buffon), *Hist., nat. Ins. Spec. gen. Lepid.*, 1 : pl.21 (= pl. 5C), fig. 5.

Only a single subspecies, *Zemeris flegyas indicus* Fruhstorfer occurring in India is dealt with from Meghalaya.

17. *Zemerus flegyas indicus* Fruhstorfer

(The Punchinello)

1897. *Zemerus flegyas incidus* Fruhstorfer, *Berl. ent. Zeits.*, 42 : 333.1905. *Zemerus flegyas*: Bingham, *Fauna of British India (Butterflies)*, 2 : 499.1948. *Zemerus flegyas indicus*, Parsons & Cantlie, *J. Bombay nat. Hist. Soc.*, 47 (3) : 512.

Material examined : Meghalaya : West Garo Hills, Kherapara, 200 m., 4 exs., 4.x.1991 (R. K. Varshney, I. J. Gupta & S. K. Ghosh coll.)

Forewing Length : 17-20 mm.

Distribution : India : Meghalaya (West Garo Hills, East Khasi Hills, Jaintia Hills), Arunachal Pradesh and Uttar Pradesh. Elsewhere : Northern Mynamar.

Remarks : Previously, Swinhoe (1893) reported this subspecies from Khasi Hills, Parsons & Cantlie (1948) from Khasi and Jaintia Hills but Varshney and Chanda (1971) and Radhakrishnan et al (1989) from East Khasi Hills.

Genus *Dodona* Hewitson, 18611861. *Dodona* Hewitson, *Ill. exot. Butts.*, 2 : 91.

Of the seven species of this genus occurring in India, six are dealt with from Meghalaya.

Key to the species

1. Hindwing with a tornal lobe with a filamentous short tail *dipoea*
 Hindwing with a tornal lobe with a short filamentous tail 2
2. Upperside of wings with markings black and white *henrici*
 Upperside of wings with markings more or less black or ochreous brown or yellow, if white then confined to the forewing 3
3. Upperside of forewing with discal transverse markings macular 4
 Upperside of forewing with discal transverse markings not macular, continuous and forming a band 5
4. Ground colour brown. Discal transverse macular markings small, not or very obscurely continued on to hindwing *eugenes*
 Ground colour black, suffused with ochreous at base. Discal non macular markings large, continued as an unbroken broad band on hind wing *egeon*
5. Underside of wings with ground colour ochreous red, hindwing without distinct transverse bands; female with a broad white discal band on forewing *oida*
 Underside of wings with ground colour bright ochreous yellow; hindwing with clearly defined jet-black transverse bands *adonira*

18. *Dodona dipoea dipoea* Hewitson

(The Lesser Punch)

1866. *Dodona dipoea* Hewitson, *Exot. Butt.*, 3 : pl. 1, fig. 3.1932. *Dodona dipoea dipoea*, Evans, *The Identification of Indian Butterflies* : 195.*Material examined* : Nil.*Forewing expanse* : 40-50 mm.*Distribution* : India : Meghalaya, Assam and Sikkim. Elsewhere : Myanmar and Nepal.

Remarks : The nominate subspecies is not represented by any specimen from Meghalaya in the collection of Zoological Survey of India. Evans (1932) mentioned its distribution from Sikkim to Assam and its status as rare. The species, *D. dipoea* Hewitson has been listed in Schedule II (Part 2) of the Wild Life (Protection) Act.

19. *Dodona henrici longicaudata* de Nicéville

(The White Punch)

1881. *Dodona longicaudata* de Nicéville, *Proc. Asiat. Soc. Beng.*, : 121.1932. *Dodona henrici longicaudata* : Evans. *The Identification of India Butterflies* : 195.*Material examined* : East Khasi Hills Dist., Shillong, 1 ex. (*de Nicéville coll.*).*Forewing length* : 21 mm.*Distribution* : India : Meghalaya (East Khasi Hills) and Assam.

Remarks : This subspecies is represented by a single specimen from Meghalaya (Shillong) in the collection of Zoological Survey of India. Its status is very rare. Parsons and Cantlie (1948) recorded it from near Margaret Hills on Shillong Guhati Road.

20. *Dodona eugenes venox* Fruhstorfer

(The Tailed Punch)

1912. *Dodona venox* Fruhstorfer, *Entom. Rundsch.*, 29 : 24.1932. *Dodona eugenes venox* : Evans, *The Identification of India Butterflies* : 195.1951. *Dodona eugenes*, Cantlie, *J. Bombay nat. Hist. Soc.*, 51 : 47.*Material examined* : East Khasi Hills Dist., Shillong, 1 ex., vii (*de Nicéville coll.*).*Forewing length* : 19 mm.

Distribution : India : Meghalaya (East Khasi Hills, Jaintia Hills), Assam and Sikkim. Elsewhere : Bhutan and Myanmar.

Remarks : Only a single specimen of this subspecies from Meghalaya is available in the collection of Zoological Survey of India. Parsons and Cantlie (1948) made a reference to Bingham (1905) for the occurrence of this subspecies in Khasi and Jaintia Hills. Cantlie (1951) recorded it from Jaintia Hills (Dawki) and East Khasi Hills (Cherra). Its status is not rare.

21. *Dodona egeon* (Doubleday)

(The Orange Punch)

1851. *Taxila egeon* Doubleday, in Doubleday : Westwood & Hewitson, *Gen. diurn. Lep.*, 2 : 422, pl. 69, fig. 2.

1948. *Dodona egeon*, Parsons and Cantlie, *J. Bombay nat. Hist. Soc.*, 47(3) : 512.

Material examined : Khasi Hills, 2 exs., (de Nicéville coll.).

Forewing length : 21-22 mm.

Distribution : India : Meghalaya (East Khasi Hills, Jaintia Hills). Elsewhere : Bangladesh, Nepal and Myanmar.

Remarks : There are two examples of this species from Meghalaya (Khasi Hills) in the collection of Zoological Survey of India. Parsons and Cantlie (1948) referred to Bingham (1905) for the occurrence of this species in Khasi and Jaintia Hills. Cantlie (1951) recorded it from East Khasi Hills (near Cherrapunji). Its status is rare. This species has been included in Schedule II (Part 2) of the Wild Life (Protection) Act.

22. *Dodona ouida ouida* Moore

(The Mixed Punch)

1865. *Dodona ouida* Moore, *Proc. zool. Soc. Lond.*, : 711.

1932. *Dodona ouida ouida*, Evans : *The Identification of India Butterflies* : 195.

Material examined : East Khasi Hills Dist., Shillong, 2 exs (♂ ♂). 43 Cherrapunjee, 2 exs (1 ♂ 1 ♀) (de Nicéville coll.).

Forewing length : Males 22-23 mm, female 24mm.

Distribution : India : Meghalaya (East Khasi Hills). Elsewhere : Myanmar and Nepal.

Remarks : This nominate subspecies is distinguished from *D. ouida phlegra* Fruhstorfer distributed from Uttar Pradesh (Mussoorie) to Nepal by being darker, male with narrow discal band and female with white band having irregular edge (vs. male with broad orange discal band and female with even edged white band). Parsons and Cantlie (1948) reported it from East Khasi Hills (near Pynursia) and mentioned that female is rare.

23. *Dodona adonira adnoris* Hewitson

(The Striped Punch)

1866. *Dodona adonira* Hewitson, *Ext. Butts.*, 3 pl. 1, figs. 1, 2 (male).

1932. *Dodona adonira adonira* : Evans, *The Identification of India Butterflies* : 195.

Material examined : Khasi Hills, 1 ex (de Nicéville coll.).

Forewing length : 18 mm.

Distribution : India : Meghalaya (East Khasi Hills), Assam and Sikkim. Elsewhere : Bhutan and Nepal.

Remarks : Only the nominate subspecies occurs in India and a specimen is represented from Meghalaya in the collection of Zoological Survey of India. Earlier, Parsons and Cantlie (1948) recorded it from East Khasi Hills (below Cherra) and later on by Cantlie (1951) from cherra. The species has been listed in Schedule II (Part 2) of the Wild Life (Protection) Act.

Genus *Stiboges* Butler, 1876

1876. *Stiboges* Butler, *Proc. zool. Soc. Lond.*, : 308.

This genus is represented in India by the nominate subspecies *Stiboges nymphidia nymphidia* Butler and is dealt with from Meghalaya.

24. *Stiboges nymphidia numphidia* Butler
(The Columbine)

1876. *Stiboges nymphidia* Butler, *Proc. zool. Soc. Lond.*, : 309, pl. 22, fig. 1 ♂

1932. *Stiboges nymphidia nymphidia* : Evans, *The Identification of Indian Butterflies*, : 196.

Material examined : Khasi Hills, 1 ex (*de Nicéville coll.*).

Forewing length : 21 mm.

Distribution : India : Meghalaya (Khasi Hills, Jaintia Hills) and Nagaland. Elsewhere : Bhutan and Myanmar.

Remarks : A single specimen from Meghalaya (Khasi Hills) is available in the collection of Zoological Survey of India. Swinhoe (1893) reported it from Khasi Hills whereas Cantlie (1951) recorded it from Khasi and Jaintia Hills. Its status is very rare.

Genus *Abisara* Felder (C) & Felder (R), 1860

1860. *Abisara* Felder & Felder, *Wien. ent. Monats.* 4 : 397.

Of the six species of this genus found in India, four are dealt with from Meghalaya.

Key to the species

1. Hindwing with terminal margin not concave or emarginate above vein M₃ *fylla*
Hindwing with terminal margin concave or emarginate above vein M₃ 2
2. Upperside of forewing and hindwing having ground colour purplish or maroon-brown.....
..... *echerius*
Upperside of forewing and hindwing having ground colour dull hair-brown..... 3
3. Upperside of forewing with a prominent white spot at upper end of postdiscal pale dusky band
..... *chela*
Upperside of forewing without any white spot at upper end of postdiscal dusky pale line
..... *neophron*

25. *Abisara fylla* (Doubleday)

(The Dark Judy)

1847. *Taxila fylla* Doubleday, *List. Lep. Brit. Mus.*, Pt. 2 : 2.1932. *Abisara fylla*: Evans, *The Identification of Indian Butterflies* : 196.1948. *Abisara fylla* : Parsons & Cantlie, *J. Bombay nat. Hist. Soc.*, 47 (3) : 512.

Material examined : East Khasi Hills Dist., Shillong, 1 ex. (♂) (no further data). Khasi Hills, 1 ex. (♂) (no further data).

Forewing length : Male 23 mm, female 23 mm.

Distribution : India : Meghalaya (East Khasi Hills), Uttar Pradesh. Elsewhere : Myanmar.

Remarks : Two specimens of this species are available in the Zoological Survey of India. Parsons and Cantlie (1948) recorded it from East Khasi Hills (Shillong, Mawsmat near Cherrapunjee). Evans (1932) mentioned its status common.

26. **Abisara echerius angulata* Moore

(The Plum Judy)

1878. *Abisara angulata* Moore, *Proc. zool. Soc. Lond.*, : 833.1932. *Abisara echerius angulata*: Evans, *The Identification of Indian Butterflies* : 197.

Material examined : Nil.

Forewing expanse : 40-45 mm.

Distribution : India : Meghalaya (East Garo Hills) and Assam. Elsewhere : Myanmar.

Remarks : Rynth (1977) reported this subspecies from Damara (East Garo Hills). This subspecies from Meghalaya is not represented in the collection of Zoological Survey of India. Evans (1932) referred to its status common.

27. *Abisara chela chela* de Niceville

(The Spot Judy)

1886. *Abisara chela*, de Nicéville, *J. Asiat. Soc. Beng.*, 4 (2) : 252, pl. 11, fig. 7 ♂1932. *Abisara chela chela*: Evans, *The Identification of Indian Butterflies* : 196.

Material examined : East Khasi Hills Dist., in Shillong Museum, 1 ex., (no further data).

Forewing length : 23 mm.

Distribution : India : Meghalaya : (East Khasi Hills and Jaintia Hills), Assam and Sikkim.

Remarks : This nominate subspecies being smaller, darker and upperside of forewing with bands narrow and constricted at ends is distinguished from its allied *Abisara chela kalawna* Evans found in

Myanmar being larger, paler and also upperside of forewing with straight discal band expanding to costa and spreading slightly along costa. Its status is very rare. From Meghalaya (Shillong) only a single specimen is available in the collection of Zoological Survey of India. Parsons and Cantlie (1948) observed that there was confusion regarding *A. chela chela* for *A. neophron neophron* and vice versa. Cantlie (1951) reported its occurrence in Khasi and Jaintia Hills. Radhakrishnan et al (1989) reported it from Shillong (East Khasi Hills) but erroneously put the name de Nicéville in parenthesis who originally described the species *chela* under the genus *Abisara*.

28. *Abisara neophron neophron* (Hewitson)

(The Tailed Judy)

1861. *Sospita neophron* Hewitson, *Exot. Butts.*, 2 : pl. 1, fig. 3.

1932. *Abisara neophron neophron*: Evans, *The identification of Indian Butterflies* : 196.

Material examined : East Khasi Hills Dist., 2 exs (♂ ♂) (no further data).

Forewing length : 25-26 mm.

Distribution : India : Meghalaya (East Khasi Hills, Jaintia Hills) and Assam. Elsewhere : Myanmar.

Remarks : The nominate subspecies is larger than the *Abisara neophron neophronides* Fruhstorfer which is found in India (Sikkim) and Nepal. Swinhoe (1893) reported it from Khasi Hills and later on Parsons and Cantlie (1948) reported it from Khasi Hills and Jaintia Hills. Its status is not rare.

Genus *Taxila* Doubleday, 1847

1847. *Taxila* Doubleday, *List. spec. lep. Ins. Brit. Mus.*, 2 : 2.

This genus is represented in India by a single species *Taxila haquinus* (Fabricius) which is dealt with from Meghalaya.

29. **Taxila haquinus fasciata* Moore

(The Haricquin)

1878. *Taxila fasciata* Moore, *Proc. zool. Soc. Lond.*, : 832, pl. 52, fig. 1 ♂

1932. *Taxila haquinus fasciata* Evans, *The Identification of Indian Butterflies* : 198.

Material examined : Nil.

Forewing expanse : 45-55 mm.

Distribution : India : Meghalaya and Assam. Elsewhere : Myanmar.

Remarks : Evans (1932) referred to its occurrence from 'Assam to Burma' (Myanmar) and it is not represented in the collection of Zoological Survey of India. Its status is not rare.

Appendix

List of Species/Subspecies of Butterflies from Meghalaya

	West Garo Hills	East Garo Hills	South Garo Hills	West Khasi Hills	East Khasi Hills	Ri-Bhoi	Jaintia Hills
FAMILY ACRAEIDAE							
1. <i>Acraea violae</i> (Fabricius)		+					
2. <i>A. issoria</i> (Huebner)					+		
FAMILY AMATHUSIIDAE							
3. <i>Amathuxidia amythaon amythaon</i> (Doubleday)							+
4. <i>Aeomona amathusia amathusia</i> (Hewitson)							
5. <i>Faunis canens arcilas</i> (Stichel)					+		+
6. <i>F. eumeus assama</i> (Westwood)					+		
7. <i>Stichophthalma camadeva nicevillei</i> Roeber					+		
8. <i>S. lousa tytleri</i> Rothschild							+
9. <i>Thaumantis dores diores</i> (Doubleday)					+	+	+
10. <i>Discophora sondaica zal</i> Westwood					+		
11. <i>D. timora timora</i> Westwood							+
12. <i>Enispe cycnus cycnus</i> Westwood					+		
13. <i>E. euthymius euthymius</i> (Doubleday)					+		
FAMILY RIODINIDAE							
14. <i>Libythea narina rohini</i> (Marshall)					+		+
15. <i>L. myrrha sanguinalis</i> Fruhstorfer					+		+
*16. <i>L. lepita lepita</i>							
17. <i>Zemeros flegyas indicus</i> Fruh.	+				+		+
*18. <i>Dodona dipoea dipoea</i> Hewitson							
19. <i>D. henrici longicaudata</i> de Niceville					+		
20. <i>D. eugenes venox</i> Fruhstorfer					+		+
21. <i>D. egeon</i> (Doubleday)					+		+
22. <i>D. ouida ouida</i> Moore					+		
23. <i>D. adonira adonira</i> Hewitson					+		
24. <i>Stiboges nymphidia nymphidia</i> Butler							+
25. <i>Abisara fylla</i> (Doubleday)					+		
*26. <i>A. echerius angulata</i> Moore		+					
27. <i>A. chela chela</i> de Niceville					+		+
28. <i>A. neophron neophron</i> Hewitson					+		+
*29. <i>Taxila haquinus fasciata</i> Moore							

SUMMARY

Keys to identification of 29 species and subspecies from Meghalaya belonging to 14 genera and four families namely Acraeidae, Amathusiidae, Libytheidae and Riodinidae have been given. Common name, forewing length/wing expanse, distribution and remarks for each sp/subsp have been provided. An appendix listing the taxa and maps showing their districtwise distribution in Meghalaya have been included. Maximum number (19 spp.) is from East Khasi Hills followed by Jaintia Hills (13 spp.), East Garo Hills (2 spp.) and one sp. each from West Garo Hills and Ri-Bhoi. The specimens of these butterflies were not available from South Garo Hills and West Khasi Hills in the material collected during the recent faunistic surveys of the state. For distribution 'Khasi Hills' (9 spp), Garo Hills (1 sp) and Meghalaya for Assam Myanmar (1 sp) has been followed as given in literature and have not been assigned to any of the districts now recognised.

Though status of 3 spp is very rare and of 8 spp. rare, only 8 spp. have been included in Schedule II (Part 2) of the Wild Life Protection Act (1972) amended from time to time. On the other hand there are about 25 species and subspecies which are endemic to North-eastern part of India. Observing their inadequate representation in the old collections of ZSI and being conspicuous by their absence in the material collected during the recent faunistic surveys, it is suggested that all, except *Zemeros flegyas indicus* Fruhstorfer and *Acraea issoria* (Huebner) may be considered as of rare occurrence.

ACKNOWLEDGEMENTS

The author is grateful to the Director, Zoological Survey of India for providing Laboratory facilities for this study. Thanks are also due to Dr. K. K. Rai former Scientist – SE, and Dr. P. K. Maiti, Scientist-SF, Entomology Division (A) for their valuable suggestions and Shri D. K. Mondal Scientist-SE, Officer-in-Charge of Lepidoptera Section for going through the manuscript critically.

REFERENCES

- Anonymous, 1988. Subordinate Legislation under the Wild Life (Protection) Act, 1972 (53 of 1972), Published by Government of India, Ministry of Environment and Forests.
- Bingham, C.T. 1905. *The Fauna of British India including Ceylon and Burma (Butterflies)*, 1 : xviii + 537, pp. 15 pls. (Published by Taylor and Francis Ltd., London).
- Cantlie, Keith. 1951. More Butterflies of the Khasi and Jaintia Hills, Assam. *J. Bombay nat. Hist. Soc.*, 51 (1) : 42-60.
- De Niceville, L. 1886. *The Butterflies of India, Burma and Ceylon*. 2 : iv + 332 pp., 18-24 pls.
- Evans, W. H. 1932. *The Identification of Indian Butterflies*, 2nd ed : 454 pp. 32 pls. (Published by Bombay Natural History Society, Bombay).
- Parsons, R. E. and Cantlie, K. 1948. The Butterflies of the Khasia and Jaintia Hills, Assam. *J. Bombay nat. Hist. Soc.*, 47 (3) : 498-522.

- Radhakrishnan, C. Alfred, J. R. B. and Rynth, M. R. 1989. *Butterflies of Shillong and its Environs*. 70 pp (104 illustrations). (Published by Science and Technology Cell, Planning Department, Govt. of Meghalaya, Shillong).
- Rynth, M. R. 1977. A preliminary list of the butterflies of Garo Hills, Meghalaya. *Bull. Meg. Sci. Soc.*, **2** : 1 -8.
- Swinhoe, C. 1893. A list of the Lepidoptera of the Khasia Hills Part I. *Trans. ent. Soc. Lond.*, : 267-330.
- Talbot, G. 1947. *The Fauna of British India including Ceylon and Burma (Butterflies)*, **2** : xv + 506 pp, 2 pls. 1 map (published by Taylor and Francis, London).
- Varshney, R. K. 1994. Index Rhopalocera Indica, Part III. Genera of butterflies from Indian and neighbouring countries (Lepidoptera : (B) Satyridae, Nymphalidae, Libytheidae and Riodinidae). *Orient. Ins.*, **28** : 151-198.
- Varshney, R. K. and Chanda, S. K. 1971. Butterflies of the North-Eastern India. *Indian Mus. Butt.*, **6** (1) : 28-53, 2 maps.
- Wynter-Blyth, M. 1957. *Butterflies of the Indian Region* : xx + 523 pp., 72 pls. (Published by Bombay Natural History Society, Bombay).

PYRALIDAE

D. P. BHATTACHARYA

Zoological Survey of India

M-Block, New Alipore

Calcutta-700 053

INTRODUCTION

Hampson (1896) in *Fauna British India* included nearly five hundred species of Pyralidae mainly from India, Myanmar (Burma) and Sri Lanka (Ceylon), of which about two hundred thirty species were reported from Meghalaya. Presently some three hundred species have been recorded from the state.

Swinhoe (1891-1894) and Warren (1894-1896) are regarded as the pioneer workers on the Pyralids of Meghalaya mainly on the collections from the Khasi hills area. Walker (1856-1866), Meyrick (1905-1914) and Sevastopulo (1938) also described some species from Khasi hills area.

The old collections as present in the National Zoological Collection in the Zoological Survey of India, Calcutta, were collected mainly by de Niceville or were purchased collections of Shillong Museum. In recent years (1974-1988) some more materials were added in the National Collection through Faunistic Surveys conducted by different survey parties from ZSI.

The present work includes about three hundred species distributed over more than one hundred genera of which fifty seven species are endemic to Khasi hills and the 'Type Locality' of twenty two species are either from Cherrapunji, Shillong or Khasi hills area. Also seven species are new locality records from the state. For the systematic accounts, keys, diagnostic characters, distribution etc. mainly Hampson's work (1896) on Pyralidae in the *Fauna of British India* has been followed.

Out of twelve subfamilies under Pyralidae, ten subfamilies are dealt with in the present study. Subfamilies Anerastiinae and Chrysauginae are not included due to absence of any record from the state of Meghalaya. Under subfamily Schoenobiinae two species, *Ramila acciusalis* and *Scirpophaga cramboides*, both from Garo hills, are new locality records from the state. Pyralinae also includes two species from Garo hills, *Pyralis manihotalis* and *Stematophora tactilis* as new locality records for Meghalaya. For subfamily Pyraustinae three species from Shillong, east Khasi hills, *Diastictis inspersalis*, *Botyodes asialis*, *Glyphodes naralis* and one species from east Garo hills, *G. caesalis* are new locality records from Meghalaya. Three species *Eschata chryсарgyria*, *Lamprosema poeonalis* and *Crocidophora acutangulalis* are new locality records for Garo hills.

Fifty seven species of Pyralids are endemic to Khasis, Meghalaya, of which six species of Crambinae, *Diptychophora euzonella*, *D. mitis*, *D. equestris*, *Argyris trizona*, *Platytes diatraeelia* and *P. fulvizonella*; four species of Endotrichinae, *Endotricha pygmaealis*, *Petta alternata*, *Trichophysetis nigripalpis* and *T. nigriscalis*; five species of Pyralinae, *Pyralis funebris*, *Paractenia ruptilinealis*, *P. semiochrea*, *Bostra igneusta* and *B. subviridescens*; fifteen species of Nymphulinae, *Eristena*

murinalis, *Musotima instrumentalis*, *Ambia magnificalis*, *Oligostigma albifuscalis*, *Parthenodes latifascialis*, *P. nigriplaga* *P. aequivocalis*, *Massepha carbonalis*, *Orphnophanes laevis*, *Diathraustodes similis*, *D. profundalis*, *Piletocera discisignalis*, *P. albilunata*, *P. maculifrons* and *Mabra fuscipennalis*; one species of Scopariinae *Microglossa aenealis*; twenty seven species of Pyraustinae, *Aetholix indecisa*, *Diastictis ciliatata*, *Chalcidoptera multiplicalis*, *Macaretaera delicata*, *Proconica nigrocyanal*, *Dichocrocis actinalis*, *Lamprosema benepictalis*, *L. discalis*, *Sylepta ochrotichroa*, *S. picalis*, *S. paucinotalis*, *Lygropia flavicaput*, *L. flavispila*, *Glyphodes prothymalis*, *Sameodes pictalis*, *Archernis nictitans*, *Ischnurges rosea*, *Crocidophora fulvidalis*, *C. multidentalis*, *C. distinctalis*, *C. discolorata*, *C. pallidulalis*, *Discothyris meghalophalis*, *Psara (Pachyzancla) subdentalis* and *Lepidoneura longipalpis* are included.

Type locality of at least twenty two species have been recorded mainly from Cherrapunji, Shilling and Khasi hills area. Subfamily Crambinae includes four new species from Khasis, *Diptychophora equestris*, *D. ochrophanes*, *D. mitis* and *Argyria trizona*. Under Nymphulinae two species, *Piletocera nudicornis* and *Mabra fuscipennalis* have been described from Khasis. Sixteen new species have been described under the subfamily Pyraustinae of which eight species, *Rehimena flavinervis*, *Agrotera discinotata*, *Pagyda discolor*, *Chalcidoptera rufilinealis*, *Sylepta denticulata*, *S. venustalis*, *S. nigriflava*, *Glyphodes prothymalis* from Cherrapunji, one species, *Pagyda fulvistriga* from Shillong and seven species, *Lamprosema stigmatalis*, *L. eximialis*, *L. valvata*, *L. barbata*, *Sylepta latiguttalis*, *Pygospila cuprealis* and *Entephria dryocentra* from Khasis have been designated as 'type locality' by the respective authors.

SYSTEMATIC ACCOUNT

Superfamily PYRALIDOIDEA

Family PYRALIDAE

Key to the subfamilies of Pyralidae

1. Hind wing with the median nervure pectinated on upperside 2
 Hind wing with the median nervure not pectinated on upperside..... 5
2. Fore wing with R₅ present..... 3
 Fore wing with R₅ absent 4
3. Maxillary palpi not triangularly scaled..... Galleriinae
 Maxillary palpi triangularly scaled.....Crambinae
4. Proboscis absent Anerastiinae*
 Proboscis present..... Phycitinae
5. Proboscis absent.....Schoenobiinae
 Proboscis present..... 6

6. Fore wing vein R₅ stalked with R₃ and R₄ 7
 Fore wing vein R₅ not stalked with R₃ and R₄ 10
7. Fore wing with tufts of raised scales in the cell Epipaschiinae
 Fore wing with no tufts of raised scales in the cell 8
8. Hing wing with vein Sc+R₁ anastomosing with Rs 9
 Hing wing with vein Sc+R₁ not anastomosing with Rs Pyralinae
9. Maxillary palpi absent Chrysauginae*
 Maxillary palpi present Endotrichinae
10. Fore wing vein R₂ stalked with R₃ and R₄ Nymphulinae (Hydrocampinae)
 Fore wing vein R₂ not stalked with R₃ and R₄ 11
11. Fore wing with tufts of raised scales in the cell Scopariinae
 Fore wing with no tufts of raised scales in the cell Pyraustinae
- * *Anerastiinae* and *Chrysauginae* are not included in the present study.

SYSTEMATIC ACCOUNT

Subfamily CRAMBINAE

Key to the genera of Crambinae

- Palpi extending two or three times length of head *Platytes*
 Palpi not extending two or three times length of head, hardly reaching beyond the frons
 *Eschata*

1. Genus *Platytes* Guerin

Ten species are known from India under this genus of which five species are recorded from Meghalaya. Due to paucity of material at hand only two species are dealt with hereunder.

Key to the Species of Platytes

- Hind wing white and with fine brown marginal line towards apex *paralella*
 Hind wing fuscous, and without any fine brown marginal line towards apex *apicella*

1. *Platytes paralella* (Zeller)

1867. *Crambus parallelus* Zeller, *Stettin. ent. Zeit.*, p. 389, pl. 2, fig. 1.

1896. *Platytes paralella*, Talbot, *Fauna Brit. India*, Moths, 4 : 20.

Material examined : Two ♂♂, Mawsmi, Cherrapunji, 9.v.1976 (G. S. Arora and party coll.).

Diagnostic characters : Head white. Palpi at sides, antennae, thorax and abdomen fuscous. Fore wing whitish suffused with rufous; a dark line excurved below costa, marginal series of black specks; cilia pale rufous. Wing exp. 20 mm.

Distribution : India : Meghalaya (Khasis, Cherrapunji), Sikkim and West Bengal (Darjiling).

Remarks : The species is recorded by Swinhoe and Cotes (1889) from Darjiling but not mentioned by Hampson (1896) in Fauna Brit. India. Reported by Bhattacharya from Kurseong in Fauna of West Bengal. Its distribution is restricted to eastern India only.

2. *Platytes apicella* Hampson

1896. *Platytes apicella* Hampson, *Fauna Brit. India*, Moths, 4 : 22.

Material examined : One ♂, Cherrapunji, 23.iv.1979 (J. K. Jonathan and party coll.).

Diagnostic characters : Head, thorax and abdomen white with reddish brown tinge, antennae annulated. Fore wing whitish, base of costa, cell, disk and inner area suffused with rufous, a white streak below costa; highly dentate antemedial line, a black spot at lower angle of cell; an oblique brown line across apex; a brown marginal line. Wing exp. 24 mm.

Distribution : India : Meghalaya (Cherrapunji, Khasis) and Sri Lanka.

Remarks : In India this species is recorded only from Khasis in Meghalaya.

2. Genus *Eschata* Walker

1856. *Eschata* Walker, *Cat. Lep. Het. Brit. Mus.*, 9 : 133.

Five species under the genus are known from India of which two are recorded from Meghalaya. Due to paucity of material at hand one species is included here.

3. *Eschata chrysargyria* (Walker)

1865. *Chaerecla chrysargyria* Walker, *Cat. Lep. Het. Brit. Mus.*, 32 : 634.

1896. *Eschata chrysargyria*, Hampson, *Fauna Brit. India*, Moths, 4 : 29.

Material examined : Two ♂♂, 4 ♀♀, Kherapara, West Garo hills, 19.vii.1988, 1 ♀, Tasek, Songsak FRH, E. Garo hills, 1.vii.1988, 1 ♂, West Garo hills, 21.vii.1988 and 1 ♂, Shibberri, PWD Bungalow, West Garo hills, 17.vii.1988 (R. K. Ghosh and party coll.).

Diagnostic characters : Pure white in colour, abdomen two basal segments orange. Fore wing with silver streaks in the inter-spaces beyond and below cell, a pale waved orange line from costa and a curved submarginal line. Hind wing white. Wing exp. ♂ 32-40, ♀ 44-60 mm.

Distribution : India : Meghalaya (Khasis), Manipur, Nagaland, Nilgiris (Tamil Nadu and Kerala States), Sikkim, West Bengal; also Indonesia (Buru and Ceram [Serum] Islands); North China and Myanmar (Rangoon).

Remarks : As the species *Eschata argentata* described by Moore from Darjiling has been synonymised with *E. chrysargyria*, the distribution of the species is also recorded from West Bengal, also this the first locality record of the species from east and west Garo hills.

Subfamily SCHOENOBIIINAE

Key to the Genera of the subfamily Schoenobiinae

- Fore wing with veins R₃, R₄ and R₅ stalked.....*Ramila*
 Fore wing with veins R₃, R₄ stalked and R₅ separate.....*Scirpophaga*

3. Genus *Ramila* Moore

1867. *Ramila* Moore, *Proc. zool. Soc. Lond.*, p. 667.

Two species under this genus are recorded from India of which one is known from Meghalaya.

4. *Ramila acciusalis* (Walker)

1859. *Margaronia acciusalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 19 : 977.

1896. *Ramila acciusalis*, Hampson, *Fauna Brit. India, Moths*, 4 : 42.

Material examined : One ♀, Shibberi, PWD Bungalow, W. Garo hills, 13.vii.1988 (R. K. Ghosh and party coll.)

Diagnostic characters : Silvery white in colour. Fore wing costa with a orange fascia; a medial line arising from a spot at middle of cell; a single discocellular lunule; postmedial line excurved to outer angle, a marginal black maculate line; both wings with an oblique dark line from lower angle of cell to inner margin. Wing exp. ♂ 48, ♀ 56 mm.

Distribution : India : Meghalaya (Shibberi, W. Garo hills), Sikkim; also Borneo and Sri Lanka.

Remarks : The species is recorded for the first time from Meghalaya.

4. Genus *Scirpophaga* Treitschke

1832. *Scirpophaga* Treitschke, *Schmett. Eur.*, 9(1) : 55.

Six species are known from India under this genus of which one is recorded from Meghalaya.

5. *Scirpophaga cramboides* (Walker)

1864. *Lithosia* (?) *cramboides* Walker, *Cat. Lep. Het. Brit. Mus.*, 31 : 230.

1896. *Scirpophaga cramboides*, Hampson, *Fauna Brit. India, Moths*, 4 : 47.

Material examined : One ♀, Tura, 30.iv.1979 (J. K. Jonathan and party coll.).

Diagnostic characters : Male yellowish, female whitish fuscous. Fore wing with the costa orange, underside suffused with fuscous; female underside, costa of hind wing suffused with fuscous. Wing exp. ♂ 26, ♀ 34-36 mm.

Distribution : India : Meghalaya (Tura, West Garo hills), and Himachal Pradesh (Dharmasala, Simla).

Remarks : The species is recorded for the first time from Meghalaya.

Subfamily PYRALINAE

Key to the genera of Pyralinae

- Hind wing with vein M₂ and M₃ stalked *Pyralis*
 Hind wing with vein M₂ and M₃ not stalked *Stemmatophora*

5. Genus *Pyralis* Linnaeus

1758. *Pyralis* Linnaeus, *Syst. Nat.*, p. 533.

According to Clarke (1986) the type species of the genus *Pyralis* has been subsequently designated by the International Commission of Zoological Nomenclature, 1957, opinions, Declarations, ICZN, 15 (Opinion 450), p. 254, as *Phalaena* (not *Phlaena*) *Pyralis farinalis* Linnaeus, 1758, p. 533. The previous reference as described by Hampson (1896) is *Syst. Nat.*, 12, p. 881 (1767) for the type species of this genus.

Seven species under this genus are known from India of which two are recorded from Meghalaya. One species is described here the other is appended at the end.

6. *Pyralis manihotalis* Guenee

1854. *Pyralis manihotalis* Guenee, *Delt. et Pyral.*, p. 121.

1900. *Pyralis manihotalis*, Swinhoe, *Cat. East. Aust. Lep. Het.*, Pt. 2, pp. 431-432.

Material examined : Nine exs., Garo hills, xi. 1922 (all old collections from NZC).

Diagnostic characters : Ground Colour pale rufous suffused with fuscous. Fore wing basal patch dark rufous, postmedial line excurved beyond the cell, outer area darker. Hind wing pale rufous with fuscous inside the pale dentate medial line. Wing exp. ♂ 16 mm, ♀ 22 mm.

Distribution : India : Meghalaya (Garo hills), Maharashtra, West Bengal; also Moreton Bay; Pakistan; Sandwich Island; Sri Lanka; St. Domingo; Australian; Neotropical and Oriental regions.

Remarks : This is the first specific locality record of the species from Garo hills and also from Meghalaya state.

6. Genus *Stematophora* Guenee

1854. *Stematophora* Guenee, *Delt. et Pyral.*, p. 129.

Eight species under this genus are known from India of which two are recorded from Meghalaya. Due to paucity of material one species is dealt with hereunder, the other species has been appended at the end.

7. *Stematophora tactilis* Swinhoe

1890. *Stematophora tactilis* Swinhoe, *Trans. ent. Soc. Lond.*, p. 290.

1896. *Stematophora tactilis*, Hampson, *Fauna Brit. India*, Moths, 4 : 156-157, fig. 89 (♂).

Material examined : One ♀, Tura, West Garo hills, 30.iv.1979 (J. K. Jonathan and party coll.).

Diagnostic characters : Colour bright vinous-red with black. Fore wing with ante- and postmedial almost straight lines. Hind wing with antemedial line approaching the postmedial line at inner margin. Wing exp. ♂ 28 mm, ♀ 34 mm.

Distribution : India : Meghalaya (Tura); Kerala and Tamil Nadu (Nilgiris), Sikkim; also Myanmar.

Remarks : This is the first specific locality record of the species from Tura, Garo hills (West), Meghalaya.

Subfamily PYRAUSTINAE

7. Genus *Pagyda* Walker

1859. *Pagyda* Walker, *Cat. Lep. Het. Brit. Mus.*, 17 : 487.

Nine species under this genus are known from India of which five species are recorded from Meghalaya. One species is included here others are appended at the end.

8. *Pagyda botydalis* (Snellen)

1880. *Glyphodes botydalis* Snellen, In Veth, *Midd. Sumatra*, 4 (Lep.), p. 69, pl. 5, figs. 9, 9a.

1939. *Pagyda botydalis*, Klima, *Lep. Cat.*, Pt. 89, 55.

Material examined : One ♀, Shillong, 19.x.1976 (S. K. Gupta and party coll.).

Diagnostic characters : Colour orange yellow. Fore wing with subbasal deep orange line; antemedial and medial lines arising from black speckles on the costa; postmedial line also arising from a costal spot; obscure submarginal line highly dentate upto vein Cu_{1a} , then incurved. Hind wing with antemedial, postmedial and submarginal lines ending near anal angle. Both wings with fine dark marginal line; cilia pale with an orange line. Wing exp. 22 mm.

Distribution : India : Meghalaya (Khasis, Shillong), Nagaland, Sikkim; also Borneo; New Guinea; Pulo Laut; Sumatra; Taiwan and Vietnam (Tong-King).

Remarks : The distribution of the species is restricted to North-Eastern India.

8. Genus *Diastictis* Hubner

1818. *Diastictis* Hubner, *Zutr. Sammlg. exot. Schmett.*, 1 : 21.

Twelve species under this genus are known from India of which eight species are recorded from Meghalaya. One species is described here others are appended at the end.

9. *Diastictis inspersalis* (Zeller)

1852. *Botys inspersalis* Zeller, *Kgl. Vet. Akad. Handl. Lep. Micropt. Caffr.*, p. 33.

1939. *Diastictis inspersalis*, Klima, *Lep. Cat.*, Pt. 89, p. 85.

Material examined : Two exs., Shillong, (No other data). Old collection from NZC.

Diagnostic characters : Colour black. Metathorax with a white band; abdomen ringed with white. Fore wing with white spot below middle of cell, in end of cell, a speck below vein Cu_{1b} , a postmedial speck on costa and spot below it. Hind wing with white patch on basal area; a white band from lower angle of cell to anal angle; a large spot below the cell; a submarginal speck on vein M_3 . Cilia white at apex and anal angle. Wing exp. 20 mm.

Distribution : India : Meghalaya (Shillong), Kerala, Tamil Nadu (Nilgiris); also Aden; throughout Africa; South Arabia; Bhutan; North, Middle and West China; Japan; Java; Mauritius; Myanmar; Sumatra; Taiwan and Vietnam (Tong-King).

Remarks : This is the first specific locality report of the species from Shillong, Meghalaya.

9. Genus *Lamprosema* Hubner

1823. *Lamprosema* Hubner, *Zutr. Sammlg. exot. Schmelt.*, 2 : 21.

Forty three species under this genus are known from India of which twelve species are recorded from Meghalaya. Due to paucity of material at hand one species is described here, others are appended at end.

10. *Lamprosema poeonalis* (Walker)

1859. *Botys poeonalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 639 (♀).

1939. *Lamprosema poeonalis*, Klima, *Lep. Cat.*, Pt. 89 : 160-161.

Material examined : One ♂, Tasak, Sangsak Forest Rest House, East Garo hills, 1.vii.1988 (R. K. Ghosh and party coll.).

Diagnostic characters : Colour, male fuscous grey, female much more ochreous. Fore wing with antemedial black line slightly curved; a black discocellular spot, post medial line of both wings oblique from costa to vein Cu_{1b} , then retracted below end of cell and excurved again; marginal series of black specks. Hind-wing dark fuscous, marginal line black. Cilia sometimes white at tips. Underside pale. Wing exp. 24 mm.

Distribution : India : Meghalaya (Khasis, Garo hills), Nagaland, Sikkim; also West and East Africa; Bismarck Archipelago; Borneo; West Middle and South China; Flores; Java; Myanmar; Sri Lanka; Sula and Sumatra.

Remarks : The species is recorded for the first time from Garo hills, Meghalaya.

10. Genus *Botyodes* Guenee

1854. *Botyodes* Guenee, *Delt. et Pyral.*, p. 320.

Six species are known under this genus from India, of which three species are recorded from Meghalaya. One species is described here others are appended at the end.

11. *Botyodes asialis* Guenee

1854. *Botyodes asialis* Guenee, *Delt. et Pyral.*, p. 321 (♀).

1939. *Botyodes asialis*, Klima, *Lep. Cap.*, Pt. 89 : 183-184.

Material examined : One ♂, Shillong, East Khasis, 19.x.1976 (S. K. Gupta and party coll.).

Diagnostic characters : Colour orange yellow. Male anal tuft black. Fore wing with fulvous speck below median nervure at base; an oblique maculate antemedial line; a speck in cell and discocellular ocellus; a postmedial line inwardly oblique and a submarginal line with the area beyond it fulvous except at apex. Hind wing with discocellular ocellus, a postmedial sinous line and the marginal area fulvous with a grey tinge, narrowing to anal angle. Cilia fuscous grey at tips. Wing exp. 50 mm.

Distribution : India : Meghalaya (Shillong), throughout India; also East and South Africa; Amboina; Annam; Borneo; Celebes; Fiji; Lord Howe Is.; Myanmar; New Guinea; Pakistan (Baluchistan); Philippines; Singapore; Sri Lanka; Sumatra; Taiwan and Ternate.

Remarks : This the first specific report of the species from Meghalaya, Shillong, East Khasis.

11. Genus *Sylepta* Hubner

1825. *Sylepta* Hubner, *Verz. bek. Schm.*, p. 356.

Fifty two species are known under this genus from India of which twenty seven species are recorded from Meghalaya. One species is described here others are appended at the end due to paucity of material at hand.

12. *Sylepta dissipatalis* (Leaderer)

1863. *Botys dissipatalis* Lederer, *Wien. Ent. Monatschr.*, 7 : 376.

1939. *Sylepta dissipatalis*, Klima, *Lep. Cat.*, Pt. 89 : 208.

Material examined : One ♂, Shillong, East Khasi hills, 7.ix.1975 (N. Muralidharan and party coll.).

Diagnostic characters : Colour fuscous brown with a cupreous tinge; collar and basal segment of abdomen white. Fore wing with antemedial line curved, a faint yellowish white patch below the cell, a quadrate spot in end of cell; postmedial line slightly bent outwards between veins M_2 and Cu_{1b} , then retracted to near angle of cell; a large white patch from costa to Cu_{1b} , small spots below costa and beyond the cell and inner margin. Hind wing with the base yellowish white, a dark edged reniform discocellular spot; postmedial line nearly straight from costa to vein Cu_{1b} , then retracted to near angle of cell; cilia whitish towards outer angle of fore wing and almost entirely in hind wing.

Distribution : India : Meghalaya (Khasis, Shillong), Sikkim; also Amboina; Borneo; Buru; South China; Myanmar; New Guinea; Sri Lanka; Sumatra and Taiwan.

Remarks : The Distribution of the species in India is restricted to North Eastern part only.

12. Genus *Glyphodes* Guenee

1854. *Glyphodes* Guenee, *Delt. et Pyl.*, p. 292.

About twenty six species are known under this genus from India of which nearly eleven species are recorded from Meghalaya. Two species are described here, others are appended at the end due to non-availability of material from the state.

Key to the species of *Glyphodes*

Both wings with the marginal area inwardly edged by two black lines, then a silvery-grey line, forwarded by a black band *naralis*

Both wings without the marginal area inwardly edged by two black lines, a silvery-grey line and a black band *caesalis*

13. *Glyphods naralis* Felder

1874. *Glyphods naralis* Felder, *Reise Nov. Lep.*, pl. 136, fig. 38.

1898. *Glyphods naralis*, Hampson, *Proc. zool. Soc. Lond.*, p. 744.

Material examined : One ♂, Happy Valley, Shillong, 23.x.1974 (S.K. Gupta and party coll.)

Diagnostic characters : Colour ochreous. Fore wing basal two thirds ochreous, costal area fuscous at base, antemedial band fulvous yellow, triangular dark-edged medial yellow patch, a fulvous yellow band with a silvery discocellular line and a spot on vein Cu_{1b} , a postmedial triangular, dark edged yellow patch. Hind wing semihyaline ochreous with fulvous yellow line on discocellular. Both wings marginal area fulvous yellow. Wing exp. 28-32 mm.

Distribution : India : Meghalaya (Shillong, East Khasi hills), Sikkim; also Borneo.

Remarks : This is the first locality record of the species from Shillong, East Khasis, Meghalaya.

14. *Glyphodes caesalis* Walker

1859. *Glyphodes caesalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 17 : 499.

1898. *Glyphodes caesalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 747.

Material examined : One ♂, Tasak, Sangsak, Forest Rest House, East Garo Hills, 1.vii.1988 (R.K. Ghosh and party coll.).

Diagnostic characters : Body colour yellow. Male with anal tuft black. Fore wing with subbasal black line, an antemedial oblique band formed of two black edged pale yellow patches; a large subtriangular medial black-edged patch, a postmedial band formed of two irregular black-edged patches, a submarginal patch on costa with four black spots. Hind wing semihyaline, a black discocellular line, a double oblique medial black line filled in with yellow and a postmedial black line. Wing exp. 26-34 mm.

Distribution : India : Meghalaya (Sangsak, East Garo hills), Andamans, Sikkim; also Myanmar and Sri Lanka.

Remarks : This is the first locality record of the species from East Garo hills and the state of Meghalaya also.

13. Genus *Crocidophora* Lederer

1863. *Crocidophora* Lederer, *Wien. ent. Mon.*, p. 386.

Twentytwo species under this genus are known from India of which ten species are recorded from Meghalaya. One species is described here others are appended at the end.

15. *Crocidophora acutangulalis* Swinhoe

1894. *Crocidophora* (?) *acutangulalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 143.

1899. *Crocidophora acutangulalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 194.

Material examined : Two ♀♀, Kherapara, West Garo hills, 19.viii.1988 (R.K. Ghosh and party coll.).

Diagnostic characters : Colour bright yellow. Palpi orange, white below and dark at tips. Abdomen ringed with white. Fore wing very narrow, apex acute, costa fuscous brown, antemedial line oblique and orange, a dark discocellular lunule with orange line from it to inner margin; a dark postmedial speck on costa, outer area purplish fuscous. Hind wing a very oblique orange line meeting an oblique postmedial line at vein Cu_{1b} ; outer area purplish fuscous. Wing exp. 24-30 mm.

Distribution : India : Meghalaya (Khasis and West Garo hills), Assam (Margarita) and Sikkim.

Remarks : The species is recorded for the first time from West Garo hills.

14. Genus *Dausara* Walker

1859. *Dausara* Walker, *Cat. Lep. Het. Brit. Mus.* 17 : 507.

Two species under this genus are known to occur in India of which one is recorded from Meghalaya.

16. *Dausara pamirensis* Arora and Mandal

1974. *Dausara pamirensis* Arora and Mandal, *Orient. Ins.*, 8(1) : 29-32, fig. 1.

Material examined : One ♂, Shillong, 7.v.1976 (S. Khera and G.S. Arora coll.).

Diagnostic characters : Colour whitish, semi-hyaline. Fore wing yellowish white at the base with small dark fuscous brown spot, other markings purplish-fuscous reflecting copper tinge; costal fascia extending from base to basal two-thirds, cell and inner margin purplish fuscous, a large and small patch above the latter, also a medial large patch on discocellulars. Hind wing unmarked throughout except submarginal area purplish-fuscous tinged with copper. Both wings margin with white spots. Wing exp. 38-43 mm.

Distribution : India : Meghalaya (Shillong) also Arunachal Pradesh.

Remarks : The distribution of the species is restricted to north eastern region of India only.

SPECIES REVIEWED FROM LITERATURE

Subfamily GALLERIINAE

1. *Mucialla unicolorella* Hampson

1896. *Mucialla unicolorella* Hampson, *Fauna Brit. India, Moths*, 4 : 5-6.

Distribution : India : Meghalaya (Khasis); and Bhutan.

Remarks : From India the species is recorded only from Khasis, Meghalaya.

Subfamily CRAMBINAE

2. *Crambus latellus* Snellen

1890. *Crambus latellus* Snellen, *Trans. ent. Soc. Lond.*, p. 644.

1896. *Crambus latellus*, Hampson, *Fauna Brit. India, Moths*, 4 : 14-15.

Distribution : India : Meghalaya (Khasis), Himachal Pradesh (Dharmasala), Nagaland, West Bengal; also Japan.

3. *Diptychophora tripunctata* (Moore)

1887. *Eromene tripunctata* Moore, *Descr. Indian Lep. Atk.*, p. 226.

1896. *Diptychophora tripunctata*, Hampson, *Fauna Brit. India, Moths*, 4 : 18.

Distribution : India : Meghalaya (Khasis), Sikkim.

Remarks : The distribution of the species is restricted to north-east India.

4. *Diptychophora euzonella* Hampson

1896. *Diptychophora euzonella* Hampson, *Fauna Brit. India*, Moths, 4 : 18.

Distribution : India : Meghalaya (Khasis).

Remarks : The distribution of the species is restricted to Meghalaya in India.

5. *Platytes diatraeella* Hampson

1896. *Platytes diatraeella* Hampson, *Fauna Brit. India*, Moths, 4 : 20.

Distribution : India : Meghalaya (Khasis).

Remarks : The distribution of the species is restricted to Meghalaya in India.

6. *Platytes fulvizonella* Hampson

1896. *Platytes fulvizonella* Hampson, *Fauna Brit. India*, Moths, 4 : 21.

Distribution : India : Meghalaya (Khasis).

Remarks : The distribution of the species is restricted to Meghalaya in India.

7. *Platytes plumbeolinealis* Hampson

1895. *Platytes plumbeolinealis* Hampson, *Proc. zool. Soc. Lond.*, p.947.

1900. *Platytes plumbeolinealis*, Swinhoe, *Cat. East-Aust. Lep. Het.*, Part 2, pp. 416-417.

Distribution : India : Meghalaya (Khasis), Punjab; Indonesia (Flores) and Sri Lanka.

8. *Macrochilo ambiguellus* Snellen

1890. *Chilo? ambiguellus* Snellen, *Trans. ent. Soc. Lond.*, p. 642, pl. 20, fig. 4.

1896. *Macrochilo ambiguellus*, Hampson, *Fauna Brit. India*, Moths, 4 : 25.

Distribution : India : Meghalaya (Khasis) and Sikkim.

Remarks : The distribution of the species is restricted to north east India.

9. *Chilo pulverulentus* Warren

1892. *Chilo? pulverulentus* Warren, *Ann. Mag. Nat. Hist.*, (6) 9 : 393.

1896. *Chilo pulverulentus*, Hampson, *Fauna Brit. India*, Moths, 4 : 27.

Distribution : India : Meghalaya (Khasis) and Himachal Pradesh (Dharmasala).

10. *Eschata gelida* Walker

1856. *Eschata gelida* Walker, *Cat. Lep. Het. Brit. Mus.*, 9 : 133.

1896. *Eschata gelida*, Hampson, *Fauna Brit. India*, Moths, 4 : 28-29.

Distribution : India : Meghalaya (Khasis), Sikkim; and Bangladesh (Sylhet).

Subfamily SCHOENOBIINAE

11. *Schoenobius dodatellus* (Walker)

1864. *Chilo dodatellus* Walker, *Cat. Lep. Het. Brit. Mus.*, 30 : 966.

1896. *Schoenobius dodatellus*, Hampson, *Fauna Brit. India*, Moths, 4 : 48.

Distribution : India : Meghalaya (Khasis), also Japan; Myanmar and Sri Lanka.

Remarks : In India the species is recorded only from Khasis, Meghalaya.

Subfamily PHYCITINAE

12. *Ephestia rubrimediella* Hampson

1896. *Ephestia rubrimediella* Hampson, *Fauna Brit. India*, Moths, 4 : 66.

Distribution : India : Meghalaya (Khasis) and Nagaland.

Remarks : The distribution of the species is restricted to north-east India.

Subfamily EPIPASCHIINAE

13. *Epipaschia validalis* (Walker)

1865. *Calinipaxa validalis* Walker, 34 : 1218.

1896. *Macalla validalis*, Hampson, *Fauna Brit. India*, Moths, 4 : 115.

1900. *Epipaschia validalis*, Swinhoe, *Cat. East. Aust. Lep. Het.*, Part 2:422.

Distribution : India : Meghalaya (Khasis), Nagaland, Sikkim,, West Bengal (Darjiling); also Borneo (Sarawak).

14. *Macalla margarita* Butler

1879. *Macalla* (?) *margarita*, III. *Typ. Sp. Lep. Het. Brit. Mus.*, Part 3; pp. 66, pl. 57, fig. 4.

1896. *Macalla margarita*, Hampson, *Fauna Brit. India*, Moths, 4 : 116.

Distribution : India : Meghalaya (Khasis), Kerala and Tamil Nadu (Nilgiris), Sikkim; also Borneo and Japan.

15. *Stericta aglossalis* Warren

1896. *Stericta* (?) *aglossalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17: 456.

1896. *Stericta aglossalis*, Hampson, *Fauna Brit. India*, Moths, 4 : 123.

Distribution : India : Meghalaya (Khasis), and Himachal Pradesh (Dalhousie).

16. *Stericta jucundalis* (Walker)

1865. *Bleptina* (?) *jucundalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 34 : 1164.

1896. *Stericta jucundalis* Hampson, *Fauna Brit. India*, Moths, 4 : 124.

Distribution : India : Meghalaya (Khasis); also Bhutan and Sri Lanka.

Remarks : From India the species is recorded only from Khasis, Meghalaya.

Subfamily ENDOTRICHINAE

17. *Endotricha pygmaealis* Warren

1896. *Endotricha* (?) *pygmaealis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 204.

1896. *Endotricha pygmaealis* Hampson, *Fauna Brit. India*, Moths, 4 : 136.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

18. *Cangetta albocarnea* Warren

1896. *Cangetta* (?) *albocarnea* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 149.

1896. *Cangetta albocarnea*, Hampson, *Fauna Brit. India*, Moths, 4 : 137.

Distribution : India : Meghalaya (Khasis); also Sri Lanka.

Remarks : From India the species is recorded only from Khasis, Meghalaya.

19. *Petta alternata* Warren

1895. *Petta alternata* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 469.

1896. *Petta alternata*, Hampson, *Fauna Brit. India*, Moths, 4 : 138.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

20. *Trichophysetis nigripalpis* Warren

1896. *Trichophysetis* (?) *nigripalpis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 149.

1896. *Trichophysetis nigripalpis*, Hampson, *Fauna Brit. India*, Moths, 4 : 139.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

21. *Trichophycetis nigridiscalis* Warren

1895. *Trichophycetis* (?) *nigridiscalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 470.

1896. *Trichophycetis nigridiscalis*, Hampson, *Fauna Brit. India*, Moths, 4 : 139.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

22. *Trichophysetis nigricincta* Hampson

1893. *Trichophysetis nigricincta* Hampson, *Ill. Typ. Sp. Lep. Het. Coll. Brit. Mus.*, 9 : 180, pl. 174, fig. 18.

1896. *Trichophysetis nigricincta*, Hampson, *Fauna Brit. India*, Moths, 4 : 139.

Distribution : India : Meghalaya (Khasis); and Sri Lanka.

Remarks : From India the species is recorded from Khasis, Meghalaya only.

Subfamily PYRALINAE

23. *Pyralis funebris* Warren

1895. *Pyralis funebris* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 464.

1896. *Pyralis funebris*, Hampson, *Fauna Brit. India*, Moths, 4 : 150-151.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

24. *Tegulifera subolivescens* Warren

1895. *Tegulifera subolivescens* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 464.

1896. *Tegulifera subolivescens*, Hampson, *Fauna Brit. India*, Moths, 4 : 154.

Distribution : India : Meghalaya (Khasis); and Sri Lanka.

Remarks : From India the species is recorded only from Khasis, Meghalaya.

25. *Stematophora albiguttata* Warren

1891. *Stematophora albiguttata* Warren, *Ann. Mag. Nat. Hist.*, (6) 7 : 496.

1896. *Stematophora albiguttata*, Hampson, *Fauna Brit. India*, Moths, 4 : 156.

Distribution : India : Meghalaya (Khasis); and Japan.

Remarks : From India the species is known from Khasis, Meghalaya only.

26. *Hyboloma nummosalis* Ragonot

1891. *Hyboloma nummosalis* Ragonot, *Ann. Soc. ent. France*, p. 99, pl. 16, fig. 3.

1896. *Hyboloma nummosalis*, Hampson, *Fauna Brit. India*, Moths, 4 : 167, fig. 97 (♀).

Distribution : India : Meghalaya (Khasis); also Borneo and Myanmar.

Remarks : From India the species is reported only from Khasis, Meghalaya.

27. *Omphalocera accersita* (Swinhoe)

1894. *Omphalomia* (?) *accersita* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 140.

1896. *Omphalocera accersita*, Hampson, *Fauna Brit. India*, Moths, 4 : 168, fig. 98 (♀).

Distribution : India : Meghalaya (Khasis), Maharashtra (Khandala); also Bhutan.

28. *Tocolosida rubriceps* Walker

1863. *Tocolosida rubriceps* Walker, *Cat. Lep. Het. Brit. Mus.*, 27 : 114.

1896. *Tocolosida rubriceps*, Hampson, *Fauna Brit. India*, Moths, 4 : 169.

Distribution : India : Meghalaya (Khasis), Nagaland, Sikkim; also Bangladesh (Sylhet); Bhutan and Borneo.

29. *Sacada flexuosa* (Snellen)

1890. *Paravetta flexuosa* Snellen, *Trans. ent. Soc. Lond.*, p.558.

1896. *Sacada flexuosa*, Hampson, *Fauna Brit. India*, Moths, 4 : 171.

Distribution : India : Meghalaya (Khasis), Sikkim; also Myanmar (Tavoy).

30. *Paractenia ruptilinealis* Warren

1895. *Paractenia* (?) *ruptilinealis* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 466.

1896. *Paractenia ruptilinealis*, Hampson, *Fauna Brit. India*, Moths, 4 : 173.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

31. *Paractenia semiochrea* Warren

1895. *Paractenia* (?) *semiochrea* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 466.

1896. *Paractenia semiochrea*, Hampson, *Fauna Brit. India*, Moths, 4 : 173.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

32. *Bostra imperatrix* Warren

1896. *Bostra* (?) *imperatrix* Warren, *Ann. Mag. nat. Hist.*, (6) 17 : 462.

1896. *Bostra imperatrix*, Hampson, *Fauna Brit. India*, Moths, 4 : 175.

Distribution : India : Meghalaya (Khasis) and Sikkim.

33. *Bostra igneusta* Swinhoe

1895. *Bostra* (?) *igneusta* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 16 : 300.

1896. *Bostra igneusta*, Hampson, *Fauna Brit. India*, Moths, 4 : 177.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

34. *Bostra subviridescens* Warren

1895. *Bostra* (?) *subviridescens* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 466.

1896. *Bostra subviridescens*, Hampson, *Fauna Brit. India*, Moths, 4 : 178.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

35. *Bostra fascialis* Warren

1895. *Bostra* (?) *fascialis* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 465.

1896. *Bostra fascialis*, Hampson, *Fauna Brit. India*, Moths, 4 : 179.

Distribution : India : Meghalaya (Khasis) and Sikkim.

Remarks : The distribution of the species is restricted to north eastern India.

36. *Propachys nigrivena* Walker

1863. *Propachys nigrivena* Walker, *Cat. Lep. Het. Brit. Mus.*, 27 : 7.

1896. *Propachys nigrivena*, Hampson, *Fauna Brit. India*, Moths, 4 : 180-181, fig. 106 (♂).

Distribution : India : Meghalaya (Khasis), Sikkim, West Bengal (Darjiling); also from China.

37. *Tyndis hypotialis* (Swinhoe)

1885. *Cledeobia hypotialis* Swinhoe, *Proc. zool. Soc. Lond.*, p. 866.

1896. *Tyndis hypotialis*, Hampson, *Fauna Brit. India*, Moths, 4 : 185-186, fig. 111 (♂).

Distribution : India : Meghalaya (Khasis), Kerala (Trivandrum), Madhya Pradesh (Mhow), Maharashtra (Poona); also Pakistan (Cambellpur, Karachi) and Sri Lanka.

Subfamily HYDROCAMPINAE or NYMPHULINAE

38. *Eristena murinalis* Warren1896. *Eristena murinalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 150.1937. *Eristena murinalis*, Klima, *Lep. Cat.*, Pt. 84 : 70.*Distribution* : India : Meghalaya (Khasis).*Remarks* : The species is endemic to Khasis, Meghalaya.39. *Nymphula nigra* Warren1896. *Nymphula nigra* Warren, *Ann. Mag. Nat. Hist.*, (6) 8 : 221.1937. *Nymphula nigra*, Klima, *Lep. Cat.*, Pt. 84 : 83.*Distribution* : India : Meghalaya (Khasis); and Taiwan.*Remarks* : In India the species is known only from Khasis, Meghalaya.40. *Nymphula hampsoni* (South)1901. *Trichophysetis hampsoni* South, *Trans. ent. Soc. Lond.*, p. 420, pl. 14, fig. 28.1937. *Nymphula hampsoni*, Klima, *Lep. Cat.*, Pt. 84 : 83.*Distribution* : India : Meghalaya (Khasis), Assam; also West China; Sri Lanka and Taiwan.41. *Cataclysta croesusalis* Walker1859. *Cataclysta croesusalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 17 : 449 (♂).1937. *Cataclysta croesusalis*, Klima, *Lep. Cat.*, Pt. 84 : 98.*Distribution* : India : Meghalaya (Khasis); also Borneo and East China.*Remarks* : From India the species is recorded from Khasis, Meghalaya only.42. *Symphonia trivitalis* (Swinhoe)1895. *Bocchoris trivitalis* (Swinhoe), *Ann. Mag. Nat. Hist.*, (6) 16 : 302.1937. *Symphonia trivitalis*, Klima, *Lep. Cat.*, Pt. 84 : 104.*Distribution* : India : Meghalaya (Khasis); also Sri Lanka and Taiwan.*Remarks* : The species is known in India from Khasis, Meghalaya only. Shibuya (1928) transferred the species from Pyraustinae to Hydrocampinae (Nymphulinae).43. *Musotima instrumentalis* (Swinhoe)1894. *Ambia instrumentalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 209.1937. *Musotima instrumentalis*, Klima, *Lep. Cat.*, Pt. 84 : 106.*Distribution* : India : Meghalaya (Khasis).*Remarks* : The species is endemic to Khasis, Meghalaya.

44. *Baeoptila albipunctalis* (Warren)

1896. *Ambia albipunctalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 202.

1937. *Baeoptila albipunctalis*, Klima, *Lep. Cat.*, Pt. 84 : 106.

Distribution : India : Meghalaya (Khasis); and Sri Lanka.

Remarks : In India the species is recorded from Khasis, Meghalaya only.

45. *Ambia iambealis* (Walker)

1859. *Oligostigma iambealis* Walker, *Cat. Lep. Het. Brit. Mus.*, 19 : 950 (♂).

1937. *Ambia iambealis*, Klima, *Lep. Cat.*, Pt. 84 : 111.

Distribution : India : Meghalaya (Khasis); and Sri Lanka.

Remarks : The species is known to occur in India from Khasis, Meghalaya only.

46. *Ambia marginalis* (Moore)

1887. *Cymoriza marginalis* Moore, *Descr. Ind. Lep. Atkinson*, p. 211.

1937. *Ambia marginalis*, Klima, *Lep. Cat.*, Pt. 84 : 112.

Distribution : India : Meghalaya (Khasis), Sikkim, West Bengal (Darjiling); also Borneo and West and South China.

47. *Ambia magnificentalis* Swinhoe

1895. *Ambia (?) magnificentalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 16 : 299.

1937. *Ambia magnificentalis*, Klima, *Lep. Cat.*, Pt. 84 : 112.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

48. *Oligostigma hapilista* (Swinhoe)

1892. *Cataclysta hapilista* Swinhoe, *Trans. ent. Soc. Lond.*, p. 20, pl. 1, fig. 11.

1937. *Oligostigma hapilista*, Klima, *Lep. Cat.*, Pt. 84 : 117.

Distribution : India : Meghalaya (Khasis); also Sumatra and Taiwan.

Remarks : In India the species is known from Khasis, Meghalaya.

49. *Oligostigma conspurcatalis* (Warren)

1896. *Ambia conspurcatalis* Warren, *Ann. Mag. Nat. Hist.*, (6) : 17 : 202.

1937. *Oligostigma conspurcatalis*, Klima, *Lep. Cat.*, Pt. 84 : 117.

Distribution : India : Meghalaya (Khasis); also New Guinea and Sangir.

Remarks : From India the species is known from Khasis, Meghalaya only.

50. *Oligostigma fuscifusale* Hampson

1893. *Oligostigma fuscifusale* Hampson, *Ill. Typ. Sp. Het. Brit. Mus.*, 9 : 177, pl. 174, fig. 28.

1937. *Oligostigma fuscifusale*, Klima, *Lep. Cat.*, Pt. 84 : 117.

Distribution : India : Meghalaya (Khasis); also Sri Lanka.

Remarks : From India the species is known from Khasis, Meghalaya only.

51. *Oligostigma pulchellale* Hampson

1893. *Oligostigma pulchellale* Hampson, *Ill. Typ. Sp. Het. Brit. Mus.*, 9 : 178, pl. 174, fig. 30.

1937. *Oligostigma pulchellale*, Klima, *Lep. Cat.*, Pt. 84 : 118.

Distribution : India : Meghalaya (Khasis); and Sri Lanka.

Remarks : In India the species is known from Khasis, Meghalaya only.

52. *Oligostigma bifurcalis* Pryer

1877. *Oligostigma bifurcalis* Pryer, *Cist. Ent.*, 2 : 232, pl. 4, fig. 14.

1937. *Oligostigma bifurcalis*, Klima, *Lep. Cat.*, Pt. 84 : 119.

Distribution : India : Meghalaya (Khasis); also South China; Myanmar and Taiwan.

Remarks : The species is known in India only from Khasis, Meghalaya.

53. *Oligostigma albifuscalis* Hampson

1906. *Oligostigma albifuscalis* Hampson, *Ann. Mag. Nat. Hist.*, (7) 18 : 466.

1937. *Oligostigma albifuscalis*, Klima, *Lep. Cat.*, Pt. 84 : 119.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

54. *Parthenodes aurantialis* Swinhoe

1895. *Parthenodes aurantialis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 16 : 304.

1937. *Parthenodes aurantialis*, Klima, *Lep. Cat.*, Pt. 84 : 123.

Distribution : India : Meghalaya (Khasis); also South and East China.

Remarks : In India the species is recorded only from Khasis, Meghalaya.

