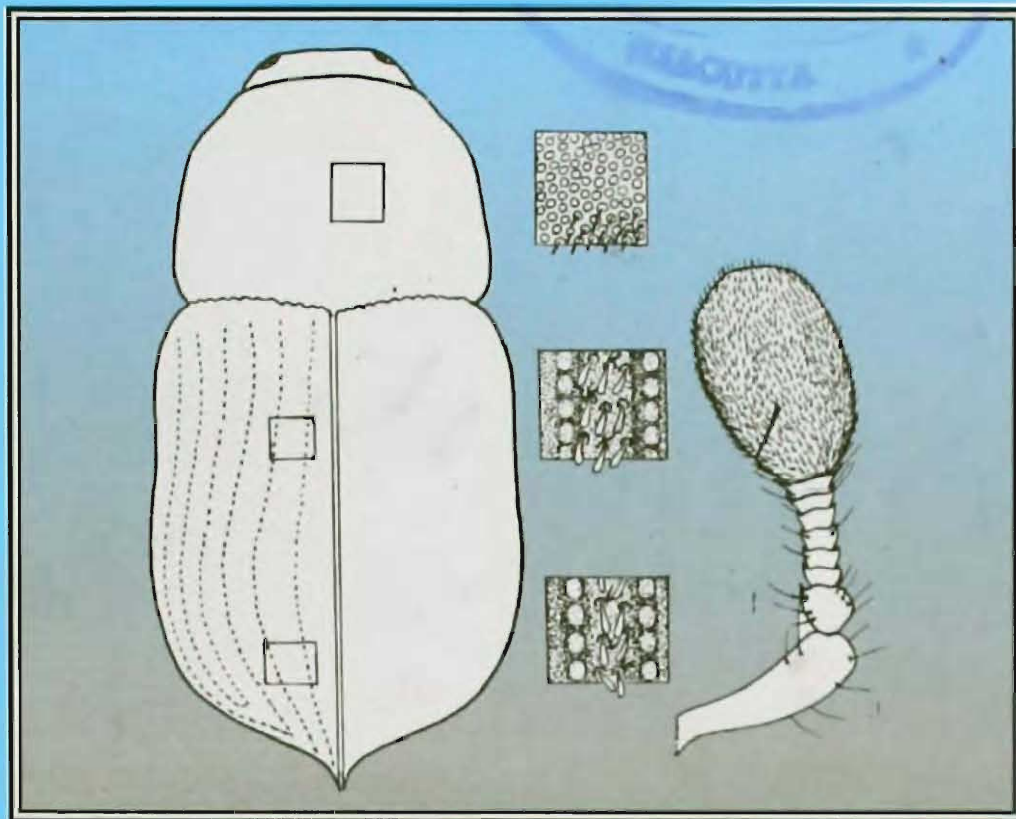


# ***Fauna of India***



## **SCOLYTIDAE : COLEOPTERA**

**(BARK AND AMBROSIA BEETLES)**

**Volume-I (Part-2)**

**PRABODH K. MAITI**

**NIVEDITA SAHA**

This volume on Scolytid-Beetles (Scolytidae : Coleoptera), commonly known as 'Bark and Ambrosia Beetles' deals with taxonomic accounts of species occurring in India. In spite of their both beneficial and harmful roles to forestry and forest products, these insects are well known pests, especially in the temperate forests.

The family Scolytidae contains about 5,812 species (World species) in India, of which only the tribe Xyleborini containing 97 species under 15 genera dealt in the first part. The present volume (part-2) deals with 124 species under 43 genera and 16 tribes. Each species has been dealt with its current name, synonymy, description, keys, distribution, host-record, remarks, etc. Besides, this contains some general aspects, such as, Introduction, History, Classification, Zoogeography, Biology, Ecology, Control, etc.





**FAUNA OF INDIA  
AND  
THE ADJACENT COUNTRIES**

**SCOLYTIDAE : COLEOPTERA  
(BARK AND AMBROSIA BEETLES)**

**Volume-1 (Part-2)**

**PRABODH K. MAITI  
NIVEDITA SAHA**

*Zoological Survey of India, M-Block, New Alipore, Kolkata-700 053*

*Edited by the Director, Zoological Survey of India, Kolkata*



सत्यमेव जयते

**Zoological Survey of India  
Kolkata**

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## FOREWORD

The Scolytid-Beetles commonly called as "Bark and Ambrosia-Beetles" belongs to Coleopteran family Scolytidae. This group of insects are well known for their beneficial and harmful role in forestry and forest products. These small beetles (0.90-10.0 mm) are unique with primitiveness in origin, cryptobiotic and phytophagous nature of life. They spend their entire life in the wood in its many forms for food and shelter.

The family Scolytidae contain about 5812 species worldwide of which 270 species so far recorded from India. The first part published by ZSI dealt with single tribe Xyleborini containing 97 species under 15 genera.

The present volume deals with 124 species under 43 genera and 16 tribes of Scolytidae family including three new discoveries to science. An extensive bibliography and illustrations of species are an added asset of the volume. Hope, this Fauna of India volume will be great help for researchers of this group and also Forest Entomologist.

March, 2009  
Kolkata

**Dr. Ramakrishna**  
*Director*  
Zoological Survey of India



## **PREFACE**

The present 'Fauna Volume' on the Family Scolytidae (Order Coleoptera) under the 'Fauna of India' Series deals with the detailed taxonomic accounts of 124 species under 43 genera belonging to 16 tribes of bark- and pin-hole borers of India. The first part of the same volume has been published under the same coverage, which has been dealt with 97 species under 15 genera of the tribe Xyleborini under the family Scolytidae from India (Appendix I). However, each species has been dealt with its current scientific name, synonymy, description, keys, distribution, host-records, remarks, etc. Besides, the volume contains extensive bibliography including numerous illustrations of different species. Since the general Introduction, History, Classification, Zoogeography, Biology, Ecology, Control, etc. have been taken into account in the first part, these general aspects have been omitted in the second part to avoid repetition. Taking together these two parts, a complete picture of Indian Scolytidae could be drawn as far as the taxonomy of the group is concerned. The authors will be satisfied if the readers take this volume as the foundation for future work on Indian Scolytidae. Some lacunae still exists in the volume, especially Volume-I, Part-II, which will, we hope, be fulfilled by the future workers.

**Prabodh K. Maiti**  
**Nivedita Saha**

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## INTRODUCTION

Scolytid-beetles, commonly known as bark- and ambrosia- beetles, belongs to the family Scolytidae, Coleoptera. These beetles are fairly known as pests of forest plants, predominantly found in the temperate regions. These beetles are very much fascinating insects due to their sub social behavior, conceal mode of life in wood and wood products. However, these beetles are generally recognized as secondary pests, since they cause damage in trees of subnormal physiological condition instead of healthy plants, During outbreak period, many of these secondary pests invade and kill the vigorous healthy trees also. Taxonomically, the group is very much rich and complicated. About 5,812 species under two subfamilies 25 tribes and 225 genera are known from the world (Wood and Bright, 1992). Out of these, about 270 species, 65 genera, 18 tribes and two subfamilies are so far recorded from India. Unfortunately, the progress of taxonomic research on India fauna does not at all commensurate with the importance of these beetles in the context. Nevertheless, the foundation of taxonomic and biological studies was laid by Stebbing (1914) and Beeson (1915-1941) while they are working in F.R.I. Dehra Dun, India, to which credit goes to a number to foreign workers also. For the first time, the present authors took a challenging taxonomic task to workout the group systematically main based on the excellent collections preserved in F.R.I. Dehra Dun. This was augmented by fairly good collections accumulated at ZSI, Kolkata. The group probably remain neglected so far in India due to their smaller size and conceal life in wood, escaping notice of non-specialists in the field. Lastly they are taxonomically very difficult, biological complicated and ecologically well adapted.

Mention may be made that the first volume of the "Fauna of India : Scolytidae" came to light under the authorships of Maiti and Saha (Vol. 1, Part 1, pp. XII + 268, 2004) published from Zoological Survey of India, Kolkata. The first part of this volume deals with 97 species under 15 genera and single tribe Xyleborini of the subfamily Scolytinae (vide Appendix-I). These species have been studied with regard to their taxonomic status, chronological synonymies, diagnostic characters, distribution, affinities, biological and taxonomical remarks, etc. Apart from these, running keys of tribe genera species, etc. have been provided for easy identification. Besides, excellent illustrations and bibliography are added features of the fauna.

The present fauna (Volume 1, Part II) deals with 124 species under 43 genera belonging to 16 spreading over two subfamilies, Hylesiniinae and Scolytinae. The tribe Carphodicticini could not be dealt in the present context due to lack of material. All the taxonomic features and other details are dealt as that of the first part. Since, the first part of this volume contained detailed accounts of History, Classification Zoogeography, Biology, Ecology and Control, these aspects have been dropped in this part to avoid repetition. It would be a pretentious claim to declare that both the fauna are devoid of any lacunae. There remain still many gaps in our knowledge, which, we hope, will be filled up by the incoming workers on these fascinating beetles of importance.

**Key to the subfamilies and tribes of family SCOLYTIDAE\***

1. Basal margin of each elytron procurved and provided with a series of marginal crenulations (Fig. 10a) (or less commonly by a continuous elevated costa in *Diamerini* Fig. 7a); usually with a median scutellar emargination; scutellum usually small and rounded or depressed, absent in some groups; pronotum weakly, if at all declivous on anterior half, usually unarmed but crenulations sometimes present on antero-lateral areas; head generally visible from above, somewhat wider; protibiae usually wider; scales or deeply divided setae a common feature .....  
 ..... Subfamily HYLESININAE..... 2
- Basal margin of each elytron substraight, unarmed, rarely (some *Scolytini*, *Cryphalini*) with a weakly elevated continuous line; scutellum usually large, flat (rarely absent on highly modified in some *Xyleborini*); pronotum weakly to strongly declivous on anterior half and usually armed by many asperate crenulations particularly on median half (Fig. 31a); head generally partly or entirely concealed from dorsal aspect, somewhat narrower; protibiae usually narrower; scales or deeply divided setae, an uncommon feature ..... Subfamily SCOLYTINAE..... 9
2. Scutellum visible ; generally funicle 6-7 segmented or if 5- segmented (*Sueus*, Fig. 6f) then male frons not impressed and antennal club symmetrical ..... 3
- Scutellum either not visible or if visible then funicle 5-segmented and male frons impressed (*Bothrosternini* with 6-segmented funicle, but with a distinctive protibia ..... 5
3. Eyes completely divided, halves widely separated; crenulations on basal margin of elytra low, poorly formed; pre-coxal ridge on prothorax never present; antennal funicle 5-7 segmented; pro-coxae rather widely separated protibiae with outer apical angle produced into a conspicuous spine (Fig. 4f) reaching beyond the tarsal insertion, outer margin without socketed teeth..... **Hyorrhynchini**
- Eyes entire to feebly emarginate; crenulations on basal margin of elytra either low or distinct; pre-coxal ridge on prothorax either present or absent; antennal funicle 5-7 segmented ..... 4
4. Antero-lateral areas of pronotum with strong asperities; prothorax with elevated costate ridge from coxae to anterior margin; antennal funicle 6-7 segmented ..  
 ..... **Hylesinini**
- Antero-lateral areas of pronotum unarmed; pro-coxal costa on prothorax absent; antennal funicle 6 segmented ..... *Tomicini*
5. Lateral margins of pronotum usually subacutely elevated (Fig. 7e), costate; mesepimeron moderately to very large, its dorsal portion usually grooved for reception of elytral base; (outer apical angle of protibia often with only one major, recurved spine) ..... **Diamerini**

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\*Mainly based on Wood (1978)

- Lateral margin of pronotum rounded; mesepimeron not enlarged or grooved...  
..... 6
- 6. Scutellum visible, elytral bases notched for its reception ; tarsal segment 3 stout,  
usually somewhat bilobed ..... **Phloeosinini**
- Scutellum obsolete, elytral bases only slightly if at all emarginate at suture; tarsal  
segment 3 slender ..... 7
- 7. Eye emarginate or entirely divided; pronotum never armed by asperities;  
crenulations at bases of elytra more widely distributed, extending laterally beyond  
interstriae 5; funicle 5 to 6 segmented ..... **Polygraphini**
- Eye; pronotum armed by a few scattered asperities; crenulations at bases of  
elytra restricted to area between suture and interstriae 5; funicle 4 segmented  
..... **Hypoborini**
- 8. Lateral margins of pro- and meta- tibiae unarmed except for a single apical  
spine-like process that curves towards and extends beyond process of inner apical  
angle; lateral margin of pronotum subacutely elevated, costate; funicle 7 segmented;  
suture of antennal club strongly procurved or obsolete ..... **Scolytini**
- Lateral margin of protibiae armed by more than one denticle, none of which  
exceed or curved towards inner apical process; lateral margins of pronotum sub  
acutely raised or not; antenna variable ..... 9
- 9. Metepisternum largely covered by elytra, its groove for reception of costal flange  
obsolete, a small transverse callus (*Cryphilini*) or a small transverse groove  
(*Corthylini*) at anterior end of metepisternum; antennal club strongly flattened,  
never obliquely truncate ..... 10
- Metepisternum exposed, visible throughout its length, slightly more than its  
dorsal half covered by elytra when in locked position, either with a conspicuous  
groove for reception of costal flange throughout its length or else groove represented  
at its anterior end by a denticulation or costate remnant near anterior end of  
metepisternum; antennal club varying from flat to obliquely truncate ..... 11
- 10. Costal margin of elytra slightly to moderately ascending from base of declivity to  
apex; basal end of metepisternum armed by a callus or partial groove of  
degenerating metepisternal spine; sutures on posterior face of antennal club more  
strongly displaced towards apex; funicles 3-5 segmented; tibiae more strongly  
flattened, usually armed by more than four denticles ..... **Cryphalini**
- Costal margin of elytra descending towards apex; basal end of metepisternum  
with a small, transverse groove; funicle 1-5 segmented; tibia more slender .....  
..... **Corthylini**
- 11. Pronotum with basal half of lateral margin emarginate, so as to accommodate the  
profemer; procoxae moderately widely separated; anterior half of pronotum not  
declivous and unarmed by asperites; antennal club strongly flattened ..... 12

- Pronotum without lateral emargination, rather rounded or elevated; pro-coxae contiguous or subcontiguous or (widely separated in *Xyosandrus* Reither and *Apoxyleborus* Wood of Tribe : Xyleborini); protibia with outer apical angle inconspicuously armed by several small socketed denticles; tibial surface without tubercle (except *Arixyleborus* Hopkins of Xyleborini); funicle 2-5 segmented ..... 13
- 12. Antennal club marked by two sutures, sutures on posterior face almost equal to those on anterior face, antennal funicle with joints, scutellum visible ..... \***Carpodicticini**
- Antennal club unmarked by suture, antennal funicle with 6-7 segments; scutellum not visible ..... **Scolytoplatypodini**
- 13. Eye completely or incompletely divided; antennal club strongly flattened and large, without any septum, sometimes with suture, visible on both sides; equal pubescence on both faces ..... 14
- Eye entire to shallowly emarginate on anterior margin; antennal club proportionate with funicle and scape together; flat or obliquely truncate, suture variable if present, tarsi retractile or not ..... 15
- 14. Eye always completely divided into two parts; antennal funicle 4-segmented, base of the club feebly to moderately corneous; abdomen horizontal with distinct somewhat equal abdominal segment; meso- and metathorasic tibia without any tibial groove, pronotum, and lateral and basal margin rounded ..... **Xyloteriini**
- Eye completely or incompletely divided; antennal funicle segmented, antennal club with strongly procurved suture; elytra almost straight; abdomen conspicuously ascending towards apex, abdominal segment 1 and 2 fused to form single segment; tarsi always retractile into meso- and metathorasic tibial grooves; lateral margins of pronotum subacutely elevated ..... **Xyloctonini**
- 15. Meso- and metathorasic tibiae expanded to just beyond the middle then arcuately tapered to apex, its apical two thirds on outer margin armed by a row of numerous small, closely set teeth of equal size, these usually supplemented in same row by submarginal hairs on posterior face; male pronotum highly modified; preular area depressed, wood boring, mycelophagous ..... \*\***Xyleborini**
- Meso- and metathorasic tibiae more slender, more abruptly narrowed on apical fourth, lateral and apical margins armed by fewer, coarser teeth, eye sinuate to shallowly emarginate; pronotum sometimes with a raised line on basal or lateral margin; preular area not depressed; sexes of similar size and body form (except male dwarfed and deformed in *Coccotrypes* and *Ozopemon*); habits varied but never mycetophagous or wood boring ..... 16

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\*Not dealt in text; \*\*Dealt in Vol. 1 (Part 1)

16. Elytral declivity moderately sulcate to elaborately excavated, with lateral margins usually armed by tubercles or spines; pronotum more strongly declivous on anterior third, asperities usually larger ..... **Ipini**
- Elytral declivity slightly flattened to convex, unarmed by tubercles, spines or unarmed by tubercles, spines or unusual sculpture; pronotum usually evenly arched from base to anterior margin; asperities none and abundant when present ..... 17
17. Antennal funicle 4-6 segmented, club either obliquely truncate or with sutures on posterior face, strongly displaced towards apex; anterior half of pronotum more strongly declivous and rather with coarsely asperite..... **Dryocoetini**
- Antennal funicle 2-3 segmented, club with sutures on posterior face about equal to those on anterior face; pronotum feebly declivous on anterior half and unarmed (minutely granulate in some *Aphanarthrum*, reticulate in many species, size small (Northern Hemisphere and Africa) ..... **Crypturgini**

## SYSTEMATIC ACCOUNT

### Family SCOLYTIDAE

### Subfamily HYLESININAE

### Tribe Hylesinini Erichson

#### Key to the genera of the Tribe Hylesinini

1. Antennal club devoid of any septum or sutures; microsporangium on anterior half of pronotum in female; bigger species (9.00-10.00 mm) ..... ***Dactylipalpus*** Chapuis
- Antennal club with sutures, devoid of any microsporangium on anterior half of pronotum in female; smaller species ..... 2
2. Antennal club with three sutures ..... ***Hylesinus*** Fabricius
- Antennal club with two sutures ..... ***Ficicis*** Lea

### Genus *Hylesinus* Fabricius

#### 1. *Hylesinus* Fabricius

1801. Fabricius, *Systema Eleutheratorum*, 2 : 390
1910. Hagedorn, *Genera Insectorum*, 111 : 47.
1959. Schedl, *Trans. R. ent. Soc. London*, 111 : 471.
1966. Schedl, *Entom. Abh. Mus. Tierk. Dresden*, 35 : 6.
1978. Wood, *Ann. Soc. Ent. Fr (N.S.)*; 14(1) : 111.

1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No. 86* : 154.

1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. 13(Vol. A) : 74.

## 2. *Leperisinus* Reitter

1913. Reitter, *Wien ent. Ztg.*, 32(2) : 41.

1977. Wood, *Gt. Basin Nat.*, 37(4) : 511 (syn.)

## 3. *Apidocephalus* Wickham

1916. Wickham, *Bull. Lab. Nat. Hist.*, 7(3) : 18.

1992. Wood and Bright, *Gt. Basin. Nat.*, 52 : 80.

*Type of the genus* : *Hylesinus crenatus* Fabricius

*Hylesinus* is one of the oldest established genus away back in 1801 by Fabricius which stands valid even to day. *Leperisinus*, a genus recognised by Ritter (1913), continued to exist until Wood (1977) synonymised under it. Another genus *Apidocephalus* Wickham has recently been synonymised under this by Wood (1992). However, it is one of the largest genus occurring widely of which three species have been known from India. *H. nilgirinus* Eggers has been included in the key, but its description remains incomplete due to lack of material.

### Key to the species of *Hylesinus* Fabricius

1. Smaller and stouter species, body length 2.0-2.1 mm, 1.8 times as long as wide  
.....*H. dolus* Schedl
- Larger and elongate species; body length 2.50-3.60 mm and twice as long as wide  
..... 2
2. Elytra three times as long as pronotum; elytral striae punctures distinct, frons with a distinct median line becoming indistinct towards lower margin; pronotal surface closely rugose scattered spine-like asperities, but devoid of any distinct puncture ..... *H. macmahoni* (Stebbing)
- Elytra slightly more than twice as long as pronotum; elytral striae puncture in distinct frons with a distinct median carina becoming prominent towards lower margin; pronotal surface minutely-punctate, antero-lateral corners with a few small asperities.....*H. nilgirinus* Eggers

1. *Hylesinus dolus* Schedl

1. *Hylesinus dolus* Schedl

1975. Schedl, *Revue. Suisse Zool.*, 82(3) : 446. Holotype : Female : in MHNG, Geneva. *Type-locality* : 7 Km. E. Coonoor, Nilgiri, Tamil Nadu, India.

1979c. Schedl, *Nat. Mus. Wien. Entomologie*, **3**(2) : 83.

1992. Wood and Bright, *Gt. Basin nat. Mem.*, No. 13(Vol. A) : 79.

*Description* : (After, Schedl, 1975) : Female : "Piceous, subopaque, 2.0-2.1 mm long, 1.8 times as long as wide. More closely allied to *Hylesinus macmahoni* Stebb., but smaller, stouter, more finely scattered, and the elytra covered with stout inclined pale scales near the base. Front somewhat convex, minutely punctate, rather densely covered with medium sized punctures bearing extremely short inclined hairs, epistomal margin but slightly raised.

Pronotum much wider than long (25 : 17), trapezoid in outline, postero-lateral angles not quite rectangular, sides obliquely narrowed, apex rather narrowly rounded, antero lateral angles indicated by a few small asperities; disc ascending convex from apex to base, the latter angulate in the middle, surface but very little shining, minutely punctate and extreme densely rather finely punctured, with a very short and inclined pubescence. Scutellum small, subcircular and punctured.

Elytra somewhat wider (30 : 25) and twice as long as the pronotum, base angulate and finely crenulate; sides subparallel on basal third, thence gradually incurved, apex rather narrowly rounded, gradually convex from base to apex, a few transverse rugae near base; disc striate-punctate, the striae narrow but well impressed, strial punctures indistinct, the interstriae wide flat, irregularly and finely granulate-punctate, density of this sculpture corresponding two to three fold rows, with stout small pale and inclined scales near the base, replaced by short more hair like setae behind, on the lower part of the declivital convexity the sculpture little coarser, a median row of hairs on the interstices slightly longer.

The second specimen, probably the male, has the front very slightly concave, the pubescence more prominent"

*Distribution* : INDIA : Tamil Nadu, Nilgiri, 7 km. E. of Coonoor (1350 m).

## 2. *Hylesinus macmahoni* (Stebbing)

### 1. *Sphaerotrypes macmahoni* (Stebbing)

1909. Stebbing, *Indian For. Mem. Zool. Ser.*, **1**(2) : 16. Syntypes 2, sex ? in F.R.I., Dehra Dun. *Type-locality* : Sangar Scallon, near Takt-i- Suleman Mountain, 7,000 ft., Baluchistan, Pakistan.

## 2. *Hylesinus macmahoni* (Stebbing)

1992. Wood and Bright, *Gt. Basin nat. Mem.*, No. 13 (Vol. A) : 81.

## 3. *Hylesinus alternus* Schedl

1959. Schedl, *Indian Forest Rec., (N.S.) Ent.*, **9**(8) : 172. Holotype : Male in Nat. Hist. Mus Wien. *Type-locality* : Rawalpindi, Punjab, Pakistan.

1985. Wood, *Gt. Basin nat.*, **45**(2) : 268 (Synonymy).

#### 4. *Leperisinus fraxinoides* Schedl

1961. Beeson. Ecology and Control of Forest Insect of India, p. 287. nomen nudum.

1959. Schedl, *Indian Forest Rec., (N.S.) Ent.*, **10**(2) : 39. Paratype : Female in Nat. Hist. Mus. Wien. *Type-locality* : Lolab, Putshai, Kashmir, India.