55. *Parthenodes stellata* Warren

1896. *Parthenodes stellata* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 203.

1937. *Parthenodes stellata*, Klima, *Lep. Cat.*, Pt. 84 : 123.

Distribution : India : Meghalaya (Khasis); also South and Central China.

Remarks : In India the species is known only from Khasis, Meghalaya.

56. *Parthenodes latifascialis* (Warren)

1896. *Nymphula latifascialis* Warren, *Ann. Mag. Nat. Hist.*, (6) 18 : 220.

1937. *Parthenodes latifascialis*, Klima, *Lep. Cat.*, Pt. 84 : 124.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

57. *Parthenodes albifascialis* Hampson

1893. *Parthenodes albifascialis* Hampson, *Ill. Typ. Sp. Het. Brit. Mus.*, 8 : 140, pl. 156, fig. 1,9.

1937. *Parthenodes albifascialis*, Klima, *Lep. Cat.*, Pt. 84 : 124.

Distribution : India : Meghalaya (Khasis) and Nilgiris (Tamil Nadu and Kerala States).

58. *Parthenodes exsolvalis* (Snellen)

1880. *Hydrocampa exsolvalis* Snellen, *Midd.-Sumatra*, 4(1) : 76.

1937. *Parthenodes exsolvalis*, Klima, *Lep. Cat.*, Pt. 84 : 123.

Distribution : India : Meghalaya (Khasis), Sikkim, also Java; Myanmar; Sumatra and Vietnam (Tong-King).

59. *Parthenodes nigriplaga* (Swinhoe)

1894. *Nymphula nigriplaga* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 209.

1937. *Parthenodes nigriplaga*, Klima, *Lep. Cat.*, Pt. 84 : 129.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

60. *Parthenodes aequivocalis* (Warren)

1896. *Gethosyne aequivocalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 18 : 221.

1937. *Parthenodes aequivocalis*, Klima, *Lep. Cat.*, Pt. 84 : 124.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

61. *Niphostola micans* Hampson

1896. *Niphostola micans* Hampson, *Fauna Brit. India*, Moths, 4 : 222 : fig. 127.

1937. *Niphostola micans*, Klima, *Lep. Cat.*, Pt. 84 : 132.

Distribution : India : Meghalaya (Khasis) and Nagaland.

Remarks : The distribution of the species is restricted to North-East India.

62. *Massepha bengalensis* Moore

1887. *Massepha bengalensis* Moore, *Descr. Lep. Ins. Atkinson*, p. 211.

1937. *Massepha bengalensis*, Klima, *Lep. Cat.*, Pt. 84 : 127.

Distribution : India : Meghalaya (Khasis), West Bengal (Calcutta).

63. *Massepha carbonalis* (Warren)

1896. *Stenia carbonalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 148.

1937. *Massepha carbonalis*, Klima, *Lep. Cat.*, Pt. 84 : 128.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

64. *Pelena sericea* (Butler)1869. *Deana sericea* Butler, *Ann. Mag. Nat. Hist.*, (5) 4 : 451.1937. *Pelena sericea*, Klima, *Lep. Cat.*, Pt. 84 : 129.

Distribution : India : Meghalaya (Khasis); also South and Central China; Japan; Myanmar; Taiwan and Vietnam (Tong-King).

Remarks : From India the species is known only from Khasis, Meghalaya.

65. *Pelena obscuralis* (Swinhoe)1895. *Loxocoryx obscuralis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 16 : 300.1937. *Pelena obscuralis*, Klima, *Lep. Cat.*, Pt. 84 : 129.

Distribution : India : Meghalaya (Khasis); also Taiwan.

Remarks : The species is known in India only from Khasis, Meghalaya.

66. *Orphnophanes laevis* (Warren)1896. *Paraponyx* (?) *laevis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 206.1973. *Orphnophanes laevis*, Klima, *Lep. Cat.*, Pt. 84 : 131.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

67. *Orphnophanes inconsequens* (Warren)1896. *Syntomodora inconsequens* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 204.1937. *Orphnophanes inconsequens*, Klima, *Lep. Cat.*, Pt. 84 : 131.

Distribution : India : Meghalaya (Khasis); also Australia (Queensland); Pulo Laut and Sumatra.

Remarks : The species in India is known only from Khasis, Meghalaya.

68. *Bradina subpurpurescens* (Warren)1896. *Pleonectusa subpurpurescens* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 147.1937. *Bradina subpurpurescens*, Klima, *Lep. Cat.*, Pt. 84 : 152.

Distribution : India : Meghalaya (Khasis); also Bhutan.

Remarks : The species is known in India only from Khasis, Meghalaya. The genus *Bradina* has been described under *Pyraustinae* by Clarke (1986).

69. *Coptobasis sulcialis* Walker1859. *Botys sulcialis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 684 (♂).1937. *Coptobasis sulcialis*, Klima, *Lep. Cat.*, Pt. 84 : 157-158.

Distribution : India : Meghalaya (Khasis), Sikkim; also Amboina; Bismark Archipelago; Borneo; Celebes; New Guinea and Sumatra.

70. *Diathraustodes fulvofusa* Hampson

1901. *Diathraustodes fulvofusa* Hampson, In Leech, *Trans. ent. Soc. Lond.*, p. 442 (♂).

1937. *Diathraustodes fulvofusa*, Klima, *Lep. Cat.*, Pt. 84 : 158.

Distribution : India : Meghalaya (Khasis); also Central China, [Type Loc. Ichang].

Remarks : From India the species is known from Khasis, Meghalaya only.

71. *Diathraustodes similis* Hampson

1903. *Diathraustodes similis* Hampson, *J. Bombay Nat. Hist. Soc.*, 15 : 211 (♀).

1937. *Diathraustodes similis*, Klima, *Lep. Cat.*, Pt. 84 : 158.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

72. *Diathrausta profundalis* (Lederer)

1863. *Amboina profundalis* Lederer, *Wien. Ent. Monatschr.*, 7 : 438, pl. 17, fig. 7.

1937. *Diathrausta profundalis* var. *conicalis* Warren, and var. *oblituroata* Warren, Klima, *Lep. Cat.*, Pt. 84 : 160.

Distribution : India : Meghalaya (Khasis).

Remarks : Both the varieties are endemic to Khasis, Meghalaya.

73. *Piletocera discisignalis* Hampson

1917. *Piletocera discisignalis* Hampson, *Ann. Mag. Nat. Hist.*, (8) 20 : 270 (♀).

1937. *Piletocera discisignalis*, Klima, *Lep. Cat.*, Pt. 84 : 174.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

74. *Piletocera elongalis* (Warren)

1896. *Thysanodesma elongalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 145.

1937. *Piletocera elongalis*, Klima, *Lep. Cat.*, Pt. 84 : 175.

Distribution : India : Meghalaya (Khasis); and Taiwan.

Remarks : From India the species is recorded only from Khasis, Meghalaya.

75. *Piletocera albilunata* (Warren)

1896. *Diploxyda* (?) *albilunata* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 143 (♀).

1937. *Piletocera albilunata*, Klima, *Lep. Cat.*, Pt. 84 : 173.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to khasis, Meghalaya.

76. *Piletocera flexiguttalis* Warren

1896. *Piletocera flexiguttalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 144.

1937. *Piletocera flexiguttalis*, Klima, *Lep. Cat.*, Pt. 84 : 173.

Distribution : India : Meghalaya (Khasis); also Vietnam (Tong-King).

Remarks : The species, in India, is known only from Khasis, Meghalaya.

77. *Piletocera maculifrons* Hampson

1917. *Piletocera maculifrons* Hampson, *Ann. Mag. Nat. Hist.*, (8) 20 : 260 (♂).

1937. *Piletocera maculifrons*, Klima, *Lep. Cat.*, Pt. 84 : 173.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

78. *Piletocera aegimiusalis* (Walker)

1859. *Desmia aegimiusalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 19 : 269.

1937. *Piletocera aegimiusalis*, Klima, *Lep. Cat.*, Pt. 84 : 172-173.

Distribution : India : Meghalaya (Khasis), Andamans, Assam, Sikkim; also Australia; Bismark Archipelago; Borneo; Buru; South China; Japan; Mysol; New Guinea; Shortland Is.; Sumatra; Syria and Taiwan.

79. *Piletocera nudicornis* Hampson

1897. *Piletocera nudicornis* Hampson, *Trans. ent. Soc. Lond.*, p. 214 (♂).

1937. *Piletocera nudicornis*, Klima, *Lep. Cat.*, Pt 84 : 175.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya also the type locality is from Khasis.

Note : The genus *Piletocera* has been transferred to Pyraustinae, [Clarke, J. F. Gates (1986)].

80. *Camptomastix hisbonalis* (Walker)

1859. *Botys hisbonalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 707 (♀).

1937. *Camptomastix hisbonalis*, Klima, *Lep. Cat.*, Pt. 84 : 181.

Distribution : India : Meghalaya (Khasis), Himachal Pradesh (Dharmasala, Simla); Nagaland; also Borneo; West and Middle China; Japan; Myanmar; Taiwan and Vietnam (Tong-King).

81. *Camptomastix exuvialis* (Snellen)

1990. *Diploptyla exuvialis* Snellen, *Trans. ent. Soc. Lond.*, p. 627.

1937. *Camptomastix exuvialis*, Klima, *Lep. Cat.*, Pt. 84 : 181.

Distribution : India : Meghalaya (Khasis) and Sikkim.

82. *Clupeosoma bicolor* Moore

1887. *Clupeosoma bicolor* Moore, *Descr. Lep. Ind. Atkinson*, p. 207.

1937. *Clupeosoma bicolor* Klima, *Lep. Cat.*, Pt. 84 : 183.

Distribution : India : Meghalaya (Khasis), West Bengal (Calcutta); also Sri Lanka.

Remarks : The species described under the genus *Hydrorybina* by Hampson (1896) has been synonymised with the genus *Clupeosoma* Snellen, [vide, Klima (1937)].

83. *Mabra nigriscripta* Swinhoe

1895. *Mabra nigriscripta* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 16 : 302.

1937. *Mabra nigriscripta*, Klima, *Lep. Cat.*, Pt. 84 : 191.

Distribution : India : Meghalaya (Khasis); also South China.

Remarks : The species is known in India only from Khasis, Meghalaya.

84. *Mabra fauculalis* (Walker)

1859. *Hydrocampa fauculalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 13 : 962 (♂).

1937. *Mabra fauculalis*, Klima, *Lep. Cat.*, Pt. 84 : 191.

Distribution : India : Meghalaya (Khasis), Sikkim; also Borneo.

85. *Mabra fuscipennalis* Hampson

1897. *Mabra fuscipennalis* Hampson, *Trans. ent. Soc. Lond.*, p. 221 (♀).

1937. *Mabra fuscipennalis*, Klima, *Lep. Cat.*, Pt. 84 : 191.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, also type locality of the species is from Khasis, Meghalaya.

Subfamily SCOPARIINAE

86. *Micraglossa scoparialis* Warren

1891. *Micraglossa scoparialis* Warren, *Ann. Mag. Nat. Hist.*, (6) 8 : 65-66 (♀).

1937. *Micraglossa scoparialis*, Klima, *Lep. Cat.*, Pt. 84 : 8.

Distribution : India : Meghalaya (Khasis), Sikkim, West Bengal; also South China.

87. *Micraglossa aenealis* Hampson

1897. *Micraglossa aenealis* Hampson, *Trans. ent. Soc. Lond.*, p. 224.

1937. *Micraglossa aenealis*, Klima, *Lep. Cat.*, Pt. 84 : 8.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

88. *Dasyscopa homogenes* Meyrick

1894. *Dasyscopa homogenes* Meyrick, *Trans. ent. Soc. Lond.*, p. 464 (♂).

1937. *Dasyscopa homogenes*, Klima, *Lep. Cat.*, Pt. 84 : 57.

Distribution : India : Meghalaya (Khasis); also Malacca and Sumbawa.

Remarks : From India the species is recorded only from Khasis, Meghalaya.

Subfamily PYRAUSTINAE

89. *Aulacoptera fuscinervis* (Swinhoe)

1895. *Aulacoptera fuscinervis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 16 : 300 (♂).

1937. *Aulacoptera fuscinervis*, Klima, *Lep. Cat.*, Pt. 89 : 19.

Distribution : India : Meghalaya (Khasis), Nagaland; also Fiji; New Guinea; Pulo Laut; Salomon and Samoa Islands.

90. *Pycnarmon virgatalis* Moore

1867. *Pycnarmon virgatalis* Moore, *Proc. zool. Soc. Lond.*, p. 92, pl. 7, fig. 9.

1939. *Pycnarmon virgatalis*, Klima, *Lep. Cat.*, Pt. 89 : 23.

Distribution : India : Meghalaya (Khasis), Himachal Pradesh (Dharmasala), Sikkim, West Bengal; also Bhutan and Sri Lanka.

91. *Pycnarmon abraxalis* (Walker)

1865. *Zebronia abraxalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 34 : 1349 (♂).

1939. *Pycnarmon abraxalis*, Klima, *Lep. Cat.*, Pt. 89 : 23.

Distribution : India : Meghalaya (Khasis) and Sikkim.

92. *Pycnarmon dryocentra* (Meyrick)

1933. *Entephria dryocentra* Meyrick, *Exot. Macrolep.*, 4 : 401.

1939. *Pycnarmon dryocentra*, Klima, *Lep. Cat.*, Pt. 89 : 23.

Distribution : India : Meghalaya (Khasis) and Sikkim.

93. *Pycnarmon marginalis* Snellen

1890. *Conchylodes* (?) *marginalis* Snellen, *Trans. ent. Soc. Lond.*, p. 635.

1939. *Pycnarmon marginalis*, Klima, *Lep. Cat.*, Pt. 89 : 24.

Distribution : India : Meghalaya (Khasis), Sikkim; also Cameroun; Malacca; Sierra Leone (West Africa) and Taiwan.

94. *Rehimena striolalis* (Snellen)

1890. *Filodes* (?) *striolalis* Snellen, *Trans. ent. Soc. Lond.*, p. 604 (♀).

1939. *Rehimena striolalis*, Klima, *Lep. Cat.*, Pt. 89 : 29.

Distribution : India : Meghalaya (Khasis), Sikkim; also Sumatra and Vietnam (Tong-King).

95. *Rehimena flavinervis* (Swinhoe)

1894. *Cyclarcha flavinervis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 204 (♂).

1939. *Rehimena flavinervis*, Klima, *Lep. Cat.*, Pt. 89 : 29.

Distribution : India : Meghalaya (Cherrapunji) and Sikkim; also Sumatra.

Remarks : The type locality of the species is from Cherrapunji, East Khasi hills, Meghalaya.

96. *Heterocnephes lymphatalis* (Swinhoe)

1889. *Nosophora lymphatalis* Swinhoe, *Proc. zool. Soc. Lond.*, p. 240, pl. 44, fig. 7.

1939. *Heterocnephes lymphatalis*, Klima, *Lep. Cat.*, Pt. 89 : 38.

Distribution : India : Meghalaya (Khasis), Assam (Sibsagar), Nagaland; also Borneo; Java; Malacca; Myanmar; Pulo Laut and Vietnam (Tong King).

97. *Heterocnephes lubricosa* (Warren)

1896. *Charitoprepes lubricosa* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 136.

1939. *Heterocnephes lubricosa*, Klima, *Lep. Cat.*, Pt. 89 : 39.

Distribution : India : Meghalaya (Khasis), Sikkim, West Bengal; also South and Middle China.

98. *Agrotera discinotata* Swinhoe

1894. *Agrotera discinotata* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 207.

1939. *Agrotera discinotata*, Klima, *Lep. Cat.*, Pt. 89 : 41.

Distribution : India : Meghalaya (Cherrapunji, Khasis); also Bhutan; South China and Taiwan.

Remarks : The type locality of the species is Cherrapunji, East Khasis, Meghalaya.

99. *Agrotera scissalis* (Walker)

1865. *Aediodes scissalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 34 : 1526 (♂).

1939. *Agrotera scissalis*, Klima, *Lep. Cat.*, Pt. 89 : 41.

Distribution : India : Meghalaya (Khasis), Nagaland, Sikkim; also Java; Myanmar; Sri Lanka and Taiwan.

100. *Aetholix indecisalis* (Warren)

1896. *Metasiodes indecisalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 148 (♀).

1939. *Aetholix indecisalis*, Klima, *Lep. Cat.*, Pt. 89 : 52.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

101. *Pagyda auroralis* (Moore)

1887. *Haritala auroralis* Moore, *Descr. N. Ind. Lep. Ins. Atkinson*, p. 215, pl. 7, fig. 17.

1939. *Pagyda auroralis*, Klima, *Lep. Cat.*, Pt. 89 : 54.

Distribution : India : Meghalaya (Khasis), Sikkim; also South China; Myanmar; Sumatra and Taiwan.

102. *Pagyda discolor* Swinhoe

1894. *Pagyda discolor* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 197 (♂).

1939. *Pagyda discolor*, Klima, *Lep. Cat.*, Pt. 89 : 55.

Distribution : India : Meghalaya (Cherrapunji, Khasis), South Andaman, Nagaland; also Myanmar.

Remarks : The type locality of the species is from Cherrapunji, East Khasi hills, Meghalaya.

103. *Pagyda lustralis* Snellen1890. *Pagyda lustralis* Snellen, *Trans. ent. Soc. Lond.*, p. 615 (♂).1939. *Pagyda lustralis*, Klima, *Lep. Cat.*, Pt. 89 : 55.*Distribution* : India : Meghalaya (Khasis), Sikkim; also South China; Myanmar and Taiwan.104. *Pagyda fulvistriga* (Swinhoe)1894. *Orphanostigma fulvistriga* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 206 (♂).1939. *Pagyda fulvistriga*, Klima, *Lep. Cat.*, Pt. 89 : 55.*Distribution* : India : Meghalaya (Khasis, Shillong).*Remarks* : The type locality of the species is from Shillong, Meghalaya.105. *Cnaphalocrocis medinalis* (Guenee)1854. *Salbia medinalis* Guenee, *Delt. et Pyral.*, p. 201 (♀).1939. *Cnaphalocrocis medinalis*, Klima, *Lep. Cat.*, Pt. 89 : 60-62.*Distribution* : India : Meghalaya (Khasis), throughout India including Andaman and Gt. Nicobar Islands; also Oriental and Australian regions; China; Japan and USSR.106. *Marasmia venialialis* (Walker)1859. *Asopia venialialis* Walker, *Cat. Lep. Het. Brit. Mus.*, 17 : 373.1939. *Marasmia venialialis*, Klima, *Lep. Cat.*, Pt. 89 : 63.*Distribution* : India : Meghalaya (Khasis), throughout India; also West and South Africa; South Arabia; Australia; New Guinea; Borneo; West and South China; Chagos Is.; Samoa; Cocos Is.; Fiji; Japan; Mauritius; Myanmar; Salomon Is.; Sumatra and Vietnam (Tong-King).107. *Marasmia latimarginalis* Hampson1891. *Marasmia latimarginalis* Hampson, *Ill. Typ. Spec. Het. Brit. Mus.*, 8 : 138.1939. *Marasmia latimarginalis*, Klima, *Lep. Cat.*, Pt. 89 : 64.*Distribution* : India : Meghalaya (Khasis), Nilgiris (Kerala Tamil Nadu), Sikkim; also South China.108. *Marasmia bilinealis* Hampson1891. *Marasmia bilinealis* Hampson, *Ill. Typ. Spec. Het. Brit. Mus.*, 8 : 139, pl. 155, fig. 25.1939. *Marasmia bilinealis*, Klima, *Lep. Cat.*, Pt. 89 : 64.*Distribution* : India : Meghalaya (Khasis), Nilgiris (Kerala, Tamil Nadu); also Borneo; Celebes; West China; Java; Malacca; Sri Lanka and Sumatra.109. *Botys trogusalis* Walker1859. *Botys trogusalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 711 (♂).1939. *Rhimphalea trogusalis*, Klima, *Lep. Cat.*, Pt. 89 : 68.*Distribution* : India : Meghalaya (Khasis), Andamans, Himachal Pradesh (Dharmasala), Sikkim; also Borneo; Celebes; Java; Malacca; Nias; Philippines (Manila); Sangir and Sumatra.

110. *Rhimphalea ochalis* (Walker)1859. *Botrys ochalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 711 (♂).1939. *Rhimphalea ochalis*, Klima, *Lep. Cat.*, Pt. 89 : 69.*Distribution* : India : Meghalaya (Khasis); also Celebes and Java.*Remarks* : From India the species is recorded from Khasis, Meghalaya only.111. *Syngamia latimarginalis* (Walker)1859. *Asopia latimarginalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 17 : 370 (♂).1939. *Syngamia latimarginalis*, Klima, *Lep. Cat.*, Pt. 89 : 73.*Distribution* : India : Meghalaya (Khasis), throughout India; also West and East tropical Africa; Java; Myanmar; Sri Lanka; Taiwan and Vietnam (Tong-King).112. *Syngamia falsidicalis* (Walker)1859. *Asopia falsidicalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 17 : 370 (♀).1939. *Syngamia falsidicalis*, Klima, *Lep. Cat.*, Pt. 89 : 74.*Distribution* : India : Meghalaya (Khasis), North-West Himalayas, Kerala and Tamil Nadu (Nilgiris); also West, Middle and South China; Sri Lanka and Taiwan.113. *Syngamia oggalis* (Swinhoe)1906. *Platamonia oggalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (7) 17 : 288.1939. *Syngamia oggalis*, Klima, *Lep. Cat.*, Pt. 89 : 74.*Distribution* : India ; Meghalaya (Khasis).*Remarks* : The species is endemic to Khasis, Meghalaya.114. *Diastictis telphusalis* (Walker)1859. *Glyphodes? telphusalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 19 : 974 (♂).1939. *Diastictis telphusalis*, Klima, *Lep. Cat.*, Pt. 89 : 84.*Distribution* : India : Meghalaya (Khasis), Assam (Margharita), Sikkim; also Amboina; Borneo; British New Guinea; Japan; Myanmar; Nias; Sumatra and USSR (Amur).115. *Diastictis vedonalis* (Swinhoe)1894. *Chabula vedonalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 197 (♂).1939. *Diastictis vedonalis*, Klima, *Lep. Cat.*, Pt. 89 : 87.*Distribution* : India : Meghalaya (Khasis); also Borneo; Nias; Pulo Laut and Sumatra.*Remarks* : In India the species is recorded only from Khasis, Meghalaya State.

116. *Diastictis ciliata* (Swinhoe)1894. *Aediodes ciliata* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 206 (♂).1939. *Diastictis ciliata*, Klima, *Lep. Cat.*, Pt. 89 : 87.*Distribution* : India : Meghalaya (Cherrapunji, E. Khasis).*Remarks* : The species is endemic to Khasis, Meghalaya.117. *Diastictis trimaculalis* (Snellen)1880. *Aediodes trimaculalis* Snellen, *Tijds. v. Ent.*, 23 : 232 (♀).1939. *Diastictis trimaculalis*, Klima, *Lep. Cat.*, Pt. 89 : 87.*Distribution* : India : Meghalaya (Khasis); also Celebes and Myanmar.*Remarks* : From India the species is recorded from Khasis, Meghalaya.118. *Diastictis adipalis* (Lederer)1863. *Botys adipalis* Lederer, *Wien. Ent. Monatschr.*, 7 : 376, 475, pl. 11, fig. 16.1939. *Diastictis adipalis*, Klima, *Lep. Cat.*, Pt. 89 : 84-85.*Distribution* : India : Meghalaya (Khasis), Andamans, Sikkim; also Amboina; Buru; Celebes; Japan; Malacca; Myanmar; Mysol; New Guinea; Taiwan and Vietnam (Tong-King).119. *Diastictis aptalis* (Walker)1865. *Botys aptalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 34 : 1425 (♀).1939. *Diastictis aptalis*, Klima, *Lep. Cat.*, Pt. 89 : 85.*Distribution* : India : Meghalaya (Khasis), Sikkim; also Buru; Japan; Mysol; Sangir; Taiwan and Vietnam (Tong-King).120. *Ulopeza idyalis* (Walker)1859. *Botys idyalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 19 : 996 (♂).1939. *Ulopeza idyalis*, Klima, *Lep. Cat.*, Pt. 89 : 100.*Distribution* : India : Meghalaya (Khasis), Maharashtra, Nagaland, Nilgiris, Sikkim; also Borneo; Celebes; South China; Pulo Laut; Sri Lanka; Sumatra and Vietnam (Tong-King).121. *Nosophora chironalis* (Walker)1859. *Botys chironalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 683 (♂).1939. *Nosophora chironalis*, Klima, *Lep. Cat.*, Pt. 89 : 103.*Distribution* : India : Meghalaya (Khasis); also Bismark Archipelago; Borneo; Middle China; Java; Singapore; Sumatra and Vietnam (Tong-King).*Remarks* : From India the species is recorded from Khasis, Meghalaya only.

122. *Nosophora incomitata* (Swinhoe)1894. *Nagia incomitata* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 205.1939. *Nosophora incomitata*, Klima, *Lep. Cat.*, Pt. 89 : 103.

Distribution : India : Meghalaya (Khasis); also Java; Myanmar; Sumatra and Vietnam (Tong-King).

Remarks : From India the species is recorded only from Khasis, Meghalaya.

123. *Chalcidoptera rufilinealis* Swinhoe1895. *Chalcidoptera rufilinealis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 16 : 303 (♂).1939. *Chalcidoptera rufilinealis*, Klima, *Lep. Cat.*, Pt. 89 : 103.

Distribution : India : Meghalaya (Cherrapunji, Khasis); also South China.

Remarks : The type locality of the species is Cherrapunji, East Khasis and from India the species is recorded only from this place.

124. *Chalcidoptera appensalis* (Snellen)1884. *Entephria appensalis* Snellen, *Tijds. v. Ent.*, 27 : 41, pl. 3, figs. 12, 12a.1939. *Chalcidoptera appensalis*, Klima, *Lep. Cat.*, Pt. 39 : 106.

Distribution : India : Meghalaya (Khasis), Nagaland; also South Africa (Rhodesia); Celebes; Java; Myanmar; Sri Lanka and Sumatra.

125. *Chalcidoptera multiplicalis* (Warren)1896. *Gnamptorhiza multiplicalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 135 (♂).1939. *Chalcidoptera multiplicalis*, Klima, *Lep. Cat.*, Pt. 89 : 107.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

126. *Caprinia felderi* Lederer1863. *Caprinia felderi* Lederer, *Wien. Ent. Monatschr.*, 7 : 401, 478, pl. 13, fig. 18.1939. *Caprinia felderi*, Klima, *Lep. Cat.*, Pt. 89 : 110.

Distribution : India : Meghalaya (Khasis), Nagaland; also Amboina; Ceram; Fergusson; Java; New Guinea; St. Alignan and Sumatra.

127. *Macaretaera hesperis* Meyrick1886. *Macaretaera hesperis* Meyrick, *Trans. ent. Soc. Lond.*, p. 255.1939. *Macaretaera hesperis*, Klima, *Lep. Cat.*, Pt. 89 : 112.

Distribution : India : Meghalaya (Khasis); also Fiji; Sumatra and Vietnam (Tong-King).

Remarks : From India the species is recorded from Khasis, Meghalaya only.

128. *Macaretaera delicata* (Swinhoe)1894. *Trichoptychodes delicata* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 207.1939. *Macaretaera delicata*, Klima, *Lep. Cat.*, Pt. 89 : 112.*Distribution* : India : Meghalaya (Khasis).*Remarks* : The species is endemic to Khasis, Meghalaya. Hampson (1896) synonymised the species *delicata* with *hesperis* but Swinhoe reestablished the species *delicate* in (1906) and (1917).129. *Filodes fulvidorsalis* (Geyer)1832. *Pinacia fulvidorsalis* Geyer, In Hubner, *Zutrage Samml. Exot. Schm.*, 4 : 15, pl. 322, figs. 643, 644.1939. *Filodes fulvidorsalis*, Klima, *Lep. Cat.*, Pt. 89 : 113-114.*Distribution* : India : Meghalaya (Khasis), throughout India including Andamans and Nicobar Islands; also Amboina; Australia; Borneo; Celebes; Ceram; Java; Malacca; Myanmar; Philippines; Reunion; Sri Lanka; Sumbawa; Sumatra and Vietnam (Tong-King).130. *Phostria longipennis* (Warren)1896. *Charema longipennis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 132.1939. *Phostria longipennis*, Klima, *Lep. Cat.*, Pt. 89 : 125.*Distribution* : India : Meghalaya (Khasis) and Andamans.131. *Phostria unitalis* (Guenee)1854. *Botys unitalis* Guenee, *Delt. et Pyral.*, p. 349 (♂).1939. *Phostria unitalis*, Klima, *Lep. Cat.*, Pt. 89 : 127-128.*Distribution* : India : Meghalaya (Khasis), Andamans, Sikkim; also Amboina; Borneo; Ceram; S. China; New Guinea; Philippines and Sumatra.132. *Phostria schediusalis* (Walker)1859. *Botys schediusalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 683 (♂).1939. *Phostria schediusalis*, Klima, *Lep. Cat.*, Pt. 89 : 128.*Distribution* : India : Meghalaya (Khasis), Andamans, Gt. Nicobar, Sikkim; also Borneo and Sumatra.133. *Phostria phaennisalis* (Walker)1859. *Botys phaennisalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 684 (♀).1939. *Phostria phaennisalis*, Klima, *Lep. Cat.*, Pt. 89 : 128.*Distribution* : India Meghalaya (Khasis), Sikkim; also Borneo.*Remarks* : Klima (1939) synonymised part of the species *imbecilis* Moore and the species *scabripennis* Warren described from Khasis with *phaennisalis*.

134. *Phostria noctescens* (Moore)1888. *Charema noctescens* Moore, *Deser. N. Indian Lep. Ins. Atkinson*, p. 218.1939. *Phostria noctescens*, Klima, *Lep. Cat.*, Pt. 89 : 123.

Distribution : India : Meghalaya (Khasis), Sikkim, West Bengal; also South and West China; Japan; Korea; Philippines and Taiwan.

135. *Phostria palliventralis* (Snellen)1880. *Coenostola palliventralis* Snellen, *Tijds. v. Ent.*, 23 : 225.1939. *Phostria palliventralis*, Klima, *Lep. Cat.*, Pt. 89 : 126.

Distribution : India : Meghalaya (Khasis), Sikkim; also Bismarck Archipelago; Celebes; North West and South China; New Guinea; Philippines; St. Aignan and Sumatra.

136. *Phostria crithonalis* (Walker)1859. *Botys crithonalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 682 (♂).1939. *Phostria crithonalis*, Klima, *Lep. Cat.*, Pt. 89 : 123.

Distribution : India : Meghalaya (Khasis) and Andamans; Also Amboina; Borneo; South China; Japan; Java and Sumatra.

137. *Phostria obscurata* (Moore)1886. *Condega obscurata* Moore, *Lep. Ceylon*, 3 : 345, pl. 183, fig. 12 (♂).1939. *Phostria obscurata*, Klima, *Lep. Cat.*, Pt. 89 : 124.

Distribution : India : Meghalaya (Khasis), Sikkim; also New Guinea; Singapore; St. Aignan; Sri Lanka; Taiwan and Vietnam (Tong-King).

138. *Proconica nigrocyanalisis* Hampson1898. *Proconica nigrocyanalisis* Hampson, *Proc. zool. Soc. Lond.*, p. 687, fig. 1 (♂).1939. *Proconica nigrocyanalisis*, Klima, *Lep. Cat.*, Pt. 89 : 139.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

139. *Dichocrocis punctiferalis* (Guenee)1854. *Astura punctiferalis* Guenee, *Delt. et Pyral.*, p. 320.1939. *Dichocrocis punctiferalis*, Klima, *Lep. Cat.*, Pt. 89 : 141-142.

Distribution : India: Meghalaya (Khasis), throughout India; also China; Japan; Myanmar; the Malayam subregion and Australian region.

140. *Dichocrocis evaxalis* (Walker)1859. *Botys evaxalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 19 : 995 (♂).1939. *Dichocrocis evaxalis*, Klima, *Lep. Cat.*, Pt. 89 : 143-144.

Distribution : India : Meghalaya (Khasis), Sikkim, West Bengal (Calcutta); also Buru; Ceram; Java; New Guinea; Sumatra and Vietnam (Tong-King).

141. *Dichocrocis pandamalis* (Walker)1859. *Botys pandamalis*, Walker, *Cat. Lep. Het. Brit. Mus.*, 19 : 999 (♂).1939. *Dichocrocis pandamalis*, Klima, *Lep. Cat.*, Pt. 89 : 144 (♂).

Distribution : India : Meghalaya (Khasis) and Nicobar Islands; also Borneo; Buru; Java; Pulo Laut and Sumbawa.

142. *Dichocrocis tigrina* (Moore)1886. *Haritala tigrina* Moore, *Lep. Ceylon*, 3 : 312, pl. 182, fig. 5.1939. *Dichocrocis tigrina*, Klima, *Lep. Cat.*, Pt. 89 : 146.

Distribution : India : Meghalaya (Khasis), Sikkim; also Borneo; Sri Lanka; Sumbawa and Taiwan.

143. *Dichocrocis definita* (Butler)1889. *Haritala definita* Butler, *Ill. Typ. Spec. Het. Brit. Mus.*, 7 : 97, pl. 133, fig. 9.1939. *Dichocrocis definita*, Klima, *Lep. Cat.*, Pt. 89 : 146.

Distribution : India : Meghalaya (Khasis), Himachal Pradesh (Dharmasala), Sikkim; also West, Middle and South China.

144. *Dichocrocis plutusalis* (Walker)1859. *Zebronia plutusalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 17 : 478.1939. *Dichocrocis plutusalis*, Klima, *Lep. Cat.*, Pt. 89 : 146-147.

Distribution : India : Meghalaya (Khasis), Andamans, Sikkim; also Flores; Sumatra and Vietnam (Tong-King).

145. *Dichocrocis plenistignalis* (Warren)1895. *Pachybotys plenistignalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 477.1939. *Dichocrocis plenistignalis*, Klima, *Lep. Cat.*, Pt. 89 : 147.

Distribution : India : Meghalaya (Khasi hills); and Vietnam (Tong-King).

Remarks : From India the species is recorded from Khasi hills, Meghalaya.

146. *Dichocrocis rigidalis* (Snellen)1890. *Zebronia rigidalis* Snellen, *Trans. ent. Soc. Lond.*, p. 631 (♀).1939. *Dichocrocis rigidalis*, Klima, *Lep. Cat.*, Pt. 89 : 147.

Distribution : India : Meghalaya (Khasis, Shillong), Sikkim; also Myanmar; Pulo Laut and Sumatra.

147. *Dichocrocis zebralis* (Moore)1867. *Pycnarmon zebralis* Moore, *Proc. zool. Soc. Lond.*, p. 91, pl. 7, fig. 12.1939. *Dichocrocis zebralis*, Klima, *Lep. Cat.*, Pt. 89 : 147.

Distribution : India : Meghalaya (Khasis), Sikkim; also South China.

148. *Dichocrocis nilusalis* (Walker)1859. *Botys nilusalis* Walker, *Cat. Lep. Het. Brit. Mus.*, **18** : 685 (♂).1939. *Dichocrocis nilusalis*, Klima, *Lep. Cat.*, Pt. 89 : 147-148.

Distribution : India : Meghalaya (Khasis), Andamans, Nilgiris (Kerala and Tamil Nadu), Sikkim; also Borneo; West, Middle and South China; Pulo Laut; Sri Lanka; Sumatra and Vietnam (Tong-King).

149. *Dichocrocis megillalis* (Walker)1859. *Botys megillalis* Walker, *Cat. Lep. Het. Brit. Mus.*, **18** : 700 (♀).1939. *Dichocrocis megillalis*, Klima, *Lep. Cat.*, Pt. 89 : 148.

Distribution : India : Meghalaya (Khasis), Nagaland, Sikkim; also Borneo; Malacca and Sumatra.

150. *Dichocrocis credulalis* (Snellen)1859. *Botys credulalis* Snellen, *Trans. ent. Soc. Lond.*, p. 590.1939. *Dichocrocis credulalis*, Klima, *Lep. Cat.*, Pt. 89 : 145.

Distribution : India : Meghalaya (Khasis) and Sikkim.

151. *Dichocrocis actinialis* Hampson1898. *Dichocrocis actinialis* Hampson, *Trans. ent. Soc. Lond.*, p. 690 (♂).1939. *Dichocrocis actinialis*, Klima, *Lep. Cat.*, Pt. 89 : 145.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

152. *Dichocrocis diminutiva* (Warren)1896. *Conogethes diminutiva* Warren, *Ann. Mag. Nat. Hist.*, (6) **18** : 168.1939. *Dichocrocis diminutiva*, Klima, *Lep. Cat.*, Pt. 89 : 145.

Distribution : India : Meghalaya (Khasis); also South China.

Remarks : From India the species is recorded only from Khasis, Meghalaya.

153. *Lamprosema poeonalis* Walker1859. *Botys poeonalis* Walker, *Cat. Lep. Het. Brit. Mus.*, **18** : 639 (♀).1939. *Lamprosema poeonalis*, Klima, *Lep. Cat.*, Pt. 89 : 160.

Distribution : India : Meghalaya (Khasis), Nagaland, Sikkim; also East and West Africa; Bismarck Archipelago; Borneo; Flores; Java; Myanmar; Sri Lanka; Sula and Sumatra.

154. *Lamprosema annubilata* (Swinhoe)1894. *Charema annubilata* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) **14** : 203.1939. *Lamprosema annubilata*, Klima, *Lep. Cat.*, Pt. 89 : 161.

Distribution : India : Meghalaya (Cherrapunji, Khasis); also Borneo; Myanmar; Sri Lanka and Sumatra.

155. *Lamprosema stigmatalis* (Warren)1896. *Notarcha stigmatalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 101 (♀).1939. *Lamprosema stigmatalis*, Klima, *Lep. Cat.*, Pt. 89 : 162.*Distribution* : India : Meghalaya (Khasis); also South China.*Remarks* : The type locality of the species is Khasis, Meghalaya.156. *Lamprosema cuprealis* (Moore)1877. *Coptobasis cuprealis* Moore, *Proc. zool. Soc. Lond.*, p. 616, pl. 60, fig. 13 (♀).1939. *Lamprosema cuprealis*, Klima, *Lep. Cat.*, Pt. 89 : 163.*Distribution* : India : Meghalaya (Khasis), Andamans, Nagaland; also Buru; Myanmar and Philippines.157. *Lamprosema benepictalis* (Warren)1896. *Idiusia benepictalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 99 (♂ ♀).1939. *Lamprosema benepictalis*, Klima, *Lep. Cat.*, Pt. 89 : 164.*Distribution* : India : Meghalaya (Khasis).*Remarks* : The species is endemic to Khasis, Meghalaya.158. *Lamprosema oeaxalis* (Walker)1859. *Botys oeaxalis* Walker, *Cat. Lep. Het. Brit. Mus.*, Pt. 18 : 718 (♂).1939. *Lamprosema oeaxalis*, Klima, *Lep. Cat.*, Pt. 89 : 164-165.*Distribution* : India : Meghalaya (Khasis); and Borneo.159. *Lamprosema discalis* (Warren)1896. *Thysanodesma discalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 140 (♂).1939. *Lamprosema discalis*, Klima, *Lep. Pt.* 89 : 165.*Distribution* : India : Meghalaya (Khasis).*Remarks* : The species is endemic to Khasis, Meghalaya. Klima (1939) has synonymised part of *oeaxalis* with *discalis*.160. *Lamprosema fusalis* (Warren)1896. *Thysanodesma fusalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 142 (♀).1939. *Lamprosema fusalis*, Klima, *Lep. Cat.*, Pt. 89 : 164.*Distribution* : India : Meghalaya (Khasis); and Central China.*Remarks* : From India the species is recorded from Khasis, Meghalaya only.

161. *Lamprosema major* (Butler)1889. *Thysanodesma major* Butler, III. *Typ. Spec. Het. Brit. Mus.*, 7 : 96, pl.135, fig. 6.1939. *Lamprosema major*, Klima, *Lep. Cat.*, Pt. 89 : 165.*Distribution* : India : Meghalaya (Khasis), Himachal Pradesh (Dharmasala), Sikkim.162. *Lamprosema eximialis* (Warren)1896. *Thysanodesma eximialis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 141 (♂).1939. *Lamprosema eximialis*, Klima, *Lep. Cat.*, Pt. 89 : 166.*Distribution* : India : Meghalaya (Khasis); also South China.*Remarks* : The type locality of this species is Khasis, Meghalaya.163. *Lamprosema phaleasalis* (Walker)1859. *Botys phaleasalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 713 (♂).1939. *Lamprosema phaleasalis*, Klima, *Lep. Cat.*, Pt. 89 : 166.*Distribution* : India : Meghalaya (Khasis); also Borneo and South China.164. *Lamprosema valvata* (Warren)1896. *Tylostega valvata* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 104 (♂).1939. *Lamprosema valvata*, Klima, *Lep. Cat.*, Pt. 89 : 159.*Distribution* : India : Meghalaya (Khasis).*Remarks* : The type locality of this endemic species is Khasis, Meghalaya.165. *Lamprosema barbata* (Warren)1896. *Preneopogon barbata* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 146 (♂, ♀).1939. *Lamprosema barbata*, Klima, *Lep. Cat.*, Pt. 89 : 159.*Distribution* : India : Meghalaya (Khasis).*Remarks* : The type locality of this endemic species is Khasis, Meghalaya.166. *Pilocrocis barcalis* (Walker)1859. *Botys barcalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 19 : 1001 (♀).1939. *Pilocrocis barcalis*, Klima, *Lep. Cat.*, Pt. 89 : 92.*Distribution* : India : Meghalaya (Khasis), Maharashtra, (Bombay, Poona), Kerala and Tamil Nadu (Nilgiris), West Bengal (Calcutta); also Borneo; Flores and Myanmar.167. *Goniorhynchus plumbeizonalis* Hampson1896. *Goniorhynchus plumbeizonalis* Hampson, *Fauna Brit. India, Moth.*, 4 : 323, fig. 183 (♂).1939. *Goniorhynchus plumbeizonalis*, Klima, *Lep. Cat.*, Pt. 89 : 180.

Distribution : India : Meghalaya (Khasis); also Myanmar and Philippines.

Remarks : From India the species is recorded only from Khasis, Meghalaya.

168. *Goniorhynchus flaviguttalis* Warren

1896. *Goniorhynchus flaviguttalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 140 (♂).

1939. *Goniorhynchus flaviguttalis*, Klima, *Lep. Cat.*, Pt. 89 : 180.

Distribution : India : Meghalaya (Khasis); also Java.

Remarks : From India the species is known only from Khasis, Meghalaya.

169. *Botyodes principalis* Leech

1889. *Botyodes principalis* Leech, *Entom.*, 22 : 69, pl. 3, fig. 9.

1939. *Botyodes principalis*, Klima, *Lep. Cat.*, Pt. 89 : 183.

Distribution : India : Meghalaya (Khasis); also West, Central and South China; Japan; Korea; Sumatra and Taiwan.

Remarks : From India this species is recorded only from Khasis, Meghalaya.

170. *Botyodes patulalis* (Walker)

1865. *Botys patulalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 34 : 1405 (♀).

1939. *Botyodes patulalis*, Klima, *Lep. Cat.*, Pt. 89 : 185.

Distribution : India : Meghalaya (Khasis), Himachal Pradesh, Sikkim; also West and South China.

171. *Prorodes mimica* Swinhoe

1894. *Prorodes mimica* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 205.

1939. *Prorodes mimica*, Klima, *Lep. Cat.*, Pt. 89 : 186.

Distribution : India : Meghalaya (Khasis), Nagaland; also Australia; Borneo; Celebes; Java; Myanmar; New Guinea; Nias; Philippines; Pulo Laut; Sumatra; Taiwan and Vietnam (Tong-King).

172. *Sylepta tibialis* (Moore)

1888. *Synclera tibialis* Moore, *Descr. N. Ind. Lep. Ins. Atkinson*, p. 216.

1939. *Sylepta tibialis*, Klima, *Lep. Cat.*, Pt. 89 : 202.

Distribution : India : Meghalaya (Khasis), Kerala and Tamil Nadu (Nilgiris), Sikkim; also Vietnam (Tong-King).

173. *Sylepta gastralis* (Walker)

1865. *Glyphodes gastralis* Walker, *Cat. Lep. Het. Brit. Mus.*, 34 : 1356 (V).

1939. *Sylepta gastralis*, Klima, *Lep. Cat.*, Pt. 89 : 204.

Distribution : India : Meghalaya (Khasis), Himachal Pradesh (Dharmasala), Sikkim, and West Bengal (Darjiling).

174. *Sylepta scinialis* (Walker)1859. *Botys scinialis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 648 (♂).1939. *Sylepta scinialis*, Klima, *Lep. Cat.*, Pt. 89 : 204.

Distribution : India : Meghalaya (Khasis), Andamans, North West Himalayas, Sikkim; also Myanmar and Sumatra.

175. *Sylepta costalis* (Moore)1888. *Botyodes costalis* Moore, *Descr. N. Ind. Lep. Ins. Atkinson*, p. 221.1939. *Sylepta costalis*, Klima, *Lep. Cat.*, Pt. 89 : 204.

Distribution : India : Meghalaya (Khasis), Sikkim; also West and South China; Taiwan and Vietnam (Tong-King).

176. *Sylepta sellalis* (Guenee)1854. *Botys sellalis* Guenee, *Delt. et Pyral.*, p. 330 (♀).1939. *Sylepta sellalis*, Klima, *Lep. Cat.*, Pt. 89 : 204.

Distribution : India : Meghalaya (Khasis), Andamans, Sikkim, Uttar Pradesh (Banaras); also Amboina; Buru; Ceram; West China; Malacca; Myanmar; New Guinea; Singapore; Sri Lanka; Sumatra; Taiwan and Ternate.

177. *Sylepta verecunda* (Warren)1896. *Loxoscia verecunda* Warren, *Ann. Mag. Nat. Hist.*, (6) 18 : 167.1939. *Sylepta verecunda*, Klima, *Lep. Cat.*, Pt. 89 : 205.

Distribution : India : Meghalaya (Khasis), North-West Himalayas, Kerala and Tamil Nadu (Nilgiris), Sikkim and West Bengal (Darjilling).

178. *Sylepta angustalis* (Snellen)1890. *Botys angustalis* Snellen, *Trans. ent. Soc. Lond.*, p. 585 (♂).1939. *Sylepta angustalis*, Klima, *Lep. Cat.*, Pt. 89 : 205.

Distribution : India : Meghalaya (Khasis) and Sikkim.

179. *Sylepta sabinusalis* (Walker)1859. *Botys sabinusalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 708 (♂).1939. *Sylepta sabinusalis*, Klima, *Lep. Cat.*, Pt. 89 : 205-206.

Distribution : India : Meghalaya (Khasis), North-West and East Himalayas, Kerala and Tamil Nadu (Nilgiris), Maharashtra (Bombay), West Bengal (Darjilling); also Africa; Bismarck Archipelago; Borneo; Buru; Celebes; Cerum; Fiji; West and Central China; Java; New Guinea; Salomon Islands; Samoa; Sri Lanka; Sumatra; Sumbawa and Taiwan.

180. *Sylepta quadrimaculalis* (Kollar)1844. *Scopula quadrimaculalis* Kollar, In Hugel, *Kaschmir*, 4(2) : 492.1939. *Sylepta quadrimaculalis*, Klima, *Lep. Cat.*, Pt. 89 : 197-198.

Distribution : India : Meghalaya (Khasis), North–West Himalayas, Sikkim; also Borneo; West, Central and South China; Japan; Korea; Sachalin; Taiwan and Ussuri (USSR).

181. *Sylepta subalbidalis* (Swinhoe)1894. *Charema subalbidalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 201.1939. *Sylepta subalbidalis*, Klima, *Lep. Cat.*, Pt. 89 : 209.

Distribution : India : Meghalaya (Cherrapunji, Shillong, Khasis).

Remarks : The type locality of the species is Cherrapunji, Shillong, East Khasis, Meghalaya State.

182. *Sylepta paucistrialis* (Warren)1896. *Cyclarcha paucistrialis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 139 (♂).1939. *Sylepta paucistrialis*, *Lep. Cat.*, Pt. 89 : 202-203.

Distribution : India : Meghalaya (Khasis); also Bhutan; Central and South China and Vietnam (Tong-King).

Remarks : Warren (1896) described the species from Khasis.

183. *Sylepta pernitescens* (Swinhoe)1894. *Charema pernitescens* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 203 (♂).1939. *Sylepta pernitescens*, Klima, *Lep. Cat.*, Pt. 89 : 190.

Distribution : India : Meghalaya (Khasis); also South China; Japan and Brit. New Guinea.

184. *Sylepta denticulata* (Moore)1887. *Pramadea denticulata* Moore, *Descr. N. Indian Lep. Ins. Atkinson*, p. 211.1939. *Sylepta denticulata*, Klima, *Lep. Cat.*, Pt. 89 : 198.

Distribution : India : Meghalaya (Cherrapunji, Khasis), Nagaland, Sikkim.

Remarks : The type locality of the species is Cherrapunji, East Khasi hills, Meghalay.

185. *Sylepta cohaesalis* (Walker)1865. *Botys cohaesalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 34 : 1418 (♂).1939. *Sylepta cohaesalis*, Klima, *Lep. Cat.*, Pt. 89 : 198.

Distribution : India : Meghalaya (Khasis), Kerala and Tamil Nadu (Nilgiris); also Australia; Borneo; Celebes; Fiji; Nias; Sula; Sumatra and Tenimber.

186. *Sylepta crotonalis* (Walker)1859. *Botys crotonalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 19 : 997 (♀).1939. *Sylepta crotonalis*, Klima, *Lep. Cat.*, Pt. 89 : 199.

Distribution : India : Meghalaya (Khasis), Andamans, Sikkim; also Borneo; Pulo Laut; Sangir; Sri Lanka and Taiwan.

187. *Sylepta ridopalis* (Swinhoe)1892. *Coptobasis ridopalis* Swinhoe, *Trans. ent. Soc. Lond.*, p. 18.1939. *Sylepta ridopalis*, Klima, *Lep. Cat.*, Pt. 89 : 199.

Distribution : India : Meghalaya (Khasis), Andamans, Sikkim; also Java; Myanmar; Philippines and Sumatra.

188. *Sylepta lactiguttalis* (Warren)1896. *Arthriobasis lactiguttalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 131 (♂).1939. *Sylepta lactiguttalis*, Klima, *Lep. Cat.*, Pt. 89 : 201.

Distribution : India : Meghalaya (Khasis), Nagaland; also Myanmar.

Remarks : The type locality of the species is Khasis, Meghalaya.

189. *Sylepta oviialis* (Walker)1858. *Botys oviialis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 636.1939. *Sylepta oviialis*, Klima, *Lep. Cat.*, Pt. 89 : 201.

Distribution : India : Meghalaya (Khasis), Sikkim; also Abyssinia (Ethiopia) and East, West and South Africa.

190. *Sylepta derogata* (Fabricius)1775. *Phalaena derogata* Fabricius, *Syst. Ent.*, p. 641.1939. *Sylepta derogata*, Klima, *Lep. Cat.*, Pt. 89 : 193-196.

Distribution : India : Meghalaya (Shillong), throughout India including Andamans; also West Africa; Australian region; China; Japan; Malayan subregion; Myanmar; East Siberia and Sri Lanka.

191. *Sylepta seminigralis* (Warren)1896. *Polycoris seminigralis* Warren, *Ann. Mag. Nat. Hist.*, (6) 18 : 172.1939. *Sylepta seminigralis*, Klima, *Lep. Cat.*, Pt. 89 : 198.

Distribution : India : Meghalaya (Khasis); also Vietnam (Tong-King).

Remarks : From India the species is recorded only from Khasis, Meghalaya.

192. *Sylepta ochrotichroa* Hampson1918. *Sylepta ochrotichroa* Hampson, *Ann. Mag. Nat. Hist.*, (9) 1 : 266 (♂).1939. *Sylepta ochrotichroa*, Klima, *Lep. Cat.*, Pt. 89 : 203.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

193. *Sylepta cometa* (Warren)

1896. *Haliotigris cometa* Warren, *Ann. Mag. Nat. Hist.*, (6) 18 : 164 (♂).

1939. *Sylepta cometa*, Klima, *Lep. Cat.*, Pt. 89 : 203.

Distribution : India : Meghalaya (Khasis); also West China.

Remarks : Warren (1896) described the species from Khasis, Meghalaya.

194. *Sylepta picalis* Hampson

1898. *Sylepta picalis* Hampson, *Proc. zool. Soc. Lond.*, p. 719, pl. 99 (♂, ♀).

1939. *Sylepta picalis*, Klima, *Lep. Cat.*, Pt. 89 : 204.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

195. *Sylepta venustalis* Swinhoe

1894. *Sylepta venustalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 199 (♂).

1939. *Sylepta venustalis*, Klima, *Lep. Cat.*, Pt. 89 : 207.

Distribution : India : Meghalaya (Cherrapunji, Shillong, East Khasi hills); also North, West and South China.

Remarks : From India this species is recorded only from Khasis, Meghalaya and the type locality is from Cherrapunji, Shillong, E. Khasis.

196. *Sylepta nigriflava* Swinhoe

1894. *Sylepta nigriflava* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 199 (♂).

1939. *Sylepta nigriflava*, Klima, *Lep. Cat.*, Pt. 89 : 207.

Distribution : India : Meghalaya (Cherrapunji, East Khasi hills); and Sikkim.

Remarks : The type locality of the species is from Cherrapunji, East Khasi hills, Meghalaya.

197. *Sylepta mysisalis* (Walker)

1859. *Botys mysisalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 634 (♀).

1939. *Sylepta mysisalis*, Klima, *Lep. Cat.*, Pt. 89 : 193.

Distribution : India : Meghalaya (Khasis), Goa, Kerala and Tamil Nadu (Nilgiris), Sikkim; also West Africa; West, Central and South China; Madagascar; Nias; Sumatra and Syria.

198. *Sylepta fatualis* (Lederer)

1863. *Botys fatualis* Lederer, *Wien. Ent. Monatschr.*, 7 : 376, pl. 11, fig. 15 (♀).

1939. *Sylepta fatualis*, Klima, *Lep. Cat.*, Pt. 89 : 208-209.

Distribution : India : Meghalaya (Shillong, Khasis); also Java; Myanmar and Sumatra.

Remarks : The species *clathralis* Swinhoe, reported from Shillong, has been synonymised with *fatualis* (Klima, 1939).

199. *Sylepta paucinotalis* (Warren)

1896. *Notarcha paucinotalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 18 : 166 (♂).

1939. *Sylepta paucinotalis*, Klima, *Lep. Cat.*, Pt. 89 : 209.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

200. *Lygropia flavicaput* (Warren)

1895. *Hyperthalia? flavicaput* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 134.

1898. *Lygropia flavicaput*, Hampson, *Proc. zool. Soc. Lond.*, p. 727.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis.

201. *Lygropia amplificata* Warren

1895. *Lygropia amplificata* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 145.

1898. *Lygropia amplificata*, Hampson, *Proc. zool. Soc. Lond.*, p. 729.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis.

202. *Lygropia flavispila* Swinhoe

1894. *Lygropia flavispila* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 204.

1898. *Lygropia flavispila*, Hampson, *Proc. zool. Soc. Lond.*, p. 729.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

203. *Lygropia poltialis* (Walker)

1859. *Botys poltialis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 714.

1898. *Lygropia poltialis*, Hampson, *Proc. zool. Soc. Lond.*, p. 729.

Distribution : India : Meghalaya (Khasis), Himachal Pradesh, Sikkim; also Borneo and Pakistan (Murree).

204. *Diaphania pfeifferae* (Leaderer)

1863. *Sisyrophora pfeifferae* Lederer, *Wien. Ent. Monat.*, 7 : 399, pl. 13, fig. 13.

1980. *Diaphania pfeifferae*, Mondal and Bhattacharya, *Rec. zool. Surv. India*, 77 : 321.

Distribution : India : Meghalaya (Cherrapunji, Khasis), Andamans, Sikkim, West Bengal (Darjeeling); also Myanmar; Singapore and Sumatra.

205. *Diaphania actorionalis*(Walker)

1859. *Glyphodes actorionalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 17 : 498.

1980. *Diaphania actorionalis*, Mondal and Bhattacharya, *Rec. zool. Surv. India*, 77 : 324-325.

Distribution : India : Meghalaya (Khasis), Andamans, Karnataka, Maharashtra, Sikkim, Uttar Pradesh; also Malayan subregion.

206. *Glyphodes amphitritalis* (Guenee)

1854. *Margarodes amphitritalis* Guenee, *Delt. et Pyral.*, p. 307.

1898. *Glyphodes amphitritalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 741.

Distribution : India : Meghalaya (Khasis), Sikkim; also Myanmar and Malayan subregion to Solomons.

207. *Glyphodes fallacialis* (Snellen)

1890. *Margaronia fallacialis* Snellen, *Trans. ent. Soc. Lond.*, p. 609.

1898. *Glyphodes fallacialis*, Hampson, *Proc. zool. Soc. Lond.*, p. 741.

Distribution : India : Meghalaya (Khasis) and Sikkim.

208. *Glyphodes warrenalis* Swinhoe

1894. *Glyphodes? warrenalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 148.

1898. *Glyphodes warrenalis*, Hampson, *Trans. ent. Soc. Lond.*, p. 739.

Distribution : India : Meghalaya (Khasis) and Nagaland.

209. *Glyphodes fraterna* (Moore)

1887. *Margaronia fraterna* Moore, *Lep. Atk.*, p. 217.

1898. *Glyphodes fraterna*, Hampson, *Proc. zool. Soc. Lond.*, p. 740.

Distribution : India : Meghalaya (Cherrapunji, E. Khasis) and Nagaland.

210. *Glyphodes hermesalis* (Walker)

1859. *Tobata hermesalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 516.

1898. *Glyphodes hermesalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 739.

Distribution : India : Meghalaya (Khasis), Sikkim; also Borneo.

211. *Glyphodes zelimalis* Walker

1859. *Glyphodes zelimalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 17 : 502.

1889. *Glyphodes zelimalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 743.

Distribution : India : Meghalaya (Khasis), Kerala, Tamil Nadu (Nilgiris); also Borneo; Sri Lanka and Sumatra.

212. *Glyphodes eurytusalis* Walker1859. *Glyphodes eurytusalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 17 : 503.1898. *Glyphodes eurytusalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 743.

Distribution : India : Meghalaya (Khasis), Kerala and Tamil Nadu (Nilgiris); also Borneo; Loyalty Islands and Sri Lanka.

213. *Glyphodes ernalis* Swinhoe1894. *Glyphodes ernalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 148.1898. *Glyphodes ernalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 742.

Distribution : India : Meghalaya (Shillong, Khasi hills); also Myanmar.

Remarks : The type locality of the species is from Shillong, Khasi hills, Meghalaya.

214. *Glyphodes prothymalis* Swinhoe1892. *Glyphodes prothymalis* Swinhoe, *Trans.ent. Soc. Lond.*, p. 19, pl. 1, fig. 15.1898. *Glyphodes prothymalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 742.

Distribution : India : Meghalaya (Cherrapunji, Khasi hills).

Remarks : The species is endemic to Khasis, Meghalaya and the type locality is Cherrapunji, East Khasi hills.

215. *Pygospila octomaculalis* (Moore)1867. *Filodes octomaculalis* Moore, *Proc. zool. Soc. Lond.*, p. 95.1898. *Pygospila octomaculalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 750.

Distribution : India : Meghalaya (Khasis) and Sikkim.

216. *Pygospila cuprealis* Swinhoe1892. *Pygospila tyres* var. *cuprealis* Swinhoe, *Trans. ent. Soc. Lond.*, p. 19, pl. 1, fig. 4.1898. *Pygospila cuprealis*, Hampson, *Proc. zool. Soc. Lond.*, p. 750.

Distribution : India : Meghalaya (Khasis); also Myanmar.

Remarks : The type locality of the species is Khasi hills, Meghalaya.

217. *Polythlipta cerealis* Lederer1863. *Polythlipta cerealis* Lederer, *Wien. Ent. Mon.*, p. 477.1898. *Polythlipta cerealis*, Hampson, *Proc. zool. Soc. Lond.*, p. 752.

Distribution : India : Meghalaya (Khasis) and North–West and East Himalayas.

218. *Polythlipta ossealis* Lederer1863. *Polythlipta ossealis*, Lederer, *Wien. Ent. Mon.*, p. 389.1898. *Polythlipta ossealis*, Hampson, *Proc. zool. Soc. Lond.*, p. 752.

Distribution : India : Meghalaya (Khasis), Sikkim; also Amboina; Bhutan and Sumatra.

219. *Polythlipta macralis* Lederer

1863. *Polythlipta macralis*, Lederer, *Wien. Ent. Mon.*, p. 389, pl. 12, fig. 14.

1898. *Polythlipta macralis*, Hampson, *Proc. zool. Soc. Lond.*, p. 753.

Distribution : India : Meghalaya (Khasis), Kerala, Tamil Nadu (Nilgiris), Sikkim; also Amboina; Myanmar and Sri Lanka.

220. *Polythlipta inconspicua* (Moore)

1888. *Botyodes inconspicua* Moore, *Descr. Indian Lep. Atkinson*, p. 220.

1898. *Polythlipta inconspicua*, Hampson, *Proc. zool. Soc. Lond.*, p. 753.

Distribution : India : Meghalaya (Khasis), Sikkim, West Bengal (Darjiling).

221. *Sameodes miltochristalis* Hampson

1896. *Sameodes miltochristalis* Hampson, *Fauna Brit. India, Moths*, 4 : 375-376.

1899. *Sameodes miltochristalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 175.

Distribution : India : Meghalaya (Khasis), Nagaland, Sikkim; also Myanmar.

222. *Sameodes pictalis* Swinhoe

1894. *Sameodes pictalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 303.

1899. *Sameodes pictalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 176.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

223. *Archernis humilis* Swinhoe

1894. *Archernis humilis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 146.

1899. *Archernis humilis*, Hampson, *Proc. zool. Soc. Lond.*, p. 181.

Distribution : India : Meghalaya (Khasis) and Nagaland.

224. *Archernis nictitans* Swinhoe

1894. *Archernis nictitans* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 146.

1899. *Archernis nictitans*, Hampson, *Proc. zool. Soc. Lond.*, p. 181.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

225. *Omphisa anastomosalis* (Guenee)

1854. *Pionea anastomosalis* Guenee, *Delt. et Pyl.*, p. 373.

1899. *Omphisa anastomosalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 183.

Distribution : India : Meghalaya (Khasis), Andamans, Kerala and Tamil Nadu, (Nilgiris), Sikkim; also Aru; China; Duke of York Island; Java; Myanmar; Sri Lanka and Sula.

226. *Ischnurges rosea* Warren

1896. *Ischnurges? rosea* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 142.

1899. *Ischnurges rosea*, Hampson, *Proc. zool. Soc. Lond.*, p. 188.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

227. *Hyalobathra phoenicozona* (Hampson)

1896. *Isocentris phoenicozona* Hampson, *Fauna Brit. India*, Moths, 4 : 385.

1899. *Hyalobathra phoenicozona*, Hampson, *Proc. zool. Soc. Lond.*, p. 189.

Distribution : India : Meghalaya (Khasis) and Nagaland.

228. *Hyalobathra aequalis* (Lederer)

1863. *Botys aequalis* Lederer, *Wien. Ent. Mon.*, p. 468, pl. 10, fig. 3.

1899. *Hyalobathra aequalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 189.

Distribution : India : Meghalaya (Khasis), Kerala and Tamil Nadu (Nilgiris), Sikkim; also Celebes; Myanmar and Sri Lanka.

229. *Hyalobathra coenostolalis* (Snellen)

1890. *Botys coenostolalis* Snellen, *Trans. ent. Soc. Lond.*, p. 582.

1899. *Hyalobathra coenostolalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 190.

Distribution : India : Meghalaya (Khasis), Kerala and Tamil Nadu (Nilgiris), Sikkim; also Myanmar.

230. *Crocidophora pallida* (Moore)

1887. *Chobera pallida* Moore, *Descr. Indian Lep. Atkinson*, p. 220.

1899. *Crocidophora pallida*, Hampson, *Proc. zool. Soc. Lond.*, p. 193.

Distribution : India : Meghalaya (Khasis) and West Bengal.

231. *Crocidophora fulvidalis* Warren

1895. *Crocidophora (?) fulvidalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 475.

1899. *Crocidophora fulvidalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 192.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

232. *Crocidophora flavofasciata* (Moore)

1887. *Hapalia flavofasciata* Moore, *Descr. Indian Lep. Atkinson*, p. 223, pl. 7, fig. 19.

1899. *Crocidophora flavofasciata*, Hampson, *Proc. zool. Soc. Lond.*, p. 193.

Distribution : India : Meghalaya (Khasis), Sikkim and West Bengal (Darjiling).

233. *Crocidophora fasciata* (Moore)

1887. *Hapalia fasciata* Moore, *Descr. Indian Lep. Atkinson*, p. 223, pl. 7, fig. 20.

1899. *Crocidophora fasciata*, Hampson, *Proc. zool. Soc. Lond.*, p. 193.

Distribution : India : Meghalaya (Khasis), Sikkim and West Bengal (Darjiling).

234. *Crocidophora multidentalis* Warren

1895. *Crocidophora* (?) *multidentalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 476.

1899. *Crocidophora multidentalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 192.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

235. *Crocidophora distinctalis* Swinhoe

1894. *Crocidophora* (?) *distinctalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 144.

1899. *Crocidophora distinctalis*, Hampson, *Proc. zool. Soc. Lond.*, 193.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

236. *Crocidophora discolorata* Swinhoe

1894. *Crocidophora* (?) *discolorata* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 144.

1899. *Crocidophora discolorata*, Hampson, *Proc. zool. Soc. Lond.*, p. 193.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

237. *Crocidophora pallidulalis* Swinhoe

1894. *Crocidophora pallidulalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 141.

1899. *Crocidophora pallidulalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 193.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

238. *Thiptoceras fulvimargo* (Warren)

1894. *Mimocomma fulvimargo* Warren, *Ann. Mag. Nat. Hist.*, (6) 14 : 473.

1967. *Thiptoceras fulvimargo*, Munroe, *Candian Ent.*, 99(7) : 723.

Distribution : India : Meghalaya (Khasis) and Sikkim; also Myanmar.

239. *Maruca testulalis* (Geyer)

1832. *Crochiphora testulalis* Geyer, *In* Hubner, *Zutr. Samml. Exot. Schmett.*, 4 : 12, figs. 629, 630.

1986. *Maruca testulalis*, Clarke, *Smithson. Contr. Zool.*, No. 416, pp.54-57.

Distribution : India : Meghalaya (Khasi hills), Andamans, Assam, Haryana, Himachal Pradesh, Maharashtra, Kerala and Tamil Nadu, (Nilgiris), West Bengal; throughout the Oriental; Australian; Neotropical and Ethiopian region also Japan.

Remarks : Swinhoe (1889) recorded the species from Khasi hills, Meghalaya.