*Description* : Body stout and cylindrical; head, pronotum and elytra reddish brown to blackish brown, head comparatively darker. Body length 3.00 mm, nearly twice as long as wide.

Frons somewhat flat and feebly impressed above epistomal margin; surface finely reticulate, except smooth median area and with close punctures of irregular shape and size and dense stout setae. Eyes elongate and entire Antennal scape long. Funicle with 7 segments, club conical and with 3 distinct sutures forming 4 distinct segments.

Pronotum 1.2 times as wide as long, widest at base, lateral sides rounded and gradually incurved from the base, with distinct antero-lateral constriction; anterior margin subrounded; surface rugosely punctate, each puncture with hairs, those on the middle area with scale-like setae, asperities of different sizes more prominent towards lateral margins generally placed in the interpuncture space.

Elytra 2.1 times as long as pronotum; lateral sides subparallel on basal two-fifth gradually narrowing posteriorly with broadly rounded apex; basal margin each with 12-14 transverse cranulations; striae impressed and narrow, punctures small and indistinct; interstriae much wider than striae.

*Host* : *Fraxinus excelsior hookeri*, *F. floribunda*, *Olea cuspidata*

*Distribution* : INDIA : Kashmir.

*Elsewhere* : Pakistan : Baluchistan (Suleman Mountain).

*Remarks* : *Hylesinus macmahoni* Stebb. closely resembles to *H. oleiperda* Fab., a well recognised European species, but can be separated from it by less impressed frons in the male, the more scale-like vestiture, the more strongly depressed second interstriae of the elytral declivity and the two to three larger tubercles on the elevated third interstria (Schedl, 1959).

#### Genus *Ficicis* Lea

##### 1. *Ficicis* Lea

1910. Lea, *Proc. Roy. Soc. Victoria*, **22**(NS) : 147.

1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. A) : 90.

##### 2. *Ficiphagus* Murayama

1958. Murayama, *Bull. Yamaguti Univ, Facult. Agric.*, **9** : 930.

1962. Schedl, *Beit. zur Ent.*, 12(3-4) : 486.

Types of genus : (i) *Ficicis* : *F. varians* Lea; (ii) *Ficiphagus* : *Phloeosinus goliathoides* Murayama (= *Hylesinus despectus* Walker).

The genus is a well established one since its description in 1910 by Lea. Only a single genus *Ficiphagus* of Murayama (1958) had so far been synonymed under this genus. It is a small genus containing some 13 species known from the Oriental and Australian Zoogeographical Regions. Only two species are so far known from India.

### 3. *Ficicis despectus* (Walker)

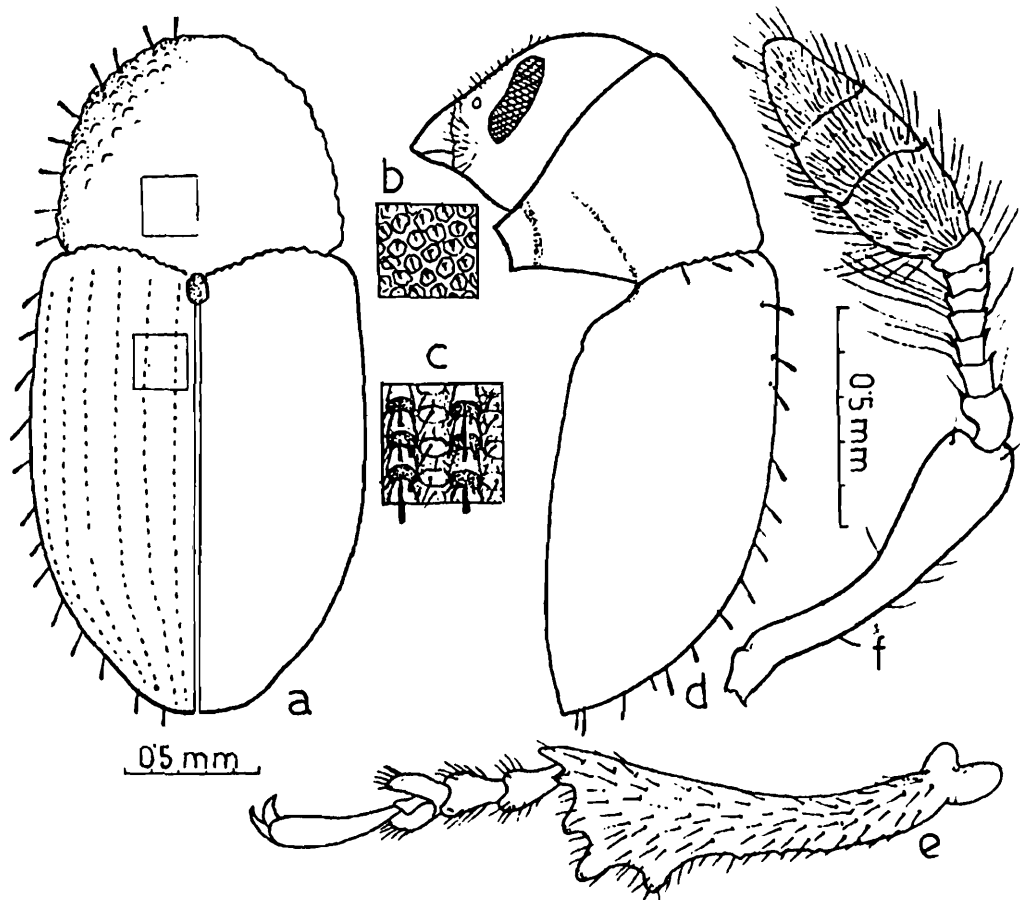
(Fig. 1)

#### 1. *Hylesinus despectus* Walker

1859. Walker, *Ann. Mag. Nat. Hist.*, 3(3) : 261. HOLOTYPE : Sex ?. BHNH, London *Type-locality* : Sri Lanka.

1958. Schedl, *Indian Forest Rec.*, (N.S.), *Ent.* 9(8) : 172. Oriental and Papuan Regions

1966. Schedl, *Ent. Abh. Mus. Tierk. Dresden*, 35 : 7. Oriental and papuan including the Andamans.



**Fig. 1. a-f** *Ficicis despectus* (Walker), Female: a, Pronotum and elytra in dorsal view; b, enlarged portion of pronotum; c, enlarged portion of elytral disc; d, head, pronotum and elytra in lateral view; e, protibia. Male : f. antenna.

1975. Schedl, *Revue suisse Zool.*, **82**(3) : 446, Kerala India.  
 1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper*, No. **86** : 31-33. Fig. 2, a-f  
 1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, **3**(Part 6(B)) : 787.

## 2. *Hylesinus granulifer* Motschulsky

1863. Molschulsky, *Bull. Soc. Imp. Na. Moscou.*, **36**(2) : 516  
 Type-locality : Sri Lanka.  
 1910. Hagedorn, *Coleop. Cat.*, **26**(4) : 16 (synonymy).

## 3. *Hylesinus scobipennis* Chapuis

1873. Chapuis *Synopsis de Scolytidae*, p. 238. Type-locality : Sri Lanka.  
 1910. Hagedorn, *Coleop. Cat.*, **26**(4) : 16 (synonymy)

## 4. *Hylesinus javanus* Eggers

1923. Eggers, *Zool. Meded.*, **7** : 135-136, Type-locality : Java, Indonesia.  
 1961. Beeson, *Ecology and Control of Forest Insects of India and Neighbouring countries*, 287 p.  
 1958. Schedl, *Indian Forest Rec. (N.S.) Ent.*; **9**(8) : 171 (synonymy).

## 5. *Hylesinus similis* Eggers

1923. Eggers, *Zool. Meded.*, **7** : 136-137. Type-locality : Sumatra, Indonesia.  
 1958. Schedl, *Indian Forest Rec. (N.S.) Ent.*, **9**(8) : 171 (synonymy)  
 1972. Schedl, *Ent. Arb. Mus. Frey*, **23** : 258.

## 6. *Hylesinus latior* Eggers (in lit.)

1958. Schedl, *Indian Forest Rec. (N.S.) Ent.*; **9**(8) : 171 (synonymy)  
 1979. Schedl, *Ent. Arb. Mus. Frey*, **28** : 122.

## 7. *Ficicis despectus* (Walker)

1992. Wood and Bright, *Gt. Basin na. Mem.*, No. **13**(Vol. A) : 90.

*Description* : *Female* : Body stout, head black; pronotum, elytra and legs deep greyish brown; antennae paler than body. Body length 2.7 mm, 2.10 times as long as wide.

Head subrostrate; frons weakly convex with a distinct impressed area below the level of eyes; surface reticulate, subgranulately punctate and with recumbent small

setae; epistomal margin weakly convex in front, with a few large setae. Eye elongate and very weakly emarginate at anterior fourth. Antennal scape long, funicle with 7 segments, club conical with three distinct segments.

Pronotum almost as long as wide, basal margin bisinuate and anterior margin broadly rounded, lateral sides on basal half elevated, forming a margin and strongly narrowing anteriorly; dorsal surface with a distinct median line at basal half and transversely impressed on anterior third, surface very closely and deeply punctate; punctures of irregular size, interpuncture space very much reduced; antero-lateral angles armed with 9-10 asperities, more or less subasperate towards sides on anterior two-thirds; vestiture of small semirecumbent stout setae from the punctures and a few erect long stout setae around margin.

Scutellum small, rounded and surface somewhat roughened.

Elytra 1.90 times as long as pronotum, about 1.35 times as long as its width and slightly wider than pronotum; sides subparallel on basal half, strongly converging posteriorly and terminating into a narrowly rounded apex; each elytral base with 13-14 crenulations; striae impressed with distinct punctures, interstriae fairly convex, slightly wider than striae, subasperate at base becoming subgranulate towards apex. Declivity convex; declivital striae fairly impressed, marked by large deep punctures; declivital interstriae distinctly ridged with distinct punctures, sparse scale-like setae and granulate asperities; interstriae 1,3, 7 and 9 meeting in an elevated ridge at the elytra apex; rest of the interstriae almost terminating on the base of apical half of declivity except 2 and 4 in obsolete form. Procoxae slightly separated and femur long and slender.

*Male* : Similar to female except in having frons deeply impressed and antennal funicle with long fine hairs nearly 0.2 mm in length.

*Distribution* : INDIA : Andaman Islands (Schedl, 1966) : North and Middle Andamans; South Andaman; Port Blair; Little Andaman; Hut Bay Nicobar Islands; Great Nicobar, Campbell Bay; Nancowry and Kamorta; Kerala, Tamil Nadu, Maharashtra, Karnataka, Uttar Pradesh and Assam.

*Elsewhere* : Philippine Isl., Tonkin; Myanmar; Malaysia; Sri Lanka; Vietnam; Indonesia (Borneo, Buru, Celebes, Java and Sumatra); Enggano Isl. and New Guinea.

*Remarks* : *Ficicis despectus* Walker is a widely distributed species throughout south-east Asia. It has been recorded for the first time from the islands of Nicobar, though it has been recorded earlier from the Andamans. (Maiti and Saha, 1986). The species has been collected in a number of occasions from different host-plants in Indian mainland. In Andaman and Nicobar Islands, collection of the species has been made from the host-plants of *Artocarpus chaplasha*, *Mangifera indica*, *Terminalia procera*, *Ficus infectoria*, *Myrtistica* sp., etc. It also infests some unknown climbers.

Genus *Dactylipalpus* Chapuis1. *Dactylipalpus* Chapuis

1910. Hagedorn, *Coleopt. Cat.*, **26**(4) : 5.  
 1961. Browne, *Malay. Forest Rec.*, No. **22** : 66  
 1966. Schedl, *Entom. Abh. Mus. Tierk. Dresden*, **35** : 4.  
 1973. Chapuis, *Synopsis de Scolytidae*, p. 220.  
 1978. Wood, *Annis. Soc. Ent. Fr. (N.S.)*, **14**(1) : 111.  
 1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No. 86* : 16, 27.  
 1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. A) : 101.

2. *Dactylopselaphus* Gemminger and Harold

1872. Gemminger and Harold, *Cal. Coleopt.*, **9** : 2678.  
 1896. Balndford, *Ann. Mag. Nat. Hist.*, **17**(6) : 320 (synonymy).

3. *Ethadopselaphus* Blandford

1896. Blandford, *Ann. Mag. Nat. Hist.*, **17**(6) : 321.  
 1910. Hagedorn, *Colept. Cat.*, **26**(4) : 5 (synonymy).  
 1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. A) : 101.

*Type of genera* : (i) *Dactylipalpus* : *D. transversus* Chapuis, (ii) *Dactylopselaphus* : *D. transversus* Chapuis, (iii) *Ethadopselaphus* : *E. cicatricosus* Blandford.

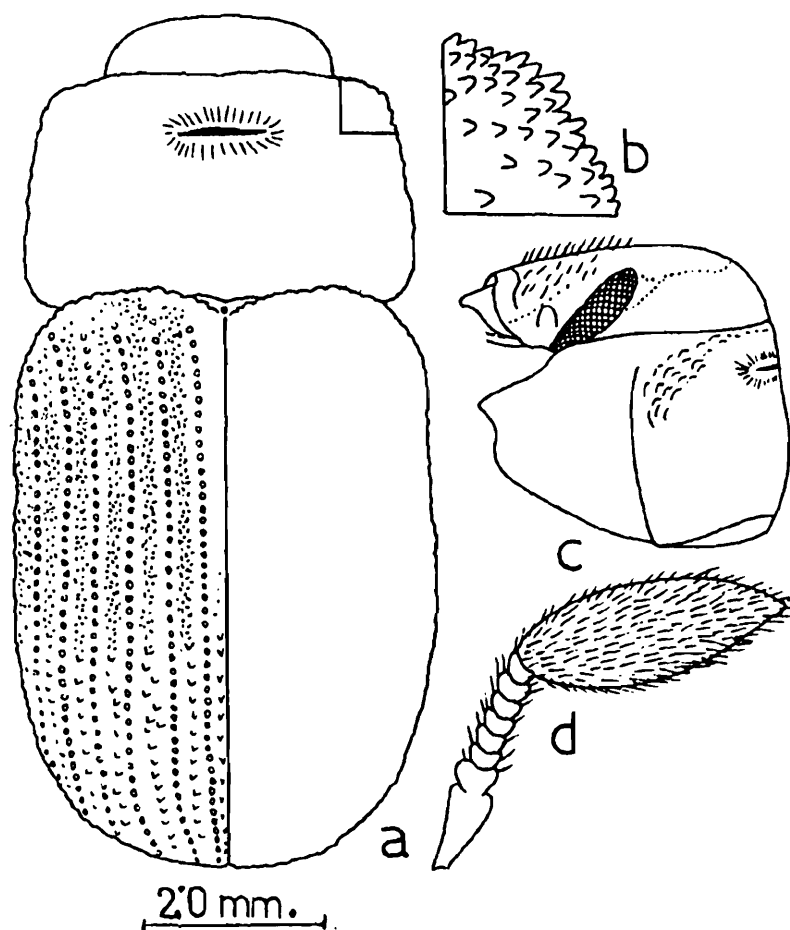
The genus *Dactylipalpus* was erected by Chapuis (1869) to accommodate his two species, of which *D. transversus* Chapuis from Celebes was designated as type-species. Later on, Gemminger and Harold (1872) proposed a genus *Dactylopselaphus* as the new name for *Dactylipalpus*. Blandford in 1896 also described another genus *Ethadopselaphus* based on the type-species *E. cicatricosus* Balndford from Natal which was also placed under the synonymy of the genus. However, the genus is now a well established one represented in the Oriental, Papuan, Australian and Ethiopian Regions. Only two species are so far known from the Orient, of which *D. transversus* Chapuis is known from India.

4. *Dactylipalpus transversus* Chapuis

(Fig. 2)

1. *Dactylipalpus transversus* Chapuis

1869. Chapuis, *Synopsis de Scolytidae. Liege, J. Desoer*. P. 12. *Syntype* : Female in IRSNB, Brussels. *Type-locality* : Malacca.  
 1922. Beeson, *Indian Forestar*, **48** : 495.



**Fig. 2. a-d.** *Dactylipalpus transverses* Chapuis, Female: a, Dorsal view; b, Enlarged antero-lateral portion of pronotum; c, Lateral view of head; d, Antenna.

1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No. 86* : 16, 28-30.

1992. Wood and Bright, *Gt. Basin Nat. Mem. No. 13*(Vol. A) : 102.

## 2. *Dactylipalpus quadratocollis* Chapuis

1869. Chapuis, *Synopsis de Scolytidae. Liege, J. Desoer. P. 12.* Syntype : Male in IRSNB, Brussels. *Type-locality* : Ternate, Indonesia.

1896. Blandford, *Ann. Mag. Nat. Hist.*, 17(6) : 320 (Synonymy).

*Description : Female* : Body stout, head, pronotum, elytra and legs blackish brown, antennae slightly lighter. Body length 9.50-10.00 mm and nearly twice as long as broad.

Head subrostrate, frons weakly convex except flattened on broad area between and above eyes and arcuately impressed just above epistoma; surface shining with rather abundant, coarse, sharply impressed, shallow punctures, a small setiferous granule at centre of each puncture; vestiture consisting of short, stout and semierect setae. Eyes entire and strongly elongate. Antennae very short, scape stout and clubbed, funicle with 7 segments and club subcompressed, subpyriform, closely pubescent and unmarked by any suture.

Pronotum subquadrate, 1.6 times as broad as long, basal somewhat bisinuate, lateral margins substraight weakly narrowing anteriorly, anterior margin substraight with a very weak median emargination, median area with distinct large punctures, space around punctures somewhat transversely granulate, becoming more abundant in lateral areas and becoming asperate in antero-lateral areas in 9-10 rows; transverse microsporangium measuring 1.3 mm in length placed on anterior fourth, the areas around it rather depressed and comparatively smooth with numerous small setae; vestiture of short and stout recumbent setae.

Scutellum small and knob-like.

Elytra 2.4 times as long as pronotum and about 1.4 times as long as its width, slightly wider than pronotum; elytral base with numerous distinct crenulations extending up to sixth interstria and strongly outcurved at the level of third interstria; sides substraight weakly converging posteriorly with broadly rounded apex; striae fairly impressed with shallow punctures throughout, more prominent on declivity; interstriae nearly thrice as wide as striae, convex, subasperate to elytral disc, gradually increasing in size and decreasing in number towards declivital apex. Declivity rather steep, convex and gradually sloping; interstriae 1 and 2 narrowing towards apex, 3 and 9 united slightly before elytral apex and the rest 4, 5, 6, 7 and 8 obsolete between; striae punctures devoid of setae; interstriae with small setae.

*Distribution* : INDIA : Andaman and Nicobar Islands : Nicobar Isl. (Kamorta).

*Elsewhere* : Malaysia, Taiwan, Thailand, Tonkin Island, Vietnam, Indonesia (Aru, Celebes, Java, Molluca, Sumatra, Ternate), New Guinea, Philippine Islands (Luzon), Australia : Queensland.

*Remarks* : The species, *Dactylipalpus transverses* Chapuis is the sole representative of the genus *Dactylipalpus* from the Indian subregion, and also occurring in the insular areas of Andaman and Nicobar, as well as in Assam, India. The species is the largest of all the Indian scolytid beetles and it is found to occur sparsely in the bark of *Manglieta insignis* and *Mesua ferrea*, and in ant's nests in eastern India (Beeson, 1961, Schedl, 1958).

### Tribe **Tomicini** Thomson

The tribe Tomicini contains five genera of which three genera *Chaetoptelius* Reitter *Hylurgus* Latreille and *Pseudoxylechinus* Wood & Huang could not be dealt with due to lack of material. These are not put in the generic key, while the other two genera have been included in the generic key.

### Key to the genera of tribe Tomicini

1. Antennal funicle 5-segmented; antennal club flattened with complete transverse septum at the middle ..... *Xylechinus* Chapuis

- Antennal funicle 6-segmented; antennal club conical without any septum, but with three distinct sutures, first and second segments subequal in length .....  
 ..... ***Tomicus*** Latreille

### Genus *Xylechinus* Chapuis

#### 1. *Xylechinus* Chapuis

1869. Chapuis, *Synopsis des Scolytides*. Liege, J. Desoer : 36.  
 1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. 13(Vol. A) : 114

#### 2. *Pruniphagus* Murayama

1958. Murayama, *Yamaguti Univ., Bull. Facul. Agric.*, 9 : 930  
 1986. Wood, *Gt. Basin Nat. Mem.* 10 : 42.

#### 3. *Squamasinus* Nunberg

1964. Nunberg, *Ann. Hist. Mus. Nat. Hungarice*, 56 : 431.  
 1980. Wood, *Gt. Basin Nat.*, 40 : 96.

#### 4. *Xylechinops* Browne

1973. Browne, *Rev. zool. Botan. Apicaines*, 87(2) : 283  
 1986. Wood, *Gt. Basin Nat. Mem.* 10 : 42

*Types of the Genus* : (i) *Xylechinus* : *Hylesinus* (*Dendroctonus*) *pilosus* Ratzeburg ;  
 (ii) *Pruniphagus* : *P. gummensis* Murayama; (iii) *Squamasinus* : *S. chiliensis* Nunberg;  
 (iv) *Xylechinops* : *Xylechinus australis* Schedl.

*Xylechinus* Chapuis remained a valid genus since its inception in 1869 by Chapuis. It continued to remain in the same name although a number of genera, namely, *Pruniphagus* Murayama, *Squamasinus* Nunberg and *Xylechinops* Browne were synonymised under it. The genus is represented by about 36 species from all over the world, of which three species are known from India. However, single species dealt herewith has been based on Schedl, 1971.

#### 5. *Xylechinus darjeelingensis* Schedl

##### 1. *Xylechinus darjeelingensis* Schedl

1971. Schedl, *Oriental Ins.*, 5(3) : 371. *Holotype* Female? In Schedl's Collection in NHMW, Wein *Type-locality* : Darjeeling, West Bengal, India  
 1992. Wood and Bright, *Gt. Basin Nat Mem.*, No. 13(Vol. A) : 115.

*Discription* : Ferruginous, 3.2 mm long, 2.4 times as long as wide. A new species of a similar size than *Xylechinus australis* Schedl but without dense pubescence of the

latter, the elytral disc rather coarsely striate-punctate and the interstices as far as can be seen with a median row of the fine setose punctures.

Front broadly convex, densely covered with medium sized punctures, without noticeable pubescence. Pronotum as long as wide, postero lateral angles are little more than rectangular and feebly rounded, the sides feebly divergent on basal fifth, thence subparallel, apical margin broadly rounded, subapical constriction well developed; disc extreme by densely covered with medium-sized punctures, the medium line impunctate on basal half of the disc, pubescence restricted to minute inclined hairs but largely abraded. Scutellum nearly circular, knob-like, densely punctured. Elytra distinctly wider (40 : 32) and 1.8 times as long as pronotum, side parallel on basal half, apex rather broadly rounded, declivity commencing after basal half and obliquely convex; disc roughly sculptured, striate-punctate, the striae rather feebly impressed but the strial punctures large and rather closely placed, interstices moderately wide, densely somewhat granulate-punctate, as far as not abraded each interstice with a row of short semierect setae; on the declivity the striae fading away, the strial punctures gradually reduced in size, the interstices very densely and finely punctured, aside of the semi-erect rows of setae with a very fine velvet - like ground pubescence.

*Distribution* : INDIA : West Bengal : Darjiling.

*Host* : *Quercus lemellosa*.

*Remarks* : Nothing is known of its biology.

### Genus *Hylurgus* Latreille

#### 1. *Hylurgus* Latreille

1807. Latreille, *Genera crust. Insect. Secundum ordinem natur fam. dispsita, inconibus exempl pluri. explicata* (Scolytidae, p. 273-280), Paris, Vol. 2, p. 274.

1986 Wood, *Gt Basin Nat. Memo.*, 10 : 42.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 119.

*Types of genus* : *Hylurgus* : *Bostrichus ligniperda* Fabricius, monobasic.