240. *Maruca amboinalis* (Felder)

1874. *Siriocauta* (?) *amboinalis* Felder, *Reise Nov. Lep.*, pl. 135, fig. 24.

1899. *Maruca amboinalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 194.

Distribution : India : Meghalaya (Khasis), Kerala and Tamil Nadu, (Nilgiris), Sikkim; also Amboina; Borneo and Myanmar.

241. *Tetridia caletoralis* (Walker)

1859. *Botys caletoralis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 651.

1899. *Tetridia caletoralis*, Hampson, *Proc. zool. Soc. Lond.*, p. 196.

Distribution : India : Meghalaya (Khasis), Andamans, Assam, Sikkim; also Borneo; Cambodia; Celebes; Myanmar and Thailand.

242. *Pachynoa (Polygrammodes?) maccalis* (Lederer)

1863. *Botys maccalis* Lederer, *Wien. Ent. Monat.*, 7 : 466, pl. 9, fig. 14.

1896. *Pachynoa maccalis*, Hampson, *Fauna Brit. India, Moths*, 4 : 397.

Distribution : India : Meghalaya (Khasis); Bangladesh (Sylhet).

Remarks : Hampson (1896) described the species under the genus *Pachynoa* (?) but omitted it in (1899) while synonymising the genus *Pachynoa* under *Polygrammodes*. Munroe (1958) pointed out the species as South American and identical with *Polygrammodes eximia* Jones, while Lederer described the type from Sylhet, Bangladesh.

243. *Discothyris megalophalis* Hampson

1899. *Discothyris megalophalis* Hampson, *Proc. zool. Soc. Lond.*, p. 200.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

244. *Pachyzancla intensalis* (Swinhoe)

1894. *Piloptila* ? *intensalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 143.

1899. *Pachyzancla intensalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 205.

Distribution : India : Meghalaya (Khasis) and Sikkim.

Remarks : The genus *Pachyzancla* has now been synonymised with the genus *Psara*.

245. *Pachyzancla marginalis* Warren

1896. *Pachyzancla* ? *marginalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 18 : 115.

1899. *Pachyzancla marginalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 205.

Distribution : India : Meghalaya (Khasis) and Sikkim.

Remarks : The genus *Pachyzancla* is now transferred to the genus *Psara*.

246. *Pachyzancla subdentalis* (Swinhoe)

1894. *Piloptila? subdentalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 147.

1899. *Pachyzancla subdentalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 205.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya. The genus *Pachyzancla* is now *Psara*.

247. *Pachyzancla stultalis* (Walker)

1859. *Botys stultalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 669.

1899. *Pachyzancla stultalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 204.

Distribution : India : Meghalaya (Cherrapunji), Andamans, throughout India; also Australia; Borneo; Celebes; China; Java; Myanmar; Sri Lanka and Sumatra.

Remarks : The genus *Pachyzancla* is now *Psara*. Rose and Panjni (1985) recorded the species from Haryana, Himachal Pradesh, Jammu and Kashmir, and Punjab.

248. *Pachyzancla cynaralis* (Walker)

1859. *Botys cynaralis* Walker, *Cat. Lep. Het. Brit. Mus.*, 18 : 672.

1899. *Pachyzancla cynaralis*, Hampson, *Proc. zool. Soc. Lond.*, p. 205.

Distribution : India : Meghalaya (Cherrapunji), Sikkim; also Sri Lanka.

249. *Pachyzancla mutualis* (Zeller)

1852. *Botys mutualis* Zeller, *Lep. Caffr.*, p. 40.

1899. *Pachyzancla bipunctalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 204.

1900. *Pachyzancla mutualis*, Swinhoe, *Cat. East. Aust. Lep. Het.*, pt. 2 : 527.

Distribution : India : Meghalaya (Khasi hills); Oriental; Ethiopian; Nearctic and Neotropical regions.

Remarks : The genus *Pachyzancla* is now *Psara*.

250. *Loxoneptera carnealis* Hampson

1896. *Loxoneptera carnealis*, Hampson, *Fauna Brit. India, Moths*, 4 : 406.

1899. *Loxoneptera carnealis*, Hampson, *Proc. zool. Soc. Lond.*, p. 207.

Distribution : India : Meghalaya (Khasis), Sikkim.

251. *Lepidoneura longipalpis* (Swinhoe)

1894. *Antigastra longipalpis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 208.

1900. *Lepidoneura longipalpis*, Swinhoe, *Cat. East. Austr. Lep. Het.*, Pt. 2 : 529

Distribution : India : Meghalaya (Khasis, Shillong).

Remarks : The species is endemic to Khasis, Meghalaya.

252. *Noorda fessalis* (Swinhoe)

1886. *Glyphodes fessalis* Swinhoe, *Proc. zool. Soc. Lond.*, p. 459, pl. 41, fig. 13.

1899. *Noorda fessalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 221.

Distribution : India : Meghalaya (Khasis), Andamans, Assam, Karnataka, Madhya Pradesh, Manipur, Nagaland; also West Africa; Aden; Bhutan; Myanmar and Pakistan.

Remarks : The genus *Noorda* Walker since transferred by Munroe (1961) under subfamily Odontiinae.

253. *Hemiscopis stigmatalis* (Swinhoe)

1894. *Micromania? stigmatalis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 141.

1899. *Hemiscopis stigmatalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 223.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

254. *Calamochrous tranquillalis* (Lederer)

1863. *Botys tranquillalis* Lederer, *Wien. ent. Mon.*, pp. 371, 466, pl. 9, fig. 16.

1933. *Calamochrous tranquillalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 228.

Distribution : India : Meghalaya (Khasis), Sikkim; also Ternate.

255. *Calamochrous carnealis* Swinhoe

1894. *Calamochrous? carnealis* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 302.

1899. *Calamochrous carnealis*, Hampson, *Proc. zool. Soc. Lond.*, p. 228.

Distribution : India : Meghalaya (Khasis).

Remarks : The species is endemic to Khasis, Meghalaya.

256. *Pionea auriolalis* (Lederer)

1863. *Botys aureolalis* Lederer, *Wien. ent. Mon.*, p. 473.

1900. *Pionea aureolalis*, Swinhoe, *Cat. East. Austr. Lep. Het.*, Pt. 2, p. 534.

Distribution : India : Meghalaya (Khasis), Andamans, Gt. Nicobar, Himachal Pradesh, Sikkim; also Sri Lanka.

257. *Pionea leucanalis* Swinhoe

1890. *Pionea? leucanalis* Swinhoe, *Trans. ent. Soc. Lond.*, p. 276, pl. 8, fig. 15.

1899. *Pionea leucanalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 246.

Distribution : India : Meghalaya (Khasis); also Burma.

258. *Pionea nigrostigmatalis* Warren

1896. *Pionea? nigrostigmatalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 96.

1899. *Pionea nigrostigmatalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 245.

Distribution : India : Meghalaya (Khasis); also Bhutan.

259. *Pionea flavofimbriata* (Moore)1888. *Mabra flavofimbriata* Moore, *Descr. Ind. Lep. Atk.*, 3 : 208.1899. *Pionea flavofimbriata*, Hampson, *Proc. zool. Soc. Lond.*, p. 240.*Distribution* : India : Meghalaya (Cherrapunji, Khasi hills), Sikkim, West Bengal; also Sri Lanka.*Remarks* : Swinhoe (1900) described the species under the genus *Lepidoplaga*.260. *Pionea phoenicistis* Hampson1896. *Pionea phoenicistis* Hampson, *Fauna Brit. India, Moths*, 4 : 428.1899. *Pionea phoenicistis*, Hampson, *Proc. zool. Soc. Lond.*, p. 240.*Distribution* : India : Meghalaya (Khasis), Sikkim; also Bhutan and Myanmar.261. *Pyrausta silhetalis* Guenee1854. *Pyrausta silhetalis* Guenee, *Delt. et Pyral.*, p. 166.1899. *Pyrausta silhetalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 269.*Distribution* : India : Meghalaya (Khasis), North–West and East Himalayas; also Yarkand.262. *Pyrausta machaeralis* (Walker)1859. *Scopula machaeralis* Walker, *Cat. Lep. Het. Brit. Mus.*, 19 : 1013.1899. *Pyrausta machaeralis*, Hampson, *Proc. zool. Soc. Lond.*, p. 263.*Distribution* : India : Meghalaya (Khasis), Kerala and Tamil Nadu, (Nilgiris), West Bengal; also Australia; Java; Myanmar; Sri Lanka and Taiwan.*Remarks* : Swinhoe (1900) synonymised this species with *damastesalis* Walker.263. *Pyrausta hyalodiscalis* Warren1895. *Pyrausta? hyalodiscalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 475.1899. *Pyrausta hyalodiscalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 263.*Distribution* : India : Meghalaya (Khasis).*Remarks* : The species is endemic to Khasis, Meghalaya.264. *Pyrausta profusalis* Warren1896. *Pyrausta profusalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 17 : 95.1899. *Pyrausta profusalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 260.*Distribution* : India : Meghalaya (Khasis); also Myanmar and Sri Lanka.265. *Pyrausta coorumba* Hampson1891. *Opsibotys coorumba* Hampson, *Ill. Typ. Lep. Het. Brit. Mus.*, 8 : 132, pl. 154, fig. 13.1900. *Pyrausta coorumba*, Swinhoe, *Cat. East. Austr. Lep. Het.*, Pt. 2 : 537.*Distribution* : India : Meghalaya (Khasis), Assam, Kerala and Tamil Nadu, (Nilgiris).*Remarks* : Larva greenish white, naked and small; feeds on a species of nettle, rolling the leaf.

266. *Pyrausta benenotata* Swinhoe1894. *Pyrausta benenotata* Swinhoe, *Ann. Mag. Nat. Hist.*, (6) 14 : 142.1899. *Pyrausta benenotata*, Hampson, *Proc. zool. Soc. Lond.*, p. 261.*Distribution* : India : Meghalaya (Khasis) and Sikkim.267. *Pyrausta nubilalis* (Hubner)1805-24. *Botys nubilalis* Hubner, *Samml. eur. Schmett. Pyr.*, fig. 94.1899. *Pyrausta nubilalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 259.*Distribution* : India : Meghalaya (Khasis), Manipur, Sikkim, North-West Himalayas; also Europe and West Asia.268. *Pyrausta eriopisalis* (Walker)1859. *Botys eriopisalis* Walker, *Cat. Lep. Het. Brit. Mus.*, 19 : 1006.1900. *Pyrausta eriopisalis*, Swinhoe, *Cat. East. Austr. Lep. Het.*, Pt. 2, p. 537.*Distribution* : India : Meghalaya (Cherrapunji; Khasis); also Sarawak, Borneo.269. *Pyrausta vitellinalis* (Kollar)1844. *Botys vitellinalis* Kollar, Hugel's *Kaschmir*, 4 : 492.1900. *Pyrausta vitellinalis*, Swinhoe, *Cat. East. Austr. Lep. Het.*, Pt. 2, p. 537.*Distribution* : India : Meghalaya (Cherrapunji, Khasis), Jammu and Kashmir, Sikkim; also Myanmar.270. *Pyrausta obliquata* (Moore)1887. *Ebulea obliquata* Moore, *Descr. Ind. Lep. Atk.*, p. 224.1899. *Pyrausta obliquata*, Hampson, *Proc. zool. Soc. Lond.*, p. 254.*Distribution* : India : Meghalaya (Khasis), Nagaland, Sikkim; also Myanmar and Sri Lanka.271. *Pyrausta bambusalis* (Moore)1882. *Hapalia bambusalis* Moore, *Descr. Ind. Lep. Atk.*, 3 : 222.1899. *Pyrausta bambusalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 254.*Distribution* : India : Meghalaya (Khasis) and Sikkim.272. *Pyrausta fraudulentalis* Warren1895. *Pyrausta? fraudulentalis* Warren, *Ann. Mag. Nat. Hist.*, (6) 16 : 474.1899. *Pyrausta fraudulentalis*, Hampson, *Proc. zool. Soc. Lond.*, p. 254.*Distribution* : India : Meghalaya (Khasis).*Remarks* : The species is endemic to Khasis.273. *Pyrausta bambucivora* (Moore)1887. *Ebulea bambucivora* Moore, *Descr. Ind. Lep. Atk.*, p. 224.1899. *Pyrausta bambucivora*, Hampson, *Proc. zool. Soc. Lond.*, p. 253.

Distribution : India : Meghalaya (Khasis), Madhya Pradesh; also Sri Lanka.

Remarks : The greenish larva lives in rolled up leaves of bamboo.

274. *Simaethistis tricolor* Butler

1889. *Simaethistis? tricolor* Butler, III. *Typ. Sp. Lep. Het. Brit. Mus.*, 7 : 95, pl. 134, fig. 18.

1899. *Simaethistis tricolor*, Hampson, *Proc. zool. Soc. Lond.*, p. 283.

Distribution : India : Meghalaya (Khasis) and Himachal Pradesh (Dharmasala).

APPENDIX-I

(List of species omitted)

Subfamily CRAMBINAE

1. *Diptychophora equestris* Meyrick

1930. *Diptychophora equestris* Meyrick, *Exotic Microlep.*, 4 : 112.

Distribution Meyrick described the species from Khasi hills, then Assam now Meghalaya state. (One ex. male, 13 mm.).

2. *Diptychophora ochrophanes* Meyrick

1931. *Diptychophora ochrophanes* Meyrick, *Exotic Microlep.*, 4 : 113-114.

Distribution : India : Meghalaya (Khasi hills); also Sri Lanka.

Remarks : The 'Type Locality' of the species is Khasi hills, Meghalaya. (13 exs, male & female, 12-13 mm.).

3. *Diptychophora mitis* Meyrick

1931. *Diptychophora mitis* Meyrick, *Exotic Microlep.*, 4 : 114.

Distribution : India : Meghalaya (Khasi hills).

Remarks : The 'Type Locality' of the species is Khasi hills, Meghalaya (3 exs. male, female, 10-11 mm.).

4. *Argyria trizona* Meyrick

1931. *Argyria trizona* Meyrick, *Exotic Microlep.*, 4 : 114-115.

Distribution : India : Meghalaya (Khasi hills).

Remarks : The 'Type Locality' of the species is Khasi hills, Meghalaya (5 exs. male, female, 13-15 mm.).

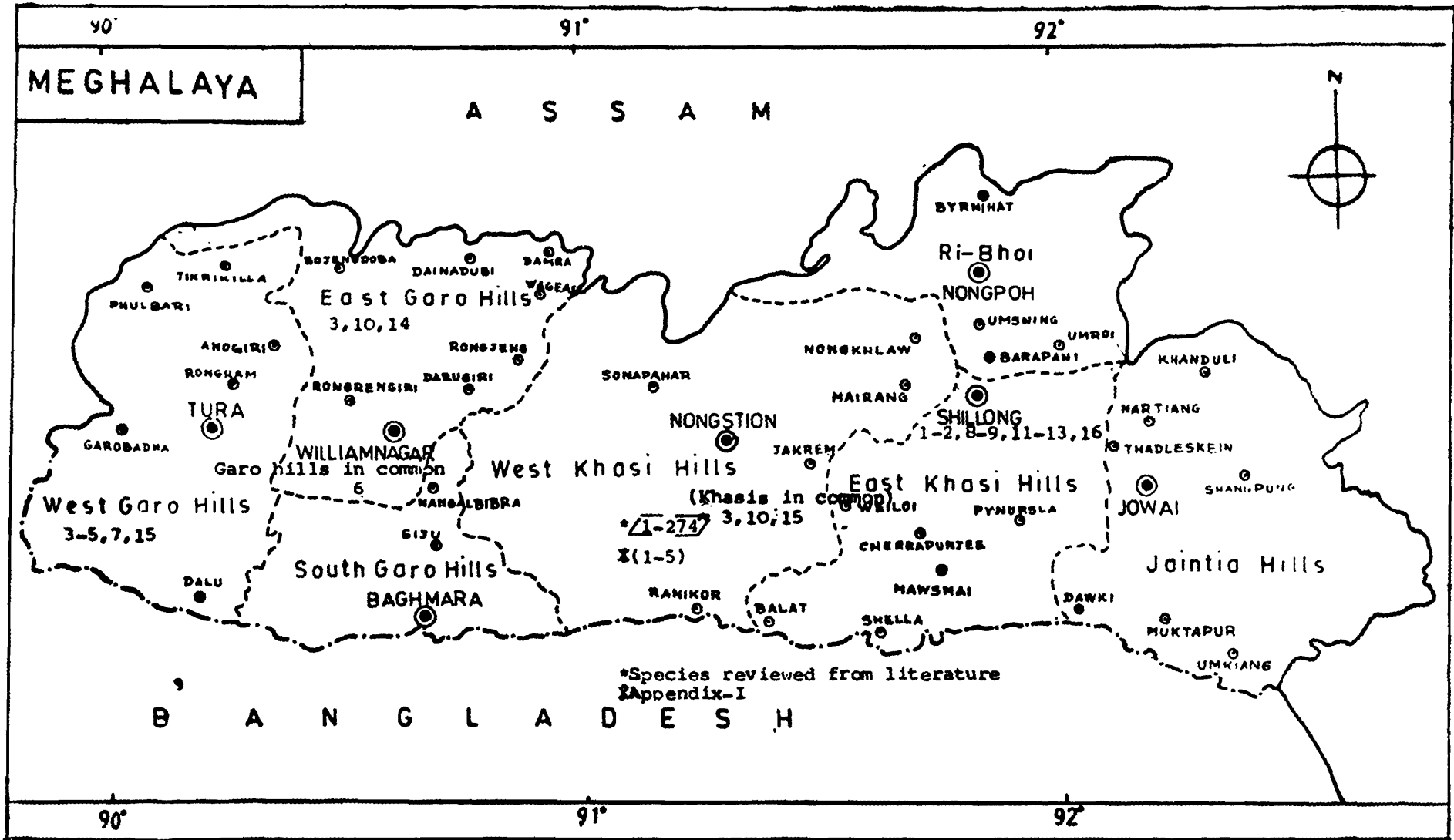
Subfamily PYRAUSTINAE

5. *Entephria dryocentra* Meyrick,

1933. *Entephria dryocentra* Meyrick, *Exotic Microlep.*, 5 : 401.

Distribution - India : Meghalaya (Khasis) and Sikkim.

Remarks - The 'Type Locality' of the species is Khasis. (male, female, 21-23 mm.)



MEGHALAYA

A S S A M

West Garo Hills

East Garo Hills

West Khasi Hills

East Khasi Hills

Jaintia Hills

*Species reviewed from literature Appendix-I

B A N G L A D E S H

SUMMARY

The present paper deals with the systematic account, keys, distribution etc. of about three hundred species of Pyralids, distributed over more than one hundred genera and ten subfamilies, of which seven species are new locality records and fifty seven species are endemic to Khasi hills area. The 'Type Locality' of twenty two new species from Meghalaya are mainly from Khasis, Cherrapunji, Shillong and Khasi hills area. In the 'Remarks' column, opinions on the present status of some species by different authors and economic importance, if any recorded for a species, has also been discussed.

ACKNOWLEDGEMENTS

The author is grateful to the than Director, Zoological Survey of India, the than Dr. A. K. Ghosh for providing necessary facilities in connection with this work and is also thankful to Sri D. K. Mandal, Scientist 'SE' and Officer in-charge of the Lepidoptera Section, for going through the paper very critically.

REFERENCES

- Arora, G. S. and Mandal, D. K. 1974. On a new species of *Dausara* Walker (Lepidoptera : Pyralidae) from Arunachal Pradesh, India. *Orient. Inst.*, 8(1) : 29-32, fig. 1(A-H).
- Barlow, H. S. 1982. *An Introduction to the Moths of South East Asia*, ix + 305 pp., 50 pls. - Kuala Lumpur (Malayan Nature Society).
- Clarke, J. F. Gates 1986. Pyralidae and Microlepidoptera of the Marquesas Archipelago. *Smithson. Contr. Zool.*, No. 416, pp.1-485.
- Hampson, G. F. 1896. *Fauna British India including Ceylon and Burma*, Moths, Vol. 4, xxviii + 594 pp., figs. 287.
- Hampson, G. F. 1898. A revision of the moths of the subfamily Pyraustinae and family Pyralidae. Part I. *Proc. zool. Soc. Lond.*, pp. 590-761, pls. 49, 50, figs. 1-87.
- Hampson, G. F. 1898. A revision of the moths of the subfamily Pyraustinae and family Pyralidae. Part II. *Proc. zool. Soc. Lond.*, pp. 172-291, figs. 88-161.
- Klima, A. 1937. Pyralididae. Subfamily Scopariinae and Nymphulinae. In Bryk, *Lepidopterorum Catalogus*, Pt. 84, pp. 1-226. ('s-Gravenhage, W. Junk.).
- Klima, A. 1939. Pyralidae : Subfamily Pyraustinae I, In Bryk, *Lepidopterorum Catalogus*, Pt. 89, pp. 1-224. ('s-Gravenhage, W. Junk.).
- Klima, A. 1939. Pyralidae : Subfamily Pyraustinae II. In Bryk, *Lepidopterorum Catalogus*, Pt. 89, pp. 225-384. ('s-Gravenhage, W. Junk.).
- Meyrick, E. 1905-1909. Descriptions of Indian Micro-lepidoptera. *J. Bombay Nat. Hist. Soc.*, 16(4) : 580-619, 17 : 133-153, 19(2) : 410-437.
- Munroe, E. 1961. Synopsis of the North American Odontiinae, with descriptions of new genera and species (Lepidoptera : Pyralidae). *Canad. Ent.*, Suppl. No. 24, pp. 1-93.

- Sevastopulo, D. G. 1938. Local list of Lepidoptera from Assam. *J. Beng. Nat. Hist. Soc.*, 28 : 115-134.
- Swinhoe, C. 1891. New species of Heterocera from the Khasis. Part I. *Trans. ent. Soc. Lond.*, pp. 473-495, pl. 1.
- Swinhoe, C. 1892. New species of Heterocera from the Khasis. Part II. *Trans, ent. Soc. Lond.*, pp. 1-20.
- Swinhoe, C. 1892. The lepidoptera of the Khasi hills. *Trans. ent. Soc. Lond.*, pp. 145-223, pl. 1.
- Swinhoe, C. 1893. A list of the lepidoptera of the Khasi hills. *Trans. ent. Soc. Lond.*, pp. 267-330, 396-432.
- Swinhoe, C. 1895. A list of lepidoptera of the Khasi hills., Part III. *Trans. ent. Soc. Lond.*, pp. 1-75.
- Swinhoe, C. 1900. *Catalogue of Eastern and Australian Lepidoptera Heterocera in the collection of the Oxford University Museum*, Part II. vi + 630 pp., 8 pls. - Oxford (Clarendon Press).
- Walker, F. 1858-1859: *Catalogue of Lepidoptera Hetorecera in British Museum*, Vols. 16-19, pp. 1-254, 255-508, 509-798, 799-1036.
- Warren, W. 1891-1892. Descriptions of new genera and species of Pyralidae contained in the British Museum Collection. *Ann. Mag. Nat. Hist.*, (6) 8 : 61-70, (6) 9 : 172-302, 389-442.

COLEOPTERA : SCARABAEIDAE : SCARABAEINE

S. BISWAS & A.K. GHOSH
Zoological Survey of India, Calcutta

INTRODUCTION

The representatives of the subfamily Scarabaeinae, commonly known as dung beetles, though widely distributed and found almost all over the world, are more common in tropics than in temperate region. Curious habits of some of the scarab beetles have attracted attention since dawn of civilisation and perhaps before, and the carved and modelled representations of scarab preserved in abundance from ancient Egyptian times probably constitute the oldest entomological records in existence.

These insects as a rule seek the excrement of various animals including man and cattle, carrion, decaying fungi or other vegetable matters and carry it deep into the soil. This they do so regularly and thoroughly that people have failed to appreciate the full value of their service. An earlier observation stated, of course, based not on accurate statistics, "that in India during May and June as much as forty to fifty thousand tons of excrement must be carried away by scarabs each day, into the soil" (R.W. Hingston, as quoted by Arrow 1931). One must remember that the population of India at that time was only half of the present day population and it did not include the dung of the animals, which might easily be double to triple of that amount. It may not be too much to emphasise that the group of beetles under review form an agency of very great importance in the disposal of human and other animal excrements and offal, specially in a country like India where majority of the people live in rural areas, yet to be served by any proper sanitation system.

Besides being a very useful clearing agent of excrement and other offensive materials, scarab beetles are known to help in the enrichment of the soil. In tropical forests, they do valuable work in quickly mixing up the raw manure with the soil. This they do before other insects like termite get access to and destroy it. They are also among the foremost of the cultivator of the soil. They tunnel through the soil, upheave the deeper layers, and thus, in no slight degree, interchange the materials of the ground. Infinitely more important is the fact that they carry down the nutrients to the root of the plant. In fact, they are the vast manurial army of the tropics and act as the natural fertilising agents.

As against the valuable services, these insects render to man, their harmful side is almost negligible. Some of the scarab beetles, such as the members of the genera like *Caccobius* Thom., *Drepanocerus* Kirby and *Oniticellus* Serv., are known to carry some helminth (*Gongylonema*) in encysted condition and if accidentally eaten by domestic animals, their future development takes place inside the body of the animal. In India, no definite work has been done on this aspect and as such our knowledge is still very incomplete. A disease known as Scarabiasis, where living

insects are passed through the faeces and cause alimentary disorder, has been reported from India. Most of the cases of such disorders, have been attributed to *Onthophagus bifasciatus* (F.) and *O. unifasciatus* (Schall.). In any case, this is not the normal habit of these insects and remedy lies on better cleanliness. During this study, it has been observed that there are many *Onthophagus* spp., similar in habit to *O. bifasciatus* (F.) and *O. unifasciatus* (Schall.) and are found exclusively in human faeces or excreta of Carnivore and not in the dung of any herbivorous animal, but scarabiasis has not been reported from the region under reference.

Arrow (1931) has presented a consolidated account of dung beetles of Indian subcontinent, in which only 24 species out of 354 dealt therein, were reported to occur in areas now under the state of Meghalaya, subsequently Balthasar (1937) has described a new *Onthophagus* from Khasi Hills, Meghalaya. The present study was undertaken to explore localities of this ecologically and zoogeographically interesting region for collection of dung beetles, so as to make a comprehensive taxonomic study of the group from the state of Meghalaya. Besides consulting earlier collections present in Eastern Regional Station, Zoological Survey of India, and at the Headquarters of Zoological Survey of India, Calcutta several collection-trips were made by the author in five districts of the state, during 1963-1975. As a result more than 5,000 specimens could be collected which belong to 115 species under 17 genera; 2% species have turned out as new to Science, 6 as new records to India besides a host of new records from the State.

During field trips, careful biological observations have also been made on habit, food, association with other organisms, seasonal occurrence and abundance of various species in relation to habitat and altitude.

Efforts were made to study the habits of little known genera as *Haroldius* Boue, *Parachorius* Harold, *Cassolus* Sharp, and *Phacosoma* Boue., and informations obtained therefrom have been incorporated in the text. As these insects show a considerable sexual dimorphism and even variations in the same sex is well known and as many of the Indian species were known only by single specimen or single sex, special attempts were made to collect atleast a number of specimens to make a good series, representing both sexes and to have an idea of intraspecific variability in different species.

However, a few species could not be collected in sufficient numbers and four species earlier reported from the area by Arrow (op. cit.) i.e. *Heliocopris dominus* Bates, *Paraphytus hindu* Arrow, *O. (Digitonthophagus) avocatta* Arrow, and *O. (S. Str.) pauliani* Balth., remained unrepresented in the collection, however, one specimen of *dominus* Bates, was examined from the collections of Z.S.I., Calcutta.

Some immature stages have been collected during this study and have not been included in text, as the specific identify could not be established in view of the fact that different species representing various genera often aggregate to a particular dung and sometimes the number of species becomes as many as 8 or 9 under 3 to 4 genera. Laboratory rearing of a few species of *Onthophagus* Latr., and a

species of *Liatongus* Reitt., were attempted and larvae in different developmental stages have been successfully obtained. these information incorporated under the relevant species.

An attempt has also been made to analyse the faanal component from Zoo-geographical viewpoint, which clearly indicates the predominance of Indo-Chinese element in the fauna of this region.

HABIT AND HABITAT

Although no detailed studies on the life histories of the individual species was undertaken or studies on the population dynamics was attempted, experience gained during field collections for last thirteen years yielded sufficient data to form a fair idea about the general pattern of life of these insects specially with regard to food, seasonal occurrence and habitat preference including vertical distribution. A brief account of the above mentioned factors are presented here.

(i) Food and feeding Habit

These beetles are well known for their habit of feeding on faecal matters of various animals, decaying vegetable matters and carrion.

The feeding habit of different species vary considerably. Some of the beetles gather the dung, form balls and then carry it to suitable spot, either for their own consumption or for the future larval-food. Members of the genus *Gymnopleurus* Illig., and *Sisyphus* Latr., among the beetles referred here, fall in this category, but the others do not perform such elaborate act. Either they feed on the dung itself or carry it to the tunnel, they make for storing food.

In the latter case, whether they do it for themselves or for their future generation is not clearly known and it is probable that they do it for both the purposes.

Regarding nature of food, majority of the species prefer the fresh dung and are never found in the dry or accumulated dung in the compost pit which people make for manuring their field but a few species such as *Onitis subopacus* Arrow and *Oniticellus cinctus* (F.) are found in such condition whereas *Drepanocerus* Kirby spp., are generally common in the comparatively old dung, but not in the compost pits.

Some species e.g. *Heliocopriss bucephalus*, (F.) *Cathersius* Hope., spp. and most of the species of *Copris* s.s. are usually not found within the dung itself except when they are in the actual process of carrying the material down into the soil. They usually make tunnel directly below the dung and carry the dung inside tunnel, sometimes to a considerable depth, specially when food is to be used by the future larvae. However, some other species e.g. *Liatongus vertagus* (F.) *Onthophagus* (*Serrophorus*) *sagittarius* (F.) *Onthophagus* (*Serrophorus*) *rectecornutus* Lanab., *Oniticellus cinctus* (F.), *Onitis subopaeus* Arrow and *Drepanocerus* Kirby spp. usually stay in the dung itself. *Drepanocerus* Kirby spp. are mainly confined below the hard crust of dried dung and sometimes are at the soil level. *O. (Digitonthophagus) rubricollis* Hope, *O. (Digitonthophagus) manipurensis* Arrow, *Copris (Microcopris) vitalisi* Gill. and many other species make oblique tunnel away from the dung.

The daily pattern of activity of these beetles, if there is any, could not be established, even then, these insects have been collected during all hours of the day. Patient observations on the pasture where cattle graze, resulted in finding some beetle alighting on fresh dung throughout the day but their numbers were definitely more at dusk; however, it was never to that degree as has been observed in

some cases of Melolonthid which usually swarm just at dusk on some particular plants. Members of ball rolling genera such *Gymnoplaurus* Illig. and *Sisyphus* Latr., are however, more diurnal in habit, as many of these beetles have been observed to perform the act of gathering the dung, forming the ball and actually carrying them during day time. During this study, it has been observed that although majority of the species are dung feeders, there is a small group of beetles which are exclusively or primarily restricted to the decaying vegetable matters specially fungi and there is still another smaller group which is confined to carrion.

Among those which are primarily dung feeders, there is a definite preference for many of these beetles for particular type of dung. By far the largest number of species are found in the dung of herbivorous animals, some of these being equally common in human faeces or those of carnivorous animals, but others are restricted to the dung of only herbivorous animals. Similarly, another group of species are never known to visit the dung of any herbivorous animals but are mostly or entirely confined to the faeces of carnivores or human beings, occasionally shifting to specific decaying fungi, when the latter are available.

Of the dung of herbivorous animals, by far the maximum number of species were obtained from those of domesticated cattle but quite a large number of species were also collected from the dung of wild elephants (*Elephas maximum* L.), Wild buffaloes (*Bubalis bubalis* (L.) Indian bison (*Bos gaurus* Smith), various species of deer, wild pig (*Sus scrofa* L.), etc. but horse dung never yielded good result and only two species i.e. *Onthophagus (o) centricornis* (F.) and *Caccobius (caccophilus) unicornis* F. could be collected from the dung of this animal. Though Rhinoceros (*Rhinoceros unicornis* L.) does not occur in the area under study but experience in Kaziranga National Park and Manas Wild life sanctuary of Assam showed that not many species of scarab beetles feed on the dung of this animal.

The species which have been collected from human faeces are also found in excreta of carnivorous animal and not much preference to particular habitat has been observed.

It may be mentioned here that the number of species in the study area increased considerably when attention was shifted from the dung of herbivorous animal to those of carnivores or human faeces or fungi and carrion and many of the species from latter habitats turned out as new to science.

A. Species feeding on Carrion.

The number of species feeding on carrion is very small. Only two species i.e. *Onthophagus (Paraphaneomorphus) nakuli* sp. nov. and *O (o) singhi* sp. Nov. have exclusively been collected from the bait of bird meat. Another species *Caccobius (Caccophilus) unicornis* (F.) which has been collected from dung of various herbivorous and carnivorous animals was also found in association with the above two species. Both the species of *Onthophagus* Latr. were obtained by digging the sides of the pit where the bait was buried over-night.

B. Species feeding on Vegetable matters.

The number of species restricted to vegetable matters are small and there are few species which are strictly confined to it; a small group of species feed on fungi when these are available but may also shift to excreta of carnivorous animals in absence of fungal food. Both the species of *Parachorius* Harold i.e. *Parachorius thomsoni* Harold and *Parachorius bookeri* Arrow, are exclusively fungi feeder and have not been collected from any other habitat. The complete ignorance of the feeding

habit of the members of this oriental genus among earlier workers (Arrow 1931, Balthasar 1963) has led to the idea that these are rare insects. In fact these insects are not really that rare as has been earlier thought but their occurrence is intimately connected with the occurrence of their food which are extremely seasonal and confined to a particular type of habitat. These insects feed on fungi which grow on the deep leaf litter deposited on the floor of the forest and flourish only during the months of May-August; until the forest floor becomes wet to a considerable depth, these fungi do not grow, but once fungi start growing beetles also become available.

Generally the beetles prefer the decaying fungi and make tunnel through the soft soil and carry these fungi inside as other beetles do with dung material, but a few specimens have been seen to feed on the fresh material and have been collected inside the stalk or in the bulb. The third species of the genus *Parachorius globosus* Arrow, has not been collected from this area but may have the similar habit as it is reported to be found in the Eastern Himalaya where fungal growth is a natural phenomenon.

Cassolus humeralis Arr. has also been collected only from fungus. this insect, however, is rare and so far only a pair have been collected from a variety of fungus growing in the floor of the pine forest, undergrowth which is regularly burnt during the winter every year.

A few more species e.g. *Onthophagus (Phanaeomorphus) arjuni* sp.nov. *O. (o.) deflexicollis* Lanab, *O. (Paraphanaeomorphus) fungivorous* Arr., *O. (o) agaricophilous* Arr. and *Haroldius stevensi* Arr. have also been noted to feed on specific fungi when these are available but otherwise they are known to feed on dungs or other vegetable matters. Of the foregoing species, a few very old specimens of first named species, were initially collected from the faeces of wild carnivores during winter in the pine forest and the species was thought to be rare but subsequent search in fungi has yielded a very large number of specimens. These beetles are restricted to the type of fungi on which *Parachorius* Harold spp. feed and almost always they are found together. They also carry the decaying fungal material into the soil but have never been observed to feed on the fresh fungi. This beetle has also been collected by digging the place where apparently no material was left but indication was there that some fungi grew and perished earlier. This species is never found very deep inside the soil but are confined to 8-10cm. inside; they make both vertical or oblique tunnel depending on the nature of the substratum. Besides fungi, specimens of *O. (o) deflexicollis* Lanab. have been collected from decaying young shoot of bamboo. All the specimens of *O. (Paraphaneomorphus) frugivorous* Arr. have been collected from the excreta of wild carnivores but Arrow (Op. cit.) has mentioned that Dr. Kemp collected a number of specimens of first species from the rotten fruits and fungus and Mr. Champion found specimens of second species in an agaric-fungus.

Genus *Haroldius* Bouc is known to be myrmecophilous in nature. Extensive search of hundreds of ant nests during this study never yielded positive results but specimens of this genus have been collected mainly from the loose moist soil near wall, hedge, under-grass of rotten bags of leaf litters without or in association with ants. A few specimens have been collected from the fungal bait kept in the loose sandy soil, but it may be that they were casual visitor and may not be regular feeder on fungus.

C. Species feeding on dung.

Scarab beetles collected from the dung may be grouped broadly into three categories, one group feeding exclusively on the dung of herbivorous animal, second on the excreta of human being or on those of carnivores and the third having no such preference to particular type of excreta.

Members of the genera such as *Heliocopris* Burm., *Onitis* F. were noted to feed exclusively on dung of herbivorous animals, of these *Heliocopris bucephalus* (F.) has mainly restricted to the dung of buffalos, both domesticated and wild, but were rarely found on other cattle dung. This species feeds on the fresh dung and usually digs a vertical tunnel just beneath the dung, sometimes to a considerable depth and carry the dung inside the tunnel if not, for their own consumption but as food for their larvae. The amount of earth they excavate is enormous and the open fallow land in the plains or at foot hills where this insects are mainly confined could be littered with earthen mould of various sizes. Mr. C.C. Ghosh as quoted by Arr. (1931) has mentioned that in the Shan hills, Burma the balls of the *H. bucephalus* (F.) are found in groups of seven to twelve and are collected by the natives for the sake of the pupae, which they regard as delicacies. As this species is not in the habit of gathering dung like the members of *Gymnopleurus* Illing. and *Sisyphus* Latr. or visiting the accumulated dung in the compost pit as known to be done by *Onitis subopacus* Arr. or *Oniticellus cinctus* (F.) but require large quantity of dung for the development of larvae, the huge mass of buffalo-dung may serve their purpose best. *H. dominus* Bates may also have the same habit but no specimen of this species has so far been collected although Arrow (Op. cit.) has mentioned that the species was collected from Tura, Garo hill district by Dr. Kemp in the month of June-July.

Members of the Genus *Onitis* F. also feed exclusively on the dung of herbivorous animals but these beetles are neither so specific to dung of any particular species nor to the condition of the dung they visit. (Of the 7 species of the genus so far collected from the state, 5 species namely *O. philemon* F., *O. virens* Lanab., *O. castaneus* Redt., *O. feae* Felsche, and *O. subopacus* Arr., are limited to plains or foothills upto about c 500m. altitude and *O. excavatus* Arr. and *O. castaneus* (Wulf.), are confined generally to the area above c 1000m. altitude;). Of the last named two species, *O. excavatus* is rare and only a pair of male specimens have been collected, females might have a particular type of habitat not yet known; the other species *Onitis falcatus* (Wulf.) is the predominant species of the higher hills, and feeds on the cow or buffalo dung, visiting both fresh and old dung; it often digs tunnel just beneath the dung but sometimes is found in the dung itself or at the junction of the dung and the soil, apparently in a resting condition. Though the type of dung, these insects visit are equally available in the plains, their numbers gradually decrease towards lower altitude and below c 500m. they are rarely found. Of the 5 species mentioned as peculiar to lower altitude, *O. subopacus* Arr. is the predominant species of the state and is found in the dungs of all condition and is equally common on the accumulated dung in the compost pit. *Onitis virens* Lansb. prefers buffalo dung and is common on the sandy soil near large rivers. *Onitis castaneus* Redt. and *Onitis feae* Felsche are also similar in food habit but are comparatively rare. *Onitis philemon* F. visits fresh or accumulated dung of cows, buffaloes and of wild elephants and is common in the open country.

The only species of *Oniticellus* Serv., *O. cinctus* (F.) occurs in large numbers in the dung of the compost pit together with *Onitis subopacus* Arr. but is equally common in fresh or old dung in the open country. The genus *Phacosoma* Bouc. also represented in the region by one species *Phacosoma anogiriensis* sp. nov. which appears to be extremely rare in the area and has been collected from the fresh deer dung in a cleared area near a dense forest. Members of other genera as *Cathersius* Hope, *cpris* s.s. Geoffr. and *Liatongus* Reitt., *Drepanocerus* Kirby are predominantly confined to the dung of

herbivorous animals, but one or a few species of each genus are also found in human faeces. However, the majority of the species of subgenus *Paracopris* Balth. and the single species of the subgenus *Microcopris* Balth. collected from the area are predominantly found in the human faeces.

It may be mentioned here that of the 5 species of *Cathersius* Hope collected from the state, only *Cathersius molossus* (L.) is found in human faeces and this is the predominant species of the genus in the entire state, though its number gradually decreases towards the plains where all the other species are mostly confined. Of the rest of 4 species. *Cathersius granulatus* Sharp and *Cathersius pithecius* (F.) are rare in the state, but the last mentioned species is apparently common in the neighbouring state of Tripura. *Cathersius javanus* Lanab. is commonly found in the fresh buffalo dung but a pair has been collected in the field from the dung taken out from the compost pit to manure the crops. *Cathersius sagax* (Quens.) visit the cow or buffalo dung in the open country (Cultivated or fallow).

Of the species of *Copris* Geoffr., members of subgenus *Paracopris*, except *C. (Paracopris) punctulatus* Wied. and *C. (Paracopris) compressipennis* Gillet are largely restricted to the human faeces. they prefer the forested habitat and make oblique tunnels either through the loose soil or simply under the fallen leaves. They are usually found in the surrounding area of the excreta normally not below 10 to 12 cm. deep. *C. (Microcopris) vittalisi* Gillet also prefer the similar habitat. *C. (Paracopris) punctulatus* Wied. on the other hand prefers the dung of cattle or buffalo and is equally common in the fresh or old dung. Among the *Copris* s.s. and *Copris (c) corpulentus* Gillet is readily available in the human faeces and is the predominant species of the entire study area. Specimens of other members of the subgenus have been collected from dung of herbivorous animals specially those of cows.

Of the 4 species of *Liatonqus* Reitt., *L. gaganus* (Hope), *L. phanaeoides* (Westw.) and *L. mergacerus* (Hope) are entirely restricted to the dung of herbivorous animals, while *L. vertagus* (F.) appears equally common in the cattledung or in the human faeces. This is one of the commonest species among all dung beetles of the state and found almost in equal frequency throughout the area, the other three being restricted to specialised habitat, e.g. *L. gaganus* (Hope) in the open country and *L. phanaeoides* (Westw.) in the forested areas of the higher elevations, while *L. mergacerus* (Hope) in the sandy soil on the bank of larger rivers at lower altitude.

Of the 4 species of *Drepanocerus* collected from the region, *D. setosus* (Wied.) *D. sinicus* Harold and *D. striatulus* Paulian are entirely confined to the dung of herbivorous animal specially that of Cow and buffalo but the other species *D. runicus* Arr. is equally found in the human faeces as well as in cow or Buffalo dung. All these insects are mainly confined to the plains or foothills of the state and are never found above c 1,000 m. altitude. these beetles appear mostly restricted to the dung itself and are usually found just under the dried crust of the dung or at soil level.

Among the species of *Gymnopleurus* Illig., *Sisyphus* Latr. and *Synapsis* Bates no particular food preference could be noted and specimens have been collected in various types of dung but *Synapsis tridens* Sharp appears very rare in the state. As no specimen of the genus *Paraphytus* Harold could be collected, its food habit could not be ascertained but Arrow (op.cit.) has mentioned that this species was collected from under bark.

Of the 6 species of *Caccobius* Thoms collected from the state *Caccobius (C) diminutivus* (Walk.) *himalayanus* Jek. are restricted to the cow dung and all other 4 species, i.e. *C.(c) debi* sp.n., *C. (c) gonoderus*, Feirm., *C. (c) denticollis* Harold and *C. (c) unicornis* F. are found equally in the cow-dung

as well as in human faeces. *C. (c) gonoderus* Fairm. is the predominant species of the genus and is available throughout the state. *C(c) unicornis* F. is mainly limited to the area below c 1,000m. It is one of the two species which is found in horse dung.

The greatest variation in food preference has been observed among the members of the genus *Onthophaus* Latr. but careful observation has revealed a co-relation between particular group and particular type of dung. all the members of the subgenus *Serrophorus* Balth. except *O. (Serrophorus) rynthii* sp. nov. are found in the dung of herbivorous animals. In the subgenus *Digitonthophaqus* Balth., *O.(D) manipurensis* Arr. is entirely confined to the human faeces where as *o. (D) rubricollis* Hope is found both in human faeces as well as in cow dung; the last named species makes oblique tunnel and it has been observed that the greater part of the tunnel is filled with dung. *O. (Strandius) gagates* Hope is also found only in the cattle dung. The other two Indian species of the subgenus including a new species which has not been included in this work as being extralimital in distribution, are also entirely confined to the dung of larger herbivorous animals. All members of subgenus *Paraphanaeomorphus* Balth. predominantly feed on either human faeces or those of the dungs of carnivore and generally are not found in the dung of herbivorous animal. Similar is the case with the members of the subgenus *Onthophagiellus* Balth. and *Indachorius* Balth. Regarding the members of subgenus *Onthopagus* s.s. it appears that this is an heterogenous assemblage so far as food is concerned but still the species may be grouped into (i) exclusively feeding on dung of herbivorous animals, e.g. *Ontnophagus (O) rugulosus* Harold, *O.(O) aenescens* (Wied.) *O.(O) dama* (F.), *O.(O) armatus* Bl., *O.(O) mopsus* (F.), *O.(O) beelsoni* Arr. and *O. (O) luridipennis* (Boh.) *O.(O) tarandus* (F.) has also been collected only from the cattle- dung but Arrow has mentioned that this beetle has been taken in flowers of *Typhonium trilobatum*. (ii) Those feeding on the human-faeces or excreta of carnivores e.g. *O.(O) troglodyta* (Eied.), *O. (O) furcillifer* Bates, *O. (O) circulifer* Arr., *O.(O) ramosellus* Bates, *O. (O) albinosi* sp. nov., *O.(O) edmonti* sp. nov., *O.(O) chandani* sp. nov., *O. (O) centricornis* (F.), *O.(O) girii* sp. nov. and *O. (O) meghalayanus* sp. nov., (III) those species which do not exhibit any particular food preference e.g. *O.(O) dhari* sp. nov., *O. (O) shyamali* sp. nov., *O.(O) prosadi* sp. nov., *O.(O) barapanensis* sp. nov. *O.(O) sp. nov.*, *O.(O) porcus* Arr., *O.(O) orientallis* Harold *ongsokensis* *O.(O) songsokensis* sp. nov., *O.(O) amicus* (gillet), *O.(O) furcicollis* Arr. and *O.(O) voolgeri* Bouc.

(ii) Habitat preference.

Scarab beetles are available throughout the state but composition of species very considerably within the state at different places, and many of the species show a considerable amount of preference for a particular type of habitat. However, ecological specialisation as has been reported in some cases of American *Onthopagus* spp. (Howden and Cartwright 1954) was not observed during this study.

Factors influencing such preference is not always very clear; their food, a primary factor, is available in almost all the region of the state and may not be main decisive factor in the distribution but altitude together with its related factors such as temperature, rainfall, humidity forming a particular type of ecosystem may play major role. Interspecific competition may be one of the such factors which may restrict some species to specific habitat.

Some genera are poorly represented in the state and their members are highly localised in particular type of habitat. Genus *Gymnopleurus* Illig. is represented by a single subspecies and this is mainly restricted to the forest or the area adjacent to forests. Though these beetles are readily available in both human faeces or in the dung of cattle, Buffalo or wild elephants, the species appears to be restricted to the higher altitude, i.e. above c. 500 m. Both the species of *Sisyphus* Latr. collected from the state are also found mainly in the forest and do not show much preference to particular type of food but they have not been collected above c 1,000 m. altitude. *Cassolus humeralis* Arr. is confined to the floor of the pine forest where some particular type of fungus grow. genus *Phacosoma* Bouc. is very rare and has been collected only from the most sandy soil in tropical forest. *Haroldius stevensi* Arr. another not very common species; is entirely restricted to higher altitude and found only in loose moist soil. species of *Parachorius* Harold are confined to the floor of the forest above c 1,000 m. altitude. *Synopsis tridens* Sharp only species of the genus, found in the state, is extremely localised and confined to the sandy and grassy bank of a particular river (river Umtyngar in Khasi Hills) and has not been found in any other such habitat. *Heliocopris bucephalus* (F.) is restricted only to foothills and is normally found in cultivated land or in the open country.

In case of genera with large number of species some preference for habitat among its different members may be seen. Of the species of *Cathersius* Hope, only *Cathersius molossus* (L.) is found almost in all type of habitat except in the dense forest and at all varying degrees of altitudes; all the other species of this genus restrict themselves to below c 1,000 m. *Cathersius javanus* Lanab. is a species of open country with a definite preference for sandy soil on the banks of the larger rivers of the plains; *Cathersius granulatus* Sharp and *C. saqax* (Quens.) both are species of open country in cultivated field or wasteland and have to compete with *Cathersius molossus* (L.) whose population, however, tend to decrease at lower altitude. *C. pithecius* (F.) a common species in the neighbouring state Tripura, is rare in this state confined to the forested slopes in the foothills.

In the genus *Copris* Geoffr., species of the subgenus *Paracopris* Balth., excepting the *C. (P.) compressipennis* Gillet inhabit the lower altitudes and are found mainly in the forested areas. *C. (Microcopris) vittalisi* Gillet also a species mainly of the forested habitat, is confined to the areas above c 1,000 m. altitude. Of the species of *Copris* s. s. *C. (C) carinious* Gillet *sharpedon* Harold *fricator* (F.), and *sinicus* Hope are all confined to higher altitudes above c 1,000m., while *spinator* Harold is restricted to the lower altitude. *C. (C) corpulentus* Gillet the largest species of the genus, found in the state, is however, available throughout the state.

Of the species of *Onitis*, *O. excavatus* Arr. and *falcatus* (Wulf.) are confined to higher altitude while the rest are confined to the plains and foothills mainly below c 5,000m. altitude; *O. castaneous* Redt., and *O. feae* Felsche prefer sandy soil of larger river-banks of the plains but are also found in the valleys of the foothills; *O. subopacus* Arr. is found in all types of habitat but is more common in the accumulated dung; *virens* Lanab. and *O. Philemon* F., which are rather rare, are found in the open country, *philemon* F. being confined to plains while *virens* Lanab. is found at areas of foothills mainly upto c 500 m.

Among the species of *Liatongus* Reitt. *L. gagatinus* (Hope) and *L. phaneoides* (Westw.) are restricted to higher altitude while *L. margacerus* (Hope) appears confined to the foothills below c 500 m. altitude and found in the sandy soil along the course of larger rivers. *L. vertagus* (F.) the

commonest species of the genus in the area, do not show any particular preference to habitat but its population decreases towards plain.

In the genus *Caccobius* Thom. all the species of *Caccobius* s. s. are common in the higher altitudes. *Caccobius* (*C*) *gonodenus* (Fairm.) being the predominant species of the genus and is available in all types of habitat; *C. (C) denticollis* (Walk), a rare species and *C. (C) himalayanensis* Jek. are confined to the flat areas in the valleys surrounded by hills. *C. (C) debi* sp. nov. is a species of open field and is confined to the areas around Shillong. Both the species of subgenus *Caccophilous* Jak. are found in lower altitude, of which *C. (Caccophilous) diminutivus* (Walk.) is recorded only from the plains and appears to be not very common.

In the genus *Onthophaqus* Latr., the diversity of ecological Preference and vertical distributional peculiarities attain to the maximum degree. Of the members of subgenus *Serrophorous* Balth., *O. (S) Sagittarius* and *O. (S) rectecornutus* Lanab. are species of lower elevations and are found in the open country, in the sandy or muddy soil. *O. (S) atropolitus* d'Orb., on the other hand is confined mainly to the areas below c 1,000 m. *O. (S) rynthii* sp. nov. is a species of forested region and has been collected only from dense jungles.

In the subgenus *Digitonthophagus* Balth., two groups could clearly be distinguished on morphological similarities, habitat preference and food habit. Both *O.(D) manipurensis* Arr. and *O. (D) rubricollis* (F.) are species of the higher elevations, *O.(D) rubricollis* (F.) being more common and more adapted to various habitat as well as food but *O.(D) manipurensis* Arr. is confined to forested habitat. *O.(D) bonasus* (F.) and *O.(D) qazella* (F.) are without exception found in the plains and the valleys of the foothills not above c 500 m. altitude and appear to be confined to the more warmer and drier part of the state. The only species of subgenus *Phanaeorphus ariuni* sp. nov. is peculiar in food habits as has been earlier stated, and occur only in the forests of higher hills. Of the members of subgenus *Paraphaneomorphus* Balth., *O(P) bifasciatus* F., *O.(P) Unifasciatus* (Schalla), *O.(P) nakuli* sp. nov and *O. (P) friigovorous* Arr., are never found above c 1,000 m. *O.(P) unifasciatus* (Schall) and *O. (P) dichropygus* Gillet. appears more common in a higher hills in this state, though Openheimer (1975) has observed them to be common in the plains of West Bengal. Of the subgenus *Strandius* Balth., only a single species has been dealt here but two other species known from the adjacent region, are inhabitants in the higher altitude and all of them are found in the forested areas in the dung of herbivorous animal. The only species of subgenus, found in the state. *Onthophagiellus grassicollis* Bouc., is a common species found below c 1,000m. altitude in the well wooded country. Of the two species of subgenus *Indechorius* Balth., dealt here one is found in the similar habitat while the other is restricted to higher altitude.

In the *Onthophasus* s.s. similar restricted distribution depending on altitude and other habitat condition may also be observed (Table I).

(iii) Abundance and Seasonal Occurrence.

These insects are predominantly found during monsoon, from the month of May to September; when it rains early, these beetles, are available also in March and April; some populations may also be observed in October or even upto middle of November. During the winter months of December of February, these insects become very rare although some specimens of few species may be available

throughout the year, specially in the plain areas of the state. However, it has been noted that all the specimens collected during winter months are older specimens and sign of aging are evident on their forelegs and clypeus which are mostly used for food gathering and digging activity.

Regarding abundance of the individuals in different species a great variation may be noted. Some species such as *Cathersius molossus* (L.) *Liatongus vertegus* (F.), *L. gagatinus* (Hope) *Caccobius gonodarus* (Fairm.), *Oniticellus cinetus* (F.) *Onitis subopaeus* Arr. *Onthophaous (O) dama* (F.), *O. (O) armatus* Bl., *O.(O) furcillifera* Bates, *O.(O) sagittarius* F., *O.(S) rectecornutus* Lanab., *O.(O) ramoselus* Bates, and *O.(O) luridipennis* (Boh.) appear to be very common and any collection trip to suitable localities would yield specimens of most or all of the species mentioned above. Some species such as *Onitis exccvatus* Arr., *Onitis feae* Felsche, *O. castaneous* Redt., *Synapsis tridens* Sharp, *Cassolus humeralis* Arr., *Phacosoma anogiriensis* Sp. nov. and *Haroldius stevensi* Arr. and some species of *Onthophaqus* Latr. are really rare and it is difficult to get specimens of these species. It may be mentioned that not a single species of such genera as *Scarabaeus* L., and *Chironotia* Lanab. has been either collected during this study or been reported by earlier workers from the state.

CLASSIFIED LIST OF SPECIES FOUND

IN MEGHALAYA

Subfamily Scarabaeinae

Tribe Gymnopleurini

Genus 1. *Gymnopleurus* Illiger, 1803

1. *Gymnopleurus (Paragymnopleurus) sinuatus assamensis* Waterhouse, 1980.

Tribe Sisyphini

Genus 2. *Sisyphus* Latreille, 1807.

2. *Sisyphus (Sisyphus) indicus* Hope, 1831
3. *Sisyphus (S) neglectes* Gory, 1833

Tribe Canthonini

Genus 3. *Cassolus* Sharo, 1875

4. *Cassolus humeralie* Arrow, 1907

Genus 4. *Phacosoma* Boucomont, 1914

5. *paecosoma anogiriensis* Sp. nov.

Tribe Alloscelini

Genus 5. *Haroldius* Boucomont, 1914

6. *Haroldius stevensi* Arrow, 1931

Tribe Pinotiti

Genus 6. *Parachorius* Harold, 1873

7. *Parachorius hockeri* Arrow, 1931
8. *Parachorius thomsoni* Harold, 1873

Tribe Coprini

- Genus 7. *Synapsis* Bates, 1868
 9. *Synapsis tridens* Sharp, 1881
- Genus 8. *Holiocopriss* Hope, 1837
 10. *heliocopriss bucephalus* (Fabricius), 1775
 11. *Helicopriss dominus* Bates, 1868
- Genus 9. *Cathersius* Hope, 1837
 12. *Cathersius (Cathersius) oranulatus* Sharp, 1875
 13. *Cathersius (C) javanus* lansberge, 1886
 14. *Cathersius (C) molossus* (Linnaeus) 1758
 15. *Cathersius (C) nithecius* (Fabricius), 1175
 16. *Cathersius (C) saqax* (Quenstedt), 1806
- Genus 10. *Copriss* Geoffroy, 1762
 17. *Copriss (Copriss) carinicus* gillet, 1910
 18. *Copriss (C) corpulentus* gillet, 1910
 19. *Copriss (C) fricator* Fabricius, 1787
 20. *Copriss (C) sharpedon* Harold, 1868
 21. *Copriss (C) sinicus* Hope, 1842
 22. *Copriss (C) spinator* Harold, 1881
 23. *Copriss (Paracopriss) anogiriensis* sp. nov.
 24. *Copriss (P) combressibennis* gillet, 1910
 25. *Copriss (P) furciceps* Felsche, 1910
 26. *Copriss (P) pauliani* sp. nov.
 27. *Copriss (P) punctulatus* wiedmann, 1823
 28. *Copriss (microcopriss) vittalist* Gillet, 1921.

Teibe Onitini

- Genus 11. *Omitiss* Fabricius, 1798
 29. *Omitiss castaneous* Redtenbacher, 1848
 30. *Omitiss excavatus* Arrow, 1931
 31. *Omitiss falcatus* (Wulfen), 1786
 32. *Omitiss feae* Felsche, 1907
 33. *Omitiss philemon* Fabricius, 1801

34. *Onitis subopacus* Arrow, 1931

35. *Onitis virens* Lansberge, 1875

Tribe Oniticellini

Genus 12. *Drepanocerus* Kirby, 1828

36. *Drepanocerus runicus* Arrow, 19009

37. *Drepanocerus setosus* (Wiedeman), 1823

38. *Drepanocerus sinicus* Harold, 1868

39. *Drepanocerus striatulus* Paulian, 1945

Genus 13. *Liatonqus* Reitter, 1892

40. *Liatonqus (Liatonqus) quqatinus* (Hope), 1831

41. *Liatonqus (L) merqucerus* (Hope), 1831

42. *Liatonqus (L) phanaeoides* (Westwood), 1840

43. *Liatonqus (L) vertaqus* (Fabricius), 1798

Genus 14. *Oniticellus* Serville, 1825

44. *Oniticellus (O) cinctus* (Fabricius), 1775

Tribe Onthophagini

Genus 15. *Caccobius* Thomson, 18763

45. *Caccobius (Caccobius) debi* Sp. nov.

46. *Caccobiua (C) denticollis* Harold, 1867

47. *Caccobius (C) gonoderus* (Fairmaire), 1999

48. *Caccobius (Caccophilous) diminutivus* (Walker), 1858

49. *Caccobius (C) himalayanus* Jekel, 1872

50. *Caccobius (C) unicornis* Fabricius, 1798

Genus 16. *Onthophaqus* Latreille, 1802

51. *Onthophaqus (o) aenescens* (Wiedeman), 1823

52. *o. (o) aqaricophilus* Arrow, 1931

53. *o. (o) albinosi*, Sp. nov.

54. *o. (o) amicus* (Gillet), 1925

55. *o. (o) armatus* Blanchard, 1853

56. *o. (o) asoki* Sp. nov.

57. *o. (o) barapanensis*, Sp. nov.

58. *o. (o) beelsoni* Arrow, 1931

59. *o. (o) brutas* Arrow, 1931

60. *o. (o) centricornis* (Fabricius), 1798
61. *o. (o) chandani* Sp. nov.
62. *o. (o) chrikutiensis* Sp.nov.
63. *o. (o) circulifer* Arrow, 1931
64. *o. (o) dama* (Fabricius), 1798
65. *o. (o) dellexicallis* Lanaberga, 1883
66. *o. (o) dhari* sp.nov.
67. *o. (o) edmondi* Sp. nov.
68. *o. (o) furcicollis* Arrow, 1931
69. *o. (o) fucillifer* Bates, 1891
70. *o (o) qaroansis* Sp.nov.
71. *o. (o) girii* Sp.nov.
72. *o. (o) Krishnai* Sp.nov.
73. *o. (o) lukridipennis* (Boheman), 1858
74. *o. (o) Meghaolayanus* Sp.nov.]
75. *o. (o) mopsus* (Fabricius), 1792
76. *o. (o) narayani*, Sp.nov.
76. *o. (o) narayani*, Sp.nov.
77. *o. (o) earentallis* Harold 1868
78. *o. (o) pacificus* Lansberge, 1885
79. *o. (o) patili*, Sp. nov.
80. *o. (o) porcus* Arrow, 1931
81. *o. (o) prosadi*, Sp. nov.
82. *o. (o) ramosellus* Bates, 1891
83. *o. (o) rovi* Sp. nov.
84. *o. (o) rubripennis* Arrow, 1907
85. *o. (o) ruqulosus* Harold, 1886
86. *o. (o) salpaharensis*, Sp. Nov.
87. *o. (o) senquptai*, Sp. nov.
88. *o. (o) singhi*, Sp. nov.
89. *o. (o) sonqsokensis*, Sp. nov.
90. *o. (o) spinifex* (Fabricius), 1781
91. *o. (o) shyamali*, Sp. nov.

92. *o. (o) tarandus* (Fabricius), 1792
93. *o. (o) troglodyta* (Wiedemann), 1823
94. *o. (o) vougari* Boucomont, 1923
95. *o. (o) bonasus* (Fabricius), 1775
96. *o. (o) gazella* (Fabricius), 1787
97. *o. (o) manipurensis* Arrow, 1907
98. *o. (o) rubricollis* Hope, 1831
99. *o. (Indachorius) shillongensis*, Sp. nov.
100. *o. (Onthophagiellus) crassicollis* Boucomont, 1914
101. *o. (Paraphaneomorphus) bifasciatus* (Fabricius), 1781
102. *o. (P) dichropygus* Gillet, 1925
103. *o. (P) frugivorous* Arrow, 1931
104. *o. (P) nakuli*. Sp. nov.
105. *o. (P) Phanaeiformis* Boucomont, 1914
106. *o. (P) unifasciatus* (Schaller), 1783
107. *o. (Phanaeomorphus) arjuni*, Sp. nov.
108. *o. (Serrophorus) atropolitus* Orbigny, 1902
109. *o. (S) rectecornutus* Lansberge, 1893
110. *o. (S) rynthi*, Sp. Nov.
111. *o. (S) sagittarius* Fabricius, 1775
112. *o. (Strandius) gagates* Hope, 1831

Tribe Pinotini

- Genus 17. *Paraphytus* Harold, 1877
- *113. *Paraphytus hindu* Arrow, 1931

Tribe Onthophagini

- Genus 18. *Onthophaqus* Latreille, 1802
- *114. *Onthophaqus (O) pauliani* Balthasar, 1937
- *115. *o. (Digitonthopagus) avocetta* Arrow, 1933

*Species not seen by author.

Subfamily Scarabaeinae

Morphological characters : Body oval or oblong, rather depressed to highly convex. Clypeus strongly developed, fused with ocular lobes (genae), completely covering mouth parts front margin may be rounded, straight, excised or produced into one or more lobes in front. Ocular lobes

usually more or less prominent. antennae 8 or 9 segmented, antennal club of three closely compact segments. Mandibles neither enlarged nor flattened, very rarely apex of which slightly visible from above. Elytra covering the body, sometimes excised behind shoulders. Scutellus very minute, sometimes absent. Middle coxae usually placed far apart and parallel or sometimes obliquely placed. Middle and hind femora specially the hind ones distinctly elongated or both may be short and broad towards species. Middle and hind tibiae of variable length (from short to rather long) may be dilated or slender. Middle tibiae with 1-2 terminal spur, hind tibiae with a single terminal spur. Tarsal segments of middle and hind legs normal or flattened, the first segment may be longer or almost equal in length to the others. Pygidium free, rarely a little drawn inward.

Discussion : These beetles form a morphologically well defined group and may be easily recognised by the characters as enumerated under morphology.

It has been already stated that the present work deals with 115 species belonging to 17 genera and 9 tribes. However, it appears that tribes characterised by slender hind tibiae i.e., Gymnopleurini, Sisyphini, Canthonini and Allascelini and rather poorly represented; under this group, a total of 44 species under 9 genera belonging to 5 tribes have been recorded from India, out of which only 6 species under 5 genera belonging to 4 tribes have been recorded from the state. Except *Sisyphus* Latr., all other 4 genera i.e., *Gymnopleurus* Illig., *Cassolus* Sharp, *Phacosoma* Bouc., and *Haroldius* Bouc., are represented by a single species. None of the species has been noted in large numbers and most of these are very rare and restricted to species ecological niches. It is interesting to note that not a single species of *Scarabaeus* L., otherwise well distributed in India, could be collected from the area under study.

Members of some other genera i.e., *Chiropotis* Lanab., *Panelus* Lewis, *Ponerotroqus* Silvestri, *Delopleurus* Er., *Pyenopanetus* Arr., also remained unrepresented in the state.

Biology : These insects as a rule seek the excrement of different animals including man and cattle, carrion, decaying fungi or other vegetable matters and carry the same into soil. Several members of this subfamily are well known ball rollers. Monsoon months appear to be most favourable period for their occurrence and abundance and many of the species show preference to particular type of food. Normally the life cycles of these beetles vary with the climate, being longest in more temperate regions and shortest in the tropical areas.

Distribution : The members of the subfamily are world wide in distribution but various tribes show marked differences in number of species found in different Zoogeographical regions e.g. tribe Scarabaeini, gymnopleurini, sisyphini, Coprini and Onitini are predominantly Ethiopian while most of the species of Canthonini and Pinotini are Neotropical and those of Alloscelini are Oriental in distribution. Members of the tribes Oniticellini and Onthophagini are found almost all over the world. The following table will show the relative number of species found in Meghalaya in relation to total number of species known from the world and those known from India (Table II).

TABLE II

Tribe	Genera	Total No. of species known from the World (Balthasar 1963)	Species known from India	Species known from Meghalaya
Gymnopleurini	<i>Gymnopleurus</i> Illig.	94	20	1
Sisyphini	<i>Bisymphus</i> Latr.	34	7	2
Canthonini	<i>Cassclus</i> Sharp	7	1	1
	<i>Phecosoma</i> Bouc.	19	3	1
Alloscelini	<i>Heroldius</i> Bouc.	12	6	1
Pinotini	<i>Perachorius</i> Barold	3	3	2
	<i>Peraphytus</i> Harold	10	3	1
Coprini	<i>Synapsis</i> bates	11	3	12
	<i>Heliocopris</i> Burm.	51	3	2
	<i>Cathersius</i> Hope	124	7	5
	<i>Copris</i> Geoffroy	193	26	12
Onitini	<i>Onitis</i> F.	128	11	7
Oniticollini	<i>Oniticellus</i> Serv.	21	3	1
	<i>Drepanocerus</i> Kirby	7	5	4
	<i>Liatongus</i> Reitt.	41	8	4
Onthophagini	<i>Caccobius</i> Thoms.	95	16	6
	<i>Onthophegus</i> Latr.	1620	185	63
Total :		2470	310	115

Key to the tribes of Scarabaeinae

- 1(8) Middle and hind tibiae usually long, slender posteriorly and more or less bent like sabre, never conspicuously broadened towards apices. Middle and hind femora specially the hind ones generally distinctly elongated. Tarsal segments of both middle and hind legs hardly or very little triangular; metatarsus not much different from following ones. Middle coxae may or may not be widely separated and paralld. Body usually evenly arched, short and broadly oval. Sexual dimorphism not well developed.