The characteristic features of *Bostrichus ligniperda* Fab, had convinced Latreille to erect separate genus *Hylurgus* in 1807. Its old status continued to remain valid to day, under which only three species had been added so far. Single species, *H. indicus* is endemic to India and the remaining two are distributed almost throughout the world.

#### 6. *Hylurgus indicus* Wood

##### 1. *Hylurgus indicus* Wood

1985 Wood, *Gt. Basin Nat.*, 45(2) : 273, *Holotype* female and 4 *paratypes* females in FRI., Dehra Dun and 2 *Paratypes* in Wood's collection, USA. *Type locality* : Kumaon Hills, W. Almora, Uttarakhand, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 119

*Description* : (Based on Wood, 1985) *Female* : Length 3.2 mm (paratypes 3.0–3.3 mm), 3.0 times as long as wide; rather dark reddish brown.

Frons resembling *H. micklitzii* except much more strongly convex, without transverse impression just below middle, more coarsely tuberculate; medium carina on epistoma of uniform height, without tubercle or tooth at dorsal end; vestiture apparently longer, more abundant.

Pronotum 1.1 times as long as wide; resembling *H. micklitzii* except more quadrate, sides more nearly parallel, almost straight ; punctures apparently deeper closer; vestiture shorter, more abundant.

Elytra 1.9 times as long as wide; resembling *H. micklitzii* except striae punctures more distinct, slightly larger; vestiture with much fewer setae in ground cover, erect setae mostly in rows in both disc and margin (abundant and strongly confused in *H. micklitzii*)

*Male* : Not studied

*Distribution* : INDIA : Uttarakhand, Kumaon Hills and Gumti Val, W. Almora

*Host* : *Pinus roxburghii* (= *P. longifolia*)

*Remarks* : The species strongly resembles *H. mecklitzi* Wacht known from the old world, except characters stated above. However, it differs from *H. micklitzii* Wacht by smaller size, absence of a frontal tubercle, vestiture and by other characters cited above (Wood, 1985).

## Genus *Tomicus* Latreille

### 1. *Tomicus* Latreille

1802. Latreille, *Gen. Crust. Et Ins.*, 3 : 203.

1910. Hagedorn, *Coleopt. Cat.*, 4 : 13.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 122.

### 2. *Blastophagus* Eichhoff

1864. Eichhoff, *Berl. Ent. Zeits.*, 25

1910. Hagedorn, *Coleopt. Cat.*, 4 : 13

### 3. *Myelophilus* Eichhoff

1870. Eichhoff, *Stett. Ent. eit*, 40 : 400.

*Types of genera* : *Tomicus* Latreille : *Hylesinus piniperda* Fab (= *Dermestes piniperda* Linnaeus); *Blastophagus* Eichhoff : *Dermestes piniperda* Linnaeus; *Myelophilus* Eichhoff : *Dermestes piniperda* Linnaeus.

The genus is a quite old one established by Latereille (1802) with its type species *Dermestes piniperda* Linnaeus. However, the genera *Blastophagus* Eichhoff and *Myelophilus* Eichhoff were synonymised under the genus as mentioned by Wood and Bright (1992) in their world catalogue. Out of six species known so far under the genus two species are recorded from India.

### 7. *Tomicus brevipilosus* Eggers

#### 1. *Blastophagus brevipilosus* Eggers

1929. Eggers, *Ent. Blatt.*, **26** : 103. Syntypes 2 sex in Eggers coll :, NHMW, Wien. *Type-locality* : Fukien, China.

#### 2. *Blastophagus khasianus* Murayama

1959. Murayama, *Bull. Brooklyn ent soc.*, **54**(3) : 75. *Holotype* sex? In USNM, Washington. *Type-locality* : Shillong, Meghalaya, India.

1992. Wood, *Gt. Basin Nat.*; **52** : 85 (syn).

#### 3. *Tomicus khasianus* (Murayama)

1994. Saha and Maiti, *Fauna of Meghalaya, State Fauna Series*, **4**(Part 5) : 2, 4.

#### 4. *Blastophagus multisetosus* Murayama

1963. Murayama, *Shukosha Press*, Fukuoka, Japan p.37. *Holotype* Female in Murayama coll., USNM, Washington, *Type-locality* : Mt Manza, Guamma Pref., Japan.

1992. Wood, *Gt. Basin Nat.*, **52** : 85 (syn).

#### 5. *Tomicus brevipilosus* (Eggers)

1992. Wood, *Gt Basin Nat. Memo.*, No. **13**(Vol. A) : 123

*Description* : *Male* : Body fairly stout; head and pronotum pitchy black, elytra dull brown, basal and lateral margins with blackish tinge. Body length 4.10-4.30 mm, 2.10 times as long as wide.

Frons plano-convex, with elevated short median line above epistomal margin; surface smooth and shiny, with distinct punctures becoming dense towards vertex and sparsely hairy.

Pronotum 1.1 times wider than long; basal margin substraight, lateral sides gradually narrowing anteriorly, with indistinct antero-lateral constriction; surface smooth and shiny with sparse minute punctures, each with a fine small erect hairs;

Elytra 2.2 times as long as pronotum; 1.5 times as long as its own width; basal margin with weak crenulations; lateral sides weakly diverging upto basal two-thirds at its maximum width whence broadly rounded posteriorly; striae marked by uniform

rows of shallow punctures, devoid of any microhair; interstriae with indistinct punctures becoming granulate towards declivity commencing on posterior one-fourth; face rather steep and convex; stria 2 jointed with 9 and 3 joint with 8, interstriae 1 and 3 feebly elevated; interstria 2 flat and narrow with uniseriate small punctures; other interstriae with sparse uniseriate setaeferous granules and sparse and irregular punctures.

*Distribution* : India : Assam.

*Elsewhere* : China (Fujian); Japan and Korea.

*Host* : *Pinus insularis*, *P. koraiensis*, *P. parviflora*

### Tribe **Hyorrhynchini** Hopkins

#### Key to the genera of the tribe **Hyorrhynchini** Hopkins

1. Antennal funicle with five segments, club short with two weakly procurved sutures on either face; elytral apex strongly ascending; middle and hind-tibiae dilated laterally and armed with a row of fine tooth-like process outside; forecoxa widely separated at base; male smaller than female ..... **Sueus** Murayama
- Antennal funicle with seven segments, club elongate and flattened with two grooved sutures; elytral apex not so much ascending; middle and hind-tibiae not dilated laterally and not armed with tooth-like process outside; forecoxa narrowly separated at base; male not smaller than female ..... **Hyorrhynchus** Blandford

#### Genus **Hyorrhynchus** Blandford

##### 1. **Hyorrhynchus** Blandford

1894. Blandford, *Trans. Ent. Soc. Lond.*, p. 58

1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. 13(Vol. A) : 191.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 782, 787.

*Type of the genus* : **Hyorrhynchus** : *Hyorrhynchus lewisi*.

*Hyorrhynchus* was proposed as a monobasic genus by Blandford (1894) with the original designation of its type species, *H. lewisi* from Japan. The members of the genus occur from India to Japan including Myanmar and Malaysia.

The genus is represented by four species in India, all of which occur in the hilly tracts of north Bengal. Of these species, *H. blandfordi* Sampson from Darjeeling (Kali Pokri) has not been dealt herewith due to lack of material. Among others, *H. debrepani* and *H. samsinghensis* from Darjiling District are cited as *nomina nuda* in literature (Beeson, 1961), which had recently been described by Maiti and Saha (1989) as new species *H. sensarmai* and *H. shiva* respectively. The fourth species, *H. debrecarpini*

designated by Beeson from the same area, still remained undescribed in the F.R.I. collection, which had also been described by Maiti and Saha (1989) as new species *H. kalimpongensis*.

It is convenient to isolate the species based on the features of males which have been utilized for comparison of new species, although the characters of males and females are utilized in the key. *H. blandfordi* Sampson is not included here due to lack of material.

### Key to the species of *Hyorrhynchus* based on male and female

1. *Male* : Frons concave, lateral margins either feebly or distinctly carinate from upper margin of eyes to epistomal margin; antero-lateral processes of rostrum either feebly or distinctly marked; pronotal surface on its either side with comparatively weak asperities; eyes distinctly bulging out..... 2
  - *Female* : Frons plano-convex, lateral margins not carinate from upper margin of eyes to epistomal margin; antero-lateral processes of rostrum absent; pronotal surface on its either side with distinct asperities; eyes rather flat..... 4
2. Smaller species, body length 2.96-3.00 mm; frons very shallowly concave, on its each side with feeble longitudinal ridge from upper margin of eyes to the epistomal margin, but not carinate; short median line above epistomal margin and antero-lateral processes of rostrum weakly marked (Fig. 3, c).....  
..... *H. kalimpongensis* Maiti and Saha
  - Larger species, body length 3.20-5.60 mm; frons deeply concave, on its each side with carina from upper margin of eyes to the epistomal margin; devoid of any median line above epistomal margin; antero-lateral processes of rostrum strongly marked (Figs. 4, e; 5, d)..... 3
3. Antennal club at its apex somewhat pointed (Fig. 4, d); elytral interstriae with dense pubescence and indistinct granules (Fig. 4, b); pronotum with a indistinct median line; frons with sparse and shallow punctures and with a few weak carinulae above epistomal margin; body length 3.20-3.90 mm .....  
..... *H. sensarmai* Maiti and Saha
  - Antennal club at its apex subround (Fig. 5, f); elytral interstriae with adpest thick hairs and distinct granules (Fig. 5, c); pronotum devoid of any median line; frons with deep and close punctures above the level of eyes and with carinulae below; body length 3.60-5.00 mm ..... *H. shiva* Maiti and Saha
4. Elytral interstriae with adpest thick hairs, antennal club at its apex rounded ..... *H. shiva* Maiti and Saha
  - Elytral interstriae devoid of adpest thick hair, but with dense suberect thin hairs; antennal club at its apex somewhat pointed ..... 5

- 5. Median line on pronotum fairly marked, vertex of head with sparse hairs .....  
 ..... *H. sensarmai* Maiti and Saha
- Median line on pronotum inconspicuous, vertex of head with dense hairs .....  
 ..... *H. kalimpongensis* Maiti and Saha

8. *Hyorrhynchus kalimpongensis* Maiti & Saha

(Fig. 3)

1. *Hyorrhynchus debrepani* Beeson

1961. Beeson, *Ecology and Control of Forest Insects of India and Neighbouring Countries*, 288 p. (nom. nud.).



Fig. 3. a-e. *Hyorrhynchus kalimpongensis* Maiti and Saha, Male: a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc; c, head and front view, d, antennae. Female: e, head and pronotum in lateral view.

## 2. *Hyorrhynchus kalimpongensis* Maiti and Saha

1989. Maiti and Saha, *Proc. Zool. Soc. Calcutta*, 41-50. *Holotype* Male and *Allotype* Female at F.R.I., Dehra Dun. *Type-locality* : Samsingh (540 m), Darjiling Dist., West Bengal, India.
1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13 ( Vol. A ) : 192.
1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 777, 788, 789.

*Description* : Male : Body long and cylindrical; head, pronotum and elytra yellowish brown to reddish brown. Body length 2.96-3.60 mm, 2.5 times as long as wide.

Head subrostrate; frons shallowly concave, each side with feeble longitudinal ridge from upper margin of eyes to the epistomal margin, but not forming any distinct carina, lateral sides feebly carinate upto middle of lower margin of eyes and antero-lateral process of rostrum indistinct; surface finely reticulate with fine punctures and moderately long and dense hairs throughout; median line short and indistinct. Eyes completely divided into two parts, each distantly placed. Antennal scape long; funicle with 7 segments; club somewhat tapering anteriorly with two distinct sutures.

Pronotum nearly 1.3 times as wide as long, widest at base; lateral sides weakly narrowing; anterior margin substraight with weak median emargination; entire surface rugosely reticulate, with dense coat of minute hairs and a few long hairs on either side just above the middle; antero-lateral corners with very weak asperities and a few extending laterally.

Scutellum subrounded, surface roughened and with fine hairs.

Elytra 2.6 times as long as and wider than pronotum, and nearly 1.6 times as long as its own width; basal margin moderately outcurved with weak crenulations; lateral margin nearly subparallel on basal two-thirds, narrowing posteriorly and with individually narrowly rounded apex; striae much impressed with minute sparse punctures and each with a microhair; interstriae plano-convex, much wider than striae; surface roughened with dense pubescence and granulate posteriorly. Declivity commencing on posterior third, face convex; postero-lateral margins with a few pointed spine; striae as on disc; interstria 2 somewhat slightly depressed towards apex; all other declivital interstriae with uniseriate sparse granules and dense minute hairs.

*Female* : Females are very similar to males, except frons plano-convex, feebly impressed on either side of median line above epistomal margin, lateral sides margined, but not carinate devoid of any antero-lateral process; surface shiny with fine punctures and recumbent long hairs. Pronotum comparatively wider and its asperities rather distinct. Elytra as in male.

*Distribution* : INDIA : West Bengal : Darjiling Dist. : Samsing.

*Remarks* : The species is based on a very old collection made by Balwant Singh (1933), since then no further specimen was available for study.

9. *Hyorrhynchus sensarmai* Maiti & Saha  
(Fig. 4)

1. *Hyorrhynchus debrepani* Beeson

1961. Beeson, *Ecology and Control of Forest Insects of India and Neighbouring Countries*, 288 p. (*nom. nud.*)

2. *Hyorrhynchus sensarmai* Maiti and Saha

1989. Maiti and Saha, *Proc. Zool. Soc. Calcutta*, 41-50. *Holotype*

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 192

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 777, 788, 789.

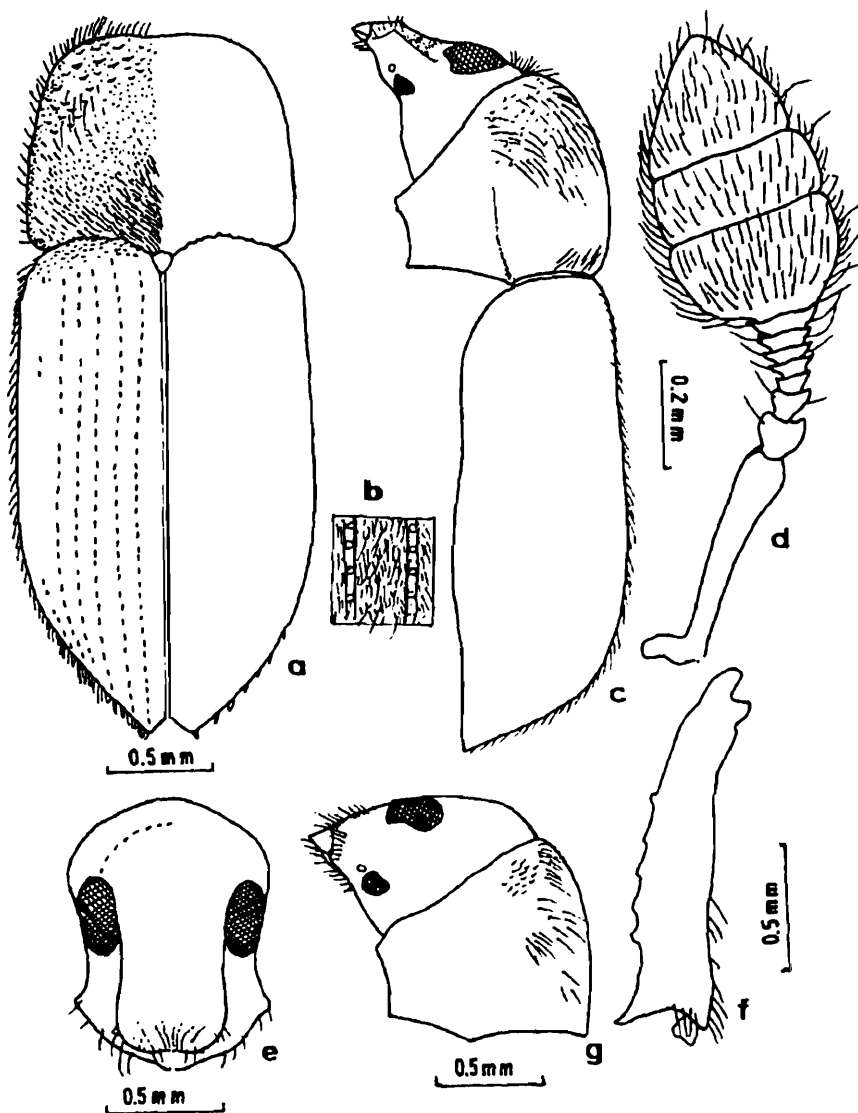


Fig. 4. a-g. *Hyorrhynchus sensarmai* Maiti and Saha, Male: a, Pronotum and elytra in dorsal view, b, enlarged portion of elytral disc; c, head, pronotum and elytra in lateral view; d, antenna; e, head in front view; f, protibia. Female: g, head and pronotum in lateral view.

*Description : Male* : Body yellowish brown to reddish brown. Body length 3.20-3.90 mm, 2.3 times as long as wide.

Frons distinctly concave, lateral sides with distinct longitudinal carinae from upper margin of eyes to epistomal margin; antero-lateral processes of rostrum distinct, margin between antero-lateral processes and lower margin of eyes also distinctly carinate; surface finely reticulate, with distinct punctures of irregular size, gradually becoming obsolete towards epistomal margin, rather with a few weak aciculation and inconspicuous vestiture of hairs. Eyes and antennae as in *H. kalimpongensis* except club having a few long erect hairs on lateral sides.

Pronotum 1.25 times as wide as long; entire surface rugosely reticulate with pubescence of fine hairs; antero-lateral sides with distinct asperities becoming rather granulate posteriorly and with long erect hairs.

Scutellum as in *H. kalimpongensis*.

Elytra 2.4-2.6 times as long as pronotum and much wider than pronotum; basal margin moderately outcurved with weak crenulations; lateral sides nearly subparallel on basal two-thirds, then narrowing posteriorly; each elytral apex terminating to pointed tip; postero-lateral margins confluent with interstria 9 and elevated with uniseriate small pointed tubercles; discal striae marked by narrow impressed line, with sparse minute punctures, each with a microhair; interstriae much wider than striae, surface plano-convex with dense pubescence and granules, granules becoming dense and large towards basal narrow strip gradually sparse towards declivity. Declivity commencing on posterior third.

*Females* : Females are very similar to males, except on the following characters : Body length 3.30-3.90 mm; frons convex, surface with dense punctures and small hairs, without any antero-lateral process. Pronotal asperities on antero-lateral portions very distinct. Elytra as in male.

*Distribution* : INDIA : West Bengal : Darjiling Dist., Debrepani (1846), known only from type locality.

*Hosts* : *Acer campbelli*, *Machilus odoratissima*, *Mallotus roxburghianus*.

*Remarks* : Beeson (1961) recognised this species as *Hyorrhynchus debrepani* based on the material collected from Debrepani and referred to the same in his book, without providing any description and illustration.

## 10. *Hyorrhynchus shiva* Maiti and Saha (Fig. 5)

### 1. *Hyorrhynchus samsingensis* Beeson

1961. *Ecology and Control of Forest Insects of India and Neighbouring Countries*, 288 p. (nom. nud.)

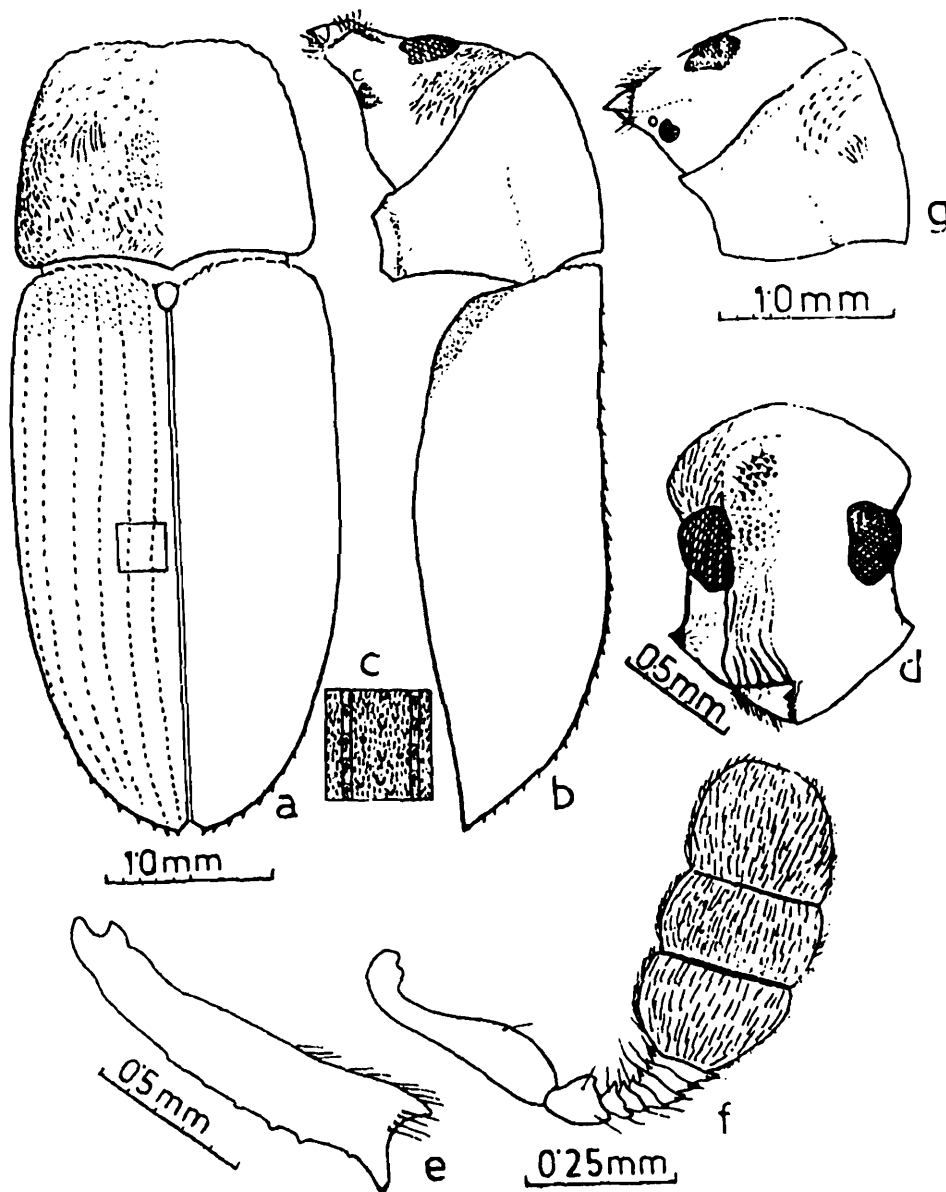
## 2. *Hyorrhynchus shiva* Maiti and Saha

1989. Maiti and Saha, *Proc. Zool. Soc. Calcutta*, *Holotype*

1992. Wood and Bright, *Gt. Basin, Nat. Mem.*, No. 13(Vol. A) : 192

*Description* : Male : Body long and cylindrical; head, pronotum and elytra brownish black. Body length 3.60-5.00 mm, nearly 2.4 times as long as wide.

Frons concave, lateral sides with longitudinal distinct carina from the upper margin of eyes to epistomal margin; antero-lateral processes of rostrum distinct; margin between anteo-lateral processes and lower margin of eyes distinctly carinate; surface



**Fig. 5. a-g.** *Hyorrhynchus shiva* Maiti and Saha, Male: a, Pronotum and elytra in dorsal view; b, head, pronotum and elytra in lateral view; c, enlarged portion of elytral disc; d, head in front view; e, protibia; f, antenna. Female: g, head and pronotum in lateral view.

finely reticulate with deep close irregular punctures above the level of eyes and with some distinct carinulae below; entire surface with fine small hairs becoming longer towards epistomal margin. Eyes completely divided into two subequal parts, each distantly placed. Antennal scape long, funicle with 7 segments; club very large, flat and subrounded with two distinct grooved sutures, entirely pubescent, but devoid of any long hairs.