- 2(3) Elytra emerginate behind shoulders (Pl. III, fig. 10). Middle tibiae with single terminal spur. antennae 9 segmented. (Pl. IV, fig. 15). Middle coxae obliquely placed (Pl. III, fig. 11). Metasternum strongly narrowed in front. Hind tarsi moderately long. Median to small species often with metallic lustre Tribe Gymnopleurini
- 3(2) Elytra never emerginate behind shoulders. Middle tibiae with single or double terminal spurs (Pl. V, fig. 19). Antennae 8 or 9 segmented. Middle coxae parallel or slightly convergent in front. Hind tarsi very long (Pl. V, fig. 20) or of normal length. Small to medium sized species.
- 4(5) Body convex, laterally compressed and acuminate at posterior end. Middle and hind legs much longer and slender than front legs. (Pl. V, figs. 19,20). Middle coxae shifted towards lateral margins (Pl. Vi, fig. 25) Hind tibiae strongly bent, hind tarsi long and slender (Pl. V, fig. 20)..... Tribe Sisyphini
- 10(11) Antennae always 9 segmented. (Pl. II, fig. 7). Hind tibiae on the outer margin with atleast one oblique or transverse carina (pl. I, fig. 1). Middle tibiae usually with transverse carina which may sometime appear spine like. Elytra usually with 9 striae, 9th one close to epipleural carina..... Tribe Coprini
- 11(10) Antennae 8 or 9 segmented. Middle and hind tibiae without transverse carina at outer margins, (Pl. X, figs. 44, 45) however, dorsally with short dentation. Elytra with 8 to 10 longitudinal striae, of which the external one close to epipleural carina.....Tribe Pinotini
- 12(9) Second segment of labial palpi longer than 1st, 3rd segment very small, often entirely absent. (Pl. XVII, fig. 79). Colour variable, species of small to medium size. (Pl.)
- 13(14) Antennae 8 segmented (Pl. XIX, fig. 96). Pronotum without basal pits, elytra often flat, with 8 longitudinal striae of which the outer one close to spipleural carina. Scutellum small, almost always clearly visible. Front tibiae with movable apical spur. Front tarsi always present. Usually small, rarely of medium size species Tribe Oniticellini
- a(b) Upper surface smooth or sparsely covered with small and simple hairs. Base of pygidium neither emarginate or provided with small transverse carina. Scutellum clearly visible. Black, brown or yellowish brown species often with spotted elytra Subtribe Oniticellina
- b(a) Upper surface generally covered with short thick setae; matt, dusty coloured. Base of pygidium distinctly emerginate or dorsally provided with faint transeverse carina. Scutellum often not visible. Elytra never coloured at above subtribe Drepanocerina
- 14(13) Antennae 9 segmented (Pl. XVII, fig. 81). Pronotum with or without basal pits. Scutellum clearly visible or almost invisible from above. Spur of front tibiae movable or immovable, front tarsi present or absent.
- 15(16) Basal pits on pronotum, round, oblique or elongate (Pl. XVII, fig. 75). Front tarsi absent either in both sexes or at least in male (Pl. XVII. fig. 76): apical spur of front tibiae always large, strongly fused with tibiae and immovable; front tibiae of male usually elongate, more

or less bent and characteristically built (Pl. XVII. fig. 76). Scutellum usually clearly visible. Body of medium size, rarely large, sexual demorphism not very conspicuous, black, brown, yellowish brown or metallic in colour; sometimes elytra irregularly dark spotted.....

..... Tribe Onitini

16(15) Basal pits on pronotum absent (Pl. XXIII, fig. 107). Front tarsi always present. Apical spur of front tibiae always movable. Scutellum almost invariably not visible. Body normally small, rarely of medium size with conspicuous sexual dimorphism; black, brown or yellowish brown in colour; elytra often dark-spotted or variegated or strongly metallic

.....Tribe Onthophagini.

Tribe *Gymnopleurini*

The tribe has been characterised in the key to the tribe of subfamily Scarabaeinae. this tribe contains single genus *Gymnopleurus* Illiger.

Genus 1. *Gymnopleurus* Illiger 1803

1803. *Gymnopleurus*, Illiger, *Mag. Ins.*, 11 : 199

1931. *Gymnopleurus*, Arrow, *Fauna Brit. India, Lamell.*, 111 : 46

1963. *Gymnopleurus*, Balthesar, *Monogr. Scarab. aphod. Palaearkt. Orient.*, 1 : 177.

Types species : *Scarabaeus flagellatus* Fabricius 1787.

Morphological characters : *Body broad and rather depressed. hind part narrowed. Clypeus produced into 2 or 4 short lobes at front margin. Elytra rather flat with sides deeply excised behind shoulders, exposing the sides of the body beneath (Pl. III, fig. 10).*

Sexual dimorphism very little developed.

Remarks : The most salient feature of the genus is deeply excised sides of elytra, which seems to be a means for facilitating instant flight by allowing the wings to be stripped out readily and rapidly. The possession of front tarsi separates it from closely related genus *Scarabaeus* L. Till 1963, 94 species have been recorded (Balthesar 1963) from the world of which 20 species are found within Indian limit. Janssens (1940) splitted the genus into 4 independent genera i.e. *Gymnopleurus*, *Paragymnopleurus*, *Allogymnopleurus* and *Garreta* of which he himself created *Garreta* and *Allogymnopleurus* and subgenus *Paragymnopleurus* Shipp, was given independent generic status. Balthesar (op. cit.) considered these genera as subgenera and at present *Gymnopleurus* s.s. contains 44 species as follows : *Garreta* : 19 *Allogymnopleurus* : 15 and *Paragymnopleurus* : 12 while other 4 species could not be placed in any of these subgenera and as such kept in *Gymnopleurus* s.l.

Of the species recorded from India, 10 belong to *Gymnopleurus* s.s., 6 to *Garreta* and 2 each to *Allogymnopleurus* and *Paragymnopleurus*. Only a single species belonging to subgenus *Paragymnopleurus* Shipp. has been collected from the state.

Biology : These beetles, in this area, are always found in the vicinity of forests or sometimes inside the forests mainly in human faeces but sometimes, in cowdung, generally they have been collected singly or occasionally in pairs but never more than three at a time.

Distribution : The genus *Gymnopleurus* Illiger, is known to be distributed over Oriental, Palaearctic and Ethiopian regions.

1. *Gymnopleurus (Paragymnopleurus) sinuatus assamensis* Waterhouse 1980.
(Plts. III, IV, figs. 10-16)

1789. *Scarabaeus sinuatus* Oliver., *Entom.* 1 : 160. Pl. 21, fig. 189
 1890. *Gymnopleurus assamensis* Wat., *Ann. Mag. Nat. Hist.* 6 : 411.
 1931. *Gymnopleurus sinuatus* var *assamensis* Arrow, *Fauna Brit. India. Lamell.* 111 : 63.
 1963. *Gymnopleurus (Paragymnopleurus) sinuatus assamensis*, Balth., *Monogr. Scarab. Aphod. palaearkt. Orient.* 1 : 218.

Material examined : 21 exs : 10 ♂♂, 11 ♀♀

Remarks : Front edge of the Femur, before the spine is serrated and this is an uniform character in all the specimens examined. Elytral intervals coriaceous with minute granules except at the posterior end where it is lightly punctured.

Biology : The species mainly frequents the open grassy slopes or cultivated fields in valleys near the base of forest. Clad hill tops., Some times they have been collected from the floor of the well wooded pine forest. These beetles are usually available during rainy season (May-September), however, a few specimens have also been collected as early as in March and as late as in October, specially towards foothills.

Distribution : This species is widely distributed in India, Nepal, Burma, China, Cambodia, Laos and Vietnam and three subspecies and one varietal form have been recognised besides the nominate species. The nominate subspecies is found in Tamilnadu (Sa/a;, 1/4a; gjat. Mo;a, bir) and Marnataka; sub-species *abax* Sharp is known from Cambodia, var. *productus* has been recorded from Laos, Cambodia and Vietnam while subspecies *szechouarnicus* Balth. has been recorded from Szechuan and tibet in China.

The present subspecies *assamensis* Wat. is a hilly form and inhabits Eastern Himalaya to Burma. It has been earlier recorded from as far west as Dehradun and from Nagaland in the areas south of the Brahmaputra. The present record extends its range in the region of south of Brahmaputra as far west as to Garo hills.

In the state, specimens have been collected from Khasi hills; Shillong, Barapani and Mawphlong, Garo hills: Songsok and Balphakram (c 300 m).

Tribe Sisyphini

The tribe contains 4 genera of which only *Sisyphus* Latreills occurs in Indian region

Genus 2. *Sisyphus* Latreille, 1807

1807. *Sisyphus* Latreills, *Gen. Crust. et. Ins.*, 11 : 79.
 1931. *Sisyphus*, Arrow, *Fauna Brit. India, Lamell.* 3 : 67.
 1963. *Sisyphus*, Balthasar, *Mongr. scarab. Aphod. Palaearkt. orient.*, 1 : 233.

Type : *Scarabaeus schaefferi* Liinaeus, 1758

Morphological character : Body spider like, small, strongly convex and laterally compressed, dorsally convered with with short, erect and hooked setae.

Sexual dimorphism not well developed.

Remarks : This is one of the most distinctive genera of Scarabaeinae. Its rotund and posteriorly compressed body, spider like form with disproportionately long middle and hind legs, curious hooked setae make it easily separable from all other genera of scarabaeinae.

Distribution : The distribution of the genus is interesting Majority of the species being known from the Ethiopian region, some from Oriental and Palaearctic regions and two species have been recorded from the new World (Mexico). Of the 34 species (Balthasar, op, cit.) so far known in this genus, 9 are known from Oriental region and of these 9 species, 7 are found within Indian limit.

The genus *Sisyphus* s.l. been further subdivided into *Sisyphus* s.s. and *Nesosisyphus* Mull. All the 7 Indian species belong to *Sisyphus* s.s. and only two of these viz. *Sisyphus (S) neglectus* Gory and *S.(S) indicus* Hope, have been recorded from the state.

Key to the species of Genus *Sisyphus* Latreille

- 1(2) Hind femur abruptly dialated *S.(S) neglectus* Gory.
 2(1) Hind femur not abruptly dialated *S(S) indicus* Hope

2. *Sisyphus (S) indicus* Hope 1831.

1831. *Sisyphus indicus* Hope *Gray's zool. Misc.*, : 22.

1848. *Sisyphus kaschirensis* : Rodetenbacher, *Hugal's Kaschmir.*, 4 : 516.

1931. *Sisyphus indicus* : Arrow, *Fauna Brit. India, Lamell.*, 3:75.

1963. *Sisyphus (S. Str.) indicus* : Balthasar, *Monogr. Scarab. Aphod palaearkt. orient.* 1 : 243.

Morphological character : Body black, matt., strongly convex and oval. Dorsal surface hairyly.

Material examined : 7exs. 3 ♂♂; 4 ♀♀

Discussion : Arrow (1931) has shown its relationship with more abundant *S.(S) hirtus* Wied., whose distribution is more in South India. The male is easily distinguishable by the narrow process on the hind femora, which appears as inconspicuous projecting keel in the male of *S. hirtus*. the female, can be separated by a light median line on the pronotum, (absent in *S. hirtus*) and the three teeth of the front tibiae which are a little closer together.

Biology : Earlier records indicate that this species is found upto c 2,500 m., but during this present study it has never been collected above c 800 m. It is more rare than the other species and it is found mainly in the forests. It usually frequents dung of herbivorous animals.

Distribution : The species is widely distributed and has been recorded from India, Bangladesh, Nepal, West China, Hongkong and Ceylon. From India the species was known from Kashmir, Punjab, Himachal Pradesh, Sikkim, Nagaland, Meghalaya and Orissa in the state specimens have been collected from : Khasi hills, Nongpoh; Garo hills : Rongrengiri, Songsok.

3. *Sisyphus (S) neglectus* Gory, 1833.

1833. *Sisyphus neglectus* gory, *Mon. Sisyphus* : 14.

1927. *Sisyphus lacticus* : Arrow, *Ann. Meg. nat. Hist.*, (9), 19:463.

1931. *Sisyphus neglectus* : Arrow, *Fauna Brit. India, Lamell.*, 3:74.

1886. *Sisyphus denticrus* : Fairmaire. *Ann. Soc. Ent. Fr.*, (6), 7:320.

1963. *Sisyphus (S) neglectus* : Balthasar, *Mongr. Scarab. Aphod. palaearkt. orient.*, 1 : 242.

Morphological characters : Body black, with tarsi, first two pairs of tibiae and lateral margins of clypeus brownish black; lower surface little more shining.

Material examined : 62 exs. 28 ♂♂; 34 ♀♀

Remarks : The species could be distinguished by the abruptly detailed hind femora and specially the males by the backwardly directed sharp tooth at the middle of the posterior margin.

Biology : the population of this widely distributed species appear restricted to lower elevation, as it has never been collected from places located above c 800 m. It is rather common in Garo hills, a comparatively hot and dry part of the state. The first specimen was collected at about sea level in a rocky surface in goat-dung; further observation reveal that they may equally visit dung of herbivores as also human faeces; they have never been collected from dung of Carnivores.

These beetles are true ball rollers and several pairs have been observed in work. Always a pair work together and white one pushes and the other pulls the ball. They have also been collected from inside the dung.

Distribution : Considering *denticrus* as a synonym of *neglectus* at the distribution range of this species appears very wide viz. from South, Central and Northern Indian via Eastern Himalaya (Sikkim, Darjeeling etc.) to Burma and south west China. The present study would extend its limit to the western most part of the hills, south of Brahmaputra. Specimens have been collected from Garo hills: Wageasi, Nongtham, Songsok, rongrengiri, Anogiri and Balphakram.

Tribe Canthonini

This tribe has already been characterised in the key to the tribes of subfamily Scarabaeinae. It contains 56 genera with 563 species. Most of the genera and species are confined to the Neotropical region and only 4 genera with 18 species are found in the Oriental region. Of the genera found in Oriental region, *Pycnoperus* Arr. is monotypic and endemic to India; *Cassolus* Sharp, with exception of single species in Palaearctic region, is predominantly oriental in distribution; *Phacosoma* Bouc. is distributed in Oriental and Ethiopian region with majority of species being Ethiopian and *Panelus* Lewis is found in Palaearctic, Oriental, Ethiopian and Australian region.

Key to the genera of tribe Canthonini.

- 1(2) Elytra with 7 distinct striae. First segment of hind tarsus as long as or a little longer than the 2nd segment. Upper surface convex. Front margin of Clypeus provided with 4 teeth
 *Cassolus* Sharp
- 2(1) Elytra with 6 distinct striae. First segment of hind tarsus twice as long as the 2nd segment. Upper surface flattened. Front margin of clypeus provided with 2 teeth
 *Phacosoma* Boucomont

Genus 3. *Cassolus* Sharp 1875

1875. *Cassolus* Sharp, *Col. Hefte*, 13 : 40.

1931. *Cassolus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 360

1963. *Cassolus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 253.

Type : *Cassolus nudus* Sharp.

Discussion : *Cassolus* Sharp, is closely related to the New world genus *Canthon* Hffsg., from which it differs only in minor details like longer basal joint of the posterior tarsi (Arrow, 1931).

Biology : Very little is known regarding biology of the genus. It is very rare in this area and the only species so far collected was obtained from fungus, growing in the floor of the pine forest.

Distribution : The genus is predominantly Oriental in distribution and only a few species are found in chinese subregion of Palaearctic region. Of the 7 species so far known in the genus, only a single species has been collected from the area under study.

4. *Cassolus humeralis* Arrow 1907

1907. *Cassolus humeralis* Arrow, *Ann. Mag. Nat. Hist.*, **19** : 416.

1931. *Cassolus humeralis* Arrow, *Fauna Brit. India, Lamell.*, **3** : 361.

1963. *Cassolus humeralis*, Balthasar, *Monogr. Scarab. Aphod. Palaearkt. orient.*, **1** : 262.

Morphological characters : Body broadly oval, convex, black, smooth and shining, but pronotum coppery, base of each elytron with a round orange spot; legs, mount organs and antennae except antennal club red.

Material examined : 2 ♂ : 10, 1 ♀

Biology : This is a rare species and almost nothing was known regarding its biology. So far only pair has been collected in the month of July from fungus growing on floor of pine forest. They were in association with *Parachorius thomasoni* Harold, another fungus feeding species, and were found a few centimeteres below the ground at the base of the fungal stalk; soil was loose and soft and mixed with ash as the forest is regularly burnt during winter. The fungus from which these specimens were collected appeared fresh; most of the *parachorius* specimens were however, collected from decaying fungi.

Distribution : The species show a discontinous distribution and was know so far from South India Hills and mountains of Eastern India in Darjeeling district, Westr Bengal and Arunachal Pradesh (patkaihills).

The present specimens were collected from Shillong in Khasi Hills, Meghalaya and form the first record from the state.

Genus 4. *Phacosoma* Boucomont 1914

1914. *Phacosoma* Boucomont, *Ann. Soc. ent. Fr.* **83** : 249.

1931. *Phacosoma*, Arrow, *Fauna Brit. India, Lamell.*, **3** : 354.

1963. *Phacosoma* Balthasar, *Monogr. Scarab. Aphod. Palaearkt. orient.*, **1** : 269.

Type : *Phacosoma ditiscoides* Boucomont.

Morphological characters : Body broadly oval and rather depressed, covered with short hairs, sometimes smooth and shiny.

Remarks : The genus may be easily separated from others by depressed body, bidentate clypeus and 6 distinct elytral striae.

Biology : This genus is very rare in this state and almost nothing is known regarding the habits. The single species dealt herein was collected from dung of deer.

Distribution : The members of *Phacosoma* Bouc. are distributed in Oriental and Ethiopian region. So far 6 species are known from the Oriental region of which 3 are present in India region; the only species recorded from the state has been described as new to science.

5. *Phacosoma anggiriensis* Sp. Nov.

Female. Body oval, compact, not very convex, smooth and shining, black, with margin of clypeus, sides of pronotum and base of elytra laterally brownish and legs mouth organs and parts of lower surface reddish. Antennae black.

Head without any armature or transverse carinae; closely and uniformly but not very strongly punctured, except near base of apical teeth; front margin of clypeus deeply emerginate, forming not so widely separated sharp teeth. Lateral margin almost straight, ocular lobes, demarcated only by a faint line.

Pronotum conspicuously transverse, uniformly and closely but not very strongly punctured, front angles blunt, hind angles obtuse, base gently rounded, front angles blunt, hind angles obtuse, base gently rounded, lateral margin almost straight without any prominence in the middle; front angle deeply hollowed beneath. Elytra very feebly striate, striae very closely but finely punctured; elytral interval very feebly punctured. Front tibiae short, with three sharp external teeth; first two closer, base serrated. Front tarsi short, slender, apical spur small, scute, directed forward. Hind tibiae long, scarcely broadened at apices. Pygidium margined at base, short, moderately but strongly punctured, a little raised in the middle of the apical region.

Male. Unknown.

Length, 4.5 mm; breadth, 4.0 mm.

Discussion : The species comes nearest to the *Phacosoma lactum* Arrow 1931, but differs in punctures of head and pronotum and also in elytral striae.

Biology : The species appears very rare; single specimen was collected in association with *Copris* (*Paracopris*) *furiceps* Felsche, from deer dung in moist sandy soil near a hill stream. The place was cleared for Shifting cultivation and lay close to the thick forest.

Distribution : The species is known only from Anogiri, Garohills : Meghalaya.

Type : Holotype ♂ from Deer dung, Garo Hills : Anogiri, 23.xi. 1973, coll. S. Biswas. Deposited at present in the collection of Eastern Regional Station, Zoological Survey of India, Shillong.

Tribe Alloscelini

The tribe contains only 5 genera and 18 species. Of these 3 genera and 5 species are Ethiopian and two genera with 13 species are Oriental in distribution. Of the two Oriental Genera, *Haroldius* Bouc., contains 12 species while *Panerotroqus* Silvestri is monotypic and is endemic to India. Only one species belonging to *Haroldius* Bouc., has been recorded from this state.

Genus 5. *Haroldius* Boucomont 1914

1914. *Haroldius* Boucomont, *Ann. Soc. ent. Fr.*, 83 : 253.

1918. *Clyclostroqus* Wasmann, *Wien. Ent. Ztg.*, 36 : 2.

1931. *Haroldius*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 413.

1963. *Haroldius* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 246.

Type : *Haroldius fairmairei* Boucomont.

Biology : The members of this genus are known to be Myrmecophilous.

Discussion : Species of this genus may be easily distinguished by the almost hemispherical and shining body with rather smooth upper surface and small and broad legs.

Geographical distribution : The genus is oriental in distribution. Of the 12 species so far known in the genus, 6 have been recorded from India, and of these only one has been collected from the state.

6. *Haroldius stevensi* Arrow, 1931

1931. *Haroldius stevensi* Arrow, *Fauna Brit. India, Lamell.*, 3 : 416.

1954. *Haroldius stevensi* Pereira, *Psyche*, 61(1) : 3-8.

1963. *Haroldius stevensi* Balthasar, *Monogr. Scarab. Aphod. Palaearkt. orient.*, 1 : 251.

Morphological characters : Body broadly oval, highly convex pitchy and shining, with antennae, mouth organs, front of the head, femur, tibiae and tarsi reddish. Sometimes whole insect is reddish except pronotum and metasternal shield.

Length : 3.-3.5 mm.; **breadth** : 2.5-3.0 mm. No sexual dimorphism could be noted.

Material examined : 19 exs., 9 ♂♂; 10 ♀♀

Discussion : The species can easily be distinguished by its highly convex. hemispherical shining body. As the species was described from a singly specimen a detailed description based on more material is given above.

Biology : Members of the genus have been reported to be myrmecophilous but during the present study specimens have not been collected strictly from ants nest. In Shillong, specimens of *H. stevensi* have been collected among small grasses, (1 ex.), understones (2 exs.), from loose moist humous (6

exs.) and from loose moist soil excavated by ants and covered with rotten Gunny bags (8 exs.) and from the fungus bait (2 ex.). These beetles are never found in large numbers and only once 7 examples have been collected in two batches (3.4) in close proximity. These insects are very slow in their movement when disturbed do not take to wings but withdraw their legs and remain motionless for sometime. Efforts to rear these insects in the laboratory did not succeed. When kept in large petridishes with loose soft soil they quickly burrowed into the soil; but as they did not survive long in the laboratory, nothing could be ascertained regarding the food and feeding habits. As the members of the genus are reported to be myrmecophilous a serious effort was made to probe into the ant nests.

Hundreds of an nest have been searched in different ecological condition, such as in pine forests, in grass lands, in rocky mountain slopes and in moist humous soil but all the efforts practically yielded no result; however, a few ants were always present near the spot as also some other arthropods (Isopods and milipeds) and insects (silverfish and earwigs).

Distribution : The species was so far known from its type locality, Darjeeling district in Eastern himalayas. This forms the first record of the species from Meghalaya.

Type : In the British Museum. (Nat. Hist.) London.

Tribe Pinotini

Tribe Pinotini is somewhat intermediate between Canthonini, alloscelini and Coprini. Majority of the species are found in Neotropical region. Only 4 genera and 14 species are found in Oriental and Palaearctic region. Of these, two genera *Onychothecus* Bouc. and *Parachorius* Harold, with 4 species are oriental in distribution, Genus *Paraphytus* Harold, is also predominantly oriental and of the 5 species of genus *Delopleurus* Erichson, 3 are Oriental and 2 are Ethiopian in distribution. Earlier one species of *Paraphytus* was recorded from the region and according to Arrow (1931) Hooker's collection of *Parachorius* might have been made in Khasi Hills. However, during the present study, only two species of *Parachorius* including *hookeri* has been collected and no specimen of *Paraphytus* could be collected.

Key to the genera of of tribe Pinotini

- 1(2) First segment of hind tarsus longer than the 2nd segment and always longer than broad. Middle and hind tibiae gradually dilated from base to apex. Body very broadly oval and convex; legs short but not stout.....*Parachorius* Harold
- 2(1) First segment of hind tarsus not longer than 2nd segment and usually about as long as broad. Middle and hind tibiae strongly dilated from base to apex. Body elongate and not very convex; legs very short and stout*Paraphytus* Harold

Genus 6. *Parachorius* Harold, 1873

Type : *Parachorius thomsoni* Harold, 1873

Discussion : Arrow (op. cit.) as well as Balthasar (op. cit.) noted that these insects are very rare but during the present study it has been observed that not all species are rare but may be very seasonal and live in specialised ecological condition, which might have escaped the notice of earlier workers.

Biology : Very little was known about the biology of the members of this genus. During the present study it has been observed that these insects feed only in fungus and their occurrence coincides with the availability of the particular type of fungus, which generally grows on undergrowth of pine forest.

Distribution : the genus is Indo-malayan in distribution.

Key to the species of *Parachorius* Harold.

- 1(2) Elytral striae not distinctly punctured. Larger species (8.0-9.0 mm in length).....
 *P. thomsoni* Harold
- 2(1) Elytral striae distinctly punctured, smaller species (5.5-6.0 mm in length).....
 *P. hookeri* Arrow

7. *Parachorius hookeri* Arrow 1931

1931. *Parachorius hookeri*, Arrow, *Fauna Brit. India. Lamell.*, 3 : 259.

1963. *Parachorius hookeri*, Balthasar, *Monogr. Scarab. aphod. palaearkt. orient.*, 1 : 277.

Morphological characters : Body broadly oval and convex, black, smooth and shining with a feeble metallic lustre upon head and pronotum; antennae, mouth organs and legs red.

Length : 5.5-7.0 mm; breadth : 3.0-3.5 mm.

Remarks : The species may be separated from closely related *P. thomsoni* Har., by its smaller size and distinctly punctured elytral striae.

Biology : The specimens have been collected from fungi in floor of the *Pine* forest. The species is rare in this area and only three female specimens have so far been collected, in spite of efforts so collected more.

Distribution : Only single specimen was known so far and there is a confusion regarding its exact locality. The locality was noted as "North India" by Hooker, and as most of the collections of Hooker came from Sikkim, Arrow (op. cit.) give its locality as Sikkim, though some part of Hooker's collection examined by him also came from Khasi Hills.

The present study confirms its occurrence in Khasi Hills in Meghalaya. The material was collected from pine forest in Shillong Peak. (c. 2,000 m.).

Type in the British Museum (Nat. Hist.) London.

8. *Parachorius thomsoni* Harold, 1873.

1873. *Parachorius thomsoni* Harold, *Col. Hefte*, 11 : 103.

1931. *Parachorius thomsoni*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 358.

1963. *Parachorius thomsoni*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 276.

Morphological characters : Body black, smooth and shining, legs dark red, antennae and mouth organs yellow, broadly oval and rather convex.

Biology : Specimens are usually found either singly or in pair but sometimes 3-4 specimens have also been collected from the same place.

Distribution : The species was so far known from Eastern Himalayas (Darjeeling dist., West Bengal). North Vietnam and South China. This is the first time the species is being recorded from Meghalaya, collected from Shillong and Barapani, in Khasi Hills.

Type in Oberthur's collection at the Natural History Museum, Paris.

Tribe Coprini

The members of this tribe are conspicuous by their size and other morphological characters in the subfamily Scarabaeinae. A number of medium to very large species belong to this tribe, infact some of the species included here are largest of all Laparosticti group. Generally, head of male, also sometimes of the female are provided with horns, tubercles, or transverse carina. Pronotum is also provided with different types of outgrowths. Antennae, are always 9 segmented. One of the Chief Characteristic of the group is the presence of transverse or oblique carinae on the middle and hind tibiae. Sexual dimorphism is very strongly developed. The group is specially predominant in Ethiopian region.

Key to the genera of Tribe Coprini

- 1(2) Pronotum with two lateral carinae. Sexual dimorphism not well developed.....
..... Genus *Synapsis* Bates
- 2(1) Pronotum with one lateral carina. Sexual dimorphism usually very strongly developed 3.
- 3(6) Elytra with two lateral carinae.
- 4(5) First segment of antennal club entirely pubescent..... *Cathersius* Hops
- 5(4) First segment of antennal club shining not pubescent *Heliocopriss* Hope
- 6(3) Elytra with one lateral carina *Copriss* Geoffroy

Genus 7. *Synapsis* Bates, 1868.

1869. *Synapsis* Bates, *Col. Hefte*, 4 : 89.

1871. *Homalocopriss* Solsky, 1871. *Hor. Ent. Soc. Ross.*, 8 : 136.

1931. *Synapsis*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 80.

1963. *Synapsis*, Balthasar, *Monogr. Scarab. Aphod. Palaearkt. orient.*, 1 : 288.

Type : *Copriss brahminus* Hope. 1831.

Remarks : The members of this genus may be easily distinguished by the presence of two lateral carinae on pronotum. It is an interesting genus which seems to form a connecting link between the slender legged ball-rolling genera like *Scarabaeis* L., *Gymnopleurus* Illig. and broad legged genera e.g. *Copriss* Geoffroy and *Heliocopriss* Hope (Arrow op. cit.).

Biology : The members of this genus are very rare and only two specimens of a single species have been collected so far by the side of a hill stream near Umitynagar in Khasi Hills. These were seen to feed on cowdung and human faeces. Nothing is known about life history of this species from this area.

Distribution : The genus is predominantly Oriental. Only two species are endemic to Palaearctic region and a third species *S. tridens* Sharp, extends from Oriental to the Chinese subregion of Palaearctic region. Of the 11 species so far known in this genus, 2 species are found within Indian limit. They are largely restricted to the Eastern Himalaya and in hill ranges south of Brahmaputra (Manipur).

9. *Synapsis tridens* Sharp, 1881.

1881. *Synapsis tridens* Sharp, *C.R. Soc. ent. Belg.*, 25 : 92.

1931. *Synapsis tridens*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 81.

1963. *Synapsis tridens*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 294.

Morphological characters : Body oval, black and not very shining with a scanty clothing of reddish hairs upon legs and lower surface. Length : 31 mm; breadth 19 mm.

Material examined : 2 exs.; 2 ♀♀

Discussion : The species may be easily distinguished by the presence of two lateral carinae on pronotum. It is known to be confined to a very limited area in a specialised ecological condition and has never been found in large numbers.

Biology : The species is very rare and restricted in distribution. During the whole period of this study only two specimens could be collected. Both the specimens were collected at a particular place on the sides of hill stream; the first specimen was collected from cowdung placed on a large boulder, a few feet in height from ground and the second specimen was collected from the human faeces; which excavated an oblique tunnel in the sandy soil on the bank of a hill stream in association with *onthophaqus* (*Digitonthophagus*) *rubricollis* Hope.

Distribution : The species is known from India and Burma. In India the species was known from West Bengal and Manipur. This is the first time the species is recorded from the state and has been collected only from Khasi hills : Umtyngar.

Type in M. Rena Oberthur's Collection.

Genus 8 *Heliocopris* Hope, 1837

1837. *Heliocopris* Hope, *Col. Man.*, 1 : 23.

1931. *Haliocopris*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 84.

1963. *Heliocopris*, Balthasar, *Monogr. Scarab. Aphod. palearkt. Orient.*, 1 : 297.

Type : *Copris pirmal* Fabricius, 1798.

Remarks : The members of this genus are the largest of all the scarab beetles of this region, one of the chief distinctive character of this genus is found in the stridulatory ridges within the hind coxal cavities.

Biology : the species of the genus frequents the dung of large herbivorous animals e.g. buffaloes, cows and elephants. Generally these beetles are inhabitant of low altitude and are found at the foothills. Annandale (1900) and Ghosh have contributed short notes on the habits and breeding of *H. bucephalus* (F).

Distribution : The Centre of origin of the genus appears to be in Ethiopian region where more than 90% of the known 51 species are found. Only one species is found in Palaearctic region and 4 in Oriental region. Of these 4 species 2 are found within the area under study.

Key to the Species of *Heliocoprís* Hope

- 1(2) Clypeus not distinctly truncate in front, rounded at the sides; head in o bearing a single horn
.....*H. bucephalus* (F)
- 2(1) Clypeus truncate in front, angulate at the sides; head in o with two or four horns
.....*H. dominus* Bates

10. *Heliocoprís bucephalus* (Fabricius), 1775

1775. *Scarabæus bucephalus* Fabricius, *Syst. Ent.* : 24.

1931. *Heliocoprís bucephalus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 88.

1963. *Heliocoprís bucephalus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient*, 1 : 303.

Morphological characters : Body broad and rather quadrate in shape, black shining; elytra and lower surface usually deep red; legs and parts of lower surface covered with reddish hairs. Length : 39 mm; breadth 24-30 mm.

Material examined : 7 exs. 2 ♂♂; 5 ♀♀

Discussion : This is the largest species found in the state and may be easily distinguished by its robust size, shining elytra and opaque and rough pronotum.

Biology : This species remains confined to the plains and foot hills of this state. They frequent dungs of larger herbivorous animals and prefer soft muddy soil or open or cultivated fields. Males definitely squaks when handled but females have not been observed to produce any sound. These beetles have been reported to tunnel very deep into the soil but specimens have been collected within c 40 Cm. All the specimens collected here were solitary.

Distribution : The species is known from India, Burma, Siam, Malay peninsula and Java. In India the species was known from Maharashtra; Madhya Pradesh; Bihar; West Bengal; Assam. This is the first time the species is recorded from Meghalaya and all the specimens have been collected from Garohills; Damra, Charikuti and Bhisakuli Assam.

11. *Heliocoprís dominus* Bates 868

1968. *Heliocoprís domina* Bates, *Col. Hefte* 4 : 88.

1878. *Heliocoprís mounotus* Sharp, *Ent. Mon. Mag.* 15 : 155.

1931. *Helicoprís dominus*, Arrow, *Fauna Brit., India, Lamell.*, 3 : 90.

1963. *Heliocoprís bucephalus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 302.

Morphological characters : Body broad and somewhat quadrate in shape. Black; elytra and lower surface frequently deep red, legs and parts of lower surface clothed with rusty red hairs. Length : 50-56 mm; breadth 31-38 mm.

Material examined : 1 ex : 1 ♂

Discussion : The species was collected by Dr Kemp from Garo hills, in Meghalaya but in spite of more than 6 extensive tours to the area no specimen could be obtained.

Biology : Almost nothing is known except that the specimens were collected in Garo hills between c 400-500 metre altitude during the months of June-July.

Distribution : The species is known from Burma, Siam, Malay, Peninsula Bangladesh and India. In India the species is known from Manipur and Meghalaya.

Genus 9. *Cathersius* Hope, 1837.

1837. *Cathersius* Hope, *Col. man.*, 1 : 21.

1931. *Cathersius*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 92.

1963. *Cathersius*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 304.

Type : *Scarabaeus molossus* Linnaeus, 1758.

Remarks : The members of this genus can be separated from *Heliocoprís* Hope by their entirely pubescent antennal club and from *Coprís* Geoff. by a supplementary lateral carina in the place of an 8th stria upon each elytron and the additional transverse carina at the outer edges of the middle and hind tibiae. The genus has been divided into two subgenera, i.e. *Cathercius* s.s. and *Metacathercius* Paulian. All the species dealt here belong to the *Cathersius* s.s.

Biology : All the species are found in dung and majority have been recorded from the Cattle dung only. Most of the species are represented in the plains and foothills but a few are available at the higher altitudes.

Geographical distribution : Majority of the species are found in the Ethiopian region where 87.3% of the known 111 species are found. In oriental region 11 species are found; of these 11 species 5 have been recorded in the area under study.

Key to the species of *Cathersius* Hope.

- 1(6) Metasternal shield fringed.
- 2(3) Head with a small smooth area adjoining each eye *C. molossus* (L.)
- 3(2) Head without smooth area adjoining each eye.
- 4(5) Pronotum with lateral prominence on each side *C. granulatus* Sharp
- 5(4) Pronotum without lateral prominence on each side *C. saqax* (Quens.)
- 6(1) Metasternal shield not fringed.

- 7(8) Elytra entirely opaque, usually large in size..... *C. javanus* Lanab
 8(7) Elytra shining, usually smaller in size..... *C. pithecius* (F.)

12. *Cathersius (C) granulatus* Sharp, 1875.

1875. *Cathersius granulatus* Sharp, *Col. Hefte*. 13 : 41.

1931. *Cathersius granulatus*, Arrow, *Fauna Brit. India Lamell.*, 3 : 95.

1963. *Cathersius (S. Str.) granulatus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 309.

Morphological characters : This species closely resembles *C(C) molossus* (L.) Body black, opaque, partially clothed with reddish hair beneath. Head without smooth area adjoining each eye. Elytra opaque and regosely punctured. Metasternum a little more strongly punctured than *C(C) molossus* (L.). Length : 32 mm; breadth 18 mm.

Material examined : 1 ex. 1 ♂

Discussion : The species appears very rare in this area, and is restricted to lower altitude. It may have a specialised habit which has not yet been known properly.

Biology : A single specimens has been collected from cattle dung in a grassy ground of sandy soil at the foot hills of Garo hills, almost at sea level.

Distribution : The species is known from Ceylon, Pakistan and India. In India the species was no far known from Uttar Pradesh; Sikkim; Bihar. This is the first record of the species from this state and a single specimen has been collected from Charikuti, Garo hills.

13. *Cathersius (C) javanus* Lansberge, 1886.

1886. *Cathersius javanus* Lansberge, *Tijdschr. Ent.*, 29 : 7.

1931. *Cathersius javanus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 96.

1963. *Cathersius (S. Str.) javanus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, i : 310.

Morphological characters : Body broadly oval and convex, black, shining beneath, entirely opaque above excepting anterior part of pronotum in male; antennae, mouth organs and scanty clothing of hair beneath, reddish. Length 16-22 mm; breadth 9-13.

Length : 16-22 mm; breadth: 9-13 mm.

Material examined : 16 exs : 7 ♂ ♂; 9 ♀ ♀

Remarks : This species may be distinguished from *C. (C) molossus* (L.), *C. (C) granulatus* Sharp and *C. (C) sagax* (Quens) by the absence of frings of hairs at metasternal shield and from *C. (C) pithecius* (F.) by average larger size and opaque alytra.

Biology : This is predominantly a species of the plain, common in the sandy grasslands near banks of larger rivers. Most of the specimens have been collected from the dung of wild buffalo and domestic cattle. They dig almost vertical tunnel in the soft dry sand. Only a single specimen has been collected from above c 1000 m. altitude. It may be presumed that this is the predominant species in some localities in the plains and has been gradually replaced by more common *C. (C) molossus* (L.) in the hills.

Distribution : The species is known from Malay peninsula, West China, Java and India. In India the species was known only from Sibsagar district in Assam. This is the first time the species is recorded from Garo hills in Meghalaya.

14. *Cathersius* (*C*) *molossus* (Linnaeus), 1758.

1758. *Scarabaeus molossus* Linnaeus, *Syst. Nat. ed.* 10 : 1347.

1931. *Cathersius molossus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 94. 1963. *Cathersius* (*S. Str.*) *molossus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 307.

Morphological characters : Body broadly oval and very convex, black, may be brownish when freshly emerged, opaque and partially clothed with reddish hair beneath. Length : 24-40 mm; breadth : 14-23 mm.

Material examined : 145 exs : 71 ♂♂, 74 ♀♀

Remarks : The species may be separated from the closely related *C.(C) granulatus* Sharp and *C. (C) sagax* Quens by the presence of a small smooth shining area adjoining each eye. Besides being morphologically different, the species differ in their habits; the former is equally common in both hills and plains and are found both in human faeces and dung of herbivorous animals but other two species are confined to plains or lower altitude and are found only in the dung of herbivorous animals.

Biology : This is one of the commonest of large scarab species in Shillong and its adjoining areas and found almost throughout the year; though somewhat lesser in number in winter. The species is equally at home in plains as well as in higher hills, however the specimen from plains in general are larger in size. This is the only species of *Cathersius* in this region which have been collected almost in equal numbers from human faeces as well as from dung of larger herbivorous animals. They prefer sandy or muddy soil and excavate long almost vertical tunnel; usually this insect is found singly or in group of 2 to 3 but rarely as many as 9 specimens have been collected from a single spot. This is the dominant species of the genus in Meghalaya; other two related species i.e. *C.(C) granulatus* Sharp and *C. (C) sagax* Quens are confined to plains or foothills.

Distribution : The species has been recorded from Ceylon, India and Bangladesh. In India the species is known from Andaman Island; Kerala, Karnataka; Maharashtra; Uttar Pradesh; Himachal Pradesh and Meghalaya. The present collection have been made from Khasi, Garo and Jaintia hills areas of the state and from several localities viz. Shillong, Barapani, Umisning, Umran, Mawphlong, Umtyngar, Pynursia, Songsok, Anogiri, Rongrengiri, Tura, Domra, Jowai and garampani.

15. *Cathersius* (*C*) *pithecius* (Fabricius), 1775.

1775. *Scarabaeus pithecius* Fabricius, *Syst. Ent.*, : 21.

1781. *Scarabaeus sabaeus* Fabricius, *Spec. Ins.*, 1 : 23.

1792. *Scarabaeus nanus* Fabricius, *Ent. Syst.*, 1 : 42.

1842. *Copris sinensis* Hope, *Proc. R. ent. Soc. Lond.*, 60.

1858. *Copris cribricollis* Walker, *Ann Mag. nat. Hist.*, 2 : 208.

1931. *Cathersius pithecius*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 100.

1963. *Cathersius* (*S. Str.*) *pithecius*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 30.

Morphological characters : Body convex, black and shining; antennae, mouth organs, hairy clothing of legs and ventral surface, reddish. Length 15-23 mm; breadth 10-13 mm.

Material examined : 33 exs : 13 ♂♂; 20 ♀♀

Remarks : This species may be easily recognised by its short compact form and shining elytra. Arrow (Op. cit.) had observed that this is a very abundant species throughout the greater part of India but in this state, it appears to be very rare.

Biology : This species has been recorded from c 1000 m. altitude in south India but in north eastern India the species inhabits in almost plain areas. It is found in open country or scrubjungles. The beetles have been collected only from cowdung. In Meghalaya the species is rare; only a single specimen has been collected from Cowdung in Garo Hills in a grassland situated almost at sea level. However in Tripura the species seems to be common and most of the specimens of *Cathersius* collected there, belong to this species.

Distribution : The species was known from Ceylong and India. In India the species was recorded from Karnatak; Tamil Nadu; Madhya Pradesh; Uttar Pradesh and Bihar. This is the first time the species is being recorded from N.E. India, from Meghalaya and Tripura.

16. *Cathersius (C) sagax* (Quenstedt), 1806.

1806. *Copris sagax* Quenstedt, *Schonh. Syn. Ins.*, 1 : 43.

1931. *Cathersius sagax*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 96.

1963. *Cathersius (S. Str.) sagax*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 39.

Morphological character : Body black, opaque, a little less so that in *C.(C) molossus* (L.) partially clothed with reddish hair beneath. Head without a smooth area adjoining each eye. Elytra a little less opaque than in *molossus* (L.) and rugosely punctured. Otherwise similar to *C.(C) molossus* (L.). Length : 32-33 mm; breadth : 18-19 mm.

Material examined : 26 exs : 11 ♂♂; 15 ♀♀

Remarks : This species, closely resembles *C. (C) molossus* (L.) may easily be distinguished by more anteriorly placed and forwardly directed cephalic horn and almost straight sharp carina on the upper margin of the declivity in the male and by the absence of smooth areas adjoining each eye in the female.

Biology : The species is more restricted in distribution and are found in the foot hills. Specimens have been collected from the grassland, uncultivated field in sandy or muddy soil, only from the cattle dung. It has never been collected above c 1800 m. altitude but other records indicate that the species may occur in much higher altitude (c 2000 m.) in South India.

Distribution : The species is known from Pakistan, Bhutan and India. In India, the species was known from Kerala, Tamilnadu, Maharashtra, Madhya Pradesh, Bihar and West Bengal. This is the first time the species has been recorded from Meghalaya and Tripura. In Meghalaya the species has been collected only from Garo hills district.

Genus 10. *Copris* Geoffroy, 1762.

1762. *Copris* Geoffroy, *Ins. des. Env. de Paris*, 1 : 87.

1931. *Copris*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 102.

1963. *Copris*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 317.

Type Species : *Scarabaeus tunaris* Linnaeus, 1758.

Morphological characters : Body compact, convex or a little depressed, without hairy clothing above; black or blackish brown, sometimes, chocolate brown.

Remarks : The genus *Copris* Geoffr. may be distinguished from *Heliocopris* Hope and *Cathersius* Hope by the single lateral carina on elytra, and from *Synapsis* Bates by a single lateral carina on pronotum. The genus contains the largest number of species of the tribe. Ethiopian in origin, the genus has its secondary centre of development in south and south east Asia. Of the total of 193 species (Balthasar op. cit.) 51 are known from oriental region and of this 51 species, 26 (Arrow 1931) species were so far known from India. Twelve species have been recorded from the state of which 2 have been described as new to Science.

Biology : The species of this genus are found both in hills and in plains but none of the species occur in large numbers. Except *Copris (C) corpulentus* Gillet, *Copris (Microcopris) vitalisi* Gillet and *Copris (Paracopris) anogiriensis* Sp. nov. all other species have been collected from cattle dung only.

Distribution : The genus is found both in New and old world but has not been recorded from Australia.

Key to the subgenera of genus *Copris* Geoffroy

- 1(2) Medium to large species, only rarely small; black, usually shining, strongly convex, front angle of pronotum not hollowed beneath. Elytral interval very rarely strongly and closely punctured, smooth. Sexual dimorphism strongly developed, head, specially the pronotum with various armature..... *Copris s.s.*
- 2(1) Small to very small species occasionally of medium size, opaque or feebly shining, if strongly shining and convex, front angle hollowed beneath and delimited behind by strongly and closely punctured, covered at sides and apex with short hairs. Sexual dimorphism not well developed, head, specially the pronotum simple.
- 3(4) Slightly convex to rather flat species, black, greyish or chocolate brown, opaque or little shining. Elytral intervals strongly punctured, very rarely, punctured weak; apex and sides of elytra covered with short setae. Front angle of pronotum not hollowed beneath *Paracopris* Balth.
- 4(3) Strongly convex species, black and shining. Elytra intervals weakly and sparsely punctured; apex and sides of elytra without any setae. Front angle of pronotum hollowed beneath..... *Microcopris* Balth.

Key to the species of *Copris* s.s.

- 1(2) Pronotum closely and uniformly punctured *Copris fricator* (F.)
- 2(1) Pronotum neither closely nor uniformly punctured.
- 3(8) Clypeus closely punctured.
- 4(7) Pygidium strongly punctured.

- 5(6) Front angle of pronotum distinct; terminal spur of front tibiae rectangularly bent.....
 *Copris sharpedon* Harold
- 6(5) Front angle of pronotum not distinct; terminal spur of front tibiae not rectangularly bent
 *Copris carinicus* Gillet
- 7(4) Pygidium not strongly punctured*Copris sinicus* Hope
- 8(3) Clypeus smooth.
- 9(10) Small (13-17 mm.) elytra deeply striate*Copris spinator* Harold
- 10(9) Sarge (20-23.5 mm.) elytra lightly striate*Copris Corpulentus* Gillet

17. *Copris (C) carinicus* Gillet, 1910

1910. *Copris Carinicus* Gillet, *Notes Leyden Mus.*, 32 : 8.

1931. *Copris carinicus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 109.

1963. *Copris carinicus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 346.

Material examined : 4 exs. 2 ♂♂; 2 ♀♀

Remarks : The species comes close to *C. (C) sharpedon* Harold but may be separated from *C. sharpedon* by the shape of apical spur in the front tibiae and indistinct front angle of pronotum.

Biology : The species has been found from foot hills to highest peak in the state. Specimens have been collected from cattle-dung in muddy soil in the valley or flat ground.

Distribution : The species is known from Meghalaya, Manipur and Burma. In the State, it has been collected from Khasi Hills : (Shillong) and Garo hills; Songsok, Anogiri, Damra.

Type in Dr. Gillet's collection; Co-type in the Genoa Museum.

18. *Copris (C) corpulentus* Gillet, 1910

1910. *Copris corpulentus* Gillet, *Notes Leyden Mus* 32 : 13.

1931. *Copris corpulatus*, Arrow, *Fauna Birt. India, Lamell.*, 3 : 118.

1963. *Copris corpulentus*, Balthasar, *Monogr. Scarab. Aphod., palaearkt. orient.*, 1 : 363.

Material examined : 27 exs. 15 ♂♂; 12 ♀♀

Remarks : The species may easily be distinguished by its large size, smooth head and shining black colour.

Biology : This is the largest species of *Copris* so far known from this state. It is found from the foot hills to the highest peak of the state. Specimens are found in paddy field, hill slope and valley in muddy soil, both in cattle dung & human faeces but has not been collected from dung of smaller carnivorous animals.

Distribution : The species was so far known from Patkai Hills in Tirap district of Arunahal Pradesh in India and Burma. This is the first record of the species from the state and specimens have been collected from Khai hills (Shillong) Garo hills (Rongrani, Songsok, Wageasi).

Type is in Genoa Museum.

19. *Copris (C) fricator* (Fabricius), 1787.

1787. *Scarabaeus fricator* Fabricius, *Mant. Ins.*, 1 : 15.

1931. *Copris indicus* Arrow, *Fauna Birt. India., Lamell.*, 3 : 106.

1931. *Copris fricator*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 340.

Material examined : 25 exs., 12 ♂♂; 13 ♀♀

Remarks : This is the only species of *Copris* s.s. which is having pronotum closely and strongly punctured, in the area under study. The specimens under study have been confirmed by Dr. R. Paulian.

Biology : This species is usually found in the valley between forested hills at higher altitude but a pair has been collected near Garampani at lower altitude (c 800 m.). These beetles are common in dung of herbivorous animals but a single specimen has been collected from human faeces.

Distribution : The species was known from Ceylong and South India. This is the first record of the species from Meghalaya. Specimens have been collected both from Khasi and Jaintia Hills district.

Type : Type of *C. fricator* is unknown, that of *indicus* is in Dr. Gillet's collection.

20. *Copris (C) sharpedon* Harold, 1868.

1868. *Copris sharpedon* Harold, *Col. Hefte*, 4 : 104.

1848. *Copris sexdentatus*, Redtenbacher, *Hiigel's Kaschmir*, 4 : 520.

1875. *Copris sompilius*, Waterhouse, *Trans. ent. Soc. Lond.*, 75.

1931. *Copris sharpedon*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 110.

1963. *Copris (S. Str.) sharpedon*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 253.

Material examined : 7 exs. 3 ♂♂; 4 ♀♀

Remarks : Separation of females and small males of this species from those of *C. (C) carinicus* Gillet is not easily but combination of two characters viz. (i) rectangularly bent apical spur in front tibia and (ii) almost hairless sides of metasternum, help to distinguish this species from *C. (C) carinicus*.

Biology : The species is found both at foot hills and at higher altitudes in the state. They have been collected from Cattle dung only, they frequent in muddy as well as rocky soil in hill slope or in the valley.

Distribution : The species was recorded from India, Bangladesh, Nepal and Thailand. In India the species is known from Kashmir, Punjab, Uttar Pradesh, Himachal Pradesh and Maghalaya. From Meghalaya the species has been collected from Khasi hills : Shillong, Barapani and Umtyngar.

Type of *C. sharpedon* is in Vienna Museum; that of *pompilius* is in the British Museum (Nat. Hist.) London.

21. *Copris (C) sinicus* Hope, 1842.1842. *Copris sinicus* Hope, *Proc. ent. Soc. Lond.*, 601931. *Copris sinicus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 115.1963. *Copris (S. Str.) sinicus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 342.*Material examined* : 6 exs. 2 ♂♂; 4 ♀♀*Remarks* : This species may be distinguished in having closely punctured clypeus but feebly punctured pygidium.*Biology* : The species is comparatively rare and is normally found in the lower altitude. The species is more common in human faeces than in the dung of herbivorous animal and they prefer forested slopes.*Distribution* : The species is known from India, Burma, Java, Siam, Tonkin and South east China. From India the species was so far known only from Madhya Pradesh & in Paninsular India.

This is first record of the species from the state and from north east India. Collections were made from Khasi Hills (Umtyngar) and Garo Hills (Anogiri, Rongran and Balphakram) of Maghalaya.

Type is in the British Museum (Nat. Hist.) London.

22. *Copris (C) spinator* Harold, 1881.1881. *Copris spinator* Harold, *Mitt. Munch. Ent. Ver.*, 5 : 89.1931. *Copris spinator*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 113.1963. *Copris (S. Str.) spinator*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 292.*Material examined* : 1 ex. 1 ♂.*Remarks* : The species resembles *Copris (C) corpulentus* Gillet by its general facies and smooth head but deeply striate elytra, more numerous punctures in the ocular lobe and some punctures in the anterior and of metasternal shield would easily separate it from the latter.*Biology* : The species is very rare in this area and only single male has been collected from Rongram in Garo Hills. The specimen collected from valley in sandy soil from cow dung.*Distribution* : The species was known so far from Malay Peninsular, Borneo and Nicobar Island. This is the first time the species is being recorded from Indian Mainland.

Type is in M. Rene Oberthur's collection.

Key to the species of Subgenus *Paracopris* Balthasar.

1(6) Pronotum without median groove or line.

2(3) Elytral intervals not very closely punctured *C. (P) pauliani* Sp. nov.

3(2) Elytral intervals closely punctured.

4(5) Clypeal margin in the middle (in male) neither toothed nor with horn, very feebly excised....
..... *C. (P) anogiriensis* Sp. nov.

- 5(4) Clypeal margin in the middle (in male) toothed, or with horn or with both, feebly or deeply excised *C. (Paracopris) furciceps* Felsche
- 6(1) Pronotum with median groove or line
- 7(8) Elytral intervals only punctured behind *C.(P) compressipennis* Gillet
- 8(7) Elytral intervals uniformly punctured..... *C. (P) punctulatus* Wiedeman

23. *Copris (P) anogiriensis* Sp. nov.

Male : Body elongated, oval, not very convex; opavex; opaque, uniformly dull, blackish above and beneath; mouth organs, antennae and scanty hairs beneath, reddish.

Head with clypeus very feebly excised in the middle, uniformly rounded at sides; smooth and shining in front and strongly punctured behind; clypeo-ocular carina represented by a groove, forehead with a prominent conical prominence, vertex depressed, ocular lobes strongly punctured. Pronotum very strongly and closely punctured, front angles blunt, hind angles obsolete, lateral margin feebly rounded, front margin a little produced in the middle. Elytra feebly striate, striae covered with small rounded punctures, intervals closely punctured. Metasternal shield strongly but sparsely punctured in the middle, more strongly and closely at sides, with no smooth median line. Front tibiae with 4 external teeth, apical spur blunt and bent downwards. All coxae uniformly and closely punctured, fore-coxae, being more strongly so. Pygidium uniformly but not very strongly punctured.

Female agrees with description of males except in the following characters : Clypeal margin strongly excised in the middle forming a strong tooth on each side (ii) external teeth of front tibiae stronger (iii) apical spur of front tibiae acute.

Length : 10-12 mm; breadth : 5.5-6 mm.

Material examined : 11 exs. 6 ♂♂; 5 ♀♀

Discussion : The species agrees with *C. (P) pauliani* sp.nov. and *Copris (P) furciceps* Felsche in having dull colour, somewhat depressed body and pronotum without median groove or line, may be separated from the former by the absence of cephalic armature in male and strongly punctured elytral interval, and from the latter by the uniformly punctured metasternal shield and by the absence of cephalic horn in male.

Biology : The species is confined to the forested areas of the lower hills of the state. Specimens have been collected only from deer dung.

Distribution : The species is known only from Garo hills district of Meghalaya.

Types : Holotype ♂ (Regd. No. A1/4434) from deer dung, Garo hills: Anogiri, 7.xi.1973, coll. S. Biswas; paratypes 4 ♂♂, 5 ♂♂ (Regd. No. A/4435) data same as for holotype: Paratype, 1 ♂, (Regd. No. A1/4436) from deer dung, Garo hills : Balphakram. 23.iii.1976 coll. S. Biswas. Deposited at present in the collection of Eastern Regional Station, Zoological Survey of India, Shillong.

24. *Copris (P) compressipennis* Gillet, 1910.

1910. *Copris compressipennis* Gillet, *Notes Leyden. Mus.*, 32 : 14.

1931. *Copris compressipennis*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 123.

1963. *Copris (P) compressipennis*, Balthasar, *Monogr. Scarab Aphod. palaearkt. orient.*, 1 : 369.

Material examined : 12 exs. 6 ♂♂; 5 ♀♀

Remarks : The species can be separated by its black shining upper surface, characteristic horns in the male and the strongly punctured elytral interval towards the apical half, along the lateral margins, however, the punctures extend to the basal half.

Biology : The species is not common in the state.

Distribution : The species is restricted in hilly region of North Eastern India and was known only from Manipur and Darjeeling in West Bengal. The present record of this species from Khasi hills extends its range to a considerable extent on the western side in the south of Brahmaputra.

Type is in Dr. J. J. Gillet's collection.

25. *Copris furciceps* Felsche, 1910

1910. *Copris furciceps* Felsche, *Dt. ent.*, : 348.

1931. *Copris furciceps*, Arrow, 1931. *Fauna Brit. India, Lamell.*, 3 : 130.

1963. *Copris (Paracopris) furciceps*, Balthasar, *monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 372.

Material examined : 4 exs. 2 ♂♂; 2 ♀♀

Remarks : This species can be easily distinguished by its dull colour, small size and strongly punctured upper surface being covered with very minute pale setae.

Biology : This species appears rare and has not been recorded from higher altitude. It has been collected from deer dung in a valley near a cultivated field in soft moist soil.

Distribution : The species is known from Burma and India. In India, the species has been known from Meghalaya and Arunachal Pradesh.

Type is in the Genoa Museum.

26. *Copris (Paracopris) pauliani* Sp. nov.

Male. Body elongated, oval, moderately convex, opaque, uniformly dullblackish above and beneath; antennae, mouth organs and scanty ventral hairs reddish.

Head with clypeus broadly excised in the middle; a vertical *lamina* originates from the middle of the anterior margin of clypeus, carina giving rise to a back-wardly directed horn behind. Clypeus smooth in front, strongly punctured behind; clypeo-ocular carina strong, ocular lobe strongly punctured. Fore head with a prominent conical protuberance. Vertex strongly depressed.

Pronotum closely covered with setigerous punctures. Front angle blunt, hind angle obtuse, lateral margin uniformly rounded, anterior margin prominent in the middle. Elytra broadly but shallowly

striate, striae covered with large annular punctures, intervals feebly and not closely punctured. Metasternal shield uniformly but not very strongly punctured throughout except in the middle, sides of metasternum strongly but not very closely punctured. Front tibiae with a 4 external teeth, apical spur blunt and bent downward. All coxae closely punctured, punctures on front coxae stronger. Pygidium strongly but not very closely punctured.

Female. agrees with the description of male except in the following characters : (I) clypeus more strongly excised in the middle and with an acute teeth on each side (ii) forehead without vertical projection and horn in the middle (iii) forehead with a small transverse carina (iv) apical spur of front tibiae acute and (v) external teeth more strong and close to each other.

Length : 12-13 mm; breadth 6.5-7.0 mm.

Material examined : 10 exs. 6 ♂♂, 4 ♀♀

Discussion : The species is close to *C. (P) furciceps* Felsche but may be separated from it by the difference in punctures of elytral intervals and metasternal shield and the characteristic cephalic armature in male.

Biology : The species is confined to the forests or cleared area near the forests below c 1000 m. altitude. Specimens have been collected from dungs of herbivorous animals (Cattle and deer) as well as from human faeces.

Distribution : The species has been recorded from Meghalaya (Garo hills) : Assam (North Cachar hills) and Tripura (Durgabari).

Types : Holoty ♂ (Regd. No. A1/4437) from Cowdung, Garo hills : Demagiri, 10.xi. 1973 coll. S. Biswas; Paratype 1 ♀ (Regd. No. A1/4438) as for holotype; Paratypes. 3 ♂♂ 1 ♀ (Regd. No. A1/4439) from deer dung, Garo hills : Balphakram, 23.iii.1976. coll. S. Biswas, 1 ♂, from deer dung, Anogiri, 7.xi.1973. coll. S. Biswas.

27. *Copris (P) punctulatus* Wiedeman, 1823.

1823. *Copris punctulatus* Wiedemann, *Zool. Mag.*, 2(1) : 11.

1931. *Copris punctulatus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 126.

1963. *Copris (Paracoris) punctulatus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 370.

Material examined : 47 exs. 19 ♂♂; 28 ♀♀

Remarks : The species can be easily separated from all other species under the subgenus by its dull light colour, and in having characteristic cephalic *processi*, setae at the posterior end and the sudden sloping of elytra at the end.

Biology : The species appears to be restricted in the foot hills and lower elevations in the state and it has not been collected above c 6000 m. This species is found in Cattle dung in soft and sometimes almost wet field.

Distribution : The species is known from India, Burma, Indo- China, Malay peninsula, Java and *celebes*. In India, the species was known from Arunachal Pradesh. This is the first time the species is being recorded from Meghalaya in Garo hills : Damra, Anogiri, Bhodhari and Assam.

Type is in the Hamburg Museum.

28. *Copris (Microcopris) vittalisi* Gillet, 1921

1921. *Copris vittalisi* Gillet, *Ann. soc. Sci. Brux*, 41 : 124.

1931. *Copris doriae* Arrow, *Fauna Brit. India., Lamell.*, 3 : 119.

1963. *Copris (Microcopris) vittalisi*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 1 : 378.

Material examined : 14 exs. 8 ♂♂; 6 ♀♀

Remarks : The species may be easily distinguished by its small size, black shining colour, absence of declivity in anterior margin of pronotum and nature of from angle of pronotum.

Biology : The species is found in the higher elevation in the state specially near Shillong. They inhabit floor of pine or broad leaved forest and are mainly found in human faeces though some have been collected from cattle dung. Once, this were found in association with *G. (P) ginuatus* and *G. manipurensis* Arr.

Distribution : The species is known from India, Burma, Indo- China, Malay Peninsula, Sumatra and Borneo. In India the species was known only from Manipur and Arunachal Pradesh. This is the first time the species is known from Meghalaya and specimens have been collected from Shillong, Umran and Barapani in Khasi Hills.

Type : Type of *C. vittalisi* is in Dr. J.J. Gillet's collection; that of *doriae* is in Gence Museum.

Tribe Onitini

Members of this tribe are provided with two somewhat broader sub- parallel basal impressions in the pronotum. They are generally medium, rarely large and only in exceptional cases small; with upper surface matt or half matt and rarely shining. Head and pronotum do not exhibit and outgrowths; but legs specially in males exhibit different modifications. Members of this tribe are inhabitants of old world and are found in Oriental. Palearctic and Ethiopian regions of the two genera, i.e. *Chironitis* Lansberge and *Onitis* Fabricius found in the Oriental region, only *Onitis* F. is found within the state.

Genus 11. *Onitis* Fabricius, 1798.

1798. *Onitis* Fabricius, *Suppl. ent. Syst.*, : 2.

1931. *Onitis*, Arrow, *Fauna Brit, India Lamell.*, 3 : 386.

1963. *Onitis*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 26.

Type : *Scarabaeus inous* Fabricius, (= *sphinx* Fabricius)

Morphological characters : Body rather oblong, usually medium to large species, black or blackish brown or yellowish brown in colour, often with metallic tinge.

Remarks : The genus *Onitis* Fabricius may easily be recognised by the absence of front tarsi, combined with short, dilating, posterior tibiae, the basal impressions of the pronotum, visible scutellum, and the strong single lateral carina on the elytra.

Biology : Species of this genus are found both in plains and in the hills and are confined to the dungs of herbivorous animals.

Distribution : The genus is represented in the old world and found in Ethiopian, Palearctic and Oriental region. A total of 21 species are known from the Oriental region and of these, 7 species have been recorded in the area under study.

Key to the species of *Onitis* Fabricius

- 1(10) Pygidium smooth, without hair.
 2(5) Pronotum very feebly punctured, body narrow.
 3(4) Metasternum transversely excavated in the middle.....*o. excavatus* Arrow
 4(3) Metasternum not transversely excavated in the middle.....*o. falcatus* (Wulf.)
 5(2) Pronotum strongly punctured, body rather broad.
 6(7) Metasternum longitudinally grooved in front; pronotum without a small median line in o, front femur not*o. philemon* F.
 7(6) Metasternum not longitudinally grooved in front.
 8(9) Clypeofrontal carina broadly interrupted, terminal external tooth of the front tibia in o projecting in*o. subopacus* Arrow
 9(8) Clypeofrontal carina narrowly interrupted, terminal external tooth of the front tibia in o. tapering in front.....*o. virens* Lansb.
 10(1) Pygidium hairy.
 11(12) Clypeus pointed, head not tuberculate *o. feae* Felsche
 12(11) Clypeus truncate, head tuberculate.....*o. castaneus* Redt.

29. *Onitis castaneus* Redtenbacher, 1848.

1848. *Onitis castaneus* Redtenbacher, *Hugel's kaschmir*. 4 : 517.

1931. *Onitis castaneus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 398.

1963. *Onitis castaneus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 46.

Morphological characters : Body short, compact, convex and moderately shining; deep chestnut red, with the lower surface, pygidium and legs clothed with erect yellow hair. Length : 16-19 mm; breadth 9.5-12 mm.

Material examined : 14 exs. 8 ♂♂, 6 ♀♀

Remarks : The present species resembles *o. feae* Felsche in the hairy pygidium but differs from it in having tuberculate head and truncated clypeus.

Biology : This species occurs predominantly in the adjoining foot hills. It prefers sandy banks of larger rivers at foot hills and large tributaries of river Brahmaputra. It is also found in the grassland near the river and like all other species of *Onitis*, it appears confined to the dungs of herbivorous animals, specially those of buffaloes, both wild and domesticated.

Distribution : The species was earlier recorded from India and Pakistan. In India, it has been known mainly from Indo-gangatic plain (Uttar Pradesh and Bihar) and parts of Brahmaputra valley (Assam).

The species is being recorded for the first time from Meghalaya (Garo hills dist.) and Arunachal Pradesh (Siang dist.). These collection localities lie in the plains of the Brahmaputra valley.

Type : Type is in the Vienna Museum.

30. *Onitis excavatus* Arrow, 1931.

1931. *Onitis excavatus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 391.

1963. *Onitis excavatus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 37.

Morphological characters : Body narrowly oval, moderately convex, black and shining, elytra and pygidium subopaque; antennae, mouth organs, hairy clothing of lower surface and legs reddish. Length : 25 mm; breadth : 13 mm.

Material examined : 2 exs. 2 ♂ ♂

Remarks : The species can be separated from all other species of the genus by the feebly punctured pronotum and by the presence of transverse excavation in the middle of metasternum.

Biology : Specimens have been collected from cowdung in the sandy bank of Umtyngar river, c 24 m. south west of Shillong. This species appears to be very rare and specimens have been collected only from a particular locality. It is interesting to note that another equally rare species of this area, *Synapsis tridens* Sharp has been collected from a nearby locality. *Onitis excavatus* Arrow is found along with other species of *Liatongus* and *Onthophagus*.

Distribution : the species was known from Tennasserim, China and Assam in India. The present material represent the first record from the state.

Type : Type is in the British Museum (Nat. Hist.) London.

31. *Onitis falcatus* (Wulfen), 1786.

1786. *Scarabaeus falcatus* Wulfen, *Descr. Cap. Ins.*, : 14 Pl. 2 fig. 17.

1848. *Onitis himalayeyicus* Redtenbacher, *Angel;s kaschmir*, 4(2) : 518.

1931. *Onitis falcatus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 392.

1963. *Onitis falcatus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 33.

Material examined : 26 exs. 17 ♂ ♂ 9 ♀ ♀

Remarks : This species with narrowly oval body and feebly punctured pronotum resembles *Onitis excavatus* Arrow, but may be easily separated from the latter by the absence of transverse excavation in the middle of the metasternum besides being smaller in size.

Biology : This species is primarily forest dwelling but sometimes may be found in the open cultivated field or grassland near the forest. This is the second common species of the genus in this area after *Onitis subopacus* Arrow and sometimes may occur together with *subopacus* in the foot hills or in plain areas; although the species is found from the plains to the highest mountains of the area, it is definitely more common in the hills. Like all other species of the genus, it is entirely found in the dung of the herbivorous animals, primarily of cows and buffalos. It is equally common in the fresh and old dung but very rarely found in the accumulated dung, which is a favourite spot for *Onitis subopacus* Arrow.

Distribution : The species is widely distributed and has been recorded from India, Bangladesh, Burmam, Malay Peninsula, Philippines and South China. In India the species is known from Uttar Pradesh, Darjeeling dist. in West Bengal, Bihar, Karnatak, Tamil Nadu, Kerala.

This is the first record of the species from Meghalaya and N.E. India and in Meghalaya, it has been collected from Shillong, Umsning, Umtham, Umran, Umtyngar in Khasi Hills and from Rongram, Rongjeng and Wageasi from Garo hills.

Type : Type of *O. falcatus* is unknown; that of *himalayicus* is in the Vienna Museum.

32. *Onitis feae* Felsche, 1907.

1907. *Onitis feae* Felsche, *Deutsche Ent. Zeits* : 293.

1931. *Onitis feae*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 397.

1963. *Onitis feae*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 46.

Material examined : 12 exs. 8 ♂♂, 4 ♀♀

Biology : Although the species has been recorded from localities about c 1,800 m. in Burma, in the area under study, only one specimen has been collected at about c 1,000 m. Most of the specimen are found either in the plains or in the valleys in hills at less than c 1,000 m. altitude. The species prefers sandy or muddy alluvial soil and is restricted only to the dungs of herbivorous animals, mainly of domestic cattle; however, specimens have been collected from dung of buffaloes.

Distribution : The species was so far known from Burma and Indo- China. This is the first time the species is being recorded from India; it has been collected from Meghalaya (Khasi hills district), Assam (North Cachar district) and Arunachal Pradesh (Siang district).

Type : Type is in the Dresden Museum.

33. *Onitis philemon* Fabricius, 1801.

1801. *Onitis philemon* Fabricius, *Syst. Eleut.*, 1 : 30.

1931. *Onitis philemon*, arrow, *Fauna Brit. India, Lamell.*, 3 : 393.

1963. *Onitis philemon*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 41.

Material examined : 8 exs. 2 ♂♂, 6 ♀♀

Biology : This species is comparatively rare and is confined mainly to the plains and foothills. It has not been collected above c 1,000 m. It prefers sandy soil in the open field or grassland and is found in cattle dung.

Distribution : the species is known from Ceylong and India. In India, the species has earlier been recorded from Uttar Pradesh and Punjab in North and many places from Maharashtra, Karnataka, gujrat, Madhya Pradesh in West and South India.

This is the first time the species is being recorded from N.E. India, i.e. from Meghalaya (Khasi hill dist.) from Meghalaya and Assam (Darang, Sibsagar and Goalpara dists.).

Type : Type of *O. philemon* is in the Copenhagen Museum; that of *distinctus* Lansberge in the Brussel's Museum.

34. *Onitis subopacus* Arrow, 1931.

1931. *Onitis subopacus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 395.

1963. *Onitis subopacus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 38.

material examined : 164 exs. 69 ♂♂, 95 ♀♀

Remarks : The species closely resembles *o. virens* Lanab. but may be separated from it by less strongly punctured pronotum, frontal carina being more widely interrupted, consequently frontal tubercle being more isolated. The males are easily differentiated by the different form of the front tibiae of its last external tooth being blunt and directed forward.

Biology : This is the most common species of *Onitis* in this area, but it is more common in the foot hills and plains than in the higher altitude. In fact, in plains it is the most common species and in higher hills it is gradually replaced by *Onitis falcatus* (Wulf.). It prefers open grassland or uncultivated land but equally occurs in the cultivated fields. In hills, it is found in the cleared area in the forest. It frequents in cattle dung, fresh or old but appears to be more common in the dung heap accumulated for manure. Arrow (Op. cit.) recorded this species from about c 2, 000 m. but in this area, most of the population occur below c 1,000 m. altitude.

Distribution : This species has been recorded from India, Bangladesh, Nepal, Ceylon, Burma, Thailand and Malay-Peninsula. In India, it has been recorded earlier from Himalayas (Kashmir; Darjeeling). Peninsular India (Tamilnadu; Madhya Pradesh) and from Indogangetic plain (Uttar Pradesh; Bihar; and West Bengal).

This is the first time this species is being recorded from Meghalaya (Khasi hills and Garo hills dist.). Assam (Goalpara, Kamrup, Sibsagar, North Cachar districts) and Arunachal Pradesh (Siang dist.).

Type : Type of *o. philemon* Lansberge is in *R. oberthur* collection. Arrow renamed the species as Lansberge wrongly attributed the specimen to *o. philemon fabricius*.

35. *Onitis virens* Lansberge, 1875.

1875. *Onitis virens* Lansberge, *Ann. Soc. Ent. Belg.*, 18 : 135.

1931. *Onitis virens*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 396.

1963. *Onitis virens*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 40.

Material examined : 48 exs. 18 ♂♂ 30 ♀♀

Remarks : This species closely resembles the previous species but may be separated by narrowly interrupted clypeofrontal carina, and in males the terminal external teeth being tapering.

Biology : The species is common at the plains and foot hills but rare in the hills and has not been collected above c 1,000 m. This species frequents like other species of genus, only in dung of herbivorous animals, specially those of cattle. It lives in the sandy or alluvial muddy soil and is rare in rocky substratum. Unlike, *o. subopaeus* Arrow it is not common in accumulated dung heap kept for manure.

Distribution : The species is known from India, Bangladesh, Burma, Vietnam and South China. In India, the species has been known from various localities in Peninsular India (Kadhy Pradesh; Karnatak; Belgium; Tamil Nadu; Kerala) and parts of Indogangetic plains (Uttar Pradesh : West Bengal; Bihar).

This is the first time the species is being recorded from Meghalaya (Garo Hills district) and also from Assam (Goalpara, Sibsagar, Kamrup districts).

Type : Types of *o. virens* and *ampletens* are in the Brussels Museum.

Tribe Oniticellini

This tribe has been divided into two subtribes, i.e. Subtribe Oniticellina and Drepanocerina. Members of these two subtribes can be easily separated; those under Oniticellina, have upper surface yellowish, brown or black, entirely smooth or sparsely covered by fine hairs, scutellum usually well noticeable and base of pygidium nearly emarginate and without transverse ridge; on the other hand, members under Drepanocerina, have dusty coloured upper surface covered with short, thick scale like setae, scutellum generally invisible and base of pygidium emarginate or provided with transverse ridge.

Present day distribution of the tribe indicates an Ethiopian origin. As there is not yet any clear understanding about the synonymy of many species, the exact number of species that may be included under this tribe is difficult to ascertain; of the 8 genera and about 135 species so far known, 4 genera with 16 species are found within Indian Limit. Three genera with 9 species have been collected from the state.

Key to the genera of tribe Oniticellini

- 1(2) Upper surface covered with short, thick, scale like setae, dusty coloured; scutellum generally not visible, Pygidium either emarginate or provided with transverse ridge.....
..... *Drepanocerus* Kirby
- 2(1) Upper surface either entirely smooth or sparsely covered with fine hairs, scutellum usually well noticeable. Pygidium neither emarginate nor provided with transverse ridge.
- 3(4) Elytra fringed before the hind margin; sides of abdomen exposed above *Oniticellus* Serv.
- 4(3) Elytra not fringed before the hind margin; sides of abdomen not exposed above.....
..... *Liatonqus* Reitt.

Genus 12. *Drepanocerus* Kirby, 1828

1828. *Drepanocerus* Kirby, *Zool. Journ.*, 3 : 521.
1851. *Ixodina* roth, *Arch. Naturgesch.*, 7(1) : 128.
1900 (1901). *Drepanochirus*, Peringuely, *Trans. S. Afr. Phil. Soc.*, 12 : 17.
1931. *Drepanocerus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 380.
1963. *Drepanocerus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 61.
Type : *Drepanocerus kirbyi* Kirby, 1828.

Body elongated, oval, usually almost parallel, more or less flattened above; upper and lower surface rough and dull clothed in parts with coarse erect scale like hairs.

Key to the species of *Drepanocerus*

- 1(2) Prosternum elevated behind the front coxae, continuous with the metasternum.....
..... *D. striatulus* Paulian
- 2(1) Prosternum not elevated behind the front coxae.

- 3(6) Terminal tooth of the front tibiae directed forward; pronotum not ridged at the base.
- 4(5) Front angles of the pronotum distinct. Male with a single thoracic horn arising near the base of the *D. Setosus* (Wiedmann)
- 5(4) Front angles of the pronotum indistinct. Male with two horns arising from middle of the pronotum.....*sinicus* Harold
- 6(3) Terminal tooth of the front tibiae placed laterally; pronotum with six longitudinal ridges at base *D. runicus* Arrow

36. *Drepanocerus runicus* Arrow, 1909.

1909. *Drepanocerus runicus* Arrow, *Ann. Mag. nat. Hist.*, 4 : 93.

1931. *Drepanocerus runicus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 384.

1963. *Drepanocerus runicus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 66.

Material examined : 40 exs. 20 ♂♂; 20 ♀♀

Remarks : The species may easily be distinguished by its short compact body, black colour and characteristic pronotal ridges, from its related species.

Biology : The species is found in the open country in the alluvial valley of sandy or muddy soil, and appears confined to the foot hills and to the lower part of the hills. It is more common in the cattle dung but a few specimens from Garo hills have been collected from the human faeces on the sandy banks of Simsang river.

Distribution : The species was so far known from Vietnam and Burma.

This is the first time the species is being recorded from India. In northeastern region it has been collected from Meghalaya (Garo hills), Assam (Goalpara and North Cachar district) and Manipur (Sant district).

37. *Drepanocerus setosus* Wiedmann, 1823.

1823. *Copris setosus* Wiedemann, *Zool. Mag.*, 2(1) : 19.

1931. *Drepanocerus setosus*, Arrow, *Fauna Brit. India. Lamell.*, 3 : 381.

1963. *Drepanocerus setosus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 68.

Material examined : 95 exs. 31 ♂♂; 64 ♀♀

Remarks : Males of *D. setosus* (Wied.) may easily be recognised by its characteristic of pronotal depression. Pronotal horn; females closely resemble *D. sinicus* Harold but may be separated by the nature.

Biology : This species is found only in lower altitude below c 600 m. and once the habit of these insect becomes known it is not difficult to collect the species. They prefer open valley and are found in cow and buffalo dung only. Unlike other Scarabaeid, it is neither found deep in the soil or in the

middle of the dung but prefers the place between the dung and the soil, and just under the external crust of dung, which is usually formed within a few days; as such it is more profitable to look for these beetles in a few days old dung. Sometimes all the three common species of *Drepanocerus* of Meghalaya i.e. *D. setosus*, *D. runicus* and *D. striatulus* may be found together in a single deposit of dung. *Drepanocerus setosus*, however, appears to be the commonest species in the region.

Distribution : Ceylon and Peninsular. The species was known from India and Ceylon. In India it was known from Uttar Pradesh, Madhyapradesh, Maharashtra and Tamil Nadu.

The present collection from Meghalaya forms the first record from Garo hills (Wageasi, Songsok, rongrengiri, and Ajodoba).

38. *Drepanocerus sinicus* Harold, 1868.

1868. *Drepanocerus sinicus* Harold, *Col. Hefte*, 4 : 104.

1931. *Drepanocerus sinicus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 383.

1963. *Drepanocerus sinicus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 67.

Material examined : 82 exs. 41 ♂♂; 41 ♀♀.

Biology : the species is found in the foot hills or in the valleys of lower hills not exceeding c 700 m. in altitude. They are found only in cattle dung, in muddy or sandy soil.

Distribution : The species is known from India and Burma. Front India the species was so far known only from Uttar Pradesh.

This is the first time the species is being recorded from Meghalaya (Garo Hills district) and other N.E. India states. (Assam & Manipur).

39. *Drepanocerus striatulus* Paulian, 1945.

1945. *Drepanocerus striatulus* Paulian, *Col. Scarab. de l' Indo- China* : 140.

1963. *Drepanocerus striatulus*, Balthasar *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 69.

Material examined : 76 exs. 31 ♂♂; 45 ♀♀.

Remarks : The species may be separated easily by its characteristic flat body, elytral striae and elevated prosternum behind the front coxae.

Biology : The species is found in the foot hills and in the elevation upto c 2000 m. in this area. It is exclusively found in the cattle dung in the grass jungles, cultivated fields as well as in Shal (*Sorea robusta*) reserve forest areas.

Distribution : The species was described by Paulian in 1945 from North Vietnam.

This is the first record of the species from India. In North East India, it has been recorded from Meghalaya, Assam and Manipur. In Meghalaya the species has been collected from Wageasi Songsok and Rongram in Garo hills.

Genus 13. *Liatonqus* Reitt., 1893.

1893. *Liatonqus* Reitter, *Verh. Ver. Brunn.*, 31 : 166.

1931. *Liatonqus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 362.

1963. *Liatonqus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt., orient.*, 2 : 78.

Type : *Onthophaqus phanaeoides* Westwood, 1840.

Morphological characters : Body rather elongate Elytra without posterior fringe of bristles or setae. antennae 8 segmented. Maxillae short, with broad terminal membranous lobe. Mentum transverse, broadly bilobed, labial palpi with the 1st joint short, the 2nd elongate Scutellum present, although small, and the third extremely minute. Pygidium without a sharp ridge parallel to the base.

Discussion : the genus *Liatongus* resembles *Onthophaqus* except in having scutellum and in less abbreviated hinder portion, indicated by longer elytra. Prosternum is usually a little timid behind the front coxae.

Biology : The members of this genus are found in different habitat condition. Majority of the species are found in dung of herbivorous animal, however, *L. vertaques* (F.) is found in dung of herbivorous animal as well as in human faces.

Distribution : The genus is distributed in Ethiopian, Palaeartic, Oriental, Nearctic and partly Neotropical. Of 41 species known 24 are found in Oriental and palaeartic, 3 in Nearctic and partly to Neotropical region and 14 in Ethiopian region. Of the 8 species found in India 4 have been recorded from the state.

Key to the species of genus *Liatonqus* Reitt.

- 1(2) Metasternum densely punctured *L. phaenoides* Westwood
 2(1) Metasternum not densely punctured.
 3(4) Body entirely black above and beneath *L. gagatinus* Hope
 4(3) Body not entirely black above and beneath.
 5(6) Pygidium rough and opaque *L. mergecerous* Hope
 6(5) Pygidium smooth and shining *L. vertaques* Fabricius

40. *Liatongus (L.) gagatinus* (Hope), 1831.

1831. *Onthophaqus gagatinus* Hope, *Gray's zool. Misc.*, : 22.

1931. *Diatonqus gagatinus*, Arrow, 1931. *Fauna Brit. India, Lamell.*, 3 : 365.

1963. *Liatongus gagatinus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 104.

Material examined : 162 exs. 90 ♂♂; 92 ♀♀

Remarks : This is the largest species of *Liatongus* in the state and can easily be recognised by its black colour, characteristic thoracic and cephalic armatures. The species, however varies considerably in size and smaller males resembles the females.

Biology : This is one of the commonest species of Scarabaeidae in the higher elevations above c 1,200 m. It is abundantly available during the rains from May to October, being more numerous in July-August. It frequents in cow and buffalo dung and has not been collected from human or carnivores faecal matter. It prefers fresh dung but is also available in the dung heap used for manure. During rearing in the laboratory, it has been observed quickly more inside the soil and to tunnel upto 20" below the surface, the tunnel being lined with dung. Normally they prefer soft alluvial soil in the valley or in the slope and are equally found in forest and in the open field.

Distribution : The species is known from India, Nepal, Burma, Laos and North Vietnam. In India the species has been recorded from Kashmir, Uttar Pradesh, West Bengal, Nagaland, Assam and Meghalaya.

41. *Liatongus (L) mergacerus* (Hope), 1831.

1831. *Onthophagus mergacerus* Hope, *Gray's zool. Misc.*, : 22.

1931. *Liatongus mergacerus*, Arrow, *Fauna Brit. India, Lemell.*, 3 : 369.

1963. *Liatonqus (S.Str.) mergacerus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 96.

Material examined : 12 exs. 7 ♂♂; 5 ♀♀

Remarks : The well developed male and female can be easily separated from *L. vertegus* (F.) but smaller specimens are not easy to distinguished.

Biology : The species is found only in the dung of herbivorous animal and restricted for the altitude upto c 500 m. The species is common in the sandy banks of larger rivers near foot hills.

Distribution : The species is known from India, Nepal and Bhutan. In India the species was known from Uttar Pradesh, West Bengal and Sikkim. This is the first record of the species from the state.

42. *Liatongus phanaeoides* (Westwood), 1840.

1840. *Onthophagus phanaeoides* Westwood, *Poyle's Himalaya, Ent.*, 55. Pl. 9, fig. 3.

1931. *Liatongus phanaeoides* Arrow, *Fauna Brit. India, Lamell.*, 3 : 364.

1963. *Liatongus (L) phanaeoides*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 92.

Material examined : 6 exs. 3 ♂♂, 3 ♀♀

Remarks : The species may easily be distinguished by the densely punctured metasternum and broadly.

Biology : This species is most rare among the *Liatongus* species recorded from this state, so far only six specimens have been collected. The species is confined to the higher elevations in the state and has not been collected below c 1,800 m. and is found in cattledung only in soft alluvial soil in the slopes of the hills.

Distribution : The species is known from India, Burma, Taiwan, Japan, Laos, Vietnam and South and Central China. In India the species was known from Punjab, West Bengal and Assam. This is the first record of the species from the state and specimens have been collected from Khasi hills : Shillong.

43. *Liatongus (L.) vertagus* Fabricius, 1798.

1798. *Copris vertagus* Fabricius, *Ent. Syst. Supple.*, : 30.

1931. *Liatongus vertagus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 371.

1963. *Liatangus (L.) vertagus* Balthasar, *Monogr. Scarava. Aphod. palaearkt. orient.*, 2 : 96.

Material examined : 88 exs. 41 ♂♂, 47 ♀♀

Remarks : There is almost every gradation of development of secondary sexual characters. Very small males appear almost similar to female.

Biology : This is the commonest species of *Liatongus* in this area and one of the most common species in the whole Scarabaeidae. It occurs from the sea level to the highest elevation in the state and is found almost throughout the year; population declines during the winter, particularly in the higher elevation. These insects are found generally in the open country near the road sides or in the cultivated fields or deforested area in all sorts of soil e.g. soft, alluvial or sandy beds, or rocky substratum. The species usually frequents cattle dung but sometimes it is found in human faeces.

Distribution : This species was known only from Manipur and Cachar district of Assam from North-east India besides Burma and Indo-China. This is the first record of the species from this state of Meghalaya (Khasi hills, Garo hills).

Genus 14. *Oniticellus* Servillet, 1825.

1825. *Oniticellus* Serville, *Encycle. Meth.*, 10 : 356.

1931. *Oniticellus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 375.

1963. *Oniticellus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 70.

Type : *Scarabaeus cinetus* Fabricius, 1775.

Morphological characters : Body elongate, Scutellum present. Antennae 8 segmented. Elytra rather flat with a fringe of stiff hairs just before the hind margin, not completely covering the abdomen and metaepisternum at the sides. Head short and broad. Metasternum very long. Middle coxae diverging a little behind and not very long. Abdomen strongly carinate at the sides.

Both sexes appear like in their general form. In *O. pallens* and *O. pallipes*, however, the males of *O. pallens* and *O. pallipes* (not recorded in the state) exhibit two extra strong ridges on the Clypeus.

The genus is represented in the state by a single species.

Discussion : The genus may be easily distinguished by the combination of following characters (I) presence of scutellum (II) smooth upper surface and (III) sides of abdomen being exposed above.

Biology : The single species found in the state occurs in all altitudes and appears to be confined to the dung of herbivorous animals.

Distribution : The genus is distributed in Ethiopian, Palearctic, Oriental and Neotropical regions. Of the 21 species known, majority are Ethiopian while 4 species are endemic to Palearctic, 3 to Oriental and only one species is endemic to Neotropical region.

44. *Oniticellus (O) cinctus* (Fabricius), 1775.

1775. *Scarabaeus cinctus* Fabricius, *Syst. Ent.*, : 30.

1931. *Oniticellus cinctus*, Arrow, *Fauna Brit. India. Lamell.*, 3 : 379.

1963. *Oniticellus (S.Str.) cinctus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 77.

Material examined : 309 exs, 146 ♂♂; 163 ♀♀

Remarks : The species may be recognised by the head being without carina and upper surface very smooth and shining.

Biology : This species is found in almost all level of elevation but the population is more numerous near the plains. This is one of the few species which is found in the accumulated dungheap kept for manure. Many specimens may be collected at different depths of heaps. These insects are generally found in open country, cultivated fields or infallow lands and have so far been collected only from cattle dung.

Distribution : The species was known from Burma, Malaya Peninsula, Vietnam, South China and India. In India, the species was known from Uttar Pradesh, Madhyapradesh, Karnataka, West Bengal and Assam. This is the first record of the species from Meghalaya and specimens have been collected from Shillong, Umran, umtham, Barapani in Khasi hills and Rongdong and Siju from Garo hills.

Type : Type is unknown.

Tribe Onthophagini.

Members of this tribe are small to very small in sizes, rarely of medium size, and usually strongly convex and broadly oval and compact in form. Under Onthophagini, many species are smooth and shining and others are matt and covered with short or long hairs, colouration varies greatly among different species. Cephalic and Erothoracic processes are well developed and sexual dimorphism is highly marked; besides sexual dimorphism intraspecific variations are also very common, specially in *Onthophaqus* Latreille, there is every degree of variation within the same sex of the species.

The tribe Onthophagini is composed of 8 genera and 1850 species. Of the genera under the tribe, *Onthophaqus* Latreille is one of the larges genus in whole of Scaraboides. The members of this group very greatly in their habits and majority of them are found in dung but some also inhabit in decaying vegetable matters while others may be found in Carrion. It has also been observed that altitude acts as limiting factor in the distribution of the species and some are found in the lower alevations while others are mainly restricted to higher hills.

The tribe is distributed all over the world but number of species found in Old World are more numerous than those in the New World; they are also more common in tropics than in the temperate climate. Of the 8 genera, *Onthophaqus* Latrille and *Caccobius* Thom, are similar in distributional pattern, both having their centre of origin in the Ethiopian region. *Phalops* Ericson, also is predominantly Ethiopian. The smaller genera *Cyobius* Sharp, *Anoctus* Sharp and *Disphysema* Harold are Oriental and *Macropocopris* Arrow, which has now been synonymised with *Onthophaqus* by Mathews (1972) is endemic to Australia. Members of only two genera, *Caccobius* Thom and *Onthophaqus* Latreille have been recorded from the state.

Key to the genera of the Tribe Onthophagini

- 1(2) Apical margin of front tibiae truncated and straight; apical teeth placed at right angles to the longitudinal axis of tibiae. Front angle of pronotum hollowed beneath *Caccobius* Thomson
- 2(1) Apical margin of front tibiae obliquely truncated; apical teeth not at right angles to the longitudinal axis. Front angle of pronotum not hollowed beneath *Onthophagus* Latreille

Genus 15. *Caccobius* Thomson, 1863.

1863. *Caccobius* Thomson, *Skend. Coll.*, 5 : 34.

1931. *Caccobius*, Arrow, *Fauna Brit. India, Lemell.*, 3 : 141.

1963. *Caccobius*, Balthasar, *Monogr. Scarab. aphod. Palaearkt. orient.*, 2 : 113.

Type *Scarbaeus schreberi* Linnaeus, 1767.

Small to very small species, broadly oval, compact in form. Front angles of pronotum hollowed beneath, sharply defined. Legs short, front tibiae very short and broad, with its terminal tooth placed straight, its anterior edge forming a right angle with the inner edge of the tibiae. antennae 9 segmented.

In males of many of the species, terminal tooth of front tibiae appears rectangular, not pointed, thin and translucent, and often bent at angle to the rest of the tibiae, Usually, males may be armed with a single short horn, or a pair of horns, or they may entirely without armature.

Discussion : The genus resembles *Onthophagus* Latreille but its members may be separated from the former by the combination of the following characters : (1) Front angles of pronotum hollowed beneath (2) apical margin of front tibiae truncated and straight in both sexes.

Biology : The genus is represented in the plains as well as in hills. Some of the species occur in large numbers and hardly show any preference to particular habitat. They occur frequently in cattle dung and in carnivore or human faeces. Some species have been reported to feed on carrion, but has not been recorded in the area under study.

Distribution : The members of this genus inhabit old world and are found in Ethiopian, palaearcti and Oriental region. Of the 95 species known, so far 51 have been recorded in the Ethiopian region, 19 in Palearctic and 25 in the Oriental region. Of these 25 species of Oriental region, 6 are found in the state.

Key to the Subgenera of *Caccobius* Thomson.

- 1(2) Upper surface smooth, shiny or very shiny, rarely head, front angles of pronotum and pygidium covered with minute hairs. Prosternum with two feeble carinae arising from fore coxae and extend to the front angles of pronotum Subgenus *Caccobius* S. Stricto.
- 2(1) Upper surface covered with short or very short hairs, though sparingly but always very distinctly, matt, or moderately shiny. Prosternum with single carina directed from fore coxae towards sides of pronotum Subgenus *Caccophilous* Jakel

Key to the species of *Caccobius*. s.s.

- 1(2) Except elytral suture, upper surface uniformly brownish *Caccobius* (C) *debi* Sp. nov.
 2(1) Upper surface not uniformly brownish.
 3(4) Pygidium yellow marked *Caccobius* (C) *donoderus* Fairmaire
 4(3) Pygidium uniformly black *Caccobius* (C) *denticollis* Harold

45. *Caccobius* (O) *debi* Sp. nov.

Male. Body broadly oval, compact, black and shiny with elytra, except sutural interval, margin of clypeus and tarsi pitchy. Mouth organs black. Head bears fine but not very short hairs at the elypeal region. Pygidium provided with minute hairs.

Clypeus feebly emerginate in the middle, round on each side. Ocular lobe not in the same line with clypeal margin, a little raised; clypeus strongly rugosely punctured, separated from frons by a curved carina. Front strongly punctured, vertex with a strong transverse carina, a little produced and thick in the middle.

Pronotum moderately punctured, punctures comparatively stronger in the anterior margin. Pronotum simple, a little depressed on each side of the middle, base feebly margined. Front angles not very sharp, sides gently rounded in front, feebly sinuate behind. Elytra lightly striate, intervals more closely punctured than the pronotal disc. Elytral striae little strongly but more sparsely punctured.

Metasternal shield flat, very finely punctured in the middle, a little sloped on the anterior end, slope being closely punctured, as well as the sides of the shield. Fore femora extremely fine. Fore tibiae with four external teeth, gradually diminishing in size from apex to base. Pygidium little strongly but sparsely punctured than the elytra.

Female. Clypeus more distinctly bilobed. Clypeo-frontal carina more strongly developed. Carina on vertex transverse. Pronotum simple, last ventral sternite not excised in the middle. Otherwise like male.

Length : 5.5-6.5 mm; breadth : 3.5-4.5 mm.

Material examined : 9 exs. 6 ♂♂; 3 ♀♀

Discussion : the species is close to *Caccobius* (C) *gonoderus* Fairmaire but may be separated from the former by its uniform brownish elytral colour.

Biology : The species is not common and specimens have been collected so far from cow dung.

Distribution : The species is known only from Meghalaya. Specimens have been collected from Khasi hills : Shillong and Myllem, Garo hills : Balphakram.

Types : Holotype ♂ (Regd. No. A1/4525) Khasi hills : Myllem, 24.iv.1965. Coll. S. Biswas, Paratypes 2 ♂♂ (Regd. No. A1/4526) data same as for holotype; 2 ♂♂, 2 ♀♀, (Regd. No. A1/4527) Khasi hills : Shillong, 29.v.1975. coll S. Biswas 1 ♂, 1 ♀ (Regd. No. A1/4528) Garo hills: Balphakram 26.iv. 1976. coll. S. Biswas. Deposited at present in the collection of Zoological Survey of India, Shillong.

46. *Caccobius (C) denticollis* Harold, 1867.

1867. *Caccobius denticollis* Harold, *Col. Hefte*, 2 : 5.

1931. *Caccobius denticollis*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 1551.

1963. *Caccobius (S.Str.) denticollis*, Balthasar, *Monogr. Scarba. Aphod. palaearkt. orient.*, 2 : 126.

Material examined : 5 exs. 1 ♂ ♂; 4 ♀ ♀

Remarks : The species is closely related to *C.(C) gonoderus* and as the elytral colouration and Cephalic and prothoracic process are liable to variations, it may be difficult to separate these two species, however, *denticollis* could easily be separated from the other by its uniformly black pygidium.

Biology : The species is comparatively rare in this area and is found only in well-wooded forest in Shillong peak (c 2,000 m.) in the human faeces.

Distribution : The species is known only from India. In India the species has so far been recorded from Kashmir, Punjab, Uttar Pradesh, Himachal Pradesh.

This is the first record of the species from North East India and Meghalaya. In Meghalaya, it has been collected only from Shillong.

47. *Caccobius (C) gonoderus* (Fairmaire), 1888.

1888. *Onthophagus gonoderus* Fairmaire, *Ann. Soc. ent. Belg.* 32 : 17.

1933. *Caccobius gonoderus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 157-158.

1963. *Caccobius (C) gonoderus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 123.

Material examined : 80 exs. 35 ♂ ♂, 45 ♀ ♀

Remarks : This species is variable in its elytral colour pattern. The species may distinguished from the related species by yellow marking in the pygidium.

Biology : This is one of the commonest species in Shillong and its surrounding places and seems to prefer the higher hills, at least in this region. It appears with the first rain and continuous to be available upto November. A few specimens, may be available throughout the year. The species has been collected from cattle dung as well as in human faeces. This is one of the species together with a group of *Onthophagus* spp. which are common in human as well as Carnivorous faecal matters The species seems to have no particular habitat preference and may be found in valleys, in Pine forest, cultivated as well as fallow land and soft or rocky soil.

Distribution : the species is known from India, West China and Tibet. In India the species has been recorded from Manipur and Meghalaya. In Meghalaya the species has been collected from Shillong, Untyngar, Mawphlong, Myllien, Dempop and Mawblong.

Key to the species of Subgenus *Caccophilous* Jekel.

1(4) Clypeus more or less bilobed or notched, body not covered with long hairs.

2(3) Pronotum separately punctured. Clypeus deeply notched in the middle
 *Caccobius (Caccophilous) himalayanus* (Jek.)

- 3(2) Pronotum simply punctured, Clypeus never deeply notched in the middle
 *C. (Caccophilous) unicornis* (F.)
- 4(1) Clypeus not notched or bilobed, body covered with comparatively long hairs
 *C. (Caccophilous) diminutivus*. (Walk.)

48 *Caccobius (Caccophilous) diminutivus* (Walker), 1858.

1858. *Copris diminutivus* Walker, *Ann. Mag. nat. Hist.*, 2 : 208.

1963. *Onthophagus setulosus* Motschulsky, *Bull Soc. Nat. Mosc.*, 36(2) : 459.

1931. *Caccobius diminutivus*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 143.

1963. *Caccobius (caccophilous) diminutivus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 141.

Material examined : 9 exs. 5 ♂♂; 4 ♀♀

Remarks : The species may be easily separated from all other species by its minute body, black colour, covering of coarse uniformly erect setae, well punctured pronotum and pointed clypeus.

Biology : The species is found in plains and has never been collected from the higher hills of the stgate above c 500 m. Specimens have been collected only from cattle dung in this area although it has been recorded from carrion-scented flowers of *Typhorium trilobatum* together with *Onthophagus tarandus* (F.) (Arrow 1931).

Distribution : The species shows an interesting discontinuous distribution. It is known from West Bengal & Maharashtra and also from Ceylon.

49. *Caccobius (caccophilous) himalayanus* (Jekel), 1872.

1872. *Caccophilous himalayanus* Jekel, *Rev. Mag. Zool.*, : 411.

1919. *Caccobius himalayanus*, Boucomont, *Ann. Soc. Ent. France*. 88 : 320.

1931. *Caccopius himalayanus*, Arrow *Fauna Brit. India, Lamell.*, 3 : 153.

1963. *Caccobius (caccophilus) himalayanus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2: 132.

Material examined : 3 exs. 1 ♂♂; 2 ♀♀

Remarks : The species may be easily separated by its Caphalic armature in male and deeply notched clypeus and asperately punctured pronotum.

Biology : The species is rare in this region and all the three specimens have been collected from cattledung.

Distribution : The species is known only from India and was recorded from Western and Central Himalayas in Kashmir and Uttar Pradesh. This is the first time the species is being recorded from Meghalaya. In Meghalaya its has been collected from Jaintia hills (Carampani).

50. *Caccobius (Caccophilous) unicornis* (Fabricius), 1798.

1798. *Copris unicornis* Fabricius, *Ent. Syst. Suppl.* : 33.

1931. *Caccobius unicornis*, Arrow, *Fauna Brit. India, Lamell.*, 3 : 148.

1936. *Caccobius vamauchii* Matsumura, *Ins. Matsum.* 111 : 66

1963. *Caccobius (Caccophilus) unicornis*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 142.

Material examined : 25 exs. 10 ♂♂; 15 ♀♀

Remarks : The species closely resemble *Onthophagus centricornis* but may be easily separated from the former by the presence of the hollow beneath front tangle of pronotum and external teeth being at right angle to the long axis of front tibiae.

Biology : This species is common near the foothills and no specimen has been collected above c 1,000 m. altitude. This is found in dung of herbivorous animals including horse as well as in the faeces of human and carnivores.

Distribution : The species is widely distributed in South east Asia. In India, the species has been recorded from Uttar Pradesh, Madhya Pradesh and Assam.

This is the first time the species is being recorded from Meghalaya and it has been collected from all the five districts of the state.

Genus 16. *Onthophagus* Latreille, 1802.

1802. *Onthophagus* Latreille, *Hist. Nat. crust. et. Ins.* 3 : 141.

1931. *Onthophagus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 159.

1963. *Onthophagus* Balthasar, *Monogr. Scarab. Aphod. palearkt. orient.* 2 : 153.

Type : *Scarabaeus taurus* Schreber, 1759.

Morphological characters : Very small (2.5 mm) to large species (26 mm), of extremely varied form and colour. Usually of rather short, compact form, smooth or clothed closely or sparsely with hairs or setae. Sexual dimorphism usually very strongly developed.

Head only rarely unarmed, usually provided with transverse carinae, horns or tubercles. Clypeus fused with the ocular lobes, very variable in shape, round, bilobed or acuminate in front. Antennae 9 segmented, basal segment fairly long, occasionally with a serrate anterior edge. Mandibles rather short. Maxillae with short and broad terminal lobes and moderately long, 4 jointed palpi (Pl. XXIV, fig. 111). Mentum transverse, labial palpi with basal joint small, not dilated, 2nd moderately elongate, 3rd very minute (Pl. XXIV, fig. 113). Pronotum with lateral margins angulate in the middle, front angles produced, acute or blunt, hind angles generally obsolete, base rounded, obtusely angular or lobed in the middle; puncture of pronotum may be umbilicate i.e. having a central elevation, or asperate i.e. a little raised above the general surface on one side or simple; sometimes adjacent punctures may coalesce with each other, or punctures may be replaced by granules. Scutellum absent except in subgenus *Pseudonthophagus* Balth.

Elytra covers the abdomen and bear a single lateral carina and 7 dorsal striae, 7th stria reaching the shoulder prominence but not the base, usually strongly curved but sometimes straight. Mesometasternal suture nearly straight, metasternal shield broad, with its anterior part flat, sloping or sometimes vertical in the middle, and occasionally forming a short compressed process. Legs usually fairly stout, femora thick, front tibiae usually armed with four, but occasionally only with three external teeth, with minute denticles above and sometimes between them. Middle and hind tibiae

dilating greatly from base to extremity, with the terminal margin generally nearly straight, but sometimes trilobed.

Front tarsi slender and short; middle and hind tarsi a little flattened, with very close fringe of stiff hairs along the inner edge and a loose fringe at the outer edge, the basal joint moderately long, 2nd joint narrower, and generally less than half as long as the first joint, 3rd joint about half the size of the 2nd joint about half that of the 3rd, 5th joint slender.

Abdomen short, the last sternite (6th) extremely short in the male. Generally bearing a transverse ridge parallel to the base and continuous with the lateral carinae of the abdomen, coinciding with the margin of the elytra but this may sometimes be absent.

Discussion : Sexual dimorphism : Members of this genus show prominent sexual dimorphism. The two sexes may exhibit every degree of differences. Males are usually provided with horns or other processes upon the head or thorax or on both, females may have the same armature as the males i.e. *O. (Parascatonomus) tricornis* (Wied.), *O. (O) trendus* (F.) or may have a distinctive armature of their own i.e., *O. (Serrophorous) sagitterius* (F.), so that in some cases there is very little resemblance between the sexes; or they may be unarmed or apparently look alike. Very frequently the front tibiae are elongated in the male, occasionally they may be shorter, *O.(O) tragoides* Bouc. and truncate at the end as seen in both sexes of *Caccobius* Thoms. Hind tibiae may differ in different sexes and in some others i.e. *O (O) deflexicollis* Lansb. *O (digitonthophagus) rubricollis* Hope, the middle and hind tarsi may also differ in males and females. In many cases, the punctures on head and pronotum differ in different sexes.

It is, however, always possible, to distinguish the sex of any specimen by examining the last (6th) abdominal sternite. In females, this is always large and of nearly equal width, or a little wider in the middle. In males, the middle part of this sternite is excised behind, so that it is very narrow in the middle and sometimes becomes visible at the sides.

Individual variation : Besides sexual differences as already mentioned, many of the species show a great deal of variation even in the same sex, specially in the males. Development of armature on head and in pronotum show every degree of variation from almost negligible to highly developed condition and therefore, description of a particular form will not fit with others of the same sex. So in case of highly variable species, large, medium and small forms have been recognised by some authors. Arrow's (op. cit.) view on the development of one character at the cost of other holds good in some species, and when it happens, the placing of the species in a subgenus becomes difficult as has been observed specially in the case of *Paraphaneomorphus* Balh.

Biology : Onthophagus is perhaps one of the largest genera in whole Coleoptera and in the present study, it has been represented by the largest number of species. The habits of different species may naturally vary, but when carefully studied and analysed there appears to be a few generalisations.

Leaving a few species i.e. *O.(O) pacificus* Lansb. *O.(O) deflexicollis* Lansb., which are found in decaying vegetable matters, most of the species are dung dwellers. But the present study reveals a high degree of preference of these insects to particular type of dung. Large number of species could be

found in dung of herbivorous animals and equally large number could also be found in human or carnivore excrement. In between these two district groups, there may be small groups of species which may frequent equally, both types of excreta. Relative scarcity of species in horse dung need special mention; horse dung is known to attract an array of species in North America but it is inhabited by a very few species in this region and only a single species of *Onthophagus* occurs in fairly large numbers in the horse dung. Small number of species have also been collected in carrion and in fungus.

The present study also reveals co-relation between altitude and the occurrence of different species. The species which are common in the Shillong and neighbouring areas (c 2,000 m.) are not generally available in low altitude and vice versa. A small number of species, however, are available both in plains and in higher hills though their population may vary to a certain extent in different places.

Scarabiasis, an enteric disease has been reported from India and some species of *Onthophagus* Latr. and *Caccobius* Thoms. are responsible for this disease. During this study it has been found that many closely related species occur in human faeces, but no record of Scarabiasis is available from the region.

Distribution : The genus is widely distributed over the world. Of the 1620 known species (Belthasar 1963), 750 species are found in the Ethiopian region, 650 species are found in Palearctic and Oriental region with some species being common with Ethiopian region; 200 species in Australian region and 110 species are found in Nearctic and Neotropical regions taken together. Of the 64 species recorded here a large number 24 have been treated as new to Science.

Key to the subgenera of the genus *Onthophagus* Latreille.

- 1(2) basal segment of antennae distinctly serrated at anterior margin. Front tibiae of male without a finger like process at inner side at apex; external margin at apex of hind tibiae hardly trilobed ...
..... ***Serrophorus* Balth.**
- 2(1) Basal segment of antennae at inner margin smooth, if not, front tibiae of male provided with a finger like process of external margin of hind tibiae may be trilobed.
- 3(4) Front tibiae of male with a finger like process in the inner margin at apex; basal antennal segment often distinctly serrated in the inner margin..... ***Digitentrophegus* Balth.**
- 4(3) Front tibiae of male without finger like process in the inner margin, basal antennal segment never distinctly serrated.
- 5(1) Pronotum of male with triangular, polygonal or irregular, strongly raised basal disc which sometimes may be with anteriorly root like sloping or outwardly directed lobe like projections.
- 6(9) Basal pronotal disc in male triangular or irregular.
- 7(8) Basal pronotal disc in male triangular, sloping like roof in front. Pronotum of female simple or nearly so..... ***Phanaeomorphus* Balth.**
- 8(7) Basal disc in male irregular. Pronotum of female usually with tubercles in front
..... ***Paraphanaeomorphus* Balth.**

- 9(6) Basal pronotal disc in male polygonal.....*Strandius* Balth.
- 10(5) Pronotum of male without distinctly raised basal disc.
- 11(12) Basal joint of hind tarsi conspicuously longer than the 2nd joint. 2nd joint at the most 1/4th as long as the basal joint.....*Onthophagiellus* Balth.,
- 12(11) Basal joint of hind tarsi not conspicuously longer than the 2nd joint. 2nd joint at least 1/3rd, as long as the basal joint.
- 13(14) Front tibiae with three external teeth *Indachorius* Balth.
- 14(13) Front tibiae with 4 external teeth.....*Onthophagus* s.s.

Key to the species of *Onthophagus* s.s.

- 1(8) Head simple, without horn, tubercle or distinct transverse carina.
- 2(5) Upper surface uniformly black.
- 3(4) Upper surface bare; inhabit carion *Onthophagus singhi* sp. nov.
- 4(3) Upper surface covered with pale setae; not on carion.....*Onthophagus dhari* Sp. nov.
- 5(2) Upper surface not uniformly black.
- 6(7) Pronotum with metallic tinge. Base and apex of elytra broadly reddish. Pronotum not impressed in middle, in male; inhabit faeces of carnivore or human
.....*Onthophagus charidai* Sp. nov.
- 8(1) Head not simple, with horn, tubercle or transverse carinae or with all of them.
- 9(22) Pygidium not margined at base.
- 10(11) Clypeus emarginate in the middle, produced anteriorly..... *Onthophagus asoki* Sp. nov.
- 11(10) Clypeus entire, almost rounded.
- 12(11) Upper surface uniformly black or blackish brown; found in carnivore or in human faeces.
- 13(16) Head with only transverse carina, horn in tubercle absent.
- 14(15) Middle of pronotum flat and punctures umbilicate in the middle
.....*Onthophagus barapanensis* Sp. nov.
- 15(14) Middle of pronotum never flat or with umbilicate punctures *Onthophagus rovi* Sp. nov.
- 16(13) Head with either single or double horns in male. Smaller species (5.0-6.5 mm.)
- 17(18) Head with single horn in male. Smaller species (5.0-6.5 mm.) *Onthophagus porcus* Arrow
- 18(17) Head with double horn in male. Larger species (7.5-13.0 mm.)
- 19(20) Connecting lamina between the horns, in male toothed in the middle, Vertical lamina of female very little bituberculate. Clypeofrontal carina a little curved. pronotum with prominence above declivity; lateral margin of pronotum strongly sinuate at hind part. Pronotum a little strongly margined at base *Onthophagus orientalis* Harold
- 21(12) Upper surface not uniformly black or blackish brown. Species found in cow dung.....
.....*O. charikutiensis* Sp. nov.
- 22(9) Pygidium margined at base.
- 23(30) Pronotum granular or asperately punctured.

- 24(25) Both head and pronotum with strong, processes. Elytra longitudinally black in the middle, pale laterally *Onthophagus terandus* (F)
- 25(24) Both head and pronotum without any process. Elytral colour variable, never as above.
- 26(29) Smaller species (4-4.5 mm). Male with broad transverse lamina produced upward and bifurcate at tip.
- 27(28) Elytra black and yellow *Onthophagus troglodyta* F.
- 28(27) Elytra predominantly black, except at humeral callus and at apex which are pale
..... *Onthophagus songsokensis* Sp. nov.
- 29(26) Larger species (7.5-10 mm.). Male either with tubercle or with long slender horn
..... *Onthophagus spinifex* F.
- 30(23) Pronotum never granular or asperately punctured.
- 31(42) Punctures of pronotum umblicate.
- 32(35) Upper surface uniformly black.
- 33(34) Clypeus not bilobed *Onthophagus furcillifer* Bates
- 34(33) Clypeus more or less bilobed *Onthophagus circulifer* Arrow
- 35(32) Upper surface not uniformly black.
- 36(37) Large species (9-12 mm.) Elytra entirely reddish *Onthophagus rubripennis* Arrow
- 37(36) Smaller species (4-4.5 mm.). Elytra with red spots at base and narrowly pale at apex.
- 38(39) Pronotal tubercles separate, pale colour reduced, male with two horns
..... *Onthophagus patill* Sp. nov.
- 39(38) Pronotal tubercles united at base, pale colour more prominent. Male with single horn.
- 40(41) Elytral striae replaced by large contiguous circles *Onthophagus amicus* Gillet
- 41(40) Elytral striae bearing small non-contiguous circles *Onthophagus furchicollis*, Arrow
- 42(31) Punctures of pronotum variable, never umblicate.
- 43(50) Punctures of pronotum large, incomplete and coalesce at places.
- 44(45) Pronotum abruptly flattened at hind angles *Onthophagus ruculosus* Harold
- 45(44) Pronotum not abruptly flattened at hind angles
- 46(47) Clypeofrontal carina absent *Onthophagus (C) Krishnai* Sp. nov.
- 47(46) Clypeofrontal carina present.
- 48(49) Clypeofrontal carina double, posterior one with tubercle in the middle
..... *Onthophagus ramosellus* Bates
- 49(48) Clypeofrontal carina single, and without any tubercle in the middle
..... *Onthophagus aenescens* (Wiedmann)
- 50(43) Punctures of pronotum simple, never asperate, umblicate or coalesce with each other.
- 51(68) Upper surface uniformly black or blackish brown.

- 52(61) Clypeal margin never uniformly rounded or broadly truncated.
- 53(56) Horn absent in both sexes.
- 54(55) Pronotum scarcely and irregularly punctured *Onthophagus albinosi* Sp. nov.
- 55(54) Pronotum finely but uniformly punctured *Onthophagus edmondi* Sp. nov.
- 56(53) Horns present only in males.
- 57(58) Smaller species (3-4 mm.), brownish in colour. Clypeofrontal carina single
 *Onthophagus narayani* Sp. nov.
- 58(57) Larger species, (7-11 mm.), black in colour. Clypeofrontal carina double.
- 59(60) Pronotum lightly but closely punctured. Horns in male connected at base by a transverse lamina. Female with lamina trilobed *Onthophagus armatus* Bl.
- 60(59) Pronotum scarcely and not uniformly punctured. Horns in male not connected at base by lamina. Female with a short laminate tubercle on the vertex *Onthophagus dama* (F.)
- 61(52) Clypeal margin uniformly rounded or broadly truncated.
- 62(65) Clypeal margin uniformly rounded.
- 63(64) Both sexes without horn. Upper surface shiny *Onthophagus pacificus* Lansb.
- 64(63) Male with horn; upper surface not shiny *Onthophagus mopsus* (F.)
- 65(62) Clypeal margin never uniformly rounded, broadly truncated at apex, angular at sides.
- 66(67) Clypeofrontal carina very large in female and extend over whole length of the clypeus. Female without any *Onthophagus chandani* Sp. nov.
- 67(66) Clypeofrontal carina not extending over the whole length. Both sexes with horns
 *Onthophagus agaricophilous* Arrow
- 68(51) Upper surface never uniformly black or blackish brown.
- 69(70) Pronotum metallic violet, elytra black *Onthophagus prosadi* Sp. nov.
- 70(69) Pronotum and elytra never coloured as above.
- 71(72) Body specially pronotum covered with long hairs *Onthophagus garoensis* sp. nov.
- 72(71) Body not covered with long hairs.
- 73(78) Clypeus emarginate at least in one sex, sometimes may be emarginate in male.
- 74(77) Clypeus emarginate in male.
- 75(76) Vertex with distinct transverse carina in male *Onthophagus salpaharensis* Sp. nov.
- 76(75) Vertex without transverse carina in male *Onthophagus centricornis* (F.)
- 77(74) Clypeus in male acuminate *Onthophagus voulgeri* Boucomont
- 78(73) Clypeus never emarginate, either rounded, truncated or acuminate.
- 79(80) Clypeus rounded in both sexes *Onthophagus senguptae* Sp. nov.
- 80(79) Clypeus not uniformly rounded, angular in front of eyes in a line with clypeofrontal carina and acuminate in male.

- 81(82) Prothoracic process prominent. Front legs long and slender, apical spur large and hooked in male *Onthophagus beelsoni* Arrow
- 82(81) Prothoracic process not very prominent, represented only by tubercle.
- 83(86) Elytra and sides of pronotum pale; middle of pronotum dark.
- 84(85) Head with two horns and with a tubercle in.....*Onthophagus girii* Sp. nov.
- 85(84) Head without tubercles in between horns*Onthophagus meghalayanus* sp.nov.
- 86(83) elytra and pronotum differently coloured. Punctures black spotted.....
.....*Onthophagus luridipennis* (Boh.)

51. *Onthophagus (O) aenescens* (Wiedemann), 1823.

1823. *Copris aenescens* Wiedemann, *Zool. Mag.*, 2(1) : 13.

1931. *Onthophagus aenescens* Arrow, *Fauna Brit. India, Lamell.*, 3 : 216.

1963. *Onthophagus (S.Str.) aenescens* Balthasar, *Monogr. Scarab. Aphod. Palaearkt. orient.*, 2 : 264.

Material examined : 42 exs. 20 ♂♂; 22 ♀♀

Remarks : The species comes close to *O.(O) ramosellus* Bates, but may be distinguished by its larger size, more closely punctured striae interval and absence of a tubercle in the middle of forehead.

Biology : this is a species found only in plains and is common in the Assam Valley, extending to the border of Meghalaya. This species occurs in cow and buffalo dung.

Distribution : The species has been recorded from Pakistan and India. In India the species was known from Uttar Pradesh and Bihar. This is the first time the species is being recorded from Meghalaya; in the state specimens have been collected from Garo hills : Nidanpur, bordering Assam.

Besides, large number of specimens have also been collected in Cachar district of Assam.

Type : In the Hamburg Museum.

52. *Onthophagus (O) agaricophilus* Arrow, 1931.

1931. *Onthophagus agaricophilus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 333.

1963. *Onthophagus (S.Str.) agaricophilus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 266.

Material examined : 2 exs. 1 ♂; 1 ♀

Remarks : The species may be separated from closely related *O.(O) duberhardi* Bouc. by the uniformly coloured pronotum and by the presence of horns in both sexes.

Biology : The species was known to occur in agaric fungus. Specimens have been collected from faeces of Wild Carnivore.

Distribution : The species was known only from Uttar Pradesh in India. This is the first record of the species from Meghalaya; within the state state, specimens have been collected from Khasi hills : Shillong.

Type : the British Museum (Nat. Hist.) London.

53. *Onthophagus (O) albinosi* Sp.nov.

Male. Body broadly oval and not very convex, head and pronotum black, elytra blackish brown, mouth organs, legs and part of ventral surface reddish; antennal club yellowish.

Head semicircular, clypeal margin rounded and strongly reflexed, more so in the middle, ocular lobe rounded, feebly angulate in the middle, separated from clypeus by a feeble clypeo-ocular carina. Clypeus separated from forehead by a curved indistinct carina, clypeal disc evenly and moderately strongly punctured, punctures, finer near clypeofrontal carina. Forehead flat and raised above clypeal disc and finely and thinly punctured, vertex with a minute transverse tubercle, little emarginate in the middle.

Pronotum simple and not very convex, feebly and very unevenly punctured, punctures being a little stronger in anterolateral region, basal region very thinly and minutely punctured; front angle blunt, hind angle obsolete, base rounded and little angulate in the middle; lateral margin almost straight in front, sinuate behind.

Elytra very finely striate, striae distinctly punctured, intervals flat and very finely and numerous punctured, punctures becoming little more prominent laterally, space between punctures microscopically sculptured; 7th striae strongly curved. Front tibiae with 4 teeth, except the apical one, all other placed at right angle to the long axis, apical spur pectangular and bent a little downwards, middle hind femora except a few setigerous punctures almost smooth beneath. Metasternal shield flat in the middle and imperceptibly punctured and with a indistinct longitudinal groove, sides of metasternum little more strongly and closely punctured. Last abdominal sternite emarginate in the middle to receive the phgidium. Pygidium margined at base and finely and thinly punctured.

Female. Similar to male except elytral disc strongly punctured, and 6th sternite not excised in the middle.

Length : 9.5-10.0 mm; breadth : 5.0 mm.

Material examined : 6 exs. 5 ♂♂; 1 ♀

Discussion : The species comes nearest to *O. (O) dama* (F.) but may be separated from it by absence of horn in both sexes and body not being very convex.

Biology : The species is found between c 500-700 m. altitude in alluvial soil in the cowdung.

Distribution : The species is known from Meghalaya (Khasi hills and Garo hills).

Type : Holotype (Regd. No. A1/4529) 1 ♂, from cowdung, Garo hills: Wageasi, 6.iv.1973. S. Biswas coll. Paratypes, 3 ♂♂ (Regd. No. A1/4530) from cowdung, Khasi hills, Umtham, 23.vii.1971. S. Biswas coll. 1 ♀, same date as holotype except collected on 8.iv.1973. Deposited at present in the collection of Eastern Regional Station, Zoological Survey of India, Shillong.

54. *Onthophagus (O) amicus* (Gillet), 1925.

1925. *Caccobius amicus* Gillet, *Ann. Soc. Sci. Brux.*, 44 : 230.

1931. *O. phagus amicus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 275.

1963. *Onthophagus (S.Str.) amicus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 269.

Material examined : 21 exs. 100 ♂♂; 11 ♀♀.

Discussion: The species resembles *O. (O) furcicollis* Arr., closely but may be separated from the latter by elytral striae being covered with large contiguous punctures.

Biology : The species is found in the state at lower altitude between foothills and c 1,000 m. It occurs in the faeces of carnivore and man but rarely in cattle dung.

Distribution : The species is known only from India. In India it has been recorded from Uttar Pradesh, Sikkim and Nagaland. This is the first time the species is being recorded from Meghalaya.

Type : Type in Dr. Gillet's collection.

55. *Onthophagus (O) armatus* Blanchard, 1853.

1853. *Onthophagus armatus* Blanchard, *Voy. au Pole Sud*, 98.

1931. *Onthophagus armatus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 293.

1963. *Onthophagus (S.Str.) Armatus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2.

Material examined : 168 exs. 78 ♂♂; 90 ♀♀

Discussion : The species may be distinguished by the large eyes, uniformly and closely punctured pronotum, shining elytra and characteristic male cephalic armature.

Biology : The species is found in the open country, cultivated land and near the river bed in muddy or sandy soil. This insect has been collected so far only from the cattledung.

Distribution : The species is known to occur in Burma, Vietnam Philippine, Java and in India. In India the species has been recorded only from Assam (Cachar). This is the first time the species is being recorded from Meghalaya; in this state the specimens have been collected from Khasi hills: barapani, Umran, Umsning and Umtham, Garo hills : Demra, Rongringgiri, Rongjeng and Songsok.

Type : Type in the Paris Museum.

56. *Onthophagus (O) asoki*, Sp.nov.

Female. Body oval, compact, moderately convex, black, pronotum shining, elytra opaque, clypeal margin, mouth organs, antennae, legs and hairs covering upper and lower surface pale.

Head elongate, clypeus a little produced in front, front margin broadly emarginate in the middle and strongly reflexed; ocular lobe rounded, a little prominent. Clypeofrontal carina strongly developed, rounded, posterior carina straight between the eyes; Clypeal disc. forehead and ocular lobe uniformly, strongly but not very closely covered with setigerous punctures.

Pronotum uniformly closely and strongly punctured and covered with short pale setae; front angle blunt, hind angle obsolete and base gently rounded. Lateral margin rounded in front, feebly sinuate behind. Elytra deeply striate, striae sparsely punctured, intervals microscopically sculptured and covered with minute granules. Front tibiae short, broad and armed with 4 external teeth. Metasternal shield with a median longitudinal smooth line and sparsely punctured, sides of metasternum a little more strongly punctured. Pygidium not margined at base and strongly and closely punctured.

Length : 5.0 mm; **breadth** : 3.0 mm.

Material examined : 1 ex. 1 ♀

Discussion : The species comes near to *O.(O) barapanensis* Sp. nov. but may be separated from it by the pronotum not being flat in the middle and punctures not being umblicate.

Biology : The specimen was collected from cow dung in the reserve forest at c 500 m. altitude.

Distribution : The species is known only from the type locality.

Type : Holotype ♀. (Regd. No. A1/4531) from Cowdung, Garohills; Songsok, 14.iii.1973. S. Biswas, coll. Deposited at present in the collection of the Eastern Regional Station, Zoological Survey of India, Shillong

57. *Onthophagus (O) barapanensis* Sp. nov.

Male. Body elongate oval, covered with pale short setae, black, opaque; mouth organs, antennae, anterior margin of clypeus, tarsi, part of middle and hind coxae reddish, as also ventral hairs on legs and abdomen.

Clypeus evenly rounded separated from forehead by a feebly curved carina, clypeo-ocular suture feeble, clypeal disc. closely punctured by large and small punctures. Vertex with a small protuberance in the middle.

Pronotum closely and strongly punctured, middle of the pronotum with large oval depression extending from base to three-fourth of the length and covered with umblicate punctures, front angle a little produced, lateral margins straight in front, sinuate behind; hind angle obsolete; base margined, little produced in the middle, sides of the pronotum covered with short setae.

Elytra strongly striate, striae moderately closely punctured, strial internal granular, each granule having a short seta. Front tibiae short, with four external teeth. Metasternum scarcely punctured in the middle, strongly so at the sides, antero-medially with a compressed prominence. Anterior femora ventrally strongly punctured. Other femora gradually less closely punctured. Pygidium beset with short setae, less strongly and closely punctured than pronotum; base of pygidium without margin.

Female : Unknown.

Length : 5.5 mm; breadth : 3 mm.

Material examined : 1 ex. 1 ♂.

Discussion : The species comes near to *Onthophagus (O) rovi* Sp. nov. but may be easily distinguished by the depression in the middle of the pronotum and punctures being umblicate.

Biology : Single specimen was collected from the floor of the pine forest from human faeces.

Distribution : the species is known only from the type locality.

Type : Holotype 1 ♂ (Regd. No. A1/4532) collected from human faeces; Khasi hills; 6.vi.1973. coll. S. Biswas. Deposited at present in the collection of Zoological Survey of India, Shillong.

58. *Onthophagus (O) beelsoni* Arrow, 1931.

1931. *Onthophagus beelsoni* Arrow, *Fauna Brit. India, Lamell.*, 3 : 319.

1963. *Onthophagus (S.Str.) beelsoni* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.* 2 : 289.

Material examined : 23 exs. 12 ♂♂; 11 ♀♀

Remarks : The species close to *Onthophagus (O) gracilipes* Boucomont but may be separated by the elytra being less closely punctured and more shining. The species is remarkable for the strongly elevated prothorax in male.

Biology : the species is found in the hills below c 300 m. These insect frequent cattledung and are found in grassy field.

Distribution : The species is endemic to India and was so far known from Uttar Pradesh, West Bengal. This is the first time the species is being recorded from the state and specimens have been collected from Garo hills; Damra, Songsok, Anogiri and Balphakram.

Type : In the British Museum (Nat. Hist.), London.

59. *Onthophagus (O) brutas* Arrow, 1931.

1931. *Onthophagus brutas* Arrow, *Fauna Brit. India, Lamell.*, 3 : 215.

1963. *Onthophagus (S.Str.) brutas* : Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 299.

Material examined : 79 exs. 43 ♂♂; 36 ♀♀

Remarks : The species is very close to *O. (O) orientalis* Har. but may be separated from it by the difference in the nature of cephalic armature and pronotal carinae on the upper margin of declivity.

Biology : The species are more common in the hills above c 1,000 m. altitude and is found in the faeces of carnivore and human being.

Distribution : The species is known from India and Burma. In India, the species was so far recorded only from Bihar. This is the first record of the species from Meghalaya.

Type : In the British Museum (Nat. Hist.), London.

60. *Onthophagus (O) centricornis* (Fabricius), 1798.

1798. *Copris centricornis* Fabricius, *Ent. Syst. Supple.* : 33.

1931. *Onthophagus centricornis* : Arrow, *Fauna Brit. India, Lamell.*, 3 : 343.

1963. *Onthophagus (S.Str.) centricornis* : Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.* 2 : 305.

Material examined : 343 exs. 192 ♂♂; 151 ♀♀

Remarks : The species closely resemble *Ceccobius (Caccophilous) unicornis* (F.) but may be separated from it by the external teeth in the front tibiae in female, being obliquely placed and front angle of pronotum not being hollowed beneath, in both sexes.

Biology : The species is found at lower elevation in the state. This insect is common in the forest areas, river banks, in muddy or sandy soil. It occurs in cattle dung, in faeces of human and carnivore and it is one of the very few species which visit horse dung.

Distribution: The species is known to occur in Ceylon and in India, In India, the species has been recorded from Madhya Pradesh; Maharastra, Karnataka and Tamil Nadu. This is the first time the species is being recorded from Maghalaya. In the state it has been recorded from Khasi hills : Nongpoh, Garo hills : Songsok, Rongrengiri, Wageasi and Damra.

Type : In the Copenhagen Museum.

61. *Onthophagus (O) chandani* sp. nov.

Female : Body elongated oval; moderately convex, black above and beneath, covered with short pale setae; mouth organs, antennal stalk and tarsi reddish, antennal club pale.

Head elongated; clypeal margin straight, converging and broadly pruncated in the middle of the front margin, and reflexed; separated from forehead by a very large strong transverse carina which is a little curved in the middle and extends to the whole length. Clypeo-ocular suture indistinct, puncturing on ocular lobes a little closer than those on forehead. Vertex finely punctured and provided with a transverse carina, which is a little outwardly directed at extremities.

Pronotum not very convex, uniformly, moderately closely and not very strongly punctured; provided with a narrow longitudinal smooth line in the middle, front angles rather sharp, hind angles obsolete, base rounded and little angulate in the middle; lateral margin feebly rounded in front, sinuate behind. Elytra finely but distinctly striate, 7th striae greatly curve, punctures on elytral striae indistinct. Elytral intervals numerous, finely and asperately punctured, space between punctures almost smooth and very feebly and microscopically punctured, Basal segment of antennae at anterior margin feebly serrated at less than half the distance. Metasternal shield with a longitudinal groove in the middle and sparsely covered with minute and medium sized punctures, sides sparsely but more strongly punctured. Front tibiae with 4 external teeth, apical spur large and a little bent downward. Lower surface of all the femora covered with numerous setigerous punctures. Pygidium finely margined at base and moderately, closely punctured.

Male : Unknown.

Length : 7.0 mm; breadth : 4.5 mm.

Material examined : 2 exs. 2 ♀ ♀

Discussion : The species is close to *O.(O) beelsoni* Arrow and *O.(O) gracilipes* Boucomont but may be separated from both by the uniform black colouration.

Biology : The specimens have been collected from the road side from cowdung.

Distribution : The species is known only from the type locality.

Type : Holotype 1 ♂ (Regd. No, A1/4533) collected from cowdung. Garo hills : Darugiri, 10.iv.1973. coll. S. Biswas Paratype 1 ♂ (Regd. No. A1/4534) from cowdung Garo hills : Balaphakram, 22.iii.1976, coll, S. Biswas, Deposited at present in the collection of Zoological Survey of India, Shillong,

62. *Onthophagus (O) charikutiensis* sp.nov.

Male : Head and pronotum black, elytra brownish; mouth organs; antennal stalkm tarsi and parts of tibiae, blackish brown, lower surface shining black.

Head little produced clypeal disc separated from forehead by a feeble straight carina. Ocular lobe rounded, margin passes smoothly to clypeus, being separated from clypeus by a suture. Clypeal disc

feebly, rugesely punctured in front, almost smooth towards base in the middle and provided with a few large punctures, space between punctures shining. Vertex provided with two straight horns, connected by a lamina in the middle, the lamina being acute in the middle.

Pronotum highly convex, moderately closely and strongly punctured; few punctures above anterior declivity being asperate; whole pronotum covered with a pale long hairs, upper margin of declivity with two small prominence, separated from each other by a small curved carina. Front angles blunt, hind angles obsolete, base gently rounded. Pronotum margined anteriorly, laterally and at a short distance at the middle and is provided with a shallow longitudinal groove which is more distinct at base; lateral margins feebly rounded in front, sinuate behind.

Elytra deeply but finely striate, striae minutely punctured and the punctures connected by longitudinal streaks; elytral interval longitudinally convex in the middle, almost shining and covered with numerous setigerous punctures.

Metasernal shield flat and smooth in the middle sides so metasternum more closely punctured. Front tibiae with four external teeth, base serrated, apical spur long and acute. Lower surface of middle femora closely punctured and hind femora a little less closely punctured. Last abdominal sternite emerginate in the middle to receive the pygidium. Pygidium not margined at base and closely but not so strongly punctured.