Pronotum 1.3 times as wide as long; basal margin/bisinate; lateral sides weakly narrowing anteriorly, widest at base; anterior margin substraight; entire surface rugously reticulate and pubescence of fine hairs; asperities somewhat granulate antero-laterally; tuft of long hairs on either side just above middle.

Scutellum elongate, surface roughened with fine hairs.

Elytra 2.6 times as long as pronotum and much wider than pronotum; basal margin moderately outcurved with weak crenulations; lateral sides nearly subparallel on basal two-thirds, then narrowing posteriorly; each elytral apex terminating to a pointed tip; postero-lateral margins formed by interstriae 9, becoming elevated with pointed tubercles; disc flat, striae marked by narrow impressed line, with sparse minute punctures, devoid of any hair; interstriae much wider than striae, surface plano-convex, with adpressed dense scales and distinct granules, granules denser and larger on basal narrow strip, sparser towards declivity. Declivity commencing on posterior one-third; striae 1 and 2 complete, 3 joined with 8 and others becoming obsolete between 3 and 8; elytral apex with comparatively long and dense hairs.

*Female* : Females are very similar to males, except the following characters : Body length 3.60-5.00 mm; frons convex, surface with dense punctures and small setae, without any antero-lateral process. Pronotal asperities very distinct. Elytra as in male.

*Distribution* : INDIA : West Bengal : Darjiling Dist. : Samsingh (540 m), Debrepani (1846 m). Assam : Lakhimpur Dist. : Sakhoa Ghat.

*Hosts* : *Jauglans regia*, *Macaranga denticulata*, *Michelia champaca*.

*Remarks* : Beeson (1941) recognized this species as *Hyorrhynchus samsinghensis* based on the material collected from Samsingh and referred to the same in his book, without providing any description and illustration.

### Genus *Sueus* Murayama

#### 1. *Sueus* Murayama

1954. Murayama, *Bull. Fac. Agric., Yamaguti Univ.*, 5 : 71.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*

#### 2. *Neohyorrhynchus* Schedl

1978. Wood, *Annl. Soc. Ent. Fr. (N.S.)*, 14(7) : 111 (syn.)

*Types of the genera : Sueus : S. sphaerotrypoides* from Japan. *Neohyorrhynchus : H. niisima* from Japan.

The genus *Sueus* was erected by Murayama (1954), with its type-species, *Sueus sphaerotrypoides* from Japan. However, the genus *Neohyorrhynchus* Schedl has now been synonymised under it by Wood (1978). It is recorded for the first time from India, represented by two species occurring in the sub-Himalayan West Bengal.

### 11. *Sueus niisima* (Eggers)

(Fig. 6)

#### 1. *Hyorrhynchus niisima* Eggers

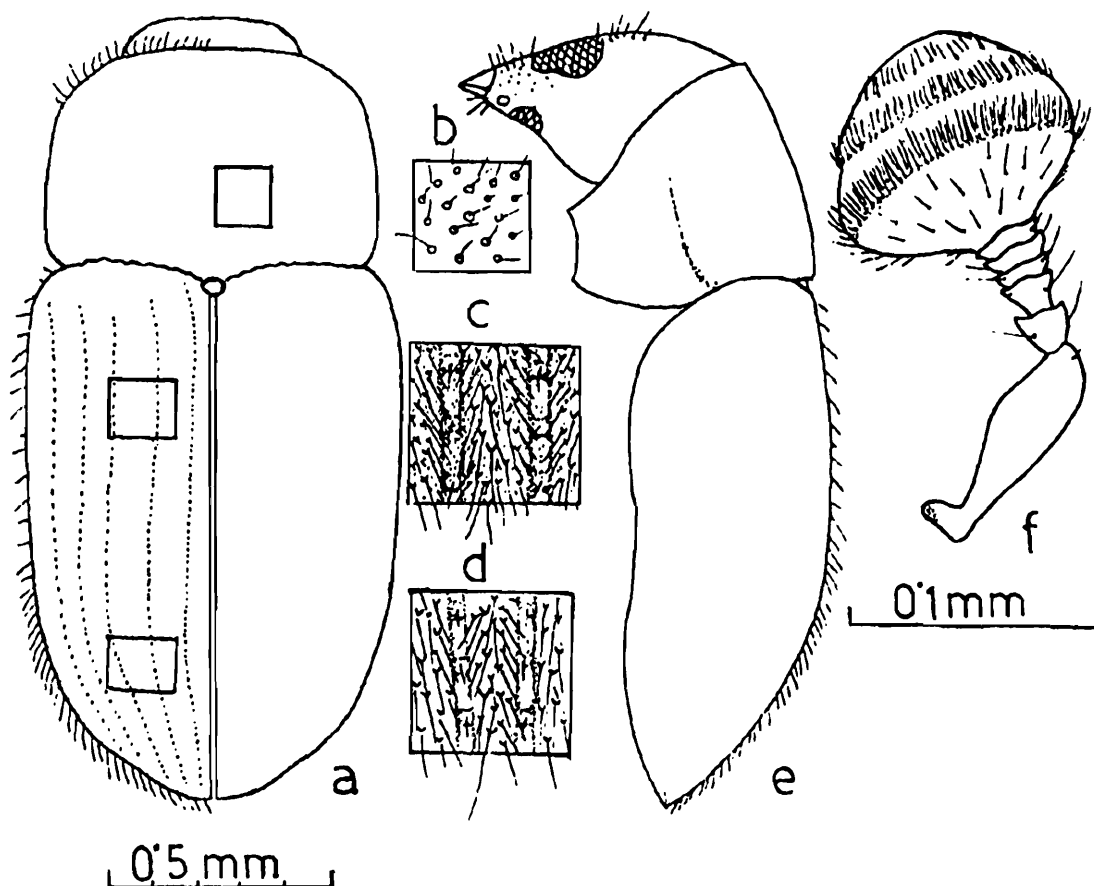
1926. Eggers, *Ent. Blatt.*, **22** : 133. Type Female *Type-locality* : Japan, Unkawa (Hakodate)

1978. Beaver and Browne, *Oriental Ins.*, **12**(4) : 588.

#### 2. *Hyorrhynchus pilosus* Eggers

1936. Eggers, *Tijds. Ent.*, **79** : 81. Type Female. *Type-locality* : Java, Indonesia.

1962. Schedl, *Ent. Blatt.*, **58** : 202 (syn.).



**Fig. 6.a-e.** *Sueus niisima* (Eggers), Female: a, Pronotum and elytra in dorsal view; b, enlarged portion of pronotum; c, enlarged portion of elytral disc; d, enlarged portion of elytral declivity; e, head, pronotum and elytra in lateral view; f, antenna.

### 3. *Sueus sphaerotrypoides* Murayama

1951. Murayama, *Bull. Fac. Agric., Yamaguti Univ.*, 1 : 2 Type-Localities : Japan.

1978. Wood, *Annl. Soc. Ent. Fr. (N.S.)*, 14(1) : 111 (syn.)

### 4. *Sueus niisima* (Eggers)

1992. Wood and Bright, *Gt. Basin Nat. Memo*, No. 13(Vol. A) : 191

*Description : Female* : Body short, tapering towards apex; head, pronotum and elytra yellowish brown to reddish brown. Body length 1.70-1.75 mm, nearly twice as long as wide.

Head subrostrate, frons somewhat plano-convex, with a distinct median carina, gradually becoming weak anteriorly; surface reticulate and densely punctate, rather feebly granulate and aciculate towards epistomal margin; entire surface with dense fine small hairs. Eyes bipartite, each part widely placed, upper part almost on dorsal surface. Antennal scape small; funicle with 5 segments; club with two weakly procurved sutures on either face.

Pronotum 1.3 times as wide as long; basal margin weakly bisinuate; lateral sides feebly outcurved, more than basal half margined, widest at basal third; anterior margin substraight; surface plano-convex, devoid of any distinct asperite, rather shiny and with dense large punctures and with recumbent fine hairs.

Scutellum reduced, small and knob-like.

Elytra 2.2 times as long as pronotum; 1.3 times as long as its width; basal margin feebly outcurved and very weakly crenulate; lateral sides subparallel upto basal half, thence converging posteriorly with narrowly rounded apices; striae forming a shiny impressed line beyond a basal narrow transverse strip with granulate asperities, punctures sparse, small, rather indistinct and each with a microhair; interstriae much wider than striae, gradually narrowing towards apex, surface rather flat and roughened with irregular small granules and recumbent fine small hairs. Declivity commencing on posterior third; face convex; striae as on disc; interstriae rather with reduced number of granules arranged in a single row.

*Male* : Not recognised in the material studied.

*Distribution* : INDIA : West Bengal : Darjiling Dist., Samsing.

*Elsewhere* : Indonesia (Java), Malaysia, Sri Lanka, Fiji and Japan.

*Host* : Wood and Bright (1992).

*Remarks* : The Japanese species *Sueus niisima* was unknown to anywhere outside Japan. However, two species, namely *Hyorryhynchus pilosus* from the Orient and *Sueus sphaerotrypoides* from Japan were synonymised under it by Schedl (1962) and Wood (1978) respectively. It is recorded here for the first time from India, occurring only in the lower altitude of the sub-Himalayan West Bengal, infesting the hosts of *Cinnamomum obtusifolium* and *Michelia champaca*.

The species is not so common in India, but fairly common in Malaysia. In Malaysia, it is known to infest the felled twigs and liane in the forest area (Browne, 1961). In contrast, it is fairly common species in Java, recorded from dry twigs of the species of *Coffea* and *Cinnamomum*, etc. (Kalshoven, 1958). Economical importance of the species is not assessed properly.

### Tribe **Diamerini** Hagedorn

#### Key to genera of tribe **Diamerini**

1. Eyes completely divided into two halves and connected by a suture; antennal club without any septum but with a number of sutures, marked by hairs; scutellum distinctly visible ..... ***Sphaerotrypes*** Blandford
- Eyes entire, elongate; antennal club with distinct septum but without any suture marked by fine hairlike setae; scutellum submerged, not clearly visible. ....  
..... ***Diamerus*** Erichson

#### Genus ***Diamerus*** Erichson

##### 1. ***Diamerus*** Erichson

1836. Erichson, *Arch Naturgesch.*, **1** : 57.  
 1910. Hagedorn, *Coleopt. Cat.*, **26**(4) : 6.  
 1914. Hopkins, *Proc. U.S. nat. Mus.*, **48** : 122.  
 1966. Schedl, *Ent. Abh. Mus. Tierk. Dresden*, **35** : 11.  
 1978. Wood, *Ann. Soc. Ent. Fr. (N.S.)*, **14**(1) : 111.  
 1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. A) : 194.

##### 2. ***Acanthurus*** Eichhoff

1886. Eichhoff, *Nat. Leyden Mus.*, **8** : 24.  
 1910. Hagedorn, *Coleopt. Cat.*, **26**(4) : 6 (synonymy).

##### 3. ***Lissoclastus*** Schaufuss

1905. Schaufuss, *Insecten-Brose*, p. 71  
 1959. Schedl, *Trans. R. ent. Lond.*, **111** : 472 (synonymy)

*Types of the genera* : *Diamerus* : *Hylesinus hispidus* Klug. *Acanthurus* : *A. spinipennis* Eichhoff. *Lissoclastus* : *L. pimelioides* Schaufuss.

*Diamerus* was established by Erichson (1936) as a monobasic genus with the designation of *Hylesinus hispidus* Klug as the type from the Madagascar. Later on, two genera *Acanthurus* Eichhoff and *Lissoclastus* Schaufuss were synonymised under

it. However, it is not a well established genus occurring in different parts of the old world represented by more than 30 species. In India, there are only seven species known to occur, of which *D. opacus* Eggers could not be dealt.

Interspecific differentiations are mostly made based on the characters of females, although those of males are also considered at times. Hence, the species key is based on the characteristics of both sexes.