Length : 6.5 breadth : 4 mm.

Material examined : 1 ex. 1 ♂

Discussion : The species is close to *O.(O) orientalis* Harold and *O.(O) brutus* Arrow but may be separated by Uniformly brown elytra.

Biology : The specimen was collected from a uncultivated grassy field from accumulated cowdung together with *O.(O) tarandus* (F.)

Distribution : The species is known only from type locality.

Type : Holotype 1 ♂ (Regd. No. A1/4535) collected from cowdung Garo hills Charikuti, u.ii.1973. coll. S. Biswas. Deposited at present in the collection of Zoological Survey of India. Shillong.

63. *Onthophagus (O) circulifer* Arrow, 1931.

1931. *Onthophagus circulifer* Arrow, *Fauna Brit. India, Lamell.*, 3 : 274.

1963. *Onthophagus (S.Str.) circulifer*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 311.

Material examined : 30 exs. 13 ♂ ♂; 17 ♀ ♀

Remarks : The species appears close to *O.(O) furcillifer* Bates but may be separated from it by clypeus being excised in both sexes and by the granules on elytra rather finer.

Biology : The species is found in the state about c 1,500 m. altitude. Specimens have been collected only from Cattle dung in open field.

Distribution : The species is known to occur in Burma, Bangladesh and India, it has been recorded from Uttar Pradesh; Sikkim; Kashmir; Madhya Pradesh; West Bengal and Meghalaya.

Type in the British Museum (Nat. Hist.), London.

64. *Onthophagus (O) dama* (Fabricius), 1798.

1798. *Copris dama* Fabricius, *Ent. Syst. Suppl.* : 32.

1931. *Onthophagus dama* : Arrow, *Fauna Brit. India, Lamell.*, 3 : 280.

1963. *Onthophagus (S.Str.) dama* Balthasar, *Monogr. Scarab. Aphod. palaearkt. palaearkt. orient.*, 2 : 325.

Material examined : 226 exs. 101 ♂♂; 125 ♀♀

Biology : This species is more common on the higher hills of the state. They are generally found mostly in the open country either on road side or in the uncultivated waste land. This species is found only in dung of herbivorous animals, specially in the cowdung.

Distribution: The species is known to occur in Nepal, Bhutan, Srilanka and in India. In India, the species has been recorded from Uttar Pradesh; Sikkim; West Bengal; Bihar; Maharastra; Madhya Pradesh; Andhra Pradesh; Karnataka; Tamil Nadu. This is the first time the species is being recorded from Meghalaya. In the state, specimens have been collected from Khasi hills: Barapani, Umtham, Umsning, Mawphlong and Garohills : Songsok; Wageasi, Rongtham, rongjeng and Ture.

Type in the Copenhagen Museum.

65. *Onthophagus (O) deflexicollis* Lansberge, 1883.

1883. *Onthophagus deflexicollis* Lansberge, *Notes Leyden Mus.*, 5 : 72.

1931. *Onthophagus deflexicollis* Arrow, *Fauna Brit. India, Lamell.*, 3 : 331.

1963. *Onthophagus (S.Str.) deflexicollis* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 327.

Material examined : 15 exs. 8 ♂♂; 7 ♀♀

Remarks : The species may be easily recognised by the smooth head and its characteristic pronotal shape in males.

Biology : The species has been recorded from vegetable matter only. On the specimen was collected from the fungus together with *Parachorius thomisus* Har. and *Onthophagus pacificus* Lansberge. Another specimen was collected from the young rotten bamboo. Two other specimens were collected from cowdung.

Distribution : The species has been recorded from India, Burma, Vietnam, Malay-Peninsula. Sumatra. India, the species was known from Uttar Pradesh, West Bengal, Assam and Maghalaya.

This is the first record of the species from Khasi hills in Meghalaya; earlier it was known only from Garo hills. In Khasi hills specimens have been collected from Shillong, Barapani and Nongpoh.

Type in the Paris Museum.

66. *Onthophagus (O) dhari* Sp. now.

Male : Body elongated oval and fairly convex, upper surface uniformly black, lower surface, mouth organs and antennae pitchy covered above and beneath with short brown hairs, head, smooth and slightly metallic.

Head without any armature. Clypeal margin a little projecting in front and reflexed. Ocular lobes smoothly intergrades with clypeus, clypeo-ocular suture not distinct. Clypeus very finely and sparsely

punctured, punctures on ocular lobes a little stronger than those in clypeus. Antennae 9 segmented, anterior margin of basal segment sharp but smooth.

Pronotum highly convex without distinct anterior declivity but sloping sharp in front and at sides uniformly, and moderately strongly punctured, space between punctures smooth as also a little depressed area located just above the hind angle, front angles moderately sharp hind angles obsolete, base rounded; lateral margin straight in front, sinuate behind. Front tibiae with 4 external teeth, placed at equal distance, spur of front tibiae acute and bent downwards. Elytra distinctly striate, punctures on striae not strong, intervals, numerous covered with setigerous punctures, space between puncturing, smooth Metasternal shield, thingly but strongly punctured at middle, sides more strongly and rather closely punctured, strongly sloped in front, sloping continues laterally thus producing a small compressed prominence in the middle. Basal segment of hind tarsi long, but 2nd segment not so small, more than of the first segment, rectangular and not narrowed at base. Pygidium margined at base, and strongly but not very closely punctured.

Female : Unknown :

Length : 6 mm; breadth; 3.5 mm.

Material examined : 2 exs. 2 ♂♂ .

Discussion : This species comes close to *Onthophagus (Onthophagiellus) crassicollis* Bouc., but may be separated from it by 2nd segment of the hind tarsi being more than one fourth of the basal segment.

Biology : Specimens have been collected from the floor of the forest in human faeces.

Distribution: The species is known from Khasi and Garo hills in Meghalaya.

Types : Holotype 1 ♂ (Regd. No. A1/4536) collected from human faeces, Khasi hills : Barapani, 6.vi.1973, coll. S. Biswas, Paratype, 1 ♂ (Regd. No. A1/4537) collected from human faeces, Garo hills : Balphakram 23.iii.1976. Coll. S. Biswas, Deposited at present in the collection of Zoological Survey of India, Shillong.

67. *Onthophagus (O) edmondi* Sp. nov.

Male : Body broadly oval, compact, upper surface uniformly black except in anterior margin of head, pitchy; lower surface black; mouth organs, antennae and legs brownish black.

Head broadly truncated at anterior margin, gently rounded at sides, ocular lobes rounded, a little angulate in front of eyes, separated from clypeus by a feeble carina; clypeal disc separated from forehead by a curved feeble carina, closely, uniformly and moderately strongly punctured. Forehead flat, a little raised from clypeal surface and thinly, uniformly and finely punctured. Space between punctures opeque, vertex with a straight carina between eyes a little sinuate in the middle. Pronotum transverse and moderately convex; uniformly finely and moderately punctured throughout, front angle, bluent, hind angle obsolete, base rounded, lateral margin straight in front, rounded, behind.

Elytra not very finely striate, striae closely punctured by minute punctures and these are connected by longitudinal streaks. Elytra intervals minutely punctured and space between punctures

microscopically sculptured. Front tibiae with 4 external teeth, apical two closer and larger, except the apical one, rest are placed at right angles to the long axis of tibiae; base and in between the space serrated.

Metasternal shield almost smooth in the middle, moderately punctured at sides and anterior margin with sign of compressed process. Sides of Metasternum not very strongly punctured. Abdominal sternite smooth in the middle and last one emerginate in the middle to receive the pygidium. Pygidium margined at base and not very strongly punctured.

Length : 6-6.5 mm; breadth : 3.5 mm.

Material examined : 3 exs. 3 ♂ ♂

Discussion : The species comes close to *Onthophagus (O) armatus* blanchard but may be separated by the smaller size and males being horn less.

Biology : The species were collected from the sandy banks of hills streams in cowdung.

Distribution : The species is known only from type locality.

Type : Holotype 1 ♂. (Regd. No. A1/4538) songsok Reserve forest 14.v.1973, Coll. S. Biswas, Paratype, 2 ♂ ♂, same data as for the holotype. Deposited at present in the collection of Eastern Regional Station, Zoological Survey of India, Shillong.

68. *Onthophagus (O) furcicollis* Arrow, 1931.

1931. *Onthophagus furcicollis* Arrow, *Fauna Brit. India, Lamell.*, 3 : 276.

1963. *Onthophagus (S.Str.) furcicollis*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.* 2 : 359.

Material examined : 105 exs. 50 ♂ ♂; 55 ♀ ♀

Remarks : The species is close to *O.(O) amicus* Gillet, but may be separated by the chains of large annular punctures replacing the elytral striae. Female of the species was unknown. This is the first time female is being characterised.

Biology : The species is common at foothills and hills of lower altitude. This species has been collected mainly from human faeces and carnivore faecal matter.

Distribution : The species is known to occur only in India. In India, it has been recorded from Uttar Pradesh and Sikkim. This is the first time the species is being recorded from Meghalaya. In the state, specimens have been collected from Khasi hills : Umtham; Nongpoh; and Garo Hills: Songsok, Wageasi, Rongrenggiri and Anogiri.

Type : Type in the British Museum (Nat. Hist.), London.

69. *Onthophagus (O) furcillifer* Bates, 1891.

1891. *Onthophagus furcillifer* Bates *Entom*, 24, *Suppl.* : 11.

1931. *Onthophagus furcillifer* Arrow, *Fauna Brit. India, Lamell.*, 3 : 273.

1963. *Onthophagus (S.Str.) furcillifer* : Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.* 2 : 360.

Material examined : 306 exs; 131 ♂ ♂; 175 ♀ ♀

Remarks : The species is easily recognised by the highly convex body, sharp anterior declivity of pronotum and pronotum being covered with large umblicate punctures.

Biology : This is one of the commonest species of the state and is found in excreta of both herbivorous and carnivorous animals. The species is found in the plains as well as in the hills and common in open country.

Distribution : The species is known only from India. In India, the species has been recorded from Kashmir, Uttar Pradesh, Assam, Meghalaya and Kerala. In the state the species is known from all the five districts.

70. *Onthophagus (O) garoensis* Sp. nov.

Male : Body elongated oval, not very convex, coppery and shining; elytra with a pale spot on humeral callus, a transverse large spot near suture and the base of elytron and a narrow posterior marginal patch; anterior margin of head, antennae, mouth organs, front tibiae and tarsi reddish. Upper surface covered with long pale hair.

Head elongate, clypeus almost straight in the middle of the front margin, ocular lobe rounded at sides, clypeo-frontal carina absent, a posterior carina straight between eyes, a little tuberculate at sides; clypeal disc, forehead and ocular lobes sparsely punctured with large setigerous punctures. Vertex a little closely punctured. Pronotum simple, front angle rather sharp, hind angle obsolete, basi rounded,, a little produced in the middle, lateral margin almost straight in front, feebly sinuate behind; whole pronotum covered uniformly with setigerous punctures. Elytra lightly striate, striae sparsely and intervals a little closely punctured. Front tibiae armed with 4 external teeth. Metasternal shield, flat behind, sloping anteriorly with a conical prominence in the middle, generally sparsely punctured but sides of metasternum rather closely punctured. Pygidium margined at base and closely and strongly punctured.

Female : Unknown.

Length : 4.5 mm; breadth 3 mm.

Material examined : 1 ex. 1 ♂

Discussion : The species is conspicuous by its colouration and long hairy clothing. It comes near to *O. (O) vulpinus* Arrow, but may be separated by the simple punctures at elytral intervals and the pronotum not being convex.

Biology : the single male specimen was collected from the moist forest floor in the faeces of wild carnivore.

Distribution : The species is known only from the type locality.

Type : Holotype 1 ♂ (Regd. No. A1/4539) collected from faeces of wild carnivore, songson, Garo hills, 14.iv.1973, coll. S. Biswas. Deposited at present in the collection of Eastern Regional Station Zoological Survey of India, Shillong.

71. *Onthophagus (O) girii* sp. nov.

Male : Body broadly oval, moderately convex, head and pronotum shining; head, middle of pronotum, sutural interval and parts of 2nd, 3rd, 4th, 5th and 7th elytral interval longitudinally black; undersurface of head, greater part of metasternum in the middle and at sides, coxae, abdominal suture and last abdominal sternite blackish, rest of the body pale yellow.

Head produced, clypeus acuminate, strongly reflexed in anterior half. Clypeo-frontal carina absent, clypeal margin a little prominent in front of clypeo-ocular suture; clypeal disc uniformly and closely but not very strongly punctured, forehead a little raised from clypeal disc and covered with closely arranged small and medium punctures, vertex provided with a pair of almost straight horn which are broad at basal half, a little incurved at apex and with a prominent tubercle in between. Anterior margin of basal segment of antennae carinate but not distinctly serrated.

Pronotum feebly margined anteriorly, laterally at a short distance in the middle at base, with a shallow declivity anteriorly, upper margin of declivity being indistinct and a little depressed longitudinally in the middle. Front angle sharp, hind angle obsolete, base rounded. Pronotal disc strongly and closely punctured, punctures being less strongly antero-laterally. Front tibiae with four external teeth, 1st and 2nd teeth large and oblique. 3rd at right angle to the long axis, 4th minute; base of front tibiae serrated anteriorly, apical spur acute and directed downward. Metasternal shield, smooth and shining and feebly punctured, sides of metasternum strongly punctured. Pygidium uniformly and strongly punctured, feebly margined at base.

Female : Similar to male except in the following characters : (i) Clypeal margin almost rounded (ii) Cephalic horn absent, replaced by a short transverse carina (iii) Last ventral sternite not emerginate in the middle.

Length : 6.5-7.0 mm; breadth, 4.0 mm.

Material examined : 10 exs. 6 ♂♂; 4 ♀♀

Discussion : The species is close to *O.(O) meghalayanus* Sp. nov. but may be separated from the former by the absence of tubercle in between the cephalic horns.

Biology : The species is mainly restricted to the area above c 1,000 m. altitude and common in the cleared area bordering forest. All the specimens have been collected from either human faeces or from the carnivore excreta.

Distribution : The species is only known from Khasi hills. : Umtyngar and Garo hills : Songsok, in Meghalaya.

Type : Holotype 1 ♂ (Regd. No. A1/4540) collected from human faeces, umtyngar, Khasi hills, 26.v.1972, coll. S. Biswas, Paratypes, 5 ♂♂, 3 ♂♂ (Regd. No. A1/4541) date same as the holotype. 1 ♂ (Regd. No. A1/4542) collected from Carnivore faeces, 15. iv.1973. coll. S. Biswas. Deposited at present in the collection of Zoological Survey of India, Shillong.

72. *Onthophagus (O) Krishnai* Sp. nov.

Male : Body elongated oval, not very convex, black, mouth organs, antennae tarsi and scanty hairs upon legs and ventral surface reddish.

Head broad, clypeal margin entire, feebly reflexed and narrowly truncated in the middle of front margin; clypeus not separated from forehead, posterior margin of head with raised triangular disc.; head uniformly, rather strongly punctured except in the raised posterior disc. punctures near anterior margin of clypeus becoming rather rugose. Pronotum simple, closely uniformly and rather strongly punctured. Front angle blunt, hind angle obsolete, base gently rounded and angulate in the middle, lateral margin almost straight in front and strongly sinuate behind. Elytra broadly but shallowly striate, striae sparsely and minutely punctured, intervals closely but not very strongly punctured and covered with very minute pale hairs. Front tibiae armed with 4 external teeth, apical spur truncated at apex and bent downward. Metasternal shield with a longitudinal groove in the middle, anterior margin vertical and with a compressed process; sparsely punctured in the middle, and more closely near the compressed process; sides of metasternum unevenly punctured, punctures more numerous latered. Pygidium margined at base and uniformly and closely punctured.

Female : Similar to male except in the following characters : (i) Clypeal margin acuminate in the middle (ii) Posterior triangular disc more strongly developed. (iii) Last ventral sternite not excised in the middle; very broad.

Length : 6-9 mm; breadth; 4-5 mm.

Material examined : 4 exs 2 ♂♂; 2 ♀♀

Discussion : The species comes close to *O.(O) carionensis* Sp. nov. but may be separated from it by the presence of triangular raised disc near the posterior margin of head. One large male (from Jalpaiguri dist.), shows a conical prominence in posterior margin of head.

Biology : The species has been collected from the forest in lower altitude (c 500 m.) from faeces of Wild Carnivore. Collections from pit fall trap in Jalpaiguri district indicate that specimens may be attracted to fish part.

Distribution : The species is known from Garo hills dist. of Meghalaya and Jalpaiguri dist. of West Bengal.

Type : Holotype, 1 ♂ (Regd. No. A1/4543) Songsok reserve forest, Garo hills, 14.iv.1973. S. Biswas coll. (collected from wild Carnivore faeces). Allotype 1 ♂, same date as holotype, paratype 1 ♂ date same as above., Deposited at present in the collection of Zoological Survey of India. Shilong.

73. *Onthophagus (O) luridipennis* Boheman, 1858.

1858. *Onthophagus luridipennis* Boheman, *Engenies Resa* : 45.

1931. *Onthophagus luridipennis* Arrow, *Fauna Brit. India, Lamell.*, 3 : 317.

1963. *Onthophagus (S. Str.) luridipennis* Balthasar, *Monogr. Scarab. Aphod. Palaearkt. orient.*, 2 : 424.

Material examined : 270 exs. 129 ♂♂; 141 ♀♀

Biology : This is one of the commonest species in this area and is found almost in all the places from plains to the hill top. They frequent open cultivated field, grassland, sandy river beds and dense forests. This species is chiefly found in Cattle dung but occasionally it has been collected from human faeces. This species is more common in lower altitude from middle of February to November.

Distribution : This is a widely distributed species and is known from South China, Philippines, Java, Sumatra, Vietnam, Burma, Bangladesh and India. In India, the species was so far known from Uttar Pradesh, West Bengal and Assam. This is the first time the species is being recorded from Meghalaya. Type : Type in the Stockholm Museum.

74. *Onthophagus (O) meghalayanus* Sp.nov.

Male : Body compact, oval, upper surface covered with minute pale setae; head, middle of pronotal disc and sutural interval black, base of horn anteriorly, sides of pronotum and elytra, except sutural interval and some portion longitudinally in the middle of 3rd, 5th and 7th stria interval, middle and hind femora at lower surface and pygidium, pale. Antennae, mouth organs, tibiae, tarsi and sutures of sternite brown.

Head a little produced in front, clypeus in the anterior margin, not separated from forehead by a distinct clypeofrontal Carina; clypeal disc uniformly and moderately closely punctured, separated from ocular lobes by very distinct suture, vertex with pair of almost straight horns, a little flattened at basal half, without any prominence in between the horns.

8 Pronotum highly convex, strongly vertical in front, moderately strongly and closely punctured, except upon the anterior declivity, front angle sharp, hind angle obsolete, base rounded in front, little sinuate behind. Elytra feebly striate, striae inconspicuously and intervals finely punctured. Front legs not elongate, with four external teeth, first teeth oblique, rest almost at right angles to the long axis, apical spur almost rectangular and small; lower surface of mid and hind femore covered with fine punctures and pale setae., Metasternal shield finely punctured, with a longitudinal groove in the middle, sides of metasternum strongly punctured.

Pygidium feebly margined at base and closely but finely punctured and covered with small pale hairs.

Female : Clypeus founded, little prominent in front of ocular lobes, closely and strongly punctured, rugosely so anteriorly, separated from forehead with a curved carina which is not very long; forehead moderately strongly punctured, separated posteriorly by a strong almost straight carina. Pronotum with very feeble declivity, upper edge of declivity forming a slight arcuate carina. Front tibiae shorter but not much different from male.

Length : 6-7.5 mm; breadth : 4.5 mm.

Material examined : 8 exs. 4 ♂♂; 4 ♀♀

Remarks : The species comes close to *O.(O) girii* sp. nov. but may be separated from the former by the absence of tubercle between the horns.

Biology : This species is almost exclusively found in human faeces, and rarely in carnivore excreta. They occur in loose sandy soil near human habitations. These insects are found from foot hills to the highest peak in the state.

Distribution : The species is known only from Meghalaya, in both Khasi and Garo hills.

Type : Holotype 1 ♂ (Regd. No. A1/4545) collected from human faeces, Shillong, Khasi; 25.ii.1972 coll. S. Biswas. Paratypes 2 ♂♂, 3 ♂♂ (Regd. No. A1/4546) collected from human

faeces, Shillong 18.vi.1973, coll. S. Biswas, 1 ♂, (Regd. No. A1/4547) collected from Carnivore faeces, 11.iv.1973, coll. S. Biswas. Deposited at present in the collection of Zoological Survey of India, Shillong.

75. *O.(O) mopsus* (Fabricius), 1792.

1792. *Scarabaeus mopsus* Fabricius, *Ent. Syst.* 1 : 58.

1931. *Onthophagus mospus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 328.

1963. *Onthophagus (S.Str.) mopsus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 441.

Material examined : 55 exs. 32 ♂♂; 23 ♀♀

Discussion : Specimens examined, have a little asperately punctured space by the outer side of the thoracic tubercles. Otherwise it agrees well with the description of *Mopsus*. In large males, a short curved clypeofrontal carina could be observed, horn is also flattened in the base.

Biology : The species was collected in loose soil by the roadside from Cattle dung.

Distribution : The species is confined to India and Pakistan. From India it has been recorded from Kashmir, Uttar Pradesh, Bihar and West Bengal. This is the first time the species is being recorded from Meghalaya. In the state, it has been collected from Garo hills : Rongram, Songsok and Wageasi.

Type : Type in the Hope Department, Oxford University Museum.

76. *Onthophagus (O) naravani* Sp. nov.

Male : Body short, compact and not convex, uniformly brownish above and beneath.

Head shining, clypeus feebly excised in the middle in front, sides rounded anteriorly, straight behind, ocular lobe angulate in middle before eyes; clypeofrontal carina very weakly curved, clypeal disc and forehead minutely punctured. Posterior margin of head with two conical projections, separated by a depressed area. Pronotum broader than long, minutely and not very closely punctured. Front angle blunt, hind angle obsolete, base rounded, lateral margin straight in front, rounded behind. Elytra shallowly striate, striae not very closely punctured, intervals flat, very minutely and sparsely punctured. Front tibiae armed with 4 external teeth. metasternal shield very minutely punctured, sides of metasternum a little strongly punctured.

Female : Similar to male except in the following characters : (i) Cephalic projection absent (ii) Clypeus a little more strongly excised in the middle, (iii) Last ventral sternite emerginate in the middle.

Length : 3-4 mm; **breadth :** 2-2.5 mm.

Material examined : 3 exs. 1 ♂♂; 2 ♀♀

Distribution : The species resembles *O.(O) rufulgens* Arrow but may be easily separated from the former by smaller size, and by the differences in cephalic and pronotal shape and armature.

Biology : The species was collected from the floor of the forest in deer dung.

Distribution : The species is known only from the type locality.

Types : Holotype, 1 ♂ (Regd. No. A1/4548) Anogiri, Garo hills, 6.xi.1973, S. Biswas, coll. (Collected from deer dung). Paratypes 2 ♂ ♂ data same as for the holotype,. Deposited in the collection of Eastern Regional Stateion, Zoological Survey of India, Shillong.

77. *Onthophagus (O) orientalis* Harold, 1868.

1868. *Onthophagus orientalis* Harold, *Col. Hefte*. 4 : 88.

1931. *Onthophagus orientalis* Arrow, *Fauna Brit. India, Lamell.*, 3 : 213.

1963. *Onthophagus (S.Str.) orientalis* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.* 2 : 468.

Material examined : 305 exs. 149 ♂ ♂; 156 ♀ ♀

Biology : This is one of the commonest species of genus *Onthophagus* Latr. in the state. The species is available in both plains and higher hills. Members of this species are generally found in the faeces of Carnivores or in the human faeces. Specimens have also been collected from pit fall trap using fish bait in Jalpaiguri dist. on North Bengal.

Distribution : The species is known from India, Burma and Bangladesh, Thailand Malay peninsula and South China. In India, the species was so far known from Uttar Praeesh; Sikkim, Assam; Manipur and Meghalaya (Khasi hills). the species has been recorded from all the five districts of Meghalaya.

Type : Type in the Paris Museum.

78. *Onthophagus (O) pacificus* Lansberge, 1885.

1885. *Onthophagus pacificus* Lansberge, *Notes Leyden Mus.* 7 : 17.

1931. *Onthophagus pacificus* Arrow, *Fauna Brit. India, Lamell.* 3 : 172.

1963. *Onthophagus (S.Str.) pacificus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 465.

Material examined : 28 exs. 13 ♂ ♂; 15 ♀ ♀

Biology : The species is found generally in higher hills c 1,000 m. to c 2,000 m. The species has been collected in numbers from bulb of a fungus in association with *Parachorius chomsoni* Harold, occasionally, it has been collected from Cattle dung. The species is common around Shillong from June to October but in lower altitude it has been also collected in April.

Distribution : This species is a mountaneous form and shown discountinuous distribution. In India, the species is found in eastern Himalaya as far west as Uttar Pradesh, in the hills south of Brahmaputra and again in Nilgiri Hills in South India. Besides India, the species is also known from Burma, Indo-China, Thailand, Borneo, Java and also from Malaya peninsula.

Type : type in the Leyden Museum.

79. *Onthophagus (O) patill* Sp. nov.

Male : Body short, oval moderately convex, anterior margin of clypeus, mouth organs and legs reddish, each elytron with two plae spots near the apex and another one at base.

Head broad, clypeus excised in the middle of front margin, broadly rounded laterally; separated from forehead by a feeble curved carina and from ocular lobe by a suture; clypeal disc sparsely but rather strongly covered with setigerous punctures, punctures rather fine and more numerous near margin, fore head very finely and sparingly punctured Rosterior margin of head with two conical horn like projections.

Pronotum vertical in the middle, upper margin of declivity with two diverging conical projections. Front angle sharp, hind angle obtuse, base gently rounded and margined, lateral margin almost strongly round in front, sinuate behind. Pronotum covered with short pale hairs, strongly and closely punctured, punctures umbilicate in the middle and asperate anterolaterally. Elytra broadly striate, striae shallow and covered with non-contiguous annular punctures, intervals slightly convex and sparsely covered with setigerous punctures. Front tibiae armed with 4 external teeth, apical spur broadened at apex. Metasternal shield with a longitudinal median groove and a slight compressed prominence in the middle near anterior margin, sparsely and irregularly punctured, sides of metasternum a little more closely punctured. Pygidium closely punctured with large annular punctures.

Female : Similar to male except in the following characters : (i) Clypeus more strongly excised in the middle of front margin, (ii) Clypeofrontal carina stronger than in male (iii) Rosterior margin of head with a very strong broad carina (iv) Clypeal disc more strongly punctured and forehead with few large punctures. (v) Pronotal prominence less strongly developed and more close. (vi) apical spur of front tibiae acute.

Length : 4.5-5 mm; breadth ; 3 mm.

Material examined : 2 exs. 1 ♂ ♂ 1 ♀

Discussion : The species comes close to *O.(O) furcicollis* Arrow and *O.(O) amicus* Bouc. but may be easily separated from both of the earlier mentioned species, by the cephalic and pronotal armature.

Biology : The species was collected from Cattle dung near forests.

Distribution : The species is only known from Garampani in Jaintia hills in Meghalaya.

Type : Holotype 1 ♂ (Regd. No. A1/4550) Garampani, Jaintia hills, 10.xii.1975, S.K. Chanda coll. (collected from Cowdung) Paratype 1 ♀ data same as the holotype. Deposited at present in the collection of Zoological Survey of India, Shillong.

80. *Onthophagus (O) porcus* Arrow, 1931.

1931. *Onthophagus porcus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 325.

1963. *Onthophagus (S.Str.) porcus*, Balthasar, *Monogr. Scarab. Aphod.palaearkt. orient.*, 2 : 482.

Material examined : 29 exs. 14 ♂ ♂; 15 ♀ ♀

Remarks : The species is close to *O.(O) andrewesi* Arrow but may be separated by the clypeus being rounded and not distinctly produced and males having single cephalic horn.

Biology : The species has been collected from the alluvial soil in the floor of the shal (*Shorea robusta*) reserve, from the sandy bank of hill streams, in Garo hills, at an altitude of c 6000 m. The species inhabits faeces of human and Carnivore; it has never been collected from Cattle dung.

Distribution : The species was known from Sitapahar, Chittagong hill tracts of Bangladesh. This is the first time the species is being recorded from Meghalaya. In the state, specimens have been collected from Garo hills : Songsok, Rongrenggiri and Wageasi.

Type : Type in the British Museum (Nat. Hist.) London.

81. *O.(O) prosadi* Sp. nov.

Female : Body short, compact, head and pronotum violet, elytra black lower surface shining black; mouth organs, antennal stalk, tibiae and tarsi brownish; upper surface covered with small pale setae.

Head little produced and narrowed in front, clypeus emerginate in the middle of front margin, reflexed; ocular lobe separated from clypeus by a feeble suture. Clypeofrontal carina curved and strong; clypeal disc unevenly punctured, less closely and strongly in the middle and more strongly at sides. Forehead moderately strongly and not very closely punctured. Eyes very narrow, ocular lobes moderately strongly and not very closely punctured. Vertex with strong but not long transverse carina.

Pronotum not very convex, anterior declivity absent, uniformly, moderately strongly and closely punctured throughout, space between punctures appear shining, front angles blunt, hind angles obsolete, base rounded, lateral margin rounded in front, feebly sinuate behind. Elytra not very finely striate, striae indistinctly punctured, punctures connected by longitudinal streaks, the latter being double in first three striae; elytral intervals provided with numerous small granules, and space between granules microscopically sculptured. Front tibiae with 4 teeth, apical spur not large, conical and bent downwards. Metasternal shield, moderately strongly punctured, with smooth longitudinal lines; sides of metasternum strongly punctured. Lower surface of mid and hind femore closely punctured. Abdominal sternites with a row of setigerous punctures at anterior margin. Last abdominal sternite not emerginate in the middle to receive the pygidium. Pygidium not marginal at base, moderately strongly and closely punctured.

Male : Unknown.

Length : 5 mm; breadth ; 3 mm.

Material examined : 2 exs. 2 ♂♂.

Biology : The single specimen was collected from the damp floor of a jungle in faeces of Wild Carnivore.

Distribution : The species is known only from the type locality in the state.

Type : Holotype 1 ♀ (Regd. No. A1/4551) collected from the Carnivore excreta, Songsok, Garo hills, 14.iii.1973, coll. S. Biswas. Paratype 1 ♂, data same as for holotype. Deposited at present in the collection of Zoological Survey of India, Shillong.

82. *Onthophagus (O) ramosellous* Bates, 1891.

1891. *Onthophagus ramosellous*, Bates, *Entomologist*, **24** : 11.

1931. *Onthophagus ramosellous*, Arrow, *Fauna Brit. India, Lamell.*, **3** : 217.

1963. *Onthophagus (S. Str.) ramoselus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, **2** : 496.

Material examined : 211 exs. 103 ♂♂; 108 ♀♀.

Discussion : The species may easily be recognised by opaque upper surface, shining ventral surface and presence of a tubercle on forehead. In well developed male, cephalic horns are characteristics of the species.

Biology : This species is common at foothills and in plains and has not been collected above c 1,000 m. in this area. It occurs in cattle dung, human faeces and also in carnivore faeces. It prefers sandy loose soil in open country but may also found in rocky substratum.

Although the species has been noted to occur in the dung of herbivorous, Ominivorous and carnivorous animals, but it has never been collected from decaying vegetative matter, as has been reported by Arrow 1931, (P. 218).

Distribution : The species has been recorded from India, Pakistan and Burma. In India, it has been previously recorded from Punjab; Uttar Pradesh; Madhya Pradesh; Maharashtra; Bihar; West Bengal and Assam. This is for the first time the species is being recorded from Meghalaya. In the state specimens have been collected from Khasi hills : Barapani, Umtham, Umran and from Garo hills : Songsok, Baghmara and Siju.

Type : Type in the Paris Museum : Co-type in the British Museum (Nat. Hist.) London.

83. *Onthophagus (O) rovi* Sp. nov.

Male : Body short, not very convex, upper surface black, lower surface blackish brown, covered with short reddish setae, antennal club dark.

Head semicircular, clypeal margin uniformly rounded, Ocular lobe rounded, little angulate in front of eyes; clypeus separated from forehead by a curved carina and from ocular lobes by a carinate suture; Clypeal disc closely punctured with large, medium and minute, punctures, ocular lobes less closely punctured by large and medium punctures, large punctures being fewer in numbers; forehead bounded posteriorly by a straight carina, little elevated in the middle and punctured as in ocular lobe. Antennae 9 segmented, basal segment carinate at anterior margin but not serrated.

Pronotum not very convex, a little depressed longitudinally in the middle towards base, uniformly and moderately closely and strongly punctured, punctures simple, each with a seta at middle, space between punctures appear shining; lateral margins rounded in front, a little sinuate behind. Elytra strongly striate, striae feebly punctured, punctures being connected by longitudinal streak; elytral intervals covered with numerous setigerous punctures, arranged in two rows, except sutural interval which show a single row of puncture; space between punctures minutely sculptured in most of the parts, shining only postero-medially. Front tibiae provided with 4 external teeth, which are serrated at base. Metasternal shield narrowly grooved in the middle, thinly punctured with large punctures. Abdominal sternite with a single row of large setigerous punctures, not very closely placed. Last sternite emerginate in the middle to receive pygidium. not margined at base and moderately strongly punctured.

Female : Similar to male except in the following characters : (i) Clypeal disc more strongly punctured, (ii) last ventral sternite emerginate in the middle.

Length : 5-6 mm; **breadth** : 3-3.5 mm.

Material examined : 13 exs. 8 ♂♂; 5 ♀♀

Discussion : The species come close to *O.(O) barapanensis* Sp. nov. but may be separated from the former by pronotum not being flattened and being covered with umblicate punctures.

Biology : All specimens have been collected from loose soil in a grassy field in dog or human faeces. This species appears to be restricted to higher altitudes.

Distribution: The species is known only from type locality.

Type : holotype 1 ♂ (Regd. No. A1/4552) collected from dog faeces, Shillong, Khasi hills; 18.vi.1973, coll. S. Biswas, Partypes, (Regd. No. A1/4553) 6 ♂ ♂, 4 ♀ ♀, Khasi hills, 6.vii.1974, Coll. S. Biswas, 1 ♂, 1 ♀, (Regd. No. A1/4554) from human faeces, Shillong, Khasi hills, 9.v.1973, coll. S. Biswas. Deposited at present in the collection of Zoological Survey of India, Sillong.

84. *Onthophagus (O) rubripennis* Arrow, 1907.

1907. *Onthophagus rubripennis* Arrow, *Ann. Mag. nat. Hist.*, 19 : 419.

1931. *Onthophagus rubripennis* Arrow, *Fauna Brit. India, Lamell.*, 3 : 271.

1963. *Onthophagus (S.Str.) rubripennis* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 504.

Material examined : 15 exs. 5 ♂ ♂; 10 ♀ ♀

Discussion : The species may easily be recognised by the brick red elytra and black head and pronotum, the latter being closely covered with large umblicate punctures.

Biology : The species is found at the higher altitude in the state. They are more common in forested areas, in muddy soil and in cowdung; sometimes, this species has also been collected from human faeces.

Distribution : The species is known to occur in Burma, Bhutan and India. In India, it has been recorded from Sikkim; West Bengal and Meghalaya. During the present study the species has been collected from numerous localities in the state.

Type : Type in the British Museum (Nat. Hist.) London.

85. *Onthophagus (O) rugulosus* Harold, 1886.

1886. *Onthophagus rugulosus* Harold, *Dt. ent.* 30 : 289.

1931. *Onthophagus rugulosus*, Arrow, *Fauna Brit. India, Lamell.*, 30 : 227.

1963. *Onthophagus (S.Str.) rugulosus*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 507.

Material examined : 11 exs. 4 ♂ ♂; 7 ♀ ♀

Discussion : The species may be recognised by the pronotum being abruptly flattened at the hind angle and elytra being asperately punctured.

Biology : this species appear irregular in distribution and has been collected only from a single locality during the months of May-September. All the specimens were collected from open sandy bank of a large hills stream.

Distribution : The species is known from India and South China. In India, the species has been recorded from Garo hills of Meghalaya during the present study, now it has been collected from Khasi hills.

Type : Type in the German entomological Institute, Berlin.

86. *Onthophagus (O) salpaharensis* Sp. nov.

Male : Body oval, compact and not very convex, black, anterior part of clypeus, mouth organs, antennae, tibiae, tarsi and hairs on upper and lower surface reddish; a small spot near lateral margin at base of elytra and apical margin of elytra narrowly pale.

Head broad, clypeus rounded, front margin feebly excised in the middle and a little reflexed, uniformly punctured; clypeofrontal carina short, straight, posterior carina long, straight, forehead and ocular lobe punctured as clypeus.

Pronotum simple, strongly, uniformly and not very closely punctured with a mixture of small and medium punctures; front angle not sharp, hind angle obtuse, base rounded, lateral margin almost straight in front, sinuate behind. Elytra deeply striate, granules and short pale hairs. Front tibiae with 4 external teeth. Metasternum with a narrow groove behind, metasternal shield and sides of metasternum not very closely punctured. Pygidium margined at base and rather strongly punctured.

Female : Similar to male except in the following characters : (i) Clypeal disc strongly punctured and (ii) last ventral sternite-not excised in the middle.

Length : 5.5 mm. Breadth : 3.5 mm.

Material examined : 3 exs. 1 ♂♂; 2 ♀♀

Discussion : The species comes near to *O.(O) nagpurensis* Arrow, but may be separated by the elytral interval being granular and the body not being very convex.

Biology : Specimens were collected in a hills slope from cow dung at a c 500 m. altitude.

Distribution : The species is known only from the type locality.

Type : Holotype 1 ♂ (Regd. No. A1/4555) collected from Cowdung Salphar, Garo hills. 22.ii.73, coll. S. Biswas, Paratypes, 2 ♀♀ (Regd. No. A1/4556) data same as for the holotype. Deposited in the Collection of Zoological Survey of India, Shillong.

87. *Onthophagus (O) senguptai* Sp. nov.

Male : Body oval, not very convex, head black with clypeal margin pitchy, pronotum with a median broad black patch extending almost from base to apex, pale at sides; elytra pale yellow with irregular longitudinal dark patches; antennae, mouth organs, tibiae and tarsi brownish; under surface of femora broadly pale. Head almost uniformly rounded, closely covered with intermixture of small and medium punctures, clypeus and major part of ocular lobe reflexed at margin; clypeal disc not separated from forehead, demarcation with ocular lobe obliterated, vertex with a straight posterior carina between the eyes.

Pronotum not convex, flat in the middle, gently sloping laterally and anteriorly, without declivity in front, uniformly closely and moderately strongly punctured; front angle blunt, hind angle obsolete, base feebly angulate in the middle, lateral margin rounded in front, feebly sinuate behind. Elytra very finely striate, striae feebly puncture, intervals covered with minute punctures and numerous granules at side. Front tibiae blunt at apex. Metasternal shield feebly punctured in the middle, more strongly at

sides with an incomplete longitudinal groove, gently sloped anterolaterally producing an indistinct compressed prominence in the middle. Pygidium convex, margined at base and not very strongly punctured.

Female : Similar to male except in the following characters : (i) Clypeal margin a little prominent in front of ocular lobe (ii) Clypeal disc more strongly rather rugosely punctured and separated from forehead by a small clypeofrontal carina, (iii) Carina on vertex more prominent, (iv) Compressed prominence at the anteromedian region of metasternal shield a little more prominent (v) Last abdominal sternite not emarginate in the middle.

Length : 5.5 mm; breadth : 3.0-3.5 mm.

Material examined : 4 exs. 3 ♂♂; 1 ♀♀

Discussion : The species is close to *O. (O) taurinus* White, but may be separated from it by the absence of horns in both sexes and by the difference in colouration.

Biology : The species is found only in loose sandy soil at higher elevation (c 2,000 m.) in human faeces.

Distribution : The species is known only from the type locality.

Type : Holotype 1 ♂, (Regd. No. A1/4577), collected from human faeces, Rise colony, Shillong, 29.v.1972, S. Biswas, coll. Paratypes, 2 ♂♂, 1 ♂ (Regd. No. A1/4578), collected from human faeces, Shillong, 16.v.1973, S. Biswas coll. Deposited at present in the collection of Zoological Survey of India, Shillong.

88. *Onthophagus (O) singhi* sp. nov.

Male : Body elongated oval, moderately convex, black, tarsi and mouth organs reddish, antennae yellowish, basal part of pronotum shining.

Head rounded, clypeal margin gradually converging to a point, feebly reflexed in the middle; clypeofrontal carina absent, clypeo-ocular suture obliterated, clypeal disc closely and uniformly but not strongly punctured, forehead with a slight prominence in the middle, vertex without carina, a little depressed anteriorly.

Pronotum uniformly but feebly punctured, a little flattened laterally near base front angle blunt, hind angle obsolete, base gently rounded, a little produced in the middle; lateral margins almost rounded in front, sinuate behind. Elytra deeply striate, striae and intervals minutely punctured and microscopically sculptured. Front tibiae armed with 4 external teeth, basal crenulations strongly, denticles directed forward, a single denticle being present between 2nd and 3rd, 3rd and 4th external teeth. Metasternum lightly punctured in the middle, strongly at the sides and with a faint longitudinal line in the middle; anterior end of metasternal shield with a short compressed process. Last abdominal sternite emarginate in the middle. Pygidium margined at base, moderately strongly punctured.

Female : Similar to male except in the following characters (i) Clypeal disc rugosely punctured (ii) Last ventral sternite not emarginate in the middle, rather very broad.

Length : 5.5-6 mm; breadth : 3.5-4 mm.

Material examined : 6 exs. 3 ♂♂; 3 ♀♀

Discussion : The species comes close to *O. (Onthophagiellus) crassicollis* Buc. and *O. (O) dhari*, Sp. nov. but may be separated from the former by 2nd segment of hind tarsi being longer and from the latter in having upper surface of body without hair or setae.

Biology : The species was collected from the bait of birds meat placed in the forest floor. Beetles were obtained after 24 hours. Specimens have also been collected from fish bait at Gayerkata in Jalpaiguri dist., West Bengal.

Distribution : The species is known only from the type locality in Garo hills and Gayerkata in Jalpaiguri dist in West Bengal.

Type : Holotype 1 ♂ (Regd. No. A1/4559) Rongjeng, Garo hills; 12.iv.1971 (Collected from bait of birds meat), Coll. S. Biswas, Paratypes 1 ♂, (Regd. No. A1/4560) Anogiri, 6.ii.1973, Coll. S. Biswas, 2 ♀♀, Songsok, 16.iv.1974. coll. S. Biswas. Deposited at present in the collection of Zoological Survey of India, Shillong.

89. *Onthophagus (O) songsokensis* sp. nov.

Male : Body short and compact, not very convex, black, not very shining; elytra at shoulder prominence and at apex. tarsi and mouth organs reddish; antennae black.

Head rounded, clypeus very feebly emerginate in the middle, ocular lobe rounded; clypeal disc strongly punctured anteriorly, forehead strongly but sparsely punctured; Clypeofrontal carina almost imperceptible, vertex with a strong transverse carina.

Pronotum strongly punctured, punctures appearing umblicate, but incomplete in front or in the sides in most of the cases; front hind angle blunt, hind angle obsolete, base feebly margined and a little angular in the middle, lateral margin straight in front, rounded behind. Elytra fairly strongly striate, striae closely punctured, strial intervals convex, shining and asperately punctured. Front tibiae short, with 3 distinct external teeth, 4th one minute, first tooth oblique, 2nd and 3rd being placed at right angle. Metasternum feebly punctured in the middle, strongly in front and at sides, and with a small compressed prominence in the middle towards apex. Front femora strongly punctured below, middle and hind femora feebly punctured, both provided with short grey hairs on apical one third portion. Pygidium fairly strongly punctured with umblicate punctures.

Female : Similar to male except in the following characters : (i) Clypeal disc more strongly punctured and (ii) last sternite not being emerginate in the middle.

Length : 4 mm; **Breadth** : 3 mm.

Material examined : 2 exs. 1 ♂; 1 ♀

Discussion : The species comes near to *O. (O) troglodyta* (F.) but may be separated from the former by black colour; being more prominent and punctures of pronotum being almost umblicate.

Biology : Specimens were collected from the sandy soil at the floor of the Sal (*Shorea robusta*) forest, in human faeces.

Distribution : The species is known only from the type locality.

Type : Holotype 1 ♂ (Regd. No. A1/4562) collected from human faeces, Songsok, Garo hills, 17.iv.1973. coll. S. Biswas, Paratype 1 ♂ (Regd. No. A1/4563) data same as for the holotype. Deposited at present in the collection of Zoological Survey of India, Shillong.

90. *Onthophagus (O) spinifex* (Fabricius), 1781.

1781. *Scarabaeus spinifex* Fabricius, *Spec. Ins.*, 1 : 29.

1931. *Onthophagus spinifex* Arrow, *Fauna Brit. India, Lamell.*, 3 : 200.

1963. *Onthophagus (S. Str.) spinifex* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 535.

Material examined : 6 exs. 2 ♂ ♂; 4 ♀ ♀

Remarks : The species is polymorphic and its highly developed male may be confused with *O. (O) mopsus* (F.) but may be separated from it by the nature of pronotal punctures which are mostly being granular or asperate.

Biology : The species inhabits lower altitude in the state. Specimens have been collected from Cattle dung in the grassy field near roadside.

Distribution : The species is known from India and Ceylon. In India, the species was known from, Kerala; Tamil Nadu; Maharashtra; Bihar; and West Bengal. This is the first time the species is being recorded from Meghalaya. In the State the specimens have been collected from Garo hills: Wageasi.

91. *Onthophagus (O) shyamali* Sp. n.

Male : Body oval and not very convex, covered with short pale setae; head black, margin of clypeus brownish, pronotum metallic, bluish, elytra black, broadly reddish at base and narrowly so at apex.

Head without armature, clypeal margin straight, truncated at apex, ocular lobe rounded, smoothly intergrades with clypeus; clypeal disc smooth anteriorly, narrowly so in the middle, sides with large scattered punctures; ocular lobes and frons moderately and strongly punctured.

Pronotum margined anteriorly and laterally, moderately strongly, uniformly and not very closely punctured, space between punctures smooth, front angle sharp, hind angle obsolete, base rounded, lateral margins almost straight in front, strongly sinuate behind. Elytra broadly but shallowly striate, striae with distinct punctures, intervals provided with numerous, setigerous punctures little rugose laterally. Front tibiae with 4 external teeth, last one indistinct, serrated at base and also in between teeth. Metasternal shield shining and moderately punctured, sides of metasternum more strongly punctured and covered with long hairs, basal segment of hind tarsi long but less than 4 times as long as 2nd segment. Pygidium margined at base and moderately closely and strongly punctured.

Female : Similar to male except in the following characters : (i) Clypeal margin emarginate in the middle (ii) last ventral sternite not emarginate in the middle.

Length : 5 mm; breadth : 3 mm.

Material examined : 2 exs. 1 ♂; 1 ♀

Discussion : The species is close to *O. (O) vulgeri* Bouc. but may be separated by the absence of Cephalic armature in male.

Biology ; The first specimen was collected from rocky surface outside the pine forest from faeces of dog. the second specimen was collected from the sandy soil, also from dog faeces.

Distribution : The species is known only from Khasi hills in Meghalaya.

Types : Holotype 1 ♂ (Regd. No. A1/4564) collected from dog faeces, Barapani, Khasi hills : 6.vi.1973. coll. S. Biswas, Paratype 1 ♂ (Regd. No. A1/4565) collected from dog faeces, 7.viii.1971, coll. S. Biswas, Deposited at present in the collection of Zoological Survey of India, Shillong.

92. *Onthophagus (O) tarandus* (Fabricius), 1792.

1792. *Scarabaeus tarandus* Fabricius, *Ent. Syst.*, 1 : 48

1931. *Onthophagus tarandus* Arrow, *Fauna Brit. India. Lamell.*, 3 : 180.

1963. *Onthophagus (S.Str.) tarandus* Balthasar, *Monogr. Scarab. Aphod. Palaearkt. orient.*, 2 : 548.

Material examined : 7 exs. 4 ♂ ♂; 3 ♀ ♀

Discussion : The species may be easily recognised by characteristic prothoracic process; pronotum being covered with granules and by the colouration of the elytra.

Biology : Cleghorn M. (1914) has discussed the possible relation between this species and flowers of an aroid plant *Typhonium trilobatum* and she thought this species is an effective polinator and has presumed it to be a carrion-feeder. During this study specimens have been collected from Meghalaya as well as Dibrugarh district of Assam, all from almost plain areas. This insect has been collected from fresh cattle dung as well as from accumulated cattle dung stored for manure. These beetles are very active and unlike most of the species of the genus, try to run away very quickly but do not take to wings easily when disturbed. This species is restricted to lower altitude and is found in grassland near or away from human habitation and have not been collected from higher hills of the state.

Distribution : This species is endemic to India and has been recorded from various localities belonging to different states. So far this species was known from Uttar Pradesh; Madhya Pradesh; Tamil Nadu and West Bengal. This is the first time the species is being recorded from Meghalaya and Assam.

Type : Type in the Hope Department, Oxford University Museum.

93. *Onthophagus (O) troglodyta* (Wiedemann), 1823.

1823. *Copris troglodyta* Wiedemann, *Zool. Mag.*, 2(1) : 20.

1931. *Onthophagus troglodyta*, Arrow, *Fauna Brit. India.*, *Lamell.*, 3 : 207.

1963. *Onthophagus (S. Str.) troglodyta*, Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 565.

Material examined : 416 exs. 205 ♂ ♂; 211 ♀ ♀

Discussion : the species may easily be recognised by the nature of elytral colouration, prothoracic punctures and cephalic horns.

Biology : The species is found in dry high land in the floor of the shal (*Shore robusta*) forest as well as in the sandy bank of hill streams. This insect has been collected from Cattle dung and from Carnivore and human faeces.

Distribution : The species is known to occur only in India and has been recorded from Uttar Pradesh. This is the first time the species is being recorded from Meghalaya. In the State it has been collected from

Type : Type in the Copenhagen Museum.

94. *Onthophagus (O) vulgeri* Boucomont, 1923.

1923. *Onthophagus vulgeri* Boucomont, *Bull. Soc. ent. Fr.* : 10.

1931. *Onthophagus vulgeri* Arrow, *Fauna Brit. India, Lamell.*, 3 : 344.

1963. *Onthophagus (S.Str.) vulgeri* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 576.

Material examined : 16 exs. 3 ♂♂; 13 ♀♀

Remarks : The species is close to *O.(O) metallensis* sp. nov. but may be separated in having horn or transverse carina on head.

Biology : The species is found mainly on higher altitude, in sandy or muddy soil, in human or carnivore faeces. This species has never been collected from dung of herbivorous animals.

Distribution : The species is known to occur in Burma and India. In India, the species has been recorded from Uttar Pradesh and Meghalaya.

Type : Type in the British Museum (Nat. Hist.) London.

Key to the species of Subgenus *Digitonthophagus*

- 1(4) Elytra black. Species occurring at higher elevations (above c 1,000 m.)
- 2(3) Both elytra and pronotum black *O.(D) manipurensis* Arrow
- 3(2) Elytra black, pronotum reddish *O.(D) rubricollis* Hope
- 4(1) Elytra pale, not black. Species occurring at lower elevations (below c 700 m.)
- 5(6) Frontal angles of pronotum very sharp, vertex in male with a tubercle between horns
.....*O.(D) bonasus* (F.)
- 6(5) Front angles of pronotum blunt. Vertex in male without a tubercle between horns
..... *O.(D) gazella* (F.)

95. *Onthophagus (D) bonasus* (Fabricius), 1775.

1775. *Scarabaeus bonasus* Fabricius *Syst. Ent.* 23.

1931. *Onthophagus bonasus* : Arrow, *Fauna Brit. India, Lamell.*, 3 : 231.

1963. *Onthophagus (Digitonthophagus) bonasus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 296.

Material examined : 5 exs. 3 ♂♂; 2 ♀♀

Remarks : This species is very close to *O.(D) gazella* (F.) but larger size, similar cephalic armature in both sexes, a sharp median tooth and thoracic grooves are distinctive for the species.

Biology : The species is not common in this state and has been collected only in the foot hills, from cultivated field by the sides of forest in sandy soil near the river banks.

Distribution : The species is known from Pakistan, India, Ceylon, Burma, Thailand, Vietnam and Combdia. In India, the species has been recorded from Karnataka, Tamil Nadu, Maharastra, Madhyapradesh, Uttar Pradesh, Bihar and West Bengal.

96. *Onthophagus (D) gazella* (Fabricius), 1787.

1787. *Scarabaeus gazella* Fabricius *Mant. Ins.* 1 : 377.

1931. *Onthophagus catta*. Arrow, *Fauna Brit. India, Lamell.*, 3 : 230.

1963. *Onthophagus (Digitonthophagus) gazella* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 365.

Material examined : 10 exs. 4 ♂♂; 6 ♀♀

Remarks : This species is close to *O.(D) bonasus* but may be easily separated by blunt front angle of pronotum, absence of a tubercle between horns in male and by the smaller size.

Biology : This widely distributed species is found in this state mainly at lower elevations. Only one specimen has been collected above mainly at lower elevations. Only one specimen has been collected above c 500 m. The species is found only in cow or bufaloe dung. They inhabit open land or cultivated field of sandy or muddy soil.

Distribution : The species is widely distributed and is known from East, South and West Africa, Madagascar, Arabia, Pakistan, India and in Ceylon India, the species was known only from Peninsular India and parts of Western border land.

This is the first time the species is being recorded from Meghalaya (Khasi hills and Garo hills).

97. *Onthophagus (D) manipurensis* Arrow, 1907.

1907. *Onthophagus manipurensis* Arrow, *Ann. Mag. Nat. Hist.* 10 : 426.

1931. *Onthophagus manipurensis* Arrow, *Fauna Brit. India, Lamell.*, 3 : 242.

1963. *Onthophagus (Digitonthophagus) manipurensis* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 431.

Material examined : 6 exs. 4 ♂♂; 2 ♀♀

Remarks : The species is close to *O.(D) rubricollis* Hope, but may be separated by uniformly black colour.

Biology : This species has been collected either from the dense forest floor or from the fringe area of the forest. Till 1971, only one specimen was collected in the hill slope at the fringe of upper Shillong reserve forest. (c. 1,500 m.) (3 ♂♂ and 2 ♂♂) from fesh human faeces. They were found in association with *Copris (Microcopris) vitalisi* and *Gymnopleurus (Paragymnopleurus) sinuatus assamensis*; Specimens were buey in carrying faeces into the soft soil under pine leaf litter. These beetles oblique passage under the leves.

Distribution : The species is recorded from India and Burma. In India, the species has been known from Manipur, and Garo hills now under Meghalaya. This is the first time the species is being recorded from Khasi hills : (Barapani, Shillong).

Type : Type in the British Museum (Nat. Hist.,) London.

98. *Onthophagus (D) rubricollis* Hope, 1831.

1831. *Onthophagus rubricollis* Hope, *Gray's Zool. Misc.* 22.

1931. *Onthophagus rubricollis* Arrow, *Fauna Brit. India, Lamell.*, 3 : 244.

1963. *Onthophagus (D) rubricollis* Balthasar, *Monogr. Scarab. aphod. palaearkt. orient.*, 2 : 503.

Material examined : 44 exs. 20 ♂♂; 24 ♀♀ **Discussion** : This species is very close structurally to *O. (Digitonthophagus) manipurensis* Arrow, but red black colouring makes it quite unmistakable; besides different colouration, head of male bears a carina instead of two tubercles and elytra appear more strongly striate and punctured.

Biology : The species is rather common in the higher hills but very rare in the lower hills and is not available in the plains. It prefers forest but is also available in the open land or cultivated field near forests. The species is equally found both in human faeces and in cattle dung and it usually makes oblique, but sometimes horizontal tunnel in sandy or muddy soil. At time number of specimens have been found under human faeces in hard rocky substratum.

Distribution : The species has so far been recorded from Nepal and India. In India, the species is known in the west as far as Kumaon Hills and in the east as far as Meghalaya (Khasi hills).

Type Type in the British Museum (Nat. Hist.,) London.

99. *Onthophagus (Indachorius) shillongensis* sp. nov.

Male : Body elongated oval, not very convex, covered with long pale setae, head and pronotum black, elytra with a broad red patch at base and narrower one at apex and on lateral side; ventral surface black, shining. Mouth organs, tarsi and parts of tibiae reddish; antennal club blackish.

Head a little produced, clypeal margin emerginate in the middle, sides feebly converging, separated from ocular lobes by a suture and from forehead by a feebly curved carved carina; vertex and from forehead by a feeble curved carina; vertex with a short erect horn, broad at base and tapering towards apex; clypeal disc rugosely punctured, with a combination of small and minute punctures, forehead little highly punctured.

Pronotum simple, only with a depression just behind the horn, closely, moderately, strongly and almost uniformly punctured, front angle produced, hind angle obsolete, base rounded. Pronotum margined anteriorly and laterally; lateral margin straight in front, sinuate behind. Elytra very feebly and narrowly striate, striae imperceptibly punctured; intervals covered with numerous small granules, arranged somewhat in double rows. Front tibiae small with three external teeth. Metasternum sloping in front. Last abdominal sternite emerginate in the middle to receive the pygidium. Pygidium margined at base and moderately closely and strongly punctured.

Female : Unknown.

Length : 4.5 mm; **breadth** : 3 mm.

Material examined : 3 exs. 3 ♂♂

Discussion : The species resemble *O.(O) vulgeri* Boucomont but may be distinguished by the presence of only 3 external teeth on front tibiae.

Biology : Specimens were collected from faeces of domestic fowl in sandy loose soil; the third specimen was collected in light trap.

Distribution : The species is known only from type locality.

Type : Holotype, ♂ (Regd. No. A1/4566) collected from faeces of domestic fowl, Shillong, Khasi hills, 29.v.1972. coll S. Biswas. Paratypes 1 ♂ (Regd. No. A1/4567) data same as the holotype, 1 ♂, collected from light trap. Deposited at present in the collection of Zoological survey of India, Shillong.

100. *Onthophagus (Onthophagiellus) crassicollis* Boucomont, 1914.

1914. *Onthophagus crassicollis* Boucomont, *Ann. Soc. ent. Fr.*, **83** : 280.

1931. *Onthophagus crassicollis* Arrow, *Fauna Brit. India, Lamell.*, **3** : 170.

1963. *Onthophagus (Onthophagiellus) crassicollis* Balthasar *Monogr. Scarab. Aphod. Palaearkt. Orient.*, **2** : 320.

Material examined : 11 exs. 7 ♂♂; 4 ♀♀

Remarks : The species may be easily distinguished by the relative size of the basal and 2nd joint of the hind tarsus.

Biology : The species is localised and is found mainly in the Shal (*Shorae robusta*) reserve or in mixed forest. They are common either in human faeces or in the carnivore faeces and very rarely found in the Cattle dung.

Distribution : The species was known from Burma, Malay Paninsula and Sumatra.

This is the first time the species is being recorded from Meghalaya (Garo hills district) as well as from India.

Key to the species of subgenus *Paraphaneomorphus* Balthasar

- 1(6) Pale colour on elytra either absent or much reduced, represented only by spots at base, sometimes also at apex.
- 2(3) Pale colour on elytra absent..... *Onthophagus (P) nakuli* Sp. nov.
- 3(2) Pale colour represented only by spots.
- 4(5) Elytra simply punctured..... *Onthophagus (P) phaenaeiformis* Boucomont
- 5(4) Elytra with minute granules..... *Onthophagus (P) frugivorous* Arrow
- 6(1) Pale colour not much reduced; black colour represented either by transverse band or disconnected patches.
- 7(8) Thoracic elevations longitudinally impressed *Onthophagus (P) unifasiatus* (Schall).
- 8(7) thoracic elevations not longitudinally impressed.
- 9(10) Females with three tubercle on pronotum..... *Onthophagus (P) bifasiatus* F.
- 10(9) Female without three tubercles on pronotum..... *Onthophagus (P) dichropygus* Gill

Discussion : Balthasar (Op.cit.) erected the subgenus for a group of species mainly depending on well developed cephalic horns and prothoracic process of male major. As such it becomes difficult to palce female or male minor, in case the male major of a particular species is not available, in this subgenus. Further it has been noted during the present study that development of cephalic horn could be directly corelated with development of pronotal depression and prothoracic process, i.e. more the horn is developed more the development of prothoracic excavation and process could be seen.

However some other morphological characters like (I) nature of metasternum (II) nature of basal segment of hind tarsus along with their occurrence in the human faeces or in the faeces of carnivore, (very rarely a few specimens have been collected from excreta of domestic fowl but never from dung of herbivorous animal) could be utilised to diagonise the species under this subgenus, both morphologically and biologically.

101. *Othophagus (P) bifasciatus* (F.)

1781. *Scarabaeus bifasciatus* Fabricius, *Spec. Ins.* 1 : 25.

1931. *Onthophagus bifasciatus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 339.

1963. *Onthophagus (Paraphaneomorphus) bifasciatus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 292.

Material examined : 24 exs 11 ♂♂; 13 ♀♀

Remarks : The species is very closely related to *O.(P) unifasciatus* (Schall.) and *O. (P) dichropygus* Gillet. It may be separated from the former by the thoracic elevation not being impressed in the middle and from latter species by the presence of three tubercles on the pronotum, in females. Absence of pale median stripe may be regarded as distinctive character in this species but a fair number of individuals of *O.(P) dichropygus* Gillet also share this character and it can not be used as a key character for separating this two species; a lot of difficult was faced during this study for this unfortnate choice of character by Arrow (1931).

Biology : The species is one of those scarabs which are responsible for the disease known as "scarabiasis". In this area, the species is restricted to the foot hills and lower hills below c 1,000 m. Specimens have been collected from the sandy banks of various rivers at the foot hills, human faeces and sometimes also in the faeces of Carnivores.

Distribution : The species is known from Burma, Bangladesh and India. In India, the species has been recorded from Meghalaya, West Bengal, Bihar, Tamil Nadu.

Type : Type in the British Museum (Nat. Hist.,) London.

102. *Onthophagus (P) dichropygus* Gill. 1925.

1925. *Onthophagus dichropygus* Gillet, *Ann. Soc. Sci. Brux.* 44 : 232.

1931. *Onthophagus discropygus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 338.

1963. *Onthophagus (S.Str.) dichrophgus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 331.

Material examined : 77 exs. 40 ♂♂, 3 ♀♀.

Remarks : The species is very close to *O(P) bifasciatus* and *O.(P) unifasciatus* but may be separated from the former by the absence of tubercles on pronotum in females and from the latter by pronotal elevation not being longitudinally impressed in the middle. Balthasar, (op.cit.) placed *O. dichropygus* in *Onthophagus* s.s. apparently because, he had no major males of *dichropygus* Gordon and Openheimer (1975) obtained and male major of *dichropygus* but synonymised the species with *bifasciatus* because of the overlapping range of variation in the colouration of pygidium, has often been used as a key character for separating the species, by earlier authors. However, during the present study about 100 specimens of *bifasciatus dichropygus* group were collected which could be differentiated in two distinct species viz. one species having predominantly black pygidium in both males & females and also having there pronotal tubercles in female and the other, species having a range of variable pygidial colouration from yellow to black in both males, females but without any pronotal tubercles in female. The first group is treated here as under *bifasciatus* and the second group has been treated as under *dichropygus*. Although habitat wise, these two species may again resemble, but vertical distribution analysis indicate that *bifasciatus* is more restricted in the plains whereas *dichropygus* appears to be common at altitude above c 1,000 m.

Biology : This is one of the commonest species in Shillong and its neighbourhood. It is found almost throughout the year but population decreases considerable during the winter months. This beetle appears to be confined to the human faeces and in the faeces of carnivores; a few specimens have also been collected from the faeces of domestic fowl. It appears that this species does not show preference to any particular habitat.

Distribution : The species was known only from Burma. Gordon and Openheimer (op.cit.) recorded it from West Bengal under the name of *O.(P) bifasciatus*. In India, the species has therefore, been recorded from West Bengal and Meghalaya.

In Meghalaya; the species is more common in higher altitude where it has replaced all the other species of the subgenus; however, a few specimens also occur in the plains and foot hills.

Type : Type in the Brussel Museum.

103. *Onthophagus (P) frugivorous* Arrow.

1931. *Onthophagus frugivorous* Arrow, *Fauna Brit. India, Lamell.*, 3 : 336.

1963. *Onthophagus (Paraphaneomorphus) frugivorous* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 336.

Material examined : 7 exs. 3 ♂♂; 4 ♀♀.

Remarks : The species is very close to *O.(P) phanaeiformis* Boucomont but may be separated from the latter by the granular elytral interval and comparatively more opaque upper surface.

Biology : The species has been collected in the deep forests and the nearly cleared areas from faeces of wild carnivores. Earlier, it has been reported from fungus and rotten fruits (Arrow 1931).

Distribution : The species was known from India in Garo hills of Meghalaya. All the specimens have also been collected from the same district.

Type : Type in the British Museum (Nat. Hist.) London.

104. *Onthophagus (Paraphaneomorphus) nakuli* sp. nov.

Male : Body broadly oval, compact and convex, black shingling, mouth organs and tarsi reddish.

Head semicircular, clypeal margin entire, feebly reflexed, clypeofrontal carina absent, posterior carina short, bituberculate, clypeal disc uniformly and not very closely punctured with a mixture of small and medium punctures; ocular lobe a little more strongly punctured.

Pronotum broad, highly convex, with a short declivity in the middle at anterior margin; front angle sharp, a little produced, hind angle obsolete, base genetly rounded; lateral margin almost straight in front, strongly sinuate behind, pronotum uniformly, rather closely and moderately strongly punctured, and covered with short hairs. Elytra finely striate, striae minutely punctured and intervals numerous and finally punctured, with a feeble longitudinal groove in the middle, sides strongly but not very closely punctured and covered with conspicuous hairs. Front tibiae provided with 4 external teeth, apical one largest and obliquely placed, all others gradually diminishing in size and placed almost at right angles to the long axis of tibiae. Lower surface of all femora closely punctured. Abdominal sternite provided with a row of minute punctures in the middle, punctures becoming numerous at side. Pygidium feebly margined at base and moderately closely and strongly punctured.

Female : Similar to male except in the following characters (i) Clypeal disc rugosely punctured, (ii) Clypeofrontal carina present, strong and a little curved (iii) Vertex with a straight carina between the eyes. (iv) External teeth on front tibiae a little more strong, (v) Last abdominal sternite not emerginate in the middle.

Length : 6-7 mm; breadth : 4.5-6 mm.

Material examined : 6 exs. 2 ♂♂; 4 ♀♀.

Remarks : The species resembles *O.(D) phanaeicollis* Lansberge and *O.(P) jeannelianus* Paulian in uniform colouration but may be easily separated by the absence of tubercles on pronotum in the females.

Biology : The specimens were collected in dense evergreen forest at about c 100 m. altitude, from human faeces and faeces of wild carnivores.

Distribution : The species is known Meghalaya. In Meghalaya specimens have been collected from Garo hills : Balphakram, Wageasi.

Type : Holotype 1 ♂ (Regd. No. A1/4568), collected from wild carnivore faeces. Balphakram wild life sanctuary, Garo hills, 23.iii.1976. coll. S. Biswas, Paratypes, 3 ♂♂ (Regd. No. A1/4569) data same as for holotype, 1 ♂, collected from human faeces, Wageasi Garo hills. 5.iv.1973. coll. S. Biswas. Deposited at present in the collection of Zoological Survey of India, Shillong.

105. *Onthophagus (P) phanaeiformis* Boucomont.

1914. *Onthophagus phanaeiformis* Boucomont, *Ann. Mus. Civ. Genova* 46 : 224.

1931. *Onthophagus phanaeiformis* Arrow, *Fauna Brit. India, Lamells*, 3 : 335.

1963. *Onthophagus (Paraphanecmorphsu) phanaeiformis* Balthasar, *Monogr. Scarab. Aphod. Palaearkt. orient.* 2 : 478.

Material examined : 21 exs., 11 ♂♂; 11 ♀♀.

Remarks : The species is very close to *O.(P) frugivorous* Arrow, but may be separated by the absence of granules on the elytral intervals. This is one of the members of the group in which tubercles on the pronotum in females, are absent. Males show various stages of development in Cephalic armature and sculpture. Smaller males resemble to females except in the merging of last abdominal sternites.

Biology : The species is restricted to the forests below c 1,000 m. altitude. All the specimens have been collected either from faeces of wild carnivore or from human faeces. A few specimens however were collected from the bait of bird meat placed in the periphery of Shal (*Soera robusta*) reserve forest area in Garo hills district.

Distribution : The species was so far known from Burma and Vietnam.

This is the first time the species is being recorded from India. In Meghalaya, the species has been collected only from forested areas of Garo hills.

Type : Type in the Genoa Museum.

106. *Onthophagus (P) unifasciatus* (Schall)

1783. *Scarabaeus unifasciatus* Schall, *Abh. Hall. Nat. Ges.* 1 : 240.

1931. *Onthophagus unifasciatus* Arrow, *Fauna Brit. India Lamell.*, 3 : 341.

1963. *Onthophagus (S.Str.) unifasciatus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 571.

Material examined : 11 ex. 5 ♂♂; 6 ♀♀

Remarks : The species is very close to *O.(P) bifasciatus* (F) in general appearance and colour pattern but may be separated by the longitudinally impressed thoracic elevations and both sexes being alike in cephalic and pronotal armature.

Biology : In this area, the species is restricted to the foothills of Garo hills district and specimens have been obtained in saddy river banks and in fields of alluvial soil from human faeces as well as from Carnivore-faeces. This is one of the species responsible for causing the disease "Scarabiasis", which has however not been reported from the region under study.

Distribution: The species is known from Ceylon, Bangladesh and India. In India, the species was recorded from West Bengal, Bihar, Maharashtra, Madhya Pradesh, Andhra Pradesh, Karnataka, Tamil Nadu and Kerala.

This is the first time the species is being recorded from South of Brahmaputra.

Type : Location of type unknown.

107. *Onthophagus (Phanaomorphus) arjuni* sp. nov.

Male : Body elongated oval, convex, uniformly black above. Antennae, mouth organs and tarsi reddish. Body above and beneath covered with pale hairs, hairs of lower surface longer.

Head produced, lateral margin of clypeus covering and produced into a blunt process in front and highly reflexed, head without any armature; clypeofrontal and clypeo ocular carina absent, vertex smooth. Clypeal disc, ocular lobe and fore head strongly, closely and rugosely punctured, punctures on vertex a little less stronger.

Pronotum with a triangular disc at basal region; from the sides of the triangle a small carina runs on each side and third carina runs from the middle towards head and reaches almost to the anterior margin. Front angles sharp, hind angles distinct obtuse, base rounded but angulate in the middle. Pronotum margined, finely in front and behind and more strongly so laterally. Lateral margin straight in front and sinuate behind. Pronotum closely, strongly and uniformly punctured except at the posterior part of pronotal disc and at the region behind the lateral carina. Elytra very feebly striate, striae very minutely punctured. Elytral intervals opaque and uniformly punctured. Front tibiae with 4 external teeth, apical tooth oblique and closed to the next ones, posterior 3 teeth, posterior 3 teeth placed at right angle to the long axis of the tibiae. Metasternal shield flat, with a feeble longitudinal line in the middle and unevenly punctured; punctures near middle weaker; front of metasternal shield and sides of metasternal strongly punctured. Front and hind femora profusely punctured beneath. Last abdominal sternite emerginate in the middle to receive the pygidium. Pygidium margined at base and strongly closely and rather rugosely punctured.

Female : Similar to male except in the following characters : (i) Clypeal disc more strongly rugose, (ii) Clypeofrontal carina long and strong (iii) Vertex with two transverse carinae, posterior one feeble, anterior one broadly emerginate in the middle (iv) Teeth of front tibiae stronger (v) Last abdominal sternite not emerginate in the middle.

Length : 7.5 - 9 mm; breadth : 5 mm.

Material examined : 41 exs. 26 ♂♂; 15 ♀♀

Discussion : The species is close to *O.(Ph.) schaeferi* Blth, but may be separated from the former by elytra being rugosely punctured.

Biology : The species is restricted to the Pine floor where the decaying leaf litter appear very deep. The first specimen was collected from the faecal matter of wild carnivore; second specimen was collected from the faeces of domestic fowl and many specimens afterwards have been collected from decaying fungi. This species is specific to certain kind of fungi and has been seen to be attracted to these fungi, when the same are used as bait, in cleared space by the side of the jungle. This species is usually found in fungi in association with *Parachorius thomsoni* Harold.

Distribution : The species is known only from Shillong.

Type : Holotype 1 ♂ (Regd. No. A1/4571) collected from decaying fungi, Shillong, Khasi hills, 26.v.1972. Coll. S. Biswas. Paratypes 3 ♂♂, 8 ♂♂ (Regd. No. A1/4572) data same as for the holotype. 1 ♂, collected from Carnivore faeces, Shillong, Khasi hills. 5.vi.1970. coll. S. Biswas, 10, collected from faeces of domestic fowl, Shillong, Khasi hills, 10.vi.1970, coll. S. Biswas, Deposited at present in the collection of Zoological Survey of India, Shillong.

Key to the species of Subgenus *Serrophorus*

- 1(4) Body yellowish brown; punctures of pronotum strong and may not be entirely simple. Elytral punctures and striae black. Species found in plains and below c 1,000 m. altitude, only in cattle dung.
- 2(3) Pronotum asperately punctured. Head with two horns in both sexes. In male clypeofrontal carina reduced to short acuminate tubercle; pronotum without process *O.(S) rectecornutus* Lansb.
- 3(2) Pronotum simply punctured. Head with a single horn in male. Clypeofrontal carina not reduced in male; pronotum with a process in male.....*O.(S) sagittarius* (F.)
- 4(1) Body black; punctures of pronotum feeble and entirely simple. Elytra uniformly black. Species found not below c 800 m. altitude, in human faeces or in cattle dung.
- 5(6) Pronotum highly convex; anterior margin straight. Male with double horn and females with straight carina at vertex. Occuring in cattle dung..... *O.(S) atropolitus* d'Orb.
- 6(5) Pronotum not convex as above, anterior margin not straight, excavated in the middle; both male and female with a gradually tapering plate at vertex, occuring in human faeces
.....*O.(S) rynthi* sp.nov.

108. *Onthophagus (S) atropolitus* Orbigny, 1902.

1902. *Onthophagus atropolitus* Orbigny, *Ann. Soc. ent. Fr.* : 148.

1933. *Onthophagus atropolitus* Arrow, *Fauna Brit. India, Lemell.*, 3 : 250.

1963. *Onthophagus (Serrophogus) atropolitus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 281.

Material examined : 57 exs. 40 ♂♂; 17 ♀♀

Remarks : Some smaller males are similar to females in clypeal sculpture and structure carina on vertex, as such only emerginate 6th sternite may be used for separation of these forms from the females.

Biology : This species is normally found in higher altitude, not below c 1,000 m. It has been collected mainly from cow or buffalo dung in open sandy or muddy soil. It has also been collected in hill slopes in red soil strewn with small stones. The species is common from end of April to October.

Distribution: The species is known from India and Burma. In India, it has been known from Uttar Pradesh; West Bengal and Meghalaya. In Meghalaya, it has been recorded only from Khasi hills; Barapani, Umran and Omthan.

Type : Type in the Paris Museum.

109. *Onthophagus (S) rectecornutus* Lansberge, 1883.

1883. *Onthophagus rectecornutus* Lansberge, *Notes Leyden Mus.* 5 : 49.

1931. *Onthophagus rectecornutus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 233.

1963. *Onthophagus (Serrophorus) rectecornutus* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.* 2 : 499.

Material examined : 279 exs. 143 ♂♂; 136 ♀♀.

Remarks : This species may easily be distinguished by testaceous yellow colour which is mottled with black, asperately punctured anterior part of pronotum and cephalic armature, being alike in both sexes.

Biology : The species is common in plains and foot hills upto c 800 m. altitude. It is found only in dung of herbivorous animal and occurs in sandy or muddy soil in open country.

Distribution : The species is known from India, Bangladesh, Bhutan, Burma, Ceylon, North Vietnam and South China. In India, the species was so far known from Tamil Nadu, Karnataka, Kerala, Bihar and Nagaland,. This is the first time the species is being recorded from Meghalaya. In Meghalaya, it has been recorded from Khasi, Jaintia & Garo hills.

Type : Type in the Rene Oberthuro's collection.

110. *Onthophagus (S) rynthi* sp.nov.

Male : Body broadly oval, convex, upper surface bare, uniformly black; mouth organs, tarsi and scanty clothing upon the lower surface, reddish. Antennae yellowish.

Head broad, semicircular, Clypeal margin uniformly rounded, reflexed in the middle. Ocular lobes gently rounded, little angulate in the middle, separated from clypeus by a strong clypeo-ocular carina, which is continuous with clypeofrontal carina. Clypeofrontal carina not very strongly curved, clypeal disc finely uniformly and not closely punctured, with a little rugosity in the anterior portion, vertex with a carina, which bears a triangular process, in the middle and gradually diminishing laterally. Antennae with anterior margin of basal segment serrated. Pronotum with a median longitudinal groove and a small anterior depression, each side of the depression with a small prominence; front angles blunt, hind angles obsolete, base rounded, a little angulate in the middle. Pronotum margined anteriorly and laterally upto hind angle; lateral margin almost straight in front, sinuate behind. Pronotum very unequally punctured, almost smooth in the middle except in the groove, a little prominently so in the antero-lateral region. Elytra narrowly but rather strongly striate, striae finely punctured. Elytral interval a little convex and feebly punctured, 7th elytral striae strongly curved. Metasternal shield flat and smooth in the middle, strongly punctured and sloping anteriorly with a small compressed prominence, sides of metasternum more strongly punctured and hairy. abdominal sternites almost smooth in the middle and numerous punctured at sides. Last abdominal sternite emerginate in the middle to receive the pygidium. Pygidium margined at base and uniformly and rather closely and strongly punctured.

Female : Similar to male except in the following characters : (i) Clypeus rugosely punctured, (ii) Clypeofrontal and clypeoocular carina stronger (iii) Prominence on each side of anterior depression of pronotum more prominent (iv) Front tibiae broader (v) Last abdominal sternite not emerginate in the middle.

Length : 9-10 mm; **breadth** : 5-5.5 mm.

Material examined : 3 exs. 2 ♂♂; 1 ♀♀.

Discussion : The species agrees with *O.(S) atropolitus* d'Orb, in having uniformly black upper surface but may be separated from it by cephalic armature and pronotal shape.

Biology : The specimens have been collected from forest floor in red soil from human faeces. This species was collected together with *O.(S) orientalis* Harold and *Cathersius molossus* (L.). This species has also been collected in jalpaiguri district of West Bengal from fish bait.

Distribution : The species is known only from the type locality and Gayerkat, Jalpaiguri dist. West Bengal.

Type : Holotype, 1 ♂ (Regd. No. A1/4573) from human faeces. Nongpoh Reserve Forest, Khasi Hills, Meghalaya, coll. S. Biswas, Paratypes 1 ♂ ♂, data same as for holotype. Deposited at present in the collection of Zoological Survey of India, Shillong.

111. *Onthophagus (S) sagittarius* Fabricius, 1775.

1775. *Scarabaeus sagittarius* Fabricius, *Syst. Ent.* : 24.

1931. *Onthophagus sagittarius* Arrow, *Fauna Brit. India, Lamell.*, 3 : 304.

1963. *Onthophagus (serrophorus) sagittarius* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 509.

Material examined : 71 exs. 35 ♂ ♂; 36 ♀ ♀

Remarks : This species, distinctive cophalic armature in different sexes and it may easily be distinguished by its characteristic colouration, cephalic armature and in having first antenal segment distinctly serrated at anterior margin.

Biology : This is predominantly a species of the plain area. It is found only Cattle dung, in sandy or muddy soil and in open country usually throughout the year.

Distribution : the species is known from India, Bangladesh, Burma malay Peninsule, Java and South China. In India the species was recorded from Uttar Pradesh, madhya Pradesh, and West Bengal. This is the first record of the species from the state. In the state specimens have been collected from Khasi hills and Garo hills.

Type : type in the British Museum (Nat. Hist.), London.

112. *Onthophagus (Strandius) gagates* Hope 1831.

1831. *Onthophagus gagates* Hope *Gray's Zool. Misc.* : 22.

1931. *Onthophagus gagates* Arrow, *Fauna Brit. India, Lamell.*, 3 : 277.

1963. *Onthophagus (Strandius) gagates* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 363.

Material examined : 30 exs. 15 ♂ ♂; 15 ♀ ♀

Discussion : The species may be easily distinguished by large size, shining black colour, and shape and colouration of pronotum.

Biology : the species is found in the higher elevation (c 1,500 m.) in the state, in dense forest or in the cleared area near such forest. It has always been found in the cattle dung.

Distribution : The species is known only from India and Nepal. In India, the species is distributed in hills of Himachal Pradesh and Uttar Pradesh and in Meghalaya. In the state specimens have been collected from Khasi hills : Umtyngar, Weloi and Upper Shillong.

Type : Type in the British Museum (Nat. Hist.) London.

SPECIES RECORDED FROM THE REGION
BUT
NOT EXAMINED BY THE AUTHOR

Genus 17. *Paraphytus* Harold 1877.

1877. *Paraphytus* Harold, *Ann. Mus. Civ. Genova* X : 42.

1931. *Paraphytus* Arrow, *Fauna Brit. India, Lamell.*, 3 : 417.

1963. *Paraphytus* Balthasar, *Mon. dar. Scarab. und Aphod. der Palaear. und orient. Region, Coleop. Lamell.*, 1 : 279.

Type : *Paraphytus doriae* Harold.

Morphological characters : Body elongate and not very convex. Head short and broad, ocular lobes completely fused with clypeus, strongly angulate externally, clypeus armed with 4 short teeth at front margin. Antennae 9 jointed. Mandibles long and narrow. Maxilla narrow, with terminal lobe small and palpi long. Prothorax short and broad, sides nearly straight, angles blunt, front angles deeply hollowed beneath and base feebly curved. Soutellum wanting. Elytra relatively long, with seven dorsal striae and well marked epipleurae. Meso-sternum short and concealed by prosternum. Metasternum long, not very and stout, tibiae short and flat, dilating strongly from base to extremity, tarsi short, basal joint very short, 2nd, 3rd and 4th scarcely longer, 5th a little longer and claws minute. Front tarsi rather shorter than the others and rest in a groove at the apical edge of tibiae. Abdomen with 5 very short sternites, the 6th being longer. Pygidium broad and reflexed ventrally.

Discussion : No specimen could be collected during the present study but it has been recorded previously from the place now under the state of Meghalaya : Barapani. The genus could however be separated by following the generic key (p. 72).

Biology : The biology of the genus is very little known, Dr. Kemp collected species of *P. Hindu* under bark.

Distribution : The genus as known from Oriental and Ethiopian region. Of the 10 species so far known 7 are from Oriental region of these only one species is known from India main land.

113. *Paraphytus hindu* Arrow 1913.

1913. *Paraphytus hindu* Arrow, *Rec. Indian Mus.* 8 : 193.

1931. *Paraphytus hindu* Arrow, *Fauna Brit. India, lamell.*, 3 : 418.

1963. *Paraphytus hindu* Balthasar, *Monogr. Scarab. aphod. palaearkt. orient.* 1 : 283.

Morphological characters : Body oblong and moderately convex shining black, with the antennae, tarsi and the mouth organs deep red.

Head broad, finely and densely punctured and a little depressed along the middle line. Pronotum very strongly and very closely punctured at the sides and a little more finely and less closely so in the middle. Elytra finely but deeply striate and the striae bear rather close, deep and regular punctures; intervals nearly flat and very minutely and sparingly punctured. Posterium, proepisterna, mesosternum, and sides of the metasternum closely and evenly punctured; metasternum very smooth anteriorly in the

middle and finely and sparingly punctured posteriorly. the pygidium with a very deep transverse groove at the base and another one at the apex, the latter angularly indented in the middle.

O : Pygidium scarcely punctured, basal groove very deep and expands in the middle into a large round cavity; apical groove not very deeply indented in the middle.

O : Pygidium evenly punctured, its basal groove not conspicuously enlarged in the middle, end the apical groove very deeply indented.

Length : 5-5.5 mm; breadth : 3.00 mm.

Discussion : In spite of repeated attempts no specimen could be collected. Efforts were made to obtain type specimen on loan from British Museum (Nat. Hist.) London, but no reply was received to this request.

Biology : Dr. Kemp collected specimens of this species from Khasi hills under the bark of the tree. It seems to be a high altitude form, as only other place of collection has been recorded as in Abor hills, in Siang district of Arunachal Pradesh.

Distribution : The species is known from Meghalaya (Khasi hills) and Arunachal Pradesh (Abor hills).

Type : Type in the British Museum (Nat. Hist.) London.

114. *Onthophagus (O) pauliani* Balthasar, 1937. ♀

1937. *Onthophagus (S.Str.) pauliani* Balthasar, *Cas. Cs. Spot. ent.* 34 : 2.

1963. *Onthophagus (S. Str.) pauliani* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.* 2 : 470.

Morphological characters : Body oval, moderately convex, rather shining, blackish brown; elytra with yellow mark at the base of 2nd, 4th, 6th and 7th intervals apical margin of elytra also with yellow mark. antennal club dark brown, upper surface shining, closely covered with extremely short, pale setae.

Head closely, strongly and uniformly punctured, feebly convex, simple, only with a small smooth tubercle between the eyes; front margin of clypeus feebly but distinctly emerginate.

Pronotum simple, very closely, moderately, strongly and uniformly punctured, punctures rather umbilicate, front angle rounded, lateral margin sinuate behind, base not margined, provided with a row of strong punctures. Elytra strongly striate, striae feebly punctured, 7th striae feebly curved, interval closely, rather strongly, asperately punctured. Pygidium margined at base, rather closely punctured.

Female : Unknown.

Discussion : The species belongs to the group having pygidium margined at base and elytra with pale markings, but may be separated from the former by having simple pronotum, covered with umbilicate punctures.

Type : Type in Salthasar's collection.

115. *Onthophagus (D) avacetta* Arrow, 1933.

1933. *Onthophagus avacetta* Arrow, *Ann. Mag. nat. Hist.* 12 : 421.

1963. *Onthophagus (Digitonthophagus) avacatta* Balthasar, *Monogr. Scarab. Aphod. palaearkt. orient.*, 2 : 283.

Morphological Characters : Body chocolate brown or black; head and pronotum lightly coppery; pronotum and elytra rather evenly clothed with short yellowish hairs, pygidium and body beneath except in the middle clothed with longer and not closely set hairs.

Clypeus produced, ocular carinae produced backwards to the middle of the vertex. Pronotum gently rounded, completely margined, front angles feebly produced, base bluntly angulate in the middle. Elytra finely but distinctly striate, intervals finely and fairly closely punctured. Pygidium with a smooth median line and strongly but not closely punctured.

♂ : Clypeus smooth and shining, middle of the front edge produced into a bluntly pointed, rather abruptly reflexed finger like process with a rectangular base, angles of rectangle blunt. Sides of head straight, parallel and gently curved upwards; vertex produced backwards in the middle as a narrow flat process, gradually curving upwards and becoming truncate at the end. Clypeal process short and triangle without rectangular base; sides of the head less parallel and the posterior process short and distinctly truncate in small males. Anterior border of the pronotum narrowly retuse, smooth and shining. Front tibiae long the narrow, external teeth separated and the inner apical angle produced into a long, narrow, finger like process.

♀ : Head rugose, clypeus closely and transversely rugose; anterior margin narrowly excised. Clypeofrontal carina present; short and curved, vertex with a elevated transverse process.

Discussion : No material could be collected from this species. Efforts to obtain type material on loan yielded no result. However 4 other species of this subgenus have been recorded in the region by the author and the present species could be considered as a distinct one from the others, in having pronotum coppery, body covered with short pale setae and clypeal process in the male.

Biology : Nothing has been mentioned about the biology of this species by Arrow (op. cit.).

Distribution : In India the species is known only from Garo hills. (above Tura). the species is also known from Burma, Malacca, Java and Borneo.

Type : Type in the Genoa Museum.

Table I.

Showing habitat, food, altitudinal preference and seasonal occurrence of the species of *Onthophagus* s. s.

Species	Habitat and altitude c m.	Food	Seasons
1. <i>Onthophagus (O) aenescens</i> (Wield.)	Open country in alluvial soil.	Cow or buffalo dung.	May - Oct.
2. <i>O.(O) Agaricophilus</i> Arr.	Forested locality below 1,500 m.	Fungus and excreta of wild carnivore.	May - Oct.
3. <i>O.(O) albinosi</i> sp. nov.	In open country in alluvial soil	Cowdung	Apr. - Sept.
4. <i>O.(O) amicus</i> (Gill.)	In forest or cleared area near forest.	Cowdung, Human and Carnivore faeces.	Apr. - Nov.
5. <i>O.(O) armatus</i> Bl.	In open country in Cultivated or Wasteland.	Cowdung.	Mar. - Nov.
6. <i>O.(O) barapaniensis</i> sp.nov.	In forest above 1,500 m.	Human faeces.	June.
7. <i>O(O) beelsoni</i> Arr.	In forested country below 1,000 m.	Cow, buffalo and elephant dung.	Mar. - Nov.
8. <i>O. (O) brutas</i> Arr.	In forest, open country cultivated field above 1,000 m.	Human and Carnivore faeces.	Mar. - Nov.
9. <i>O. (O) centricornis</i> (F.)	Forest, rivar bank in alluvial soil below 500m.	Cow and horse dung, human and carnivore faeces.	Mar. - Nov.
10. <i>o.(O)chendani</i> Sp. Nov.	Road-side field below 1,000 m.	Cowdung	Nov.
11. <i>O. (O) Eharikutiensis</i> Sp. Nov.	Open grassland below 500 m.	Cowdung.	Nov.

	Species	Habitat and altitude c m.	Food	Seasons
12.	<i>O(O) circulifar</i> Arr.	Forested hill slopes above 1,500 m.	Cowdung.	Mar. - Nov.
13.	<i>O.(O)dama</i> (F.)	Open country below 1,000 m. altitude in alluvial soil.	Cowdung.	Mar. - Nov.
14.	<i>O.(O) deflexicollis</i> Lanab.	Forested area above 1,000 m.	Cowdung, rotten bamboo shoot fungi.	Jul. - Oct.
15.	<i>O.(O)dhari</i> Sp. nov.	Forested area above 1,500 m.	Human faeces	June
16.	<i>O.(O) edmondi</i> Sp. nov.	Sandy river banks below 1,000 m.	Cowdung	April.
17.	<i>O.(O) furcicollis</i> Arr.	Open country or forested area below 1,000 m.	Human and Carnivore faeces.	May - Nov.
18.	<i>O.(O) furcillifer</i> Bates.	Almost all types of habitat from sea level to highest hill in the region.	Cow, buffalo and elephant dung as human and Carnivore faeces.	All throughout the year mainly April - Nov.
19.	<i>O.(O) garoensis</i> Sp. nov.	Forest below 1,000 m.	Wild Carnivore faeces.	May - Nov.
20.	<i>O.(O) girii</i> Sp. nov.	Forest or pen country above 1,500 m.	Human or Carnivore faeces.	Mar. - Nov.
21.	<i>O.(O) krishnai</i> Sp. nov.	Forest below 1,000 m.	Wild Carnivore faeces.	April.
22.	<i>O.(O) luridipennis</i> (Boh.)	Open country.	Mainly Cattle dung rarely on human faeces.	All through the year.
23.	<i>O.(O) meghalayanus</i> Sp. nov.	Open country near human habitation.	Wild Carnivore and human faeces.	Apr. - Nov.

	Species	Habitat and altitude c m.	Food	Seasons
24.	<i>O.(O) mopani</i> (F.)	Open country below 1,000 m.	Cattle dung.	May - Oct.
25.	<i>O.(O) narayani</i> Sp. nov.	Forested area below 1,000 m.	Dear dung.	November.
26.	<i>O.(O) orientalis</i> Har.	Various types of habitat in all altitude	Human and Carnivore faeces	Mar. - Nov.
27.	<i>O.(O) pacificus</i> Lanab.	Forested areas above 1,500 m.	Fungus, Cattle dung.	June - Oct.
28.	<i>O.(O) patili</i> Sp. nov.	Near forest below 1,000m.	Cowdung.	December.
29.	<i>O.(O) panfiani</i> Balh.	Not known.	Not known.	Not known.
30.	<i>O.(O) porcus</i> Arr.	Alluvial soil in forest below 1,000 m.	Human and Carnivore faeces.	Apr. - Nov.
31.	<i>O.(O) prozani</i> Sp. nov.	Forest below 1,000 m.	Carnivore faeces.	March.
32.	<i>O.(O) ramosellus</i> Bates.	Open country below 1,000 m.	Cowdung. Human and Carnivore faeces.	Mar. - Nov.
33.	<i>O.(O) rovi</i> Sp. nov.	Cleared area near forest above 1,500 m.	Carnivore and human faeces.	Apr. - Nov.
34.	<i>O.(O) rubripennis</i> Arr.	Forest and area near forest above 1,000 m.	Cattle dung and human faeces.	Apr. - Nov.
35.	<i>O.(O) rugulosus</i> Har.	Sandy banks of hill stream below 1,000 m.	Cowdung and human faeces.	May - Nov.
36.	<i>O.(O) salpaharensis</i> Sp. nov.	Slope of mountain at foot hills.	Cowdung.	March.
37.	<i>O.(O) benguptai</i> Sp. nov.	Open country in sandy Soil above 1,500 m.	Carnivore and human faeces.	May - Nov.

	Species	Habitat and altitude c m.	Food	Seasons
38.	<i>O.(O) singhi</i> Sp. nov.	Forested area below 1,000 m.	From bird and fish bait.	Apr. - Oct.
39.	<i>O.(O) songsokansis</i> Sp. nov.	Forested area below 1,000 m.	Human faeces.	April.
40.	<i>O.(O) spinifex</i> (F.)	Open country or forested area below 1,000 m.	Cattle dung.	Apr. - Nov.
41.	<i>O.(O) shyamali</i> Sp. nov.	Forested are above 1,500 m.	Human and Carnivore faeces.	May - Oct.
42.	<i>O.(O) tarandus</i> (F.)	Grassy field below 1,000 m.	From Cattle dung	May - Nov.
43.	<i>O.(O) troglodyta</i> (Wied.)	Forested area or open country below 1,000 m.	From cowdung and human faeces.	May - Nov.
44.	<i>O.(O) vulgeri</i> Souc.	Open country or forested area.	From carnivore and human faeces.	Apr. - Nov.

SUMMARY

1. A total of 115 species under seventeen genera, collected from different areas of Meghalaya have been reported in the text.
2. Twenty eight species out of 115 have been described as new to science; these belong to genera *Phacosoma* (1sp.), *Copris* (2 spp.), *Caccobius* (1st.) and *Onthophagus* (24 spp.).
3. Out of total of 17 genera, the genus *Onthophagus* appears to be most predominant in the region being represented by 64 species while some of the genera *Gymnopleurus*, *Phacosoma*, *Paraphytus*, and *Haroldius* appear to be extremely rare, each being represented by a single species.
4. Majority of the species were collected from fresh dung of domestic cattle but a number of species have also been collected from the dung of wild animals e.g. Elephant, Buffalo, Gaur or Indian bison, different species of Deer and Carnivores, from carion, vegetable matters (Fungi) etc. The dung feeders may be exclusively restricted to dung of herbivorous animals or to the dung of carnivorous animals while some may be common to both. A detailed discussion on feeding habit has been given in the text.
5. Notes on the other biological observations concerning habit, associations with other organisms, seasonal occurrence, abundance in relation to habitat and altitude have also been provided in the text. Most of the species have been observed to be common during March/April to November; 67.8% of the total species were found to be restricted to the plains and foot hills areas (upto 800 m), and 25.2% species in areas above 800 m. and 7% of species did not exhibit any altitudinal preference. A large number of species appear to prefer forested areas in the region than open field.
6. Detailed descriptions of the genera, species and keys for the identifications have been given in the text along with suitable illustrations.

LIST OF ABBREVIATIONS USED IN THE ILLUSTRATIONS

Antenna	l
Abdominal sternite	ab
Apical spur.	as
Clypeus	c
Coxal cavity	cxc
Eye	e
Elytra	el
Elytral striale	els
External teeth	et

Femur	f
Front angle of pronotum	fa
Frontal tubercle	ft
Front tarsi	fr
Hind angle of pronotum	ha
Hind tibiae	ht
Hind tarsi	htr
Lateral margin of pronotum	lm
Labial palpi	lp
Metaepisternum	me
Mesosternum	ms
Metasternal shield	mss
Middle tibia	mt
Tarsi of middle leg	mtr
Maxillary	mxp
Ocular lobe	oc
Prosternum	ps
Pronotum	pt
Prothoracic process	ptp
Interval between striae	si
Sides of metasternum	sms

REFERENCES

- Arnett, R.H. 1968. The beetles of the United States. The American Entomological Institute. Michigan 1-1112.
- Arrow, G.J. 1907. Some new species and genera of lamellicorn Coleoptera from Indian Empire. 2. *Ann. Mag. nat. Hist.*, 7(19) : 416-439.
- Arrow, G.J. 1909. Four new lamellicorn Coleoptera from the Oriental region. *Ann. Mag. nat. Hist.*, 8(4) : 178-183.
- Arrow, G.J. 1910. The Fauna of British India including Ceylon and Burma. Coleoptera, lamellicornia. I. Taylor and Francis, London, 1-322.
- Arrow, G.J. 1913. Zoological results of the Abor expedition, 11- 12. Coleoptera 4. *Rec. Indian Mus.*, 8(4) : 91-94.
- Arrow, G.J. 1927. Notes on the Coleopterous genus *Sisyphus*. *Ann. Mag. nat. Hist.*, 9(19) : 456-465.

- Arrow, G.J. 1931. The Fauna of British India including Ceylon and Burma. Coleoptera, Lamellicornia, III. Taylor and Francis, London, 1-428.
- Arrow, G.J. 1933. Notes on the Coprid Coleoptera, with descriptions of a new genus and a few new species. *Ann. Mag. nat. Hist.*, 10(12) : 421-430.
- Balthasar, V. 1937. Une espece nouvelle du genera *Onthophagus* des Indes Orientales. *Cas. Cs. Spol. ent.* 34 : 1-3.
- Balthasar, V. 1963. Monographie der Scarabaeidae und Aphodiidae der palaearktischen und orientalischen Region. Coleoptera, Lamellicornia, 1. Verlag der Tschechoslowakischen Akademie der Wissenschaften. Prag, 1-391.
- Balthasar, V. 1963. Monographic der Scarabaeidae und Aphodiidae der palaearktischen and orientalischen Region. Coleoptera, Lamellicornia, 2. Verlag der Tschechoslowakischen akademie der Wissenschaften, Prog, 1-627.
- Bates, H.W. 1868. Notes on genera and species of Copridae. *Col. Hefte.* 4 : 87-91.
- Bates, H.W. 1891. Coleoptera from Kulu in N.W. India, *Entomologist.* 24 Supp. : 7-22.
- Blanchard, C.E. 1853. Voyage au Pole sud et dans l' Océanie sur les corvettes l' Astrolabe et la Ze'lee "Zoologie: Descriptions des insects. 4 : (Not seen).
- Crowson, R.A. 1954. The natural classification of the families of Coleoptera. E.W. Classey Ltd. England. (Reprinted 1967) : 1-214.
- Fairmaire, L. 1888. Coleopteres de l' interieur de la Chine. *Ann. Soc. ent. Belg.*, 32 : 7-46.
- Fairmaire, L. 1873. Coleopteres du Haut-Tonkin. *Ann. Soc. ent. Belg.*, 37 : 303-323.
- Gillet, J.J.E. 1910. Espèces nouvelles du genre Copris et releve Synonymique des espèces decrites a ce jour. *Notes Leyden Mus.*, 32 : 1-31.
- Gillet, J.J.E. 1911. Coprides nouveaux de La region Orientale (etc.) *Ann. Soc. ent. Belg.*, 55 : 313-314.
- Gillet, J.J.E. 1921. Description de lamellicornes Coprophages indomalais. *Ann. soc. Sci. Brux.* 123-129.
- Gillet, J.J.E. 1925. Descriptions d' Onthophagus nouveaux de l' Inde Britanique. *Ann. Soc. Sci. Brux.* 44 : 230-236.
- Gorden, R.D. and Oppenheimer, J.R. 1975. Taxonomy and ecology of two species of Indian *Onthophagus* (Coleoptera : Scarabaeidae). *Oriental Insects* 9(4) : 495-501.
- Harold, E.V. 1867. Die Arten der Gattung *Caccobius*. *col. Fatte.* 2 : 1-16.
- Harold, F.V. 1868. Diagnosen neuer Coprophagen, *col. Hefte* 4 : 79-86.
- Hope, F.W. 1831. Synopsis of the new species of Nepaul insects in the collection of Major General Hardwicks. In J.E. Gray, *Zoological Miscellany*, London, : 21-32.
- Hope, F.W. 1837. the Coleopterist's manual, containing the lamellicorn insects of Linnaeus and Fabricius, London, 16-121.

- Hope, F.W. 1842. Proc. ent. Soc. Lond. 60 (Not seen)
- Howden, F. and Cartright, O.L. 1963. Scarab beetles of the genus *Onthophagus* Latreille north of Mexico. *Proc. U.S. natn. Mus.* **114** : 1-133.
- Janesens, A. 1940. Monographic des Gymnopleurides. *Mem. Mus. R. Hist. nat. Belg.*, **18**: 1-78.
- Lansberge, G.V. 1886. Les Coprides de la Mataisie. *Tijdschr. Ent.* **29** : 1-25.
- Mani, M.S. 1974. Ecology and Biogeography in India. Dr. W. Junk. Hague, 1-777.
- Mathews, E.G. 1972. A revision of the Scarabaeine dung beetles of Australia I. Tribe Onthophagini *Aust. J. Zool. Supp.*, **9** : 1-330.
- Mathews, E.G. 1974. A revision of the Scarabaeinae dung beetles of Australia. 2. Tribe Scarabaeini. *Aust. J. Zool. Supp.*, **24** : 1- 211
- Mathews, E.G. 1975. a revision of the Scarabaeinae dung beetles of Australia. 3. Tribe Coprini. *Aust. J. Zool. Supp.* **38** : 1-52.
- Motschulsky, V. 1863. Essai d'un catalogue des Insects de L'ile Ceylon. *Bull. Moscou* **34** : 95-155.
- Paulian, R. 1945. Coleoptires Scarabeides de l' Indochine, Faune de l' Empire Franciis. 3. paris, 1-255.
- Redtenbacher, L. 1848. Hugel's Kaschmir und das Reich der Siek" **4(2)**: 497-564.
- Reitter, E. 1892. Bestimmungstabelle der Lucaniden and Coprophagen. Lamellicornien des palaeartischen Faunengebietes. *Verh. ver Brunn.*, **31** : 1-109.
- Silvestri, F. 1924. Description of a new genus of myrmecophilous Scarabaeidae of India. *Rec. Indian. Mus.*, **24(6)** : 583-586.
- Thomson, C.G. 1863. Shandivaviens Coleoptera, synoptiskt. bearbetade, 5. Lund.
- Walker, F. 1858. On some undescribed Ceylon insects. *Ann. Mag. nat. Hist.* **2** : 202-209.
- Wasmann, E. 1918. Myrmecophile und termitophile Coleopteren aus Ostindien, haupt sachlich gesammelt von P.V. Assmuth S.J. *Wien. ent. Aeit.* **37** : 1-23.
- Waterhouse, C.O. 1890. New Scarabaeidae. *Ann. Mag. nat. Hist.*, **5** :365-373.
- Wiedemann, C.R.W. 1823. Zweihundert, neue Kafer von java, Bengalen und dem Vorgebirge der guten Hoffnung. *Zool. Mag.* **2(1)** : 1-133.

LATHRIDIIDAE (COLEOPTERA) OF MEGHALAYA

T. SENGUPTA AND S. BISWAS

Zoological Survey of India, Calcutta

Lathridiidae comprises small beetles, ranging from 1-3 mm. long, adults and larvae of the majority of the species live in mouldy decomposed plant material and mouldy stored food but principally occur under bark of trees. Recently, Sengupta has collected them from India in the Haystack, bushes, flowers, Jowar crop, grass and bracket fungus etc. Crowson (1955) divided the family into two subfamilies Lathridiinae and Corticariinae. In recent years, important contributions made on this group by walkley (1948, 1952), Watt (1969), Dajoz (1976), Johnson (1972, 1975, 1977, 1978, 1979), Ruker (1978), Sengupta (1983) revised the genus *Stephostethus* LeConte of India (1983) and reviewed the Indian subfamily Lathridiinae (1976). So far, 21 species under 7 genera are known from Indian region (Sengupta 1976, 1983) under the subfamily Lathridiinae, of which Meghalaya represents 4 species under two genera *Enicmus* Joy and Tomlin and *Stephostethus* LeConte, whereas the subfamily *Corticariinae* represented 48 species under 5 genera, of which Meghalaya represents 4 species under 2 genera *Corticarina* Reitter and *Corticicara* Johnson.

Subfamily Lathridinae

1. Genus *Enicmus* Thomson

Enicmus Thomson 1859, *Skand, Coleopt.*, 1 : 93, Sengupta, 1976, *Ori. Ins.*, 10 (1) : 115-116.

This is one of the largest genera of Lathridiinae, distributed to all Zoogeographical region, only one species *E. histrio* Joy and Tomlin is fairly common in foot-hills of Himalayas and extended to gangetic plain and Chotanagpur plateau. This genus can be easily distinguished from other genera of Lathridiinae in having parallel sided keel-shaped prosternal process.

1. *Enicmus histrio* Joy and Tomlin

Enicmus histrio Joy and Tomlin, 1910, *Ent. mon. Mag.*, (2)21 : 250.

General appearance (Fig.1) somewhat similar to *Lathridius* with approximately quadrate prothorax, dorsal surface uniformly dark brown and puncturation on elytra distinct and arranged in 8 rows.

Material examined : 3 exs. Shillong, flower of *Acacia mollicima* and Haystack, 26.iv.1971, Coll. T. Sengupta.

Distribution : Meghalaya, West Bengal, Uttar Pradesh, Jammu & Kashmir; Nepal.

2. Genus *Stephostethus* LeConte

Stephostethus Leconte, 1878, *Proc. Amer. Philos. Soc.* 17:601; Walkley, 1948, *Proc. Ent. Soc. Wash.*, 50:150; Sengupta, 1976, *Ori. Ins.*, 10(1) : 113-135.

Genus *Stephostethus* LeConte is a fairly large genus and can be readily distinguished from *Lathridius* Herbst and *Microgamme* Walkley by short and narrow prosternal process, which is not extending to the apex, pronotum with distinct and complete carinae and lateral sides markedly indented. Sengupta (1976, 1983) dealt this genus elaborately, revised the Indian species and established 12 new species. So far, 13 species are known from Indian region of which 3 species are from Meghalaya.

2. *Stephostethus nigratus* Sengupta

Stephostethus nigratus Sengupta, 1976, *Ori. Ins.*, 10(1) : 120.

Sengupta (1976) established this species (Fig. 2) from Shillong and separated it from other known species by its shape of prothorax, which is distinctly narrowed in front and straight lateral margins, colour more or less uniformly blackish.

Material examined : 1 ex., Shillong, Upper Shillong, 26.ix. 1974, Coll. T. Sengupta.

Distribution : Meghalaya, West Bengal, Assam.

3. *Stephostethus paradoxus* Sengupta

Stephostethus paradoxus, Sengupta, 1976, *Ori. Ins.*, 10(1) : 122.

Sengupta (1976) described this species with type-locality Chaibasa : Bihar. *S. paradoxus* (Fig. 3) is most common species of *Stephostethus* abundantly occur in all along the foot-hills of Himalayas and extends to the south upto Chotanagpur : Bihar. General appearance broadly elongate, elytral striation prominent, sometimes a few scattered semierect short pubescence projecting forwards and inwards.

Material examined : 1 ex., Shillong, under dead leaves, 26.ix. 1974, Coll. T. Sengupta.

Distribution : West Bengal, Meghalaya, Assam, Sikkim, Bihar, Uttar Pradesh, Himachal Pradesh.

4. *Stephostethus renukae* Sengupta

Stephostethus renukae, Sengupta, 1983. *Entomologia basiliensia*, 8 : 348 - 349.

This unique species (Fig.4) has peculiar male genitalia, superficially it resembles *S. nigratus* but unlike latter, this species has a well developed carina on 7th interval on elytra. Unlike *S. carinatus* Sengupta, *S. tarunus* Sengupta and *S. nepalensis* Sengupta the prothorax of *S. renukae* is elongate and narrowed in front.

Material examined : 3 exs., Shillong, Risa Colony, under dead leaves, 26.ix. 1974, Coll. T. Sengupta.

Distribution : West Bengal, Sikkim, Meghalaya.

Subfamily Corticarinae

So far, this subfamily includes 5 genera namely *Corticaria* Marsham, *Corticarina* Reitter, *Corticicara* Johnson, *Melanophthalma* Motschulsky and *Migneauxia* Jacq. from India, of which Meghalaya represents only two genera, which are *Corticarina* Reitter and *Corticicara* Johnson.

3. Genus *Corticarina* Reitter

Corticarina Reitter 1880, *Verh. Zool. bot. Ges. Wien*, 30 : 46-71.

This is one of the largest genera of the subfamily Corticarinae, so far 20 species are known from Indian region but none was from Meghalaya, in present paper 5 species have been recorded here as new to the state Meghalaya. The *Corticarina* is closely allied to the genus *Corticicare* Johnson but differs in having basal segment of tarsi (especially the hind) strongly produced ventrally so that its apex almost reaches the apex of second segment and second segment reduced.

5. *Corticarina gangolae* Johnson

Corticarina gangolae Johnson 1970, *Entomologist* 103 : 190-191.

Johnson (1972) described this species from Nainital : U. P.,

Sengupta collected this species from Shillong and recorded here as new to the state Meghalaya. Unlike European species this species has pronotum broadest in front of the middle, peculiar aedeagal structure and smaller in size than *C. hammondi* Johnson.

Material examined : 1 ex., upper Shillong, 26.iv. 1971, flower of *Acacia molicima*, Coll. T. Sengupta.

Distribution : Uttar Pradesh, Meghalaya, West Bengal, Tamil Nadu.

6. *Corticarina fraudulenta* Johnson

Corticarina fraudulenta Johnson 1972, *Entomologist*, 105 : 103.

Johnson (1972) described this species from W. Almora, latter Ruker (1978) recorded it from West Bengal and Tamil Nadu. In this work this species is being recorded here for the first time from Meghalaya. This reddish brown species is closely allied to *C. clareae* Johnson but differs in having deeper post median pronotal depression and characteristic male genitalia.

Material examined : 1 ex. upper Shillong, 26.iv. 1971, flower of *Acacia molicima*, Coll, Coll. T. Sengupta.

Distribution : Uttar Pradesh, Meghalaya, West Bengal and Tamil Nadu.

7. *Corticarina clareae* Johnson

Corticarina clareae Johnson 1972, *Entomologist*, 105 : 102.

Johnson (1972) described this species from Dehra Dun, Nainital and W. Almora, latter Ruker (1978) added its distribution from West Bengal. In present study this species is being recorded for the first time from Meghalaya. This reddish brown species is very similar to *C. fraudulenta* Johnson and differences with latter species given above. General appearance is very similar *C. gangolae* but its pronotum smaller and narrower.

Material examined : 1 ex., Upper Shillong, 26.iv.1971, flower of *Acacia molicima*. Coll. T. Sengupta.

Distribution : Uttar Pradesh, West Bengal, Meghalaya; Nepal.

In addition to above species another 4 specimens have been studied here collected by T. Sengupta from Risha colony and Shillong Peak; Shillong, November 1974, which belong to two species probably have to establish as new species, need more time and examples, will be published elsewhere.

4. Genus *Corticicara* Johnson

Corticicara Johnson 1975, Ent. Sacand., 6 : 383.

This genus is very closely allied to *Corticarina* Reitter, established by Johnson (1975) for the species *Corticarina gibbosa* Herbst as type of the genus. Last mentioned species is most widely distributed and recorded here for the first time from the state Meghalaya.

8. *Corticicare gibbosa* (Herbst)

Lathridius gibbosus Herbst, 1793, *Kafer*, v: 5 : 44.

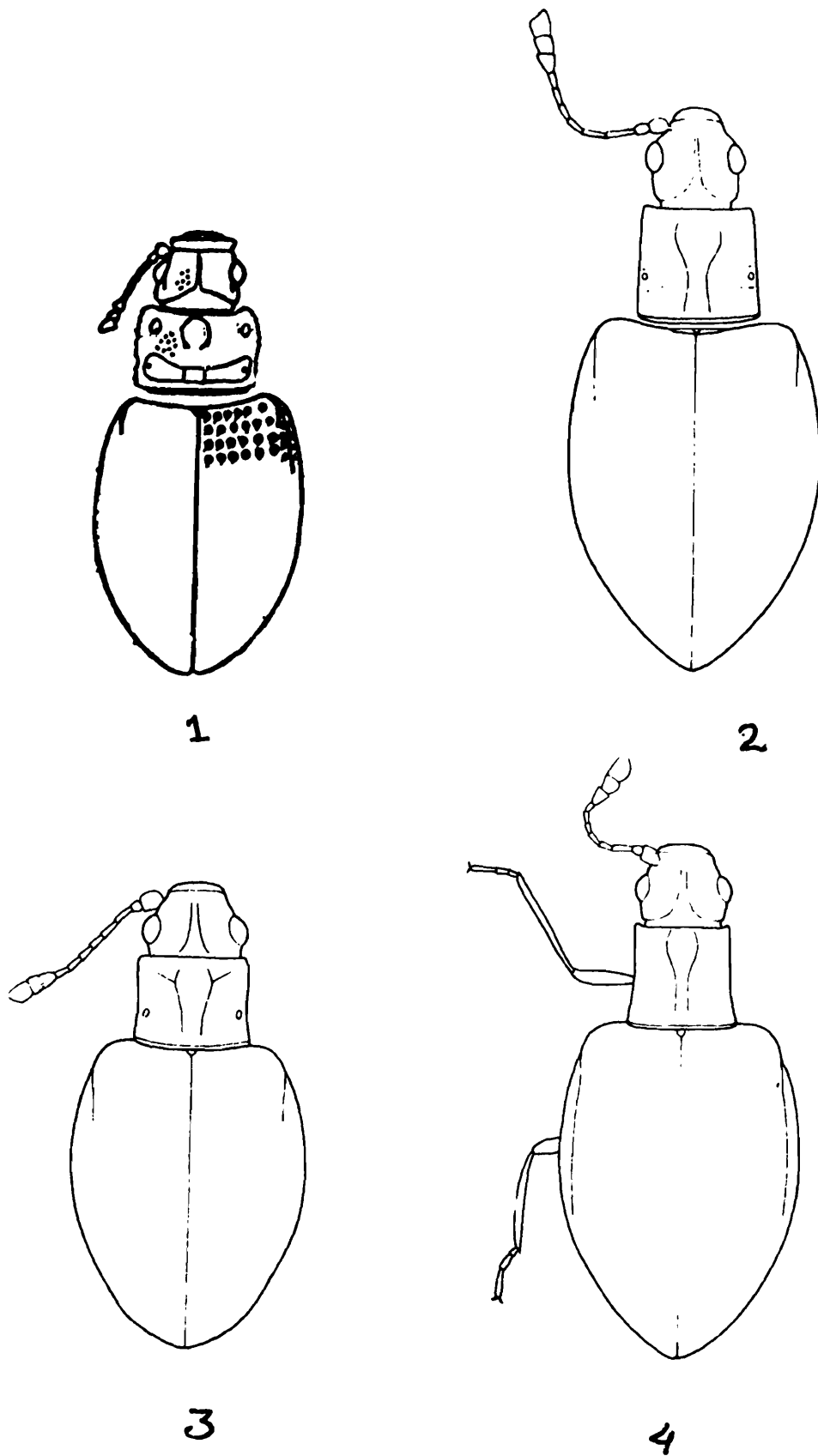
Corticarina gibbosa Reitter 1980, *Verh. Nat. ver. Bronn.*, (Best Tab. 3) : 28.

This species can be easily identified by their dark reddish brown in colour, antennal club broad and more or less abrupt, segment 10 not or barely broader than long, segment 11 slightly longer than broad.

Material examined : 3 exs., Garohills, Dainadubi, flowers of Phoenix sp. and flowers of Boga medula 18, 19, 21.xi. 1974, Coll. T. Sengupta.

Distribution : Holarctic and Oriental. India : Meghalaya, West Bengal, Uttar Pradesh, Himachal Pradesh, Kashmir; Bhutan; Nepal; Pakistan, Sri Lanka.

No attempt is made here to form key to the species and genera but differences with closely related species are given, moreover in some cases differences in male genitalia is main criterion which is not studied here in all the species.



Figs. 1-4. 1. *Enicmus histrio* Joy & Tomlin; 2. *Stephostethus nigratus* Sengupta; 3. *Stephostethus paradoxus* Sengupta; 4. *Stephostethus renukae* Sengupta

ACKNOWLEDGEMENT

This work was carried out in Zoological Survey of India and authors are grateful to Director, Z. S. I. for laboratory facilities.

REFERENCES

- Champion, G. C. 1922. Some Indian Coleoptera (7), *Entomologist's mon. Mag.*, **58**: 68-76.
- Crowson, R. A. 1955. *The Natural classification of the families of Coleoptera*. Nathaniel Lloyd, London.
- Dajoz, R. 1967. Contribution a Letude des Coleopteres Lathridiidae du chili. *Biologie de t'Amerigüe. Ent. Soc.*, **3** : 587 609.
- Johnson, C. 1972. Some members of the genera *Corticarina* Reitter and *Melanophthalma* Motsch. (Coll. Lathridiidae) from India and Nepal. *Entomologist.*, **105** : 97-110.
- Johnson, C. 1975. *Corticicara*, a new genus of Corticariinae (Coll. Lathridiidae). *Ent. Scand.*, **6** : 283-285.
- Johnson, C. 1975. *Corticicara*, a new genus of *Corticariinae* (Coll. Lathridiidae). *Ent. Scand.*, **6** : 283-285.
- Johnson, C. 1975a. New species of *Corticarina* Reitter (Col. : Lathridiidae) from Nepal and the Ethiopian region. *Entomologist's mon. mag.*, **110** : 97 104.
- Johnson, C. 1977. Coleoptera. Fam. Lathridiidae, Corticariinae, *Entomologica Basiliensia*. **2** : 329-341.
- Johnson, C. 1977a. Studies on the genus *Corticaria* Marsham, part 2 (Col. Lathridiidae). *Entomologist's mon. Mag.*, **112** : 213 226.
- Johnson, C. 1979. New species of *Corticarina* Beitter (Col. : Lathridiidae). *Entomologist's mon. Mag.* **114** : 55 62.
- Ruker, H. W. 1978. Lathridiidae aus Indian (Coleoptera : Lathridiidae). *Ann. Hist. nat. Mus. Nat. Hung.*, **70** : 151 154.
- Sengupta, T. 1976. Lathridiinae (Coleoptera : Lathridiidae) from India. *Ori. Ins.*, **10** : 113 135.
- Sengupta, T. 1983. Revision of the Indian *Stephostethus* LeConte (Coleoptera : Lathridiinae), *Entomologica Basiliensia*, **8** : 342 368.
- Walkley, L. M. 1948. Notes on nomenclature in the Lathridiidae *Proc. Ent. Soc. Washington.*, **50**(6) : 149-150.
- Walkley, L. M. 1952. Revision of the Lathridiinae of the State of Washington. *Proc. Ent. Soc. Washington.*, **54** : 217 235.
- Watt, J. C. 1969. Key to genera and some species of New Zealand Lathridiidae (Coleoptera). *New Zealand Ent.*, **4** (2) : 49 67.

MELOIDAE (COLEOPTERA)

G. N. SAHA AND B. N. DAS

Zoological Survey of India

Calcutta 700 053

INTRODUCTION

The Meloidae, popularly known as Blister-Blister-Bettles is one of the most interesting of all groups of Coleoptera on account of remarkable life-histories (hypermetamorphosis) of its members (Richards & Davies, 1977). About 2000 species have been described and they are widely distributed specially in the arid and semi-arid parts of the world. So far only about 110 species belonging to 17 genera and three subfamilies have been so far recorded from India and its adjacent countries.

Blister beetles own this common name to the fact that a pharmaceutical product, cantharidin is prepared from the dried insects. When these insects are handled, they exude a yellow fluid which contains cantharidin and causes blisters on human skin. This product has long been used as a medicine in different diseases and is also used in cosmetics, hair oil, etc. Many species are harmful being pests of agricultural, horticultural and vegetable crops but some are beneficial during the larval stage as they destroy egg masses of locusts (Crowson, 1955).

This group was very poorly known not only from Meghalaya but also from all over India and its adjacent countries due to lack of workers from this subcontinent. Saha (1972(b), 1972(c), 1979, 1981 and 1992) published several papers and a monograph on Meloidae fauna of India and its adjacent countries. The first record of Meloidae from Meghalaya was made by Saha (1979) by describing two new species, *Mylabris himalayaensis* Saha and *Eolydus meghalayaensis* Saha.

It is a fact that Meloidae is poorly represented in the state of Meghalaya which is having maximum rainfall. But on the other hand Meloids are very abundantly distributed in arid and semi-arid parts of India namely Rajasthan and Gujarat which are having minimum rainfall.

So far from Meghalaya 3 Genera namely *Mylabris*, *Eolydus* and *Epicauta* and five species, *Malabris cichorii*, *Mylabris himalayaensis*, *Eolydus meghalayaensis*, *Eolydus melanura* and *Epicauta hirticornis* are recorded. Collections were mostly done from Shillong, Khasi and Jaintia hills and sparsely done in west Khasi Hills. Among the aforesaid species *Mylabris cichorii* and *Epicauta hirticornis* are abundantly found in the state. Mr. R.B.S. Sewell was the first collector of the group from this State. In 1926 he collected an example of Meloidae from Cherrapunji and it was described by Saha (1979) as a new species *Eolydus meghalayaensis*.

General Morphology

The meloids are characterised chiefly by the following features.

- Size : Variable usually 12-22 m.m. on an average.
- Shape : Elongate slender or subcylindrical; Body and elytra more or less soft.

- Colour** : Bright coloured, sometimes with metallic tinge.
- Vestiture** : Pubescence varied from fine to coarse hairs in different parts of the body. Punctuation variable.
- General Description** : Head vertical, strongly deflexed with narrow neck, triangular or quadrangular, mouth parts biting type with labrum, mandible, maxilla and labium; eyes lateral oval or reniform. Antennae moderately long, filiform or moniliform, setaceous or clavate. Pronotum campanuliform, generally narrower than the base of elytra. Scutellum generally triangular, flat, concave or convex with broad or narrow apex. Elytra brightly coloured, nearly rounded at apex. Sternites are marked by three plates viz. pro-meso-and metasternum; Legs having coxa, femur, tibia and tarsal segments showing 5-5-4 formula. Claws appendiculate, sometimes serrate. Abdomen with six visible sternites, of which the last sternite with the emargination in male. Male genitalia include parameres pointed at apex; aedeagus large, stout pointed apically with one to three hooks distally. In males the antennae and legs are adapted for courtship purpose. The maxillary palpi is modified in some species. In some species of *Mylabris* and *Epicauta* the femora and tibiae of fore-and midlegs may be distorted and tarsi strongly modified. Tarsal pads of males are larger and more densely setose than those of females. Differences in tibial spurs are found in some species. In many species of *Mylabris*, *Epicauta*, *Lytta*, *Cyaneolytta* and *Psalydolytta* the last sternite is emarginate in males. The hooks of aedeagus provide for secure attachment within the vagina of the females.

Subfamily - Meloinae Denier.

Characters of the subfamily : Body form variable, globose or elongate- cylindrical; head usually wider than prothorax; maxillae modified; spurs of fore, mid and hind tibiae, often variously modified or entirely absent; in aedeagus the sclerous portion of the ejaculatory duct modified to form a recurved hook dorsally and with one or two recurved ventral hooks.

KEY TO TRIBES OF THE
SUBFAMILY MELOINAE

1. Fore femur beneath with a patch of dense silky pubescenceEpicautini Denier
 - Forefemur without such character 2
2. Antennae clavate : Mandibles often dissimilar.....Mylabrini Laporte
 - Antennae never clavate : mandibles similarLyttni Wellman

Tribe EPICAUTINI Denier

Genus *Epicauta* Dejean

The *epicauta* is a large and widely distributed genus of the family Meloidae. The genus *Epicauta* comprises about 300 species, distributed in the world, but only 7% of the total species are known from India. 75% of the Indian species of *Epicauta* are confined to the Himalaya.

***Epicauta hirticornis* (Haag-Rutenberg)**

Lytta hirticornis (Haag-Rutanger), 1880. *Deutsche Ent. zeitschr.*, 24 : 79.

Epicauta hirticornis, Borchmann, 1917, *Junk's Col. Cat.* 17 : 76; Kaszab, 1952, *Acta Biol. Hung.* 3(4) : 585, 596.

Locality records and specimens examined : India : Meghalaya, Williamnagas, East Garo Hills, 27.v.1990, 20 ex. Coll. M.S. Shishodia; Cherrapunjee, East Khasi Hills, 24. v. 2990, 16 ex., Coll. M.S. Shishodia; Balphakram National Park, West Garo Hills, 12.v. 1988, 2 ex., Coll. V.T. Darlong; Mawphlong, Khasi Hills, 18.v.1979, 3 ex., Coll. P.T. Cherian; Garampani, Jowai, 19.xi.1979, 3 exs; Coll. P.T. Cherian.

Remarks : The exact type. Locality of *E. kirticornis* had not been mentioned by Haag-Rutengerg (1880). Later Saha (1979) by examining a good number of collections has come in conclusion that the typical *hirticornis* has been confined to Assam, Nagaland and Meghalaya.

Tribe MYLABRINI Wellman

Genus *Mylabris* Fabricius***Mylabris cichorii* (Linnaeus)**

Meloe cichorii Linnaeus, 1757. *Iter Hasselquist* : 410. *Mylabris cichorii* Billiberg, 1813. *Mon. Mylabr.* : 11. *Mylabris cichorii* Marseul, 1872 *Mem. Soc. Siege* : 448; Borchmann, 1817, *Jun'ks Cat.* 17(69) : 29. *Mylabris (Euzonabris) cichorii*, Kuzin, 1954. *Trudi Ent. ob.* 44 : 358. *Mylabris cichorii* Saha, *Rec. Zool. Surv. India* 74(1) : 59-60.

Material Examined : India : Meghalaya : Shillong, Khasi Hills, 15.xi.1930, 3 ex., Coll. H.R. Rao.; Motinagar, 27.vii.1961, 6 ex., Coll. S.N. Prasad; K & J. Hills, Umshing, 13.viii.1963, 10 ex., Coll. M. Ryth; Mauphlong, 22.viii.1963, 4 ex., Coll. S. Biswas; Umphyrna, 25.viii.1964. 3 ex., 31.x.1964, 8 ex., Coll. R.P. Ghosal; Shillong Peak, 10.viii.1967, K. & J. Hills, Umshing, 13.viii.1963, 10 ex., Coll. M. Rynth; Mauphlong, 22.viii. 1963, 4 ex., Coll. S. Biswas; Umphyrna, 25.viii.1964, 3 ex., 31.x.1964 ex., Coll. R.P. Ghosal; Shillong Peak, 10.viii.1967, 2 ex., K. & J. Hills, Uviran, 28.vii.1967, 1 ex., Coll. R.K. Varshney; Umran South of Nongpoh E. Khasi Hills, 17.ix.1988, 8 ex., Coll. B.N. Das; Khasi Hills, Nongstoin, nr. Civil Hospital, 8 ex., Coll. A.R. Lahiri; E. Khasi Hills, Umling, 29.ix.1988, 29 ex, Col. B.N. Das; Burnihat, Ca 24 Km. N. of Gauhati, Host-Jaba plant, 29.viii.1974, 29 ex., Coll. B.C. Saha; Risa colony Shillong, 23.v.1974, 11 ex., Coll. K. Deb; Ranihar, 4.viii. 1981, ex. M.R. Rynth; Jowai, 3.viii.1972, 9 ex., Coll. A.K. Ghosh; Umran, Khasi Hill, 9.vii.1981, 2 ex., Coll. R. Mathew; Balat, 5.viii.1981, 2 ex., Coll. M.R. Rynth; Nongpoh, Khasi Hills, 30.9.1988, 1 ex., Coll. A.R. Lahiri; Umshing, E. Khasi Hills, 2.x.1988, 2 ex., Coll. B.N. Das; Nongstoin, W. Khasi Hills, Nr. Civil Hospital, 26.9.1988, 4 ex., Coll. Dr. A.R. Lahiri; Umran, South of Nongpoh, East Khasi Hills, 28.ix.1988, 8 ex., Coll. B.N. Das; Umtyngar, 8.viii.1968, Coll. 1 ex., Coll. R.K. Varshney; Garampani, Jowai, 19.ix.1989, 5 ex., Coll. P.T. Cherian; Old Barapani, East Khasi Hills, 8.vii.1980, 3 ex., Coll. R. Mathew; Anogiri, Garo Hills, 7.xi.1973, 6 ex., Coll. S. Biswas; Safai basti, Garampani, Jayantia Hills, 3.x.1988, 10 ex., Coll. V.D. Srivastava; Garampani, Jayantia Hills, 4.x.1988, 6 ex., Coll. V.D. Srivastava; Jawai, Jayantia Hills, 27.ix.1988, 14 ex., Coll. V.D. Srivastava.

Remarks : From the aforesaid distribution data it appears that *M cichorii* (Linnaeus) is widely distributed more towards the eastern belt of Meghalaya including East Khasi Hills, Jaintia Hills, Shillong and its Northern part (Nongpoh). The availability of the specimen from West Khasi Hills is moderate.

***Mylabris himalayaensis* Saha**

Mylabris himalayaensis Saha, 1979. *Rec.Zool.Surv.*, Vol.74(Part-1), pp.66-67.

Material examined : India : Meghalaya : E. Khasi Hills, Old Barapani, 8.VII.88,lex., Coll. R. Mathew & Party; Balat, 11ex., 5.8.81, Coll. Rynth; Khasi Hills, Susner, 8. ix. 1982, 1ex., H. Hussin.

Remarks : It was described as a new species from Assam and Arunachal and also recorded from Uttar Pradesh, Haryana, Punjab, Jammu and Kashmir (Saha, 1979). Now it is being recorded for the first time from Meghalaya. This species is allied to *M. phalerate* (Pallas, 1982) and can be distinguished by a shallow elongate spoon-like excavation on cardo and long golden hairs on the ventral side. Its distribution is generally confined to higher altitudes of India. From the aforesaid distributional data, it is found that the insect is available in maximum in the month of August.

TRIBE LYTTINI Wellman

***Eolydus melanura* (Hope)**

Lydus melanurus Hope. 1831. *Zool. Misc.* : 32 : Borchmann, 1917. *Junk's Col. Cat.* 17(69) : 8.

Lytta apicalis Haag-Rutenberg. 1880. *Deutsche ent. Zeitschr.* 24 : 71.

Eolydus melanura Kaszab 1961. *Bonn. Zoon. Beitr.* 3(4) : 346, 347.

Eolydus melanura Saha 1979. *Rec. Zool. Surv. India* 74(1) : 125-126.

Material examined : India : Meghalaya : E. Khasi Hills, Nong Klyllem wild life Reserve Nongpoh, 19. X. 1982, 1ex Coll. R. Mathew; Garo Hills Anogiri, 7. XI. 73, 3ex. Coll. S. Biswas.

Remarks : It was recorded from Nepal, Assam and Uttar Pradesh (Saha, 1979). Its distribution is generally confined to higher altitudes of India. From the present data it is available only from East and West Meghalaya showing a type of disjunct distribution.

***Eolydus meghalayaensis* Saha**

Eolydus meghalayaensis Saha, 1979. *Rec. Zool. Surv, India*, 74(1) : 124-125.

Material examined : Holotype : India : Meghalaya (Assam), shillong, Khasi Hills, Cherrapunji, 1-3. X. 1926 (R.B.S. Sewell)

Remarks : From all other Indian species of *Eolydus* having a yellow pronotum, *meghalayaensis* is easily recognized by its metallic bluish elytra, emargination of sixth visible sternite deeply bilobed in males, segment 1 of fore tarsi in males fairly lobed inwardly.

ACKNOWLEDGEMENTS

We are grateful to Dr. Ashish Ghosh, the than Director, Z.S.I., Calcutta for kindly providing us with necessary facilities and encouragement. Dr. J.R.B. Alfred, Director and Dr. T. Sengupta, Deputy Director Z.S.I..are remembered with gratitude for valuable suggestions in preparation of the present paper.

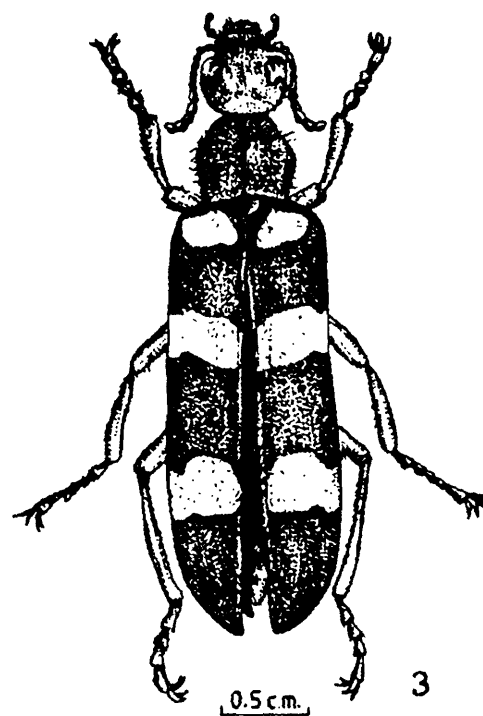
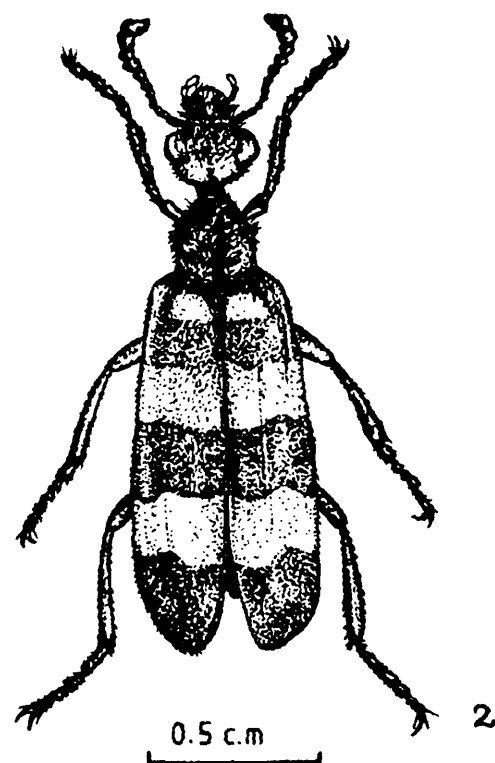
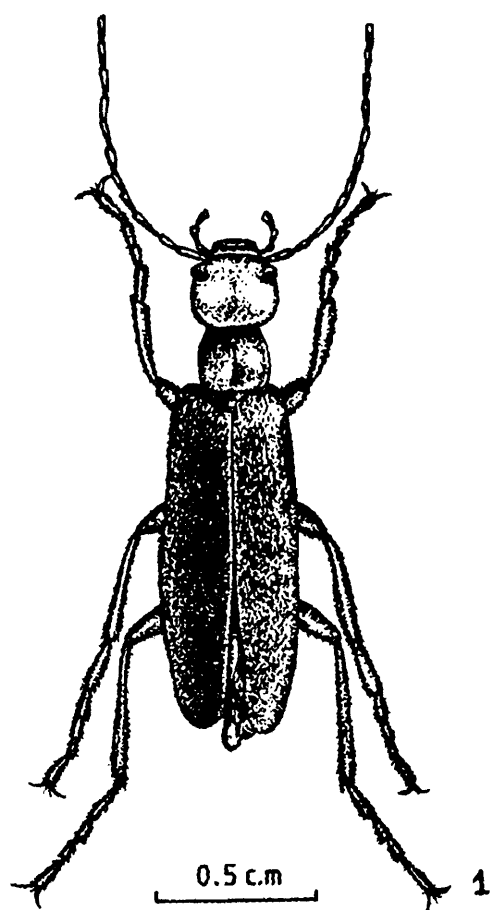


Fig. 1. *Epicanta hirticornis* (Haag-Rutenberg)
Fig. 2. *Mylabis cichorii* (Linnaeus)
Fig. 3. *Mylabis himalayaensis* Saha

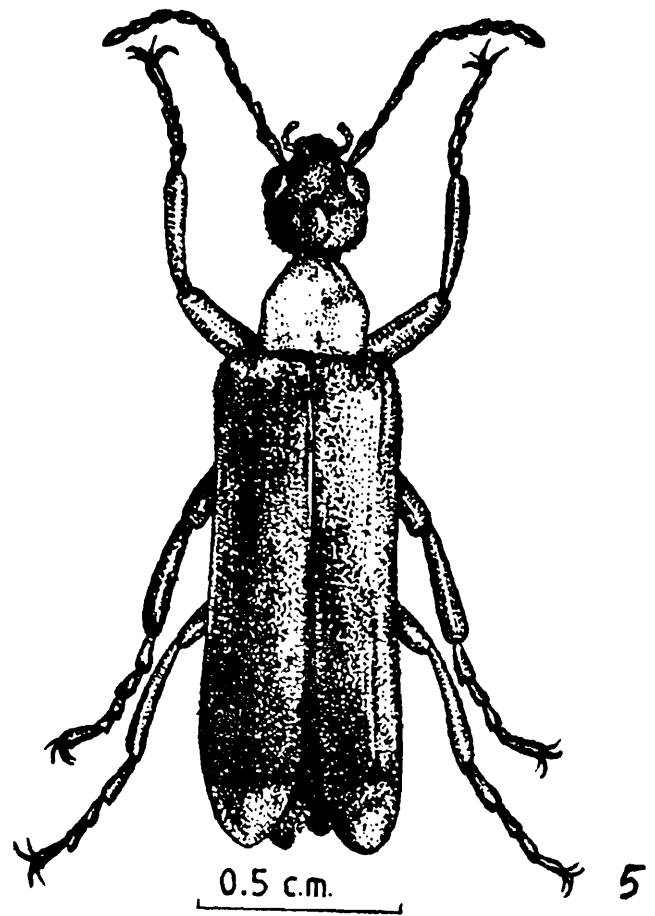
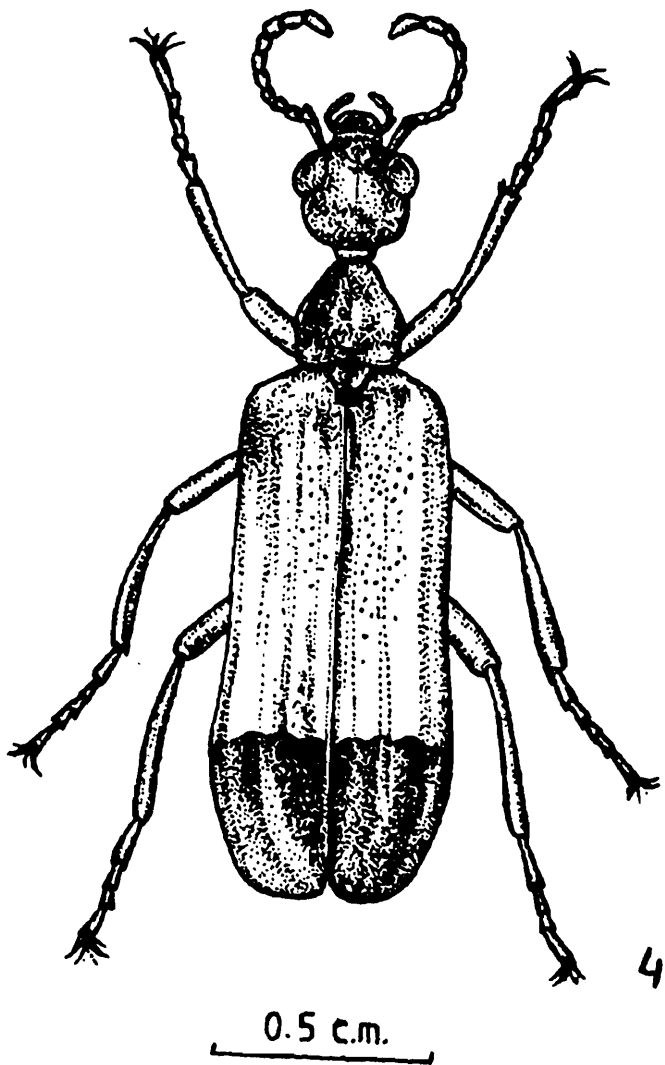


Fig. 4. *Eolydus melanura* (Hope)

Fig. 5. *Eolydus meghalayaensis* Saha

REFERENCES

- Borchmann, F. 1917. Meloidae, Cephaloidae. In Junk, W. & Schenikting S. *Coleopt. Cat., Berlin*, **17**, pars 69, pp. 1-208.
- Fairmaire, L. 1894. Heteromeres du Bengale, *Ann. Soc. Ent. Belg.*, **38** : 16-43.
- Kaszab, Z. 1952. Die palaarktischen and orinetalischen Arten der Meloiden-Gattung *Epicauta* Redtts. *Acta Bisl. Hung.*, **3(4)** :573-599.
- Richards O.W. and Davies R.G. 1977. Imms' General Textbook of Entomology, Vol.2, Chapman and Hall, London, pp.1-1354.
- Saha, G.N. 1972(a). Studies on Indian blishter Beetles (Coleoptera : Meloidae) Four new species of *Mylabris* Feb. from Rajasthan. *Oriental Insects*, Delhi, **6(3)**, pp.273-280.
- Saha, G.N. 1972(c). Observation on a collection of blishter beetles, *Mylabris* Feb. (Coleoptera : Meloidae), from Pakistan with description of a new species and a new subspecies. *Proc. Zool. Soc.*, Calcutta, **25** : 19-23.
- Saha, G.N. 1979. Revision of Indian blister Beetles (Coleoptera : Meloidae : Meloinae). *Rec. Zool. India*, **74**(Part 1), pp.1-146.
- Saha, G.N. 1981. A new genus of Meloidae (Coleotera) from India, *Oriental Insects*, Delhi, **15(3)** : 63-65.
- Saha, G.N. & Das, B.N. 1992. Insecta : Coleoptera Family Meloidae from West Bengal, Zoological Survey of India, Calcutta, (In press).

INSECTA : COLEOPTERA : SCOLYTIDAE

NIVEDITA SAHA AND P. K. MAITI

*Zoological Survey of India,
Calcutta - 700 053.*

The present paper is based on the taxonomic study 20 species of Scolytidae from Meghalaya as against a total of 275 species (Saha and Maiti, 1992) known from the Indian subcontinent and more than 5,000 species from the world (Wood, 1978). However, Eggers (1930) was the first author to describe seven species from Shillong. Beeson (1941) named three more species from the area, namely, *Hylastes khasianus*, *Orthotomicus khasiapini* and *Blastophagus khasianus*, but only the last one has been described by Murayama in 1959. Other two species still remained undescribed, as such those cannot be included in the present paper. Schedl (1967) also described a single species, *Xyleborus jaintianus*. The above record shows that a total of 11 species has so far been described from the area and at the same time all of them are only from Shillong. Beeson (1930) reported two more species from the area but those also from Shillong only.

As such, it appears that there exists a total of 13 species known so far from the State, to which seven more species have been added to the fauna of Meghalaya to bring a total of 20 species.

The present paper is based on some stray collections, which have been mostly described by the foreign experts from time to time. However, the first collection of the area was made by Beeson and Bhatia in 1923. Subsequently, all other collections have been made by the staff members of the zoological Survey of India, namely, N. Saha in 1980 and B. N. Nandi in 1991.

The State of Meghalaya with its undulating hilly tracts, deep gorges and valleys supporting well spread forests appears to support fairly rich fauna. The real picture will be revealed unless further through collection is made in future from the area.

The main habitats of these beetles are live, dead and dying trees in the forest stands, felled logs in the extraction centres, timbers in storage and in human use; creepers and climbers and even the fruits, seeds and petioles of different plants.

The present study deals with the taxonomic account of 20 species from the State including their synonymies, material studies, distribution, biological and taxonomic remarks, etc. In addition workable keys have also been provided for proper identification of the existing fauna. The material of the species not present in Z. S. I., Calcutta, have been studied in F. R. I., Dehra Dun for the preparation of the keys.

SYSTEMATIC ACCOUNTS

a) *General Morphology* : The general morphology includes the characters which are used in the taxonomic identity of the species.

Body usually varies from stout and broad to long and cylindrical in shape. Size varies from 1.00 mm to 5.50 mm.

Head generally globose, weakly narrowing anteriorly, sometimes subrostrate. Frontal surface either concave, convex or flat and is sculptured with punctures, granules or carinulae. Eyes varies from oval to elongate, from entire to emarginate and even completely divided. Antennae geniculate, with scape, funicle and club; scape either vary short or long; funicular segments vary between three and seven; shape of antennal club varies from nearly spherical to elongate and dorsoventrally flattened to obliquely truncate, either face devoid of any suture or septum or with either suture or septum and sometimes with both.

Pronotum varies from oval to elongate or cylindrical to subquadrate, sometimes broadest at base whence narrowing anteriorly with narrowly to broadly rounded anterior margin; dorsal surface varies from plano-convex to declivous on anterior portion and with asperities, punctures and hairs, sometimes with mycetangium.

Scutellum either visible or submerged; shape various from oval to triangular, sometimes not at all visible.

Elytra varies from short and stout to long and cylindrical; basal margin of each elytron either straight or substraight or outcurved and either armed or unarmed; lateral sides either subparallel or outcurved and terminating into broadly to narrowly rounded apex; postero-lateral margin either carinate or rounded; elytra divided into basal portion and posterior declivity; declivital face flat, convex or concave or excavate; elytra with nine striae and ten interstriae; striae marked generally with punctures and hairs; interstriae with punctures, granules or tubercles or both and with fine hairs and setae. Tibiae either with spine or tooth-like denticles.

b) *Collection and Preservation* : The best procurment of material needs the adequate knowledge of the exact habitats of these tinny beetles which normally are traced in the bark of trees in forest stand as well as in the felled logs or timbers in storage or in human use. The impression of the characteristics gallery pattern underneath the bark gives an indirect clue for searching the beetles. After tracing the galleries, the barks are pilled off or wood is excavated by small hand axe. The entire wood pieces are collected in tray and the material, if available, are taken with the help of a forcep.

The best method of preservation is in dry condition being well set and pinned and kept in a wooden drawer, containing preservative.

c) *List of Texa* : List of species so far recorded from Meghalaya (Author's name and year against each species in parenthesis indicates its first record from the state).

- | | |
|-----------|---|
| Family | Scolytidae |
| Subfamily | Hylesininae Erichson |
| | 1. <i>Hylastes khasianus</i> Beeson, <i>nom. nud.</i> (Beeson, 1941) |
| | 2. <i>Tomicus</i> (= <i>Blastophagus</i>) <i>khasianus</i> Murayama (Murayama, 1959) |
| Subfamily | Scolytinae Latreille |
| | 3. <i>Orthotomicus khasiapini</i> Beeson <i>nom. nud.</i> (Beeson, 1941) |

4. *Apoxyloborus* (= *Xyleborus*) *jaintianus* Schedl (Schedl, 1967)
5. *A. subsimilis* (Eggers) (Eggers, 1930)
6. *Arixyleborus moestus* (Eggers) (Eggers, 1930)
7. *Cnestus suturalis* (Eggers) (Eggers, 1930)
8. *Euwallacea asperipennis* (Eggers) (Eggers, 1930)
9. *Kalantaneus fabricii* (Hagedorn) (Beeson, 1930)
10. *K. hirtus* (Hagedorn) (Beeson, 1930)
11. *K. longidens* (Eggers) (Eggers, 1930)
12. *Xyleborinus subspinosus* (Eggers) (Eggers, 1930)
13. *Xyleborus protensus* Eggers (Eggers, 1930)

List of species recorded for the first time from the state

1. *Scolytoplatypus pubescence* Hagedorn
2. *S. raja* Blandford
3. *Euwallacea interjectus* (Blandford)
4. *E. malloti* (Eggers)
5. *Xyleborus similis* Ferrari
6. *Xylosandrus crassiusculus* (Motschulsky)
7. *X. discolor* (Blandford)

Key to subfamilies of the family Scolytidae

1. Basal margin of each elytron procurved and armed with a series of weak or strong marginal crenulations; head wider, usually visible from above; pronotum weakly declivous on anterior half, usually unarmed, if at all armed, armed with some crenulations antero-laterally; body with scales or deeply divided setae ***Hylesininae* Erichson**
- Basal margin of each elytron with substraight transverse line across the body and without any crenulation; head somewhat narrower either partly or entirely concealed from dorsal aspect; pronotum weakly to strongly declivous on anterior half and usually armed with many asperities, more distinct on antero-median area; body devoid of deeply divided setae, but sometimes with scales ***Scolytinae* Latreille**

Family *Scolytidae*Subfamily *Hylesininae* ErichsonGenus *Tomicus* Latreille

1864. *Blastophagus* Eichhoff, *Berl. Ent. Zeitschr* : 25.

1978. *Tomicus* Wood, *Annl. Soc. ent. Fr. (N. S.)* 14(1) : 111.

1. *Tomicus khasianus* Murayama

1941. *Blastophagus khasianus* Beeson, *Ecology and Control of Forest Insects of India and Neighbouring Countries*, 285 (nom. nud.).

1959. *Blastophagus khasianus* Murayama, *Bull Brooklyn ent. Soc. Lancaster, Pa (N. S.)*, 54 : 75-76, Type-locality : Shillong.

1980. *Blastophagus khasianus* : Schedl, *Nat. Mus. Wien. Entomologie*, 3(2) : 132

Material : 4 exs. from Shillong, 22.v. 1925, coll. C. F. C. Beeson, ex. "*Pinus khasia*"

Distribution : India : Meghalaya (Shillong). Elsewhere : None.

Remarks : The subfamily Hylesininae is represented by this single species only from the region, collected from *Pinus khasia*. The species has been transferred to the genus *Tomicus*, since Wood (1980) has synonymised the genus *Blastophagus* under *Tomicus*.

Subfamily Scolytinae

Key to the genera under the subfamily Scolytinae

1. Scutellum submerged, not visible; antennal club unmarked by any suture and funicle with 6 segments; pronotum unarmed and basal half of lateral margins feebly to strongly emarginate to accommodate profemur; meso- and meta-tibial grooves for reception of tarsal segments; protibiae in females on their posterior faces tuberculate; frons of male always excavate.....
..... *Scolytoplatypus* Blandford
- Scutellum visible; antennal club marked by suture and funicle with 4-5 segments; pronotum armed and lateral margins on basal half devoid of any emargination; meso- and meta-tibial grooves absent; protibiae devoid of any tubercle on its posterior face (except in *Arixyleborus*); frons in male never excavate 2
2. Procoxae narrowly to widely separated 3
 - Procoxae contiguous 4
3. Elytral declivity truncate, entire truncate margin with circumdeclivital costa
..... *Apoxyloborus* Wood
 - Elytral declivity usually not truncate; if truncate, truncate margin with partial circumdeclivital costa extending to interstria 7 *Xylosandrus* Reitter
4. Antennal funicle with 4 segments; anterior margin of pronotum distinctly armed
..... *Cnestus* Sampson
 - Antennal funicle with 5 segments; anterior margin of pronotum either armed or unarmed 5

5. Apical margin of basal corneous portion of antennal club round; antennal club with segment 2 comparatively large and distinctly chitinized *Euwallacea* Hopkins
 – Apical margin of basal corneous portion of antennal club sharply elevated, forming a complete ring; antennal club with segment 2 comparatively indistinct..... 6
6. Protibiae inflated on posterior surface and inflated surface always with granules
 *Arixyleborus* Hopkins
 – Protibiae on posterior face not exactly inflated, but always devoid of granule 7
7. Postero-lateral margins of elytra either carinate or acutely margined; pronotum somewhat rectangular; anterior margin of pronotum either armed or unarmed.....*Xyleborus* Eichhoff
 – Postero-lateral margins of elytra rather rounded (sometimes apical half somewhat acute); pronotum ovoid; anterior margin of pronotum usually armed *Kalantaneus* Nunberg

Genus *Scolytoplatypus* Schaufuss, 1890

1891. *Scolytoplatypus* Schaufuss, *Tijdschr. Ent.*, **34** : 31.

1994. *Scolytoplatypus* : Saha and Maiti, *State Fauna Series 3: Fauna of West Bengal*, Part 6 :

Key to the species of *Scolytoplatypus* based on male

1. Elytral disc smooth, devoid of any interstrial ridge at the commencement of declivity, rather gradually sloping towards apex; frontal cavity with tuft of long hairs on margin of both anterior and posterior borders of eyes, tuft of hairs touching each other at middle of their length above the frons; body length 3.90 - 4.00 mm.....*S. pubescens* Hagedorn
 Elytral disc not smooth, alternate interstrial ridges 1, 3, 5 and 7 with a spine at its terminal end at the commencement of declivity; frontal cavity with uniform curved hairs at its upper margin, but devoid of any tuft of long hairs; body length 3.00 mm..... *S. raja* Blandford

2. *Scolytoplatypus pubescens* Hagedorn

1904. *Scolytoplatypus pubescens* Hagedorn, *Bull. Mus. Hist. Nat. Paris*, **10** : 122-123, Female, *Type-locality* : Darjeeling, West Bengal, India.

1994. *Scolytoplatypus pubescens* Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Material : 2 Males, and 1 Female, Shillong, 22.v. 1925, coll. G. D. Bhasin ex. unknown wood

Distribution : India : Meghalaya (Shillong) & West Bengal. Elsewhere : Burma, Thailand and Taiwan.

Remarks : This is the largest species of the genus *Scolytoplatypus* found in India and recorded for the first time from the State of Meghalaya.

3. *Scolytoplatypus raja* Blandford

1993. *Scolytoplatypus raja* Blandford, *Trans. ent. Soc. Lond.*, p.431, Female and Male, *Type-locality* : Himalaya, India.

1994. *Scolytoplatypus raja*, Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Material : 1 Male, Shillong, G. d. Bhasin coll., 22. v. 1925, ex. unknown wood.

Distribution : India : Meghalaya (Shillong) and West Bengal. Elsewhere : Malaysia, North Vietnam, Pakistan, Taiwan and Thailand.

Remarks : The species predominantly found in the Hilly tracts of Darjeeling District, West Bengal, is recorded for the first time from the State. The species has been recorded so far from some thirteen species of host plants from the Himalayan tracts in India (Beeson, 1941).

Genus *Apoxyleborus* Wood

1980. *Apoxyleborus* Wood, *Gt. Basin Nat.*, 40(1) : 90.

1994. *Apoxyleborus* Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, part 6 :

Key to the species of *Apoxyleborus*

1. Larger species, body length 3.00 mm; sutural interstria 1 on declivital face raised; declivital face not vertical, rather obliquely truncate and surface set with dense coat of long and bent hairs; circumdeclivital costa with a few sparse erect hairs *A. jaintianus* (Schedl)
- Smaller species, body length 2.60-2.70 mm; sutural interstria 1 on declivital face not raised; declivital face vertically truncate and surface set with dense coat of bifurcated hairs; circumdeclivital costa devoid of any erect hairs..... *A. subsimilis* (Eggers)

4. *Apoxyleborus jaintianus* (Schedl)

1967. *Xyleborus jaintianus* Schedl, *Ent. Tidskr.*, 88 : 161, Female, *Type-locality* : Shillong, Meghalaya

1980. *Xylosandrus jaintianus* : Schedl, *Nat. Mus. Wien, Entomologie*, 3(2) : 129.

Material : 1 Female (Paratype), Shillong, coll. C. F. C. Beeson, 22. v. 1925, ex. unknown wood.

Distribution : India : Meghalaya (Shillong). Elsewhere : None

Remarks : The species is so far only known from its type locality.

5. *Apoxyleborus subsimilis* (Stebbing)

1930. *Xyleborus subsimilis* Eggers, *Indian Forest Rec. (Ent.)*, 14(9) : 186, Female, *Type-locality* : Shillong, Meghalaya and Halfong, Assam.

1992. *Apoxyleborus subsimilis* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Material : 8 Female (Holotype and Paratype), Shillong, coll., G. D. Bhasin, 14.v. 1925, ex. unknown wood (*det. as Xyleborus subsimilis*)

Distribution : India : Assam, Meghalaya (Shillong) and West Bengal. Elsewhere : Burma.

Remarks : The species occurs in the North-eastern part of India and is known from some five host plant (Beeson, 1941; and Saha and Maiti, 1992).

Genus *Arixyleborus* Hopkins

1915. *Arixyleborus* Hopkins, *U. S. Dept. Agric. Rep.*, **99** : 59.

1992. *Arixyleborus* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part, 6

6. *Arixyleborus moestus* (Eggers)

1930. *Xyleborus moestus* Eggers, *Indian Forest Rec. (Ent.)*, **14(9)** : 189, Female, *Type-locality* : Shilling, Meghalaya.

1956. *Arixyleborus moestus* : Browne, *Sarawak Mus. J.*, **6** : 350.

1992. *Arixyleborus moestus* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Material : 3 Females (Holotype & paratype) Shillong, C. F. C. Beeson, coll. 22. v. 1925, ex. unknown wood.

Distribution : India : Meghalaya (Shillong) and West Bengal. Elsewhere : None.

Remarks : The mutituberculate interstriae (except, a narrow basal strip of elytral disc) keep the species separated from all other representative of the genus so far known from India (Maiti and Saha, 1987).

Genus *Cnestus* Sampson, 1911

1911. *Cnestus* Sampson, *Ann. Mag. nat. Hist.*, **7(8)** : 383.

1992. *Cnestus* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

7. *Cnestus suturalis* (Eggers)

1930. *Xyleborus suturalis* Eggers, *Indian Forest Rec. (Ent.)* **14(9)** : 24, Female, *Type-locality* : Shillong, Meghalaya.

1986. *Cnestus suturalis* : Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper*, No. 86 : 74-76, Fig. 17, a and b.

Material : 1 Female (Holotype), Shillong, C. F. C. Beeson coll., 22. V. 1925. (as *Xyleborus suturalis*).

Distribution : India : Meghalaya (Shillong) and South Andaman. Elsewhere : Indonesia and Tonkin.

Remarks : The species is a very rare one and is represented by single Holotype material from its type-locality only.

Genus *Euwallacea* Hopkins

1915. *Euwallacea* Hopkins, *U. S. Dept. Agric. Rep.*, **99** : 54.

1992. *Euwallacea* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Key to the species of *Euwallacea* Hopkins

1. Smaller species, body length 2.30 mm. *E. malloti* (Eggers)
 - Larger species, body length 3.30-3.75 mm..... 2
2. Postero-lateral margins of declivity with distinct carinae devoid of any granules; declivity gradually sloping and becoming flattened towards lateral margins; body length 3.75 mm
.....*E. interjectus* (Blandford)
 - Postero-lateral margins of declivity devoid of distinct carinae, but with sharp margins and with distinct granules; declivity somewhat abruptly sloping and becoming not so flattened but weakly convex towards lateral margins; body-length, 3.30 mm..... *E. asperipennis* (Eggers)

8. *Euwallacea asperipennis* (Eggers)

1930. *Xyleborus assamensis* Eggers, *Indian Forest Rec. (Ent.)* 14(9) : 195-196, Female, Type-locality : Shillong, Meghalaya.

1934. *Xyleborus asperipennis* ; Eggers, *Ent. Nach.* 8 : 2 (New name for *Xyleborus assamensis* (Eggers).

1994. *Euwallacea asperipennis* : Saha and Maiti, *State Fauna series 3 : Fauna of West Bengal*, Part 6 :

Material : 2 Females (Paratypes), Shillong, coll. C. F. C. Beeson, 22 v. 1925 (det. as *Xyleborus asperipennis*).

Distribution : India : Assam, Meghalaya (Shillong), Naga Hills, Sikkim and West Bengal. Elsewhere : None.

Remarks : The species has recently been transferred to the genus *Euwallacea* from *Xyleborus*. Its distribution record shows that it occurs mostly in the hilly tracts of the eastern India.

9. *Euwallacea interjectus* (Blandford)

1894. *Xyleborus interjectus* Blandford, *Trsns. ent. Soc. Lond.*, pp. 576-577.

1986. *Euwallacea interjectus* : Maiti and Saha, *Rec. zool. survey India Occ. Paper no.* 86 : 88-91.

1994. *Euwallacea interjectus* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Material : 2 Females, Janggitchagiri, Goro Hills (5km away from Tura) coll. N. Saha, 15.iv. 1980, ex. log of *Artocarpus integrifolia*.

Distribution : India : Meghalaya (Janggitchagiri near Tura), Assam, Andaman Islands, Kerala, Maharashtra, Madhya Pradesh, Tamil Nadu, Uttar Pradesh, West Bengal. Elsewhere : Nepal, Sri Lanka, Malaya, Indonesia (Sumatra, Java, Borneo and Mentawai Isl.), Burma, Philippines, Taiwan, China, Tonkin, Vietnam and Japan.

Remarks : The species is so far known sparsely from the study area, but it is a very common species known almost throughout the Orient including India.

10. *Euwallacea malloti* (Eggers)

1930. *Xyleborus malloti* Eggers, *Indian Forest Rec. (Ent.)*, 14(9) : 192.

1994. *Euwallacea malloti* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Material : 1 Female, Tura, West Garo Hills, coll. B. N. Nandi, 9. i. 1991.

Distribution : India : Meghalaya (Tura), Uttar Pradesh and West Bengal. Elsewhere : None.

Remarks : This smallest species of the genus is very close to *Euwallacea fornicatus* (Eichhoff), but can be distinguished by its transverse scutellum and slightly smaller size.

Genus *Kalantaneus*

1960. *Kalantaneus* Nunberg, *Ann. Mag. nat. Hist.* 3(13) : 621.

1980. *Kalantaneus* : Wood, *Gt. Basin Nat.*, 40(1) : 96 (Revive generic status).

1994. *Kalantaneus* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Key to the species of *Kalantaneus*

1. Small species, body length, 2.50 mm; declivital face somewhat concave and with curved spine and tubercles arranged on upper declivital margin of elytra.....*K. longidens* Eggers
 - Larger species, 3.40–4.00 mm; declivital face somewhat convex and with tubercles or granules but devoid of any curved spine..... 2
2. All the declivital interstriae only with granules; body length, 4.00 mm*K. hirtus* (Hagedorn)
 - Declivital interstriae 2 (at the commencement of declivity), 3 and 4 with a few small tubercles along with granules; body length, 3.40 mm..... *K. fabricii* (Hagedorn)

11. *Kalantaneus fabricii* (Hagedorn)

1980. *Xyleborus cristatus* Hagedorn, *Dt. ent. Z.*, p. 377, Female, *Type-locality* : Kurseong, West Bengal.

1963. *Xyleborus fabricii* : Schedl, *Reichenbachie*, 2 : 217 nom. nov.

1994. *Kalantaneus fabricii* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Distribution : India : Meghalaya (Shillong), Naga Hills, Sikkim and West Bengal. Elsewhere : None.

Remarks : The species is very poorly known from the eastern India and is reported by Beeson (1930) from Meghalaya. It is transferred to the genus *Kalantaneus* from the genus *Xyleborus* recently by Saha and Maiti (1994).

12. *Kalantaneus hirtus* (Hagedorn)

1904. *Xyleborus hirtus* Hagedorn, *Bull. Mus. Hist. Nat. Paris*, p. 126, Female, *Type-locality* : Darjiling, West Bengal.

1994. *Kalantaneus hirtus* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Distribution : India : Meghalaya (Shillong) and West Bengal. Elsewhere : Burma and Taiwan.

Remarks : The species is hardly established in Meghalaya although it is sparsely known from certain countries in the Orient. Saha and Maiti (1994) Justified its placement in the genus *Kalantaneus*, instead of its inclusion originally in the genus *Xyleborus*.

13. *Kalantaneus longidens* Eggers

1930. *Xyleborus longidens* Eggers, *Indian Forest Rec. (Ent.)*, 14(9) : 182-183, Female, *Type-locality* : Shillong, Meghalaya India.

Material : 1 Female (Holotype) Shillong, coll. C. F. C. Beeson, 22. v. 1925, ex. unknown wood.

Distribution : India : Meghalaya (Shillong). Elsewhere : None.

Remarks : the species is sofar known to be restricted in the study area only.

Genus *Xyleborinus* Reitter

1913. *Xyleborinus* Reitter, *Wien. ent. Ztg.*, 32(2) : 83.

1980. *Xyleborinus* : Wood, *Gt. Basin Nat.*, 40(1) : 96.

1994. *Xyleborinus* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

14. *Xyleborinus subspinosus* (Eggers)

1930. *Xyleborus subspinosus* Eggers, *Indian Forest Rec. (Ent.)*, 14(9) : 203, Female, *Type-locality* : shillong, Meghalaya.

1994. *Xyleborinus subspinosus* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Material : 2 Females (Holotype and Paratype), Shillong, coll. G. D Bhasin, 22. v. 1925.

Distribution : India : Meghalaya (Shillong) and West Bengal. Elsewhere : None.

Remarks : The species is incorporated here on the basis of the study of type material.

Genus *Xyleborus* Eichhoff

1864. *Xyleborus* Eichhoff, *Berl. ent. Z.*, B: 37.

1994. *Xyleborus* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Key to the species of *Xyleborus*

Antero-median portion of pronotum exceptionally produced and accomodating some 14-15 distinct asperities, more or less equal shape and size; elytra smaller than pronotum, surface devoid of distinct punctures and hairs; body length, 3.50 mm*X. protensus* Eggers

- Anterior margin of pronotum very broadly rounded and unarmed; elytra distinctly longer than pronotum and interstria 1 at the declivital face wider than other interstriae, accomodating one distinct tubercule; body length 2.30-2.50 mm*X. similis* Ferrari

15. *Xyleborus protensus* Eggers

1930. *Xyleborus protensus* Eggers, *Indian Forest Rec.*, 14(9) : 25, Female, *Type-locality* : Shillong, Meghalaya.

Material : 1 Female (Holotype), Shillong, G. D. Bhasin coll., 22. v. 1925, ex. unknown wood.

Distribution : India : Meghalaya (Shillong), Elsewhere : None.

Remarks : Since its collection in 1925, no further material have ben collected indicating its confinement in Meghalaya only.

16. *Xyleborus similis* Ferrari

1850-59. *Bostrichus ferrugineus* Boheman, *Zool.*, 1 : 82, *Type-locality* : Keelings Island.

1867. *Xyleborus similis* Ferrari, *Die Forest-und Baumzuchtschadlichen Bokenkarfer*, pp. 13-24.

1994. *Xyleborus similis* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Material : 2 Females, 13 km. N. of Tura, coll. N. Saha 14. iv. 1980, ex. unknown wood.

Distribution : India : Throughout the Indian Region including Meghalaya (Tura). Elsewhere : Oriental Region, Australia, Polynesia, Africa.

Remarks : It is a vary variable species, needing much caution for its correct identity. The species is cosmopolitan and polyphagous.

Genus *Xylosandrus* Reitter, 1913

1913. *Xylosandrus* Reitter, *Wien. ent. Ztg.*, 32(2) : 80 and 83.

1994. *Xylosandrus* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Key to the species of *Xylosandrus*

1. Declivital face uniformly convex and gradually sloping, entire surface with confused granules; posterior one-third of pronotum shiny, punctate and with dense hairs, but devoid of any tuft of hairs; body length 2.20 mm *X. crassiusculus* (Mot.)
- Declivital face steep and abruptly sloping; only interstrial granules confused, but strial granules in row, rather closely set and large; posterior one-third of pronotum not shiny rather granulate, and with sparse hairs along with a median tuft of yellowish hairs; body length 2.30-2.40 mm. *X. discolor* (Bland.)

17. *Xylosandrus crassiusculus* Motschulsky

1866. *Phloeotrogus crassiusculus* Motschulsky, *Bull. Soc. Imp. Nat. Moscou*, 39 : 403, Female, *Type-locality* : Mountain near Nuwara Eliya, Sri Lanka.

1986. *Xylosandrus crassiusculus* : Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No. 86* : 145-148, Fig. 41, a-d. (details synonymy).

1992. *Xylosandrus crassiusculus* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal*, Part 6 :

Material : 3 Females, Garo Hills, coll. D. F. O., 16. x. 1936, ex. *Sageraen laurina* (det. C. F. C. Beeson as *Xyleborus semignanosus*)

Distribution : India : Meghalaya (Garo Hills). Elsewhere : Oriental Region to Japan, Pacific Islands to Hawaii, Tropical Africa and North America.

Remarks : The species occurs in the circumtropics and well studied in different parts of the world. Maiti and Saha (1986) justified its inclusion in the genus *Xylosandrus*.

18. *Xylosandrus discolor* (Blandford)

1898. *Xyleborus discolor* Blandford, *Trans. ent. Soc. Lond.*, p. 429, Female, Type-locality : Sri Lanka.

1961. *Xylosandrus discolor* : Browne, *Malay. Forest Rec.* no. 22 p. 169.

1992. *Xylosandrus discolor* : Saha and Maiti, *State Fauna Series 3 : Fauna of West Bengal, Part 6* :

Material : 1 Female, Shillong, coll. G. D. Bhasin, 14. v. 1925, ex. unknown wood.

Distribution : India : Meghalaya (Shillong), Andaman Isl., Assam, Sikkim, Tamil Nadu, Uttar Pradesh and West Bengal. Elsewhere : Burma, Indonesia (Java), Malaysia, Sri Lanka, Sumba Isl. and Taiwan.

Remarks : Although the species is very sparsely known from the the study area, it is very common throughout the orient including India.

ACKNOWLEDGEMENT

The authors are grateful to Dr. A. K. Ghosh, Director, Zoological Survey of India for providing all facilities for the completion of the work. Thanks are also due to Dr. J. B. R. Alfred, Scientist - SF, Zoological Survey of India, Calcutta for taking pains in going through the manuscript and offering valuable suggestions for its improvement. Thanks are also due to Dr. T. Sen Gupta, Scientist-SE, for his manifold help. Grateful acknowledgement is made to Dr. M. L. Thakur, Head, Division of Forest Entomology, Division, F. R. I., Dehra Dun for extending free access to study the scolytid collections present in that Institute.

REFERENCES

- Beeson, C. F.C. 1930. The biology of the genus *Xyleborus* Eichhoff, with more new species. – *Indian Forest Rec. (Ent.)*, 14(10): 209-272.
- Beeson, C. F. C. 1941. *The Ecology and the Control of the Forest Insects of India and the Neighbouring Countries*, Vasant Press, Dehra Dun, 1007 pp. (Scolytidae, pp. 279-310).
- Eggers, 1930. Neu *Xyleborus* Arten aus Indian. - *Indian Forest Rec.*, 14(9) : 177-208.
- Maiti, P. K. and Saha, N. 1986. A contribution to the knowledge of the Bark and Timber-beetles (Scolytidae : Coleoptera) of the Islands of Andaman and Nicobar, Indian Ocean. *Rec. zool. Surv. India, Occ. Paper No. 86* : 1-182.

- Maiti, P. K. and Saha, N. 1987. Indian Species of the genus *Arixyleborus* Hopkins (Scolytidae : Coleoptera). *Bull. Zool. Surv. India*, **8**(1-3) : 1-12.
- Murayama, J. J. 1959. Description of *Blastophagus khasianus*, new species (Coleoptera : Scolytidae). *Bull. Brooklyn ent. Soc.*, Lancaster, Pa (N. S.), **54** : 75-76.
- Saha, N. and Maiti, P. K. 1992. Fauna of West Bengal : Insecta : Scolytidae (Coleoptera). *State Fauna Series 3 : Fauna of West Bengal*, Part 6 : 1 92.
- Schedl, K. E. 1967. Zur Synonymie der Borkenkafer XVI. *Ent. Tidskr.*, **88** : 147-163.
- Schedl, K. E. 1980. Kataloge, Die Typen der Sammlung Schedl, Family Scolytidae (Coleoptera). *Nat. Mus. Wien entomologie*, **3**(2) : 1-271.
- Wood, S. L. 1978. A reclassification of the subfamilies and Tribes of Scolytidae (Coleoptera). *Annls. Soc. ent. Fr. (N. S.)*, **14**(1) : 95-122.
- Wood, S. L. 1980. New genera and new generic synonymy in Scolytidae (Coleoptera). *Gt. Basin Nat.* **40**(1) : 89-97.

INSECTA : COLEOPTERA : CURCULIONIDAE (SUBFAM, BRACHYDERINAE, CLEONINAE, RHYNCHOPHORINAE AND HYLOBIINAE) FROM MEGHALAYA (INDIA).

P. MUKHOPADHYAY AND S. BISWAS

Zoological Survey of India, Calcutta

INTRODUCTION

The family curculionidae is one of the largest family of the Order Coleoptera : Insecta including beautiful creatures in the insect world ranging from 1mm to 2 inches approximately. So far the group include 50,000 species under 4500 genera distributed over 72 subfamilies from all over the world, of which 44 subfamilies are recorded from oriental region and 36 subfamilies from India.

Four Swedish workers Schönherr, Boheman, Gyllen and Fahraeus (1833-1885) are the foundation maker of the family Curculionidae. Subsequent the workers who dealt the family are Laccordaire (1863-66), J.L. LeConte (1874), Gemminger and Von Harold (1871), G.A.K. Marshall, Heller, Voss etc. Recently H.R. Pajni (1990) has published an another Fauna of India Volume on the Subfamily Eremninae : Curculionidae after G.A.K. Marshall (1916).

The members of this family are easily recognisable by their snout like prolongation of the head in front of eyes into a rostrum and the mouth parts are at the end of the rostrum. The rostrum varies in their shape from a broad muzzle to a long slender form. With this variation of form there is a diversity of function during feeding, egg laying and preparation of larval home etc.

The habitat of the member of this family are variable and majority of species appear to feed in rotten wood and cambium of roots, stems, flowers, seeds and also occurring in soil and as root feeder. Besides this, the group is undoubtedly of very economically important because they may eat flowers, buds, seeds, young fruits and are also defoliators, leaf miners; stem and collar borers, wood borers as well as soil dwellers etc.

Though considerable work has been done on biology of economically important species, no comprehensive work on taxonomy of Indian curculionidae is available.

Present study is based on a collection made by different survey parties of Zoological Survey of India, Calcutta from different districts of Meghalaya including the earlier material present in the Coleoptera Section have also been utilised. For the sake of completeness, species recorded only in literature have also been included.

Distributional data of the species has been given from published records and actual study of the specimens. Key to the subfamilies, genera and species have been provided wherever, possible remarks on ecology, distribution and other important facts have also been added.

SYSTEMATIC ACCOUNT : LIST OF TAXA

- | | | |
|--|-----------|------------------------------------|
| | Family | Curculionidae |
| | Subfamily | Brachyderinae |
| | Group | Blosyrides |
| | Genus 1. | <i>Blosyrus</i> Schönh., 1826 |
| 1. <i>Blosyrus oniscus</i> Oliv. | | |
| | Genus 2. | <i>Blosyroides</i> Jekel, 1875 |
| 2. <i>Blosyroides verrucosus</i> Mshl. | | |
| | Group | Cyphides |
| | Genus 3. | <i>Dermatoxenus</i> Mshl., 1916 |
| 3. <i>Dermatoxenus helleri</i> Mshl. | | |
| | Group | Tanymecides |
| | Genus 4. | <i>Astycus</i> Schönh., 1826 |
| 4. <i>Astycus chrysochlorus</i> Wiedmann | | |
| | Genus 5. | <i>Geotragus</i> Schönh., 1845 |
| 5. <i>Geotragus bituberosus</i> Desbr. | | |
| | Genus 6. | <i>Tanymecus</i> Schönh., 1826 |
| 6. <i>Tanymecus circumdatus</i> Wied. | | |
| 7. <i>Tanymecus versicolor</i> Mshl. | | |
| 8. <i>Tanymecus longulus</i> Fhs. | | |
| | Subfamily | Cleoninae |
| | Tribe | Lixini |
| | Genus 7. | <i>Xanthoprochilus</i> Bedel, 1909 |
| 9. <i>Xanthoprochilus faunus</i> ol. | | |
| | Genus 8. | <i>Larinus</i> Germ., 1824 |
| 10. <i>Larinus assamensis</i> Mshl. | | |
| | Genus 9. | <i>Lixus</i> F., 1801 |
| 11. <i>Lixus pracuae</i> Faust | | |
| | Subfamily | Rhynchophorinae |
| | Tribe | Rhynchophorini |
| | Subtribe | Rhynchophori |

- Genus 10. *Cyrtotrachelus* Schönh., 1838
12. *Cyrtotrachelus longimanus* F.
13. *Cyrtotrachelus bipartitus* Hartman
- Genus 11. *Macrocheirus* Gemm. & Harold, 1871
14. *Macrocheirus praeter* Gyll.
- Genus 12. *Protocerius* Schönh., 1838
15. *Protocerius colossus* ol.
16. *Protocerius grandis* Guèr
- Genus 13. *Omotemnus* Chevr., 1882
17. *Omotemnus miniatocrinitus* Chevrolat
- Subtribe Sphenocoryni
- Genus 14. *Sitophilus* Schönh., 1838
18. *Sitophilus oryzae* L.
- Tribe Sipalini
- Subtribe Sipali
- Genus 15. *Sipalus* Schönh., 1836
19. *Sipalus hypocrita* Boh.
- Genus 16. *Cercidocerus* Schönh., 1838
20. *Cercidocerus Schönherri* Guèr.
- Genus 17. *Odoiporus* Chevr., 1885
21. *Odoiporus longicollis* ol.
- Subfamily Hylobiinae
- Tribe Paepalosomini
- Genus 18. *Peribleptus* Schönh.,
22. *Peribleptus parallelus* Hartm. 1843

Family CURCULIONIDAE

Key to the Divisions of the family Curculionidae :—

1. Mentum comparatively large and filling or nearly filling the buccal cavity behind the mandibles; submentum not pedunculate or with a very short broad peduncle Division Adelognathi
- Mentum comparatively small or narrow in relation to the buccal cavity; submentum usually with a well marked peduncle supporting the mentum Division Phanerognathi

Division Adelognathi
Subfamily Brachyderinae

Key to the Groups of the subfamily Brachyderinae :—

1. Anterior margin of prothorax without any vibrissae below the eyes 2.
– Anterior margin of prothorax with vibrissae *Tanymecides*
2. Corbels of hind tibiae open; ventrite 2 separated from ventrite 1 by a deep and straight incision; ventrites 2 to 4 approximately equal in length.....
..... *Blosyrides*
– Corbels of hind tibiae broadly enclosed; ventrite 1 separated from 2 by deep straight incision; ventrite 2 distinctly longer than ventrites 3 or 4 *Cyphides*

Group *Blosyrides*

Key to the genera of the group *Blosyrides* :—

1. Scape of antennae not extending upto the hind margin of the eye; funicle with joint 2 not longer than joint 1 *Blosyrus Boh.*
– Scape of antennae exceeding the hind margin of the eye; funicle with joint 2 longer than 1
Blosyrodes Jekel

Genus 1. *Blosyrus* Schönh., 1826

1. *Blosyrus oniscus* Oliv.

1807. *Curculio oniscus* Oliv., *Ent.*, 83 : 355, pl. 24, f. 346

1833. *C. oniscus* Oliv. : Boheman, Schönh., *Gen. Curc.*, 1 : 552.

1894. *Blosyrus oniscus* var. *Olivieri*, *Ann. Mus. Civ. Genova*, 34 : 171

1916. *B. oniscus* Oliv. : Marshall, *The Fn. Brit. India*, Rhynchophora : Curculionidae : Coleoptera, pp. 32-34.

Material examined : 1ex., Tura, altitude 1200-1500; vii-viii. 17, S. Kemp; 1ex., Above Tura, 3500-3900', 15-vii.-30.viii.17., S. Kemp.

Distribution : INDIA : West Bengal, Meghalaya. BANGLADESH, BURMA.

Genus 2. *Blosyrodes* Jekel, 1875

2. *Blosyrodes verrucosus* Mshl.

1916. *B. verrucosus* Mshl., *The Fauna of British India including Ceylon and Burma*, Coleoptera : Rhynchophora : Curculionidae, pp. 31, 41-42.

Material examined : 1ex., Above Tura, altitude 3500-3900', 15.vii.-30.viii. 17., S. Kemp.

Distribution : INDIA : Meghalaya, BURMA.

Remarks : So far this species was recorded from Burma, now it is being recorded for the first time from India (Meghalaya).

Group Cyphides

Genus 3. *Dermatoxenus* Mshl., 19163. *Dermatoxenus helleri* Mshl..1916. *D. helleri* Mshl., *The Fn. Brit. India*, including Ceylon and Burma, *Coleoptera* : *Rhynchophora* : *Curculionidae*.*Material examined* : 1ex., Shillong; 1ex. Shillong.*Distribution* : INDIA: Manipur, Meghalaya, Sikkim.

Group Tanymecides

Key to the genera of the group Tanymecides :—

1. Tarsal claws free; intercoxal process of ventrite 1 rounded or angulate and much narrower than hind coxae; corbels of hind tibiae bare *Tanymecus* Schh.
– Tarsal claws fused together at base 2
2. Elytra with distinct shoulders ; hind corbels enclosed, bare and slightly ascending the dorsal edge of tibia *Astycus* Schh.
– Elytra without distinct shoulder 3
3. Episternal suture of metasternum distinct throughout; scutellum small; intercoxal process of ventrite 1 rounded or subtruncate; base of elytra abruptly marginate *Sympiezomias* Fst.
– Episterna fused posteriorly with metasternum. Scutellum invisible; Intercoxal process of ventrite 1 narrower than coxae and rounded. Base of elytra not abruptly marginate
Geotragus Schh.

Genus 4. *Astycus* Schönh., 18264. *Astycus chrysochlorus* Wiedmann1823. *Curculio chrysochlorus* Wied., *Zool. Mag.*, (2)1 : 122.1834. *Astycus variabilis* Gyllenhal, Schönh., *Gen. Curc.*, 2 : 911894. *Astycus adultus* Faust(? olivier), *Ann. Mus. Civ. Genova*, 34 : 173.*Material examined* : 2ex., Above Tura, 3500-3900', 15.vii.-30.viii. 17., S. Kemp.*Distribution* : INDIA : Bihar, Orissa, Assam, Meghalaya, Sikkim. BURMA. BANGLADESH.*Remarks* : This species is recorded here for the first time from Meghalaya.Genus 5. *Geotragus* Schönherr, 1845.5. *Geotragus bituberosus* Desbr.1891. *Brachyapistes bituberosus* Desbr., *C.R. Soc. Ent. Belg.*, p. 354.1916. *Geotragus bituberosus* Desbr., *The Fn. Brit. India* including Ceylon and Burma, *Coleoptera* : *Rhynchophora* : *Curculionidae*, P. 58-61, 196-199.

Material examined : 1 ex., Between Shillong and Dumpep, 4506-5006, 9.x. 14., S.W. Kemp.

Distribution : INDIA : West Bengal, Meghalaya, Sikkim.

Remarks : This species is recorded here for the first time from Meghalaya.

Genus 6. *Tanymecus* Schönh., 1826

Key to the species of the genus *Tanymecus* Schönh.

1. Scape of antennae exceeding the hind margin of the eye; Form robust. Prothorax with 3 – subdenuded stripes.....*circumdatatus* Wied.
- Scape of antennae not exceeding the hind margin of the eye; Form narrow 2
2. Middle tibiae of female with a long curved apical spur; elytra with finely punctured striae. Prothorax as long as or little longer than broad *versicolor* Mshl.
- Middle tibiae of female with short apical spur; elytra with pale greenish or whitish lateral stripe; Prothorax as long as broad *longulus* Fhs.

6. *Tanymecus circumdatatus* Wied.

1821. *Curculio circumdatatus* Wied., *Germ. Mag.*, 4 : 156.

1863. *Tanymecus circumdatatus* Wied : Maklin, *Act. Soc. Fenn.*, 7 : 129.

1891. *Tanymecus subaureus* Desbr., *C.R. Soc. Ent. Belg.*, 35 : 355.

1916. *T. circumdatatus* Wied. : Mshl., *The Fn. Brit. India* including Ceylon and Burma, Coleoptera : Rhynchophora : Curculionidae : P. 90-91.

Material examined : Not Available.

Distribution : INDIA : Assam, Meghalaya (Khasi hills), West Bengal, Bihar.

BANGLADESH. PAKISTAN.

7. *Tanymecus versicolor* Mshl.

1916. *T. versicolor* Mshl. *The Fauna of British India, including Ceylon and Burma*, Coleoptera : Rhynchophore : Curculionidae, P. 93-94.

Material examined : Not Available.

Distribution : INDIA : Assam, Meghalaya (Khasi hills) Bihar, Uttar Pradesh, Sikkim.

BANGLADESH.

8. *Tanymecus longulus* Fhs.

1840. *T. longulus* Fahraeus, Schonh., *Gen. Curc.*, 6 : 244, pt. 1.

Material examined : Not available.

Distribution : INDIA : Assam, Meghalaya (Khasi hills), Bihar.

Division Phanerognathi
Subfamily Cleoninae

Key to the tribes of the subfamily Cleoninae :—

1. Rostrum cylindrical; scrobes not extending upto apex and not visible from above; rostral carina or furrow absent; antennal club without placoidal sensilla; tarsi broadened up to third segment and spongy beneath Lixini
- Rostrum short; scrobes extending upto apex and distinctly visible from above; usually with rostral carina or furrow; Antennal club with placoid sensilla; body covered with scale.. Cleonini

Tribe Lixini

Key to the genera of the tribe Lixini :—

1. Scrobes narrowly separated beneath; Prothorax without lateral depression or tubercle; elytra gradually sloping towards apex; fore tibiae straight externally..... *Lixus* F.
- Scrobes widely separated beneath..... 2
2. Upper margin of scrobe touching lower margin of eye; Prothorax distinctly transverse; scape of antenna as long as funicle; body without long erect setae *Larinus* Germar
- Upper margin of scrobe not touching lower margin of the eye; scape of antennae longer than funicle; Abdomen with transverse rows of bare spots *Xanthoprochilus* Bedel

Genus 7. *Xanthoprochilus* Bedel, 1909

9. *Xanthoprochilus faunus* ol.

1807. *X. faunus* ol., *Ent.*, 5(mr 83) : 267, t. 24, fig. 342.

Material Examined: 1ex., Above Tura, 3500-3900', 15.vii.-30.viii. 17., S. Kemp.; 1ex., Shillong; 7ex., Umran, South of Nongpoh : East Khasi hills, 28.ix. 88., B.N. Das and A.R. Lahiri; 5ex., Balat, 5.viii. 81, M.R. Rynth; 3ex. Shella, 25.vii. 81., G. Radhakrishna, 5ex., Umaran, South of Nongpoh : East Khasi hills, 28.ix.88., B.N. Das & A.R. Lahiri.

Distribution : INDIA : West Bengal, Bihar, Orissa, Meghalaya, Uttar Pradesh, Tamil Nadu, Sikkim. NEPAL.

Genus 8. *Larinus* Germ, 1824

10. *Larinus assamensis* Mshl.

1924. *L. assamensis* Mshl., *Ann. Mag. Nat. Hist.*, (9) 13 : 289.

Material examined : 1ex., Shillong; 1ex., Shillong; 5ex., Dlymtring (Nr. Jowai), alt. 1300m., 26.ix.91., R.K. Vershney, I.J. Gupta, S.K. Ghosh; 3ex., Khliehrial: Jaintia hills, 20.v.90, M.S. Shishodia and party.

Distribution : INDIA : Meghalaya.

BELUCHISTAN.

Genus. 9 *Lixus* F., 180111. *Lixus pracuae* Faust1891. *L. pracuae* Faust, *Ent. Zeit. Stettin*, 52 : 276.*Material examined* : 1ex. Shillong.*Distribution* : INDIA : West Bengal, Meghalaya, Sikkim. Burma.

Subfamily Rhynchophorinae

Tribe Rhynchophorini

Subtribe Rhynchophori

Genus 10. *Cyrtotrachelus* Schönh., 183812. *Cyrtotrachelus longimanus* F.1775. *C. longimanus* F., *Syst. Ent., App.*, P. 822.*Material examined* : 1ex., Shillong; 1ex., Shillong. 1ex., Tura : Garo hills, 1200-1500, vii-viii. 1917, S. Kemp.*Distribution* : INDIA : Meghalaya, Assam, West Bengal. Sikkim.

CHINA.

Remarks : This species was so far recorded from West Bengal, Assam and Sikkim. In the recent study it is being recorded for the first time from Meghalaya.13. *Cyrtotrachelus bipartitus* Hartman1899. *C. bipartitus* Hartman, *Deutsche Ent. Zeit.*, P. 29.*Material examined* : 1ex., Shillong.*Distribution* : INDIA : Meghalaya.

INDONESIA.

Remarks : This species was so far recorded from Java, in the present study it is being recorded for the first time from India (Meghalaya).Genus 11. *Macrocheirus* Gemm. & Harold, 1871.14. *Macrocheirus praeter* Gyll.1838. *M. praeter* Gyll. in Schönh., *Gen. Spec. Cure.*, 4(2) : 833.*Material examined* : 1ex., Above Tura, Garo hills, 2000, vi.-vii. 1917, S. Kemp.*Distribution* : INDIA : Meghalaya.

INDONESIA.

Remarks : This species was earlier recorded only from Java, in the present study it is being recorded for the first time from India (Meghalaya).

15. *Protocerius colossus* ol.1790. *P. colossus* ol., *Encycl. meth.*, 5 :472.*Material examined* : 1ex., Shillong Museum; 1ex., Shillong Museum.*Distribution* : INDIA : Meghalaya, Assam.

BANGLADESH. INDONESIA.

Remarkas : This species is recorded here for the first time from Meghalaya.16. *Protocerius grandis* Guèr.1829. *P. grandis* Guèr. *Iconogr. Règne Anim.* P. 174.*Material examined* : 1ex. Shillong Museum.*Distribution* : INDIA : Meghalaya, Maharashtra.Genus 13. *Omotemnus* Chev., 188217. *Omotemnus miniatocrinitus* Chevrolat1882. *O. miniatocrinitus* Chev. *Ann. Soc. ent. Fr.*, (6)2 : 560.*Material examined* : 1ex., Shillong Museum; 1ex., Shillong Museum.*Distribution* : INDIA : Meghalaya, Assam.

INDONESIA.

Remarks : Chevrolat (1882) recorded the species from Java. In the present study it is being recorded for the first time from India (Meghalaya).

Subtribe Sphenocoryni

Genus 14. *Sitophilus* Schönh., 1838.18. *Sitophilus oryzae* L.*Material examined* : 2ex., Shillong; 1ex., Shillong.*Distribution* : INDIA : Meghalaya, West Bengal, Bihar, Uttar Pradesh, Tamil Nadu, Karnataka.

BURMA, BHUTAN, EUROPE.

Remarks : This is a very common cosmopolitan species.

Tribe Sipalini

Subtribe Sipali

Genus 15. *Sipalus* Schönh., 1836.19. *Sipalus hypocrita* Boh.1845. *S. hypocrita* Boh., *Gen. Spec. Curc.*, 7(2) : 209.1886. *S. hypocrita* Kolbe, *Arch. f. Naturg.*, 52(1) : 219.

Material examined : 2ex., Garampani : Jaintia hills, 22.v.90., M.S. Shishodia & Party; 1ex., Malki forest : Shillong, 8.vii.80., M.S. Jyrwa; 1ex., Darugiri : East Garo hills dist., 6.v.1974, R.Z.; 1ex., Risa Colony : Shillong, 6.v.1974, R.Z. ; 1ex., Tripura Castle Road: Shillong, 24.vii.74, M.S. Jyrwa.

Distribution : INDIA : Meghalaya, Assam, West Bengal, Andaman Islands.

SRI LANKA.

Remarks : This species is recorded for the first time from Meghalaya. They usually attack *Dalbergia* sp. plants.

Genus 16. *Cercidocerus* Schönh., 1838.

20. *Cercidocerus schönherri* Guèr.

1829. *C. Schönherri* Guèr., *Iconogr. Règne anim.*, p. 179.

1894. *C. schönherri* Guèr. : Faust, *Ann. Mus. Civ. Genova*, 34 : 343.

Material examined : 1ex., Shella, 25.vii.81., G. Radhakrishna.

Distribution : INDIA : Meghalaya, West Bengal, Assam, Sikkim.

BURMA, INDONESIA.

Remarks : This species is recorded here for the first time from Meghalaya.

Genus 17. *Odoiporus* Chevr., 1885

21. *Odoiporus longicollis* ol.

1807. *O. longicollis* ol., *Ent.*, 5(Nr. 83) : 86, t. 28, f. 413.

1882. *O. longicollis* ol. : Chevr., *Ann. Soc. ent. Fr.*, (6) 2 : Bull. P. 140.

1894. *O. longicollis* ol. : Faust, *Ann. Mus. Civ. Genova.*, 34 : 333.

Material examined : 1ex., William Nagar : East Garo hills, 1.x.91., R.K.Vershney & Party; 2ex., William Nagar, E. Garo hills, 19.xi.91., B.N. Nandi and Party; 6ex., Wagesi : Garo Hills, 7.iv.73, S. Biswas.

Distribution : INDIA : West Bengal, Bihar, Assam, Andaman Islands, Meghalaya, Sikkim.

BURMA, SRI LANKA.

Remarks : This species is recorded here for the first time from Meghalaya. This species is very common in attacking banana plants wherever, it grown. They also attack coconut plants (*Cocos nucifera*).

Subfamily Hylobiinae

Tribe Paepalosomini

Genus 18. *Peribleptus* Schönh., 1843.

22. *Peribleptus parallelus* Hartm.

1903. *P. parallelus* Hartm., *Wien. Ent. Zeit.*, 22 : 29.

Material examined : 1ex., Above Tura, altitude 3506-3906, 15.vii.-30.viii. 17, S. Kemp.

Distribution : INDIA : Meghalaya, Assam.

Remarks : The genus *Peribleptus* Schönh, includes only two species under it from India. Earlier this species was recorded from Assam, now it is being recorded for the first time from Meghalaya.

SUMMARY

The present paper deals with 22 species under 18 genera belonging to the 4-subfamilies under the family Curculionidae, of which 8 species under 8 genera are recorded for the first time from the state and 4 species under 4 genera recorded for the first time from India. Key to the divisions, subfamilies, genera and species have been provided. Distributional data within and out side the state have been added.

ACKNOWLEDGEMENT

Authors are thankful to the than Director, Zoological Survey of India for laboratory facilities and also grateful to Dr. J.R.B. Alfred, Director for his keen interest and constant encouragement to complete this work.

REFERENCES

- Aslam, Nazir Ahmad. 1963. On the genera of Indo-Pakistan Cleoninae and Hylobiinae (Coleoptera : Curculionidae). *Bull. Brit. Mus. (Nat. Hist.) Entomology*, London, 13(3) : 47-66.
- Blatchley & Leng. 1916. *Rhynchophora of North East America*. Indianapolis.
- Chevrolat, A. 1873. Mémoir surles cléonides *Mém. Soc. Sci. Liège*, (2)5 : 8-118.
- Crowson, R. A. 1955. *The natural classification of the families of Coleoptera*. E.W. Classey Etd. Middlesex, England.
- Csiki, E. 1934. *Coleopterorum Catalogus*, pt. 134.
- Fahraeus, O.I. 1871. Coleoptera Caffraia, annis 1838-1854a J.A. Wahlberg Collecta, Curculionidae *Oefv. Vet. Ak.*, 28 : 3-69, 197-291.
- Faust, J. 1898. Beschreibung neuer Coleopteran von Vorder-Und Hinterindien aus der Sammlung des hin Andrews in London, Curculionidae : Part II. *Deutsche Ent. Zeit.*, PP. 273-333.
- Faust, J. 1904. Revision der Gruppe Cléonides Vrais *Dtsch. ent. Z.*, PP. 177-284 (Col.).
- Gyllenhal, L. 1843. In Schoenherr, Genera at apecies Curculionidum. 7(2) : 1-461.
- Heller, K.M. 1941. *Peribleptus* Sch. and *Carcilia* Roelofs (Col. : Curculionidae : Hylobiinae). *Ent. Bl.*, 37 : 78 : 83.
- Lacordaire, T. 1863. *Histoire Naturelles des Insectes*, Genera des Coléopterés. 6.

- Marshall, G.A.K. 1932. Notes on Hylobiinae (Col. : Curculionidae). *Ann. Mag. Nat. Hist.* (10)9 : 341-355.
- Marshall, G.A.K. 1944. On the genus *Peribleptus* Schönh. (Col. : Curcu.) *Ann. Mag. nat. Hist.*, (IV)11 : 655-661.
- Morimoto, K. 1962. Key to families, subfamilies, tribes and genera of the superfamily Curculionoidae of Japan excluding Scolytidae, Platypodiidae and Cosoninae.
- Reitter, E. 1916. *Fauna Germanica*..... 5 : 343 PP, pls. 153-168.
- Schönherr, C.J. 1837. *Genera et species Curculionidum*. Paris 8(1): 1-600.
- Stebbing, E.P. 1914. *Indian Forest Insects of Economic Importance, Coleoptera*, XVI+ 648 pp. (Eyre & Spottiswoode Ltd., London).

THE CHART SHOWING DISTRICTWISE DISTRIBUTION OF SPECIES OF THE SUBFAMILIES BRACHYDERINAE, CLEONINAE, RHYNCHOPHORINAE AND HYLOBIINAE : CURCULIONIDAE KNOWN FROM MEGHALAYA.

Sl. No.	Name of the species	Name of the districts of Meghalaya								
		Garo-hills			Khasi hills			Jaintia hills	Ri-Bhoi	
		East	West	South	Khasi	West	East			
1	2	3	4	5	6	7	8	9	10	
Subfam. Brachyderinae										
1.	<i>Blosyrus oniscus</i> Oliv.	-	+	-	-	-	-	-	-	-
2.	<i>Blosyodes verrucosus</i> Mshl.	-	+	-	-	-	-	-	-	-
3.	<i>Dermatoxenus helleri</i> Mshl.	-	-	-	-	+	-	-	-	-
4.	<i>Astycus chrysochlorus</i> Wied.	-	+	-	-	-	-	-	-	-
5.	<i>Geotragus bituberosus</i> Desbr.	-	-	-	-	+	-	+	-	-
6.	<i>Tanymecus circumdatus</i> Wied.	-	-	-	+	-	-	-	-	-
7.	<i>Tanymecus versicolor</i> Mshl.	-	-	-	+	-	-	-	-	-
8.	<i>Tanymecus longulus</i> Fhs.	-	-	-	+	-	-	-	-	-
Subfam. Cleoninae										
9.	<i>Xanthoprochilus farrus</i> Ol.	-	+	-	-	-	+	+	-	-
10.	<i>Larinus assamensis</i> Mshl.	-	-	-	-	+	+	-	-	-
11.	<i>Lixus pracuae</i> Faust	-	-	-	-	+	-	-	-	-
Subfam. Rhynchophorinae										
12.	<i>Cyrtotrachelus longimanus</i> F.	-	+	-	-	+	-	-	-	-

Sl. No.	Name of the species	<u>Name of the districts of Meghalaya</u>							
		<u>Garo-hills</u>			<u>Khasi hills</u>			Ri-Bhoi	Jaintia hills
		East	West	South	Khasi	West	East		
1	2	3	4	5	6	7	8	9	10
13.	<i>Cyrtotrachelus bipartitus</i> Hartman	-	-	-		+	-	-	-
14.	<i>Macrocheirus praeter</i> Gyll.	-	+	-		-	-	-	-
15.	<i>Protocerius colossus</i> ol.	-	-			+	-	-	-
16.	<i>Protocerius grandis</i> Guer.	-	-	-	-	+	-	-	-
17.	<i>Omotemnus miniatocrinitus</i> Chevr.	-	-	-	-	+	-	-	-
18.	<i>Sitophilus oryzae</i> L.	-	-	-	-	+	-	-	-
19.	<i>Sipalus hypocrita</i> Boh.	+	-	-	-	+	-	-	+
20.	<i>Cercidocerus herri</i> Guer.	-	-	-	-		+	-	-
21.	<i>Odoiporus longicollis</i> ol. Subfam. Hilobiinae	+	-	-	-	-	-	-	-
22.	<i>Peribleptus parallelus</i> Hartm.	-	+	-	-	-	-	-	-