### Key to the species of *Diamerus* Erichson

1. Elytral apex produced into spine ..... 2
  - Elytral apex not produced into any spine ..... 5
2. Antennal club small, almost one and a half times as long as broad (1.4 times); body length, 3.50-3.70 mm ..... *D. striatus* Eggers
  - Antennal club large, more than one and a half times as long as broad (1.7-2.1 times) ..... 3
3. Antennal club more or less twice as long as wide; elytral interstitial puncture devoid of any setae; body length, 4.90-5.05 mm ..... *D. atar* Hagedorn
  - Antennal club 1.7-1.8 times as long as wide; elytral interstriae puncture each with a setae ..... 4
4. Pronotal puncture devoid of any seta, except a few laterally; frons in male comparatively shallowly concave, on its either side with a shiny swollen longitudinal area devoid of any setae, rest of the surface with moderately densely pubescence; strial puncture devoid of any microhair; intrstriae on elytral basal half devoid of any setae, if present very sparsely; posterior margin of fore-femora with a weak lamina; body length, 4.50-4.70 mm ..... *D. curvifer* (Walker)
  - Pronotal puncture each bearing distinct seta throughout; frons in male deeply concave, entire surface with uniform setae; elytral strial puncture each with a microhair; interstriae on elytral basal half with distinct setae; posterior margin of fore-femur rather rounded, without having any lamina; body length, 4.50 mm ..... *D. nigresetosus* Eggers
5. Elytral basal, margin angularly projected upwardly up to the level of interstriae 4 and 5, antero-lateral corners strongly emarginate; pronotal interpuncture space somewhat pronounced; elytral interstriae without any variagated scale; body length, 5.00-5.10 mm ..... *D. fici* Blandford
  - Elytral basal margin somewhat substraight, not angularly projected and devoid of any lateral emargination; pronotal interpuncture space extremely reduced; elytral interstriae with variagated scales; body length, 3.60 mm ..... *D. variagatus* Schedl

## 12. *Diamerus atar* Hagedorn

### 1. *Diamerus atar* Hagedorn

1909. Hagedorn, *Deutsch. Ent. Zeit.*, p. 935. *Type-locality* : Nilgiri Hills, India.  
1910. Hagedorn, *Coleopt. Cat.*, 4 : 6.  
1961. Beeson, *Ecology & control of For. Ins. India and Neighbouring countries*, p. 287.  
1959. Schedl, *Indian For. Rec. (N. S.), Ent.*, 10(2) : 40  
1969. Schedl, *Oriental Ins.*, 3(1) : 47  
1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 194.

*Description* : *Female* : Body shiny and blackish in colour, head and pronotum comparatively darker. Body length 4.90-5.05 mm, twice as long as wide.

Frons flatly convex with a small median impressed area below the level of antennal base, a weak longitudinal ridge running upto the vertex; entire surface with deep close punctures, inter-puncture space smooth and distinct, and with small fine hairs; antennal club nearly twice as long as its width with a single suture.

Pronotum 1.3 times as wide as long; surface feebly convex with large punctures, interpuncture space pronounced and devoid of any hair.

Elytra glabrous, twice as long as pronotum and 2.2 times as long as its own width; basal margin moderately outcurved with weak crenulation; lateral sides subparallel upto basal three-fourth, but weakly emarginate at the level of basal one-third, thence converging posteriorly and terminating into weak tuberculate apices; striae forming of uniform impressed line upto apex, marked by close punctures; interstriae much wider than striae, surface smooth, shiny and glabrous with 4-5 rows of small punctures. Declivity commencing on posterior third, face convex and somewhat steep; striae and interstriae as on disc, but interstriae gradually narrowing posteriorly.

*Male* : The males are very similar to that of females except the frons broadly concave with whitish bent setae.

*Distribution* : INDIA : Tamil Nadu.

*Elsewhere* : Myanmar.

*Host* : *Ficus* spp.

*Remarks* : The glabrous and shiny pronotum and elytra keep the species separate from all other representatives of the genus known from India. It is only recorded so far from *Ficus* species from Tamil Nadu, India.

13. *Diamerus curvifer* (Walker)  
(Fig. 7)

1. *Hylesinus curvifer* Walker

1859. Walker, *Ann. Mag. Nat. Hist.*, 3(3) : 261. Holotype : Sex ? in BMNH., London. *Type-locality* : Sri Lanka.

2. *Diamerus curvifer* (Walker)

1910. Hagedorn, *Coleopt. Cat.*, 26(4) : 6.

1927. Eggers, *Treubia*, 9(4) : 392. Andaman

1961. Beeson, *Ecology and Control of For. Ins. of India and Neighbouring countries*, p. 287.

1959. Schedl, *Indian For. Rec. (N.S.), Ent.*, 10(2) : 40.

1966. Schedl, *Ent. Abh. Mus. Tierk. Dresden*, 35 : 12.

1969. Schedl, *Oriental Ins.*, 2(1) : 47.

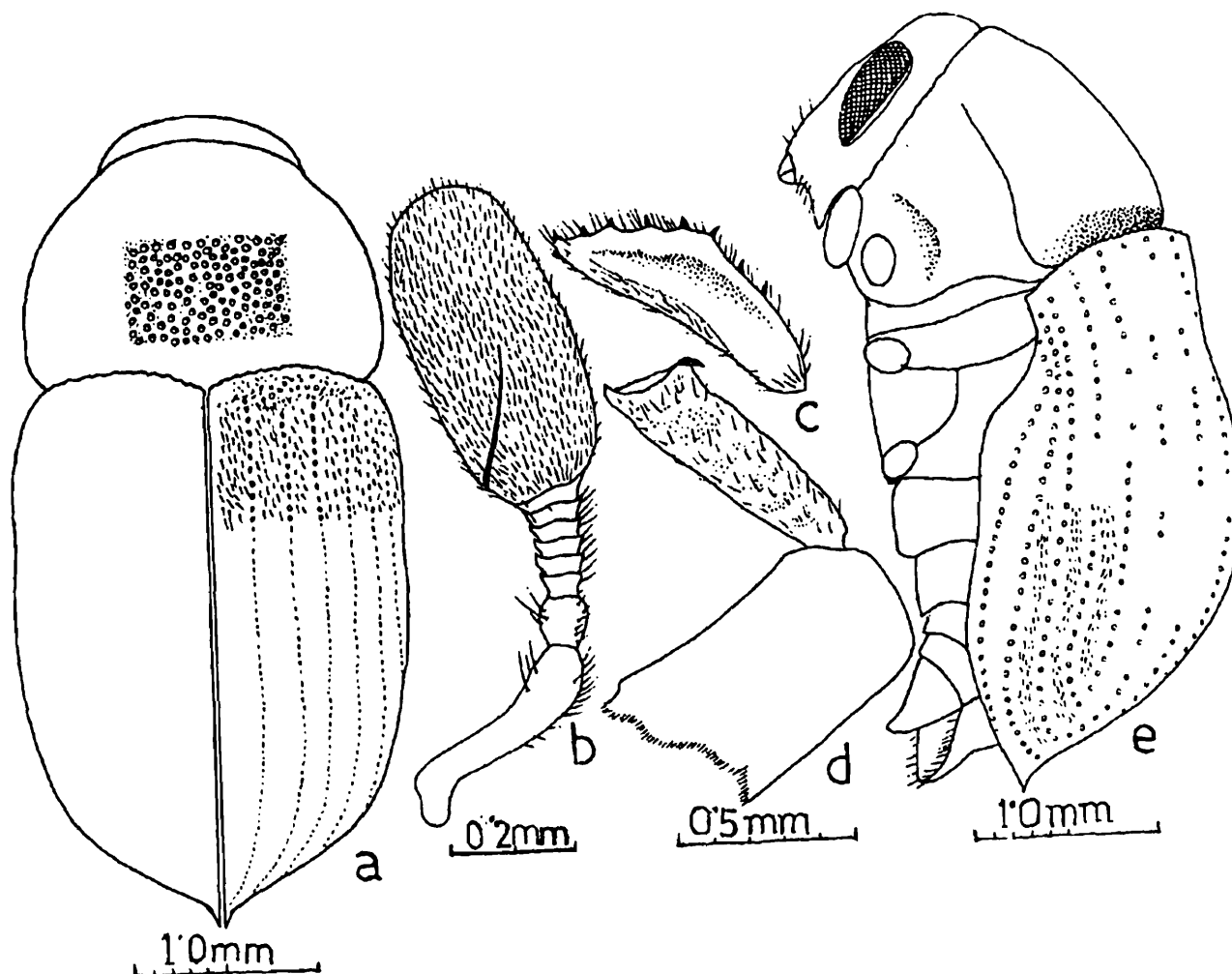


Fig. 7. a-e. *Diamerus curvifer* (Walker), Female : a, Pronotum and elytra in dorsal view; b, antenna; c, mesotibia showing groove; d, protibia and profemur; e, head, pronotum and elytra in lateral view.

1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No.* **86** : 34-36.

1992. Wood and Bright, *Gt. Basin nat. Memo.*, No. **13**(Vol. A) : 195.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, **3**(Part 6B) :

### 3. *Acanthurus spinipennis* Eichhoff

1886. Eichhoff, *Notes Leyden Mus.*, **8** : 24. *Type-locality* : Sumatra, Indonesia

1959. Kalshoren, *Ent. Berl.*, **18** : 93(syn.)

### 4. *Diamerus dissimilis* Hagedorn

1909. Hagedorn, *Dt. Ent. Z.*, p. 735. *Type-locality* : Myanmar.

1959. Schedl, *Indian For. Rec. (N.S.) Ent.*, **10**(2) : 40-41 (syn.)

*Description : Female* : Body stout and elongately oval; head deep black, pronotum and elytra chestnut brown to blackish brown; antennae and legs deep brown. Body length 4.50-4.70 mm, 1.8 times as long as wide.

Head globose, subrostrate anteriorly; frons flatly convex with dense recumbent hairs, slightly depressed antero-laterally above the epistoma; epistoma with a deep median groove and with a few erect hairs, entire surface with deep close punctures; space between punctures rugosely reticulate. Eyes large and elongately oval, slightly narrowed ventrally. Antennal scape short and stout, funicle with 7 segments, club flat and very large with a single distinct oblique septum from postero-lateral side; entire surface with fine pubescence.

Pronotum much wider than long, lateral sides weakly outcurved and gradually narrowing anteriorly with a antero-lateral weak constriction before the apical margin; anterior margin substraight, surface weakly convex with dense closely set large punctures, interpuncture space pronounced and devoid of any hair, except a few laterally; median line faintly marked.

Scutellum not visible.

Elytra 2.1 times as long as, 1.1 times as wide as pronotum and 1.2 times as long as its own width; basal margin of each elytron very much outcurved, with weak crenulations upto interstria 7; lateral sides weakly outcurved, with weak emarginations slightly above the middle, apical third strongly converging posteriorly and each elytron terminating into a tuberculate apex; discal striae much impressed and marked by shallow punctures; interstriae flat, coarse with irregular punctures and 3 irregular rows of scale-like setae becoming obsolete towards elytral base. Declivity commencing on apical third with convex and steep face; declivital striae comparatively deep and wider, marked by close punctures shining within; interstriae gradually narrowing posteriorly with regular rows of punctures bearing scale-like setae, interstriae 5, 6 and 7 not reaching into the apices. Procoxae widely separated; protibiae inflated on

posterior face with distinct spine-like structure; meso- and meta-tibiae with tibial groove on posterior face.

*Male* : The males are very similar to females except the following characters : Smaller in size, frons broadly concave with comparatively long setae; elytral striae less grooved.

*Distribution* : INDIA : Andaman Islands (Middle Andaman and Little Andaman, Quarry Forest), Assam, Himachal Pradesh, Maharashtra (Mandvi, W. Thano), Tamil Nadu, Uttarakhand, West Bengal (Darjiling Dist. : Bagdogra, Jalpaiguri Dist. : Khuntimari).

*Elsewhere* : Hainan Island, Myanmar, Yunan in China, Sri Lanka, Tonkin Island in Vietnam, Australia (Queensland), Indonesia (Amboina Isl., Borneo, Java, Sumatra), New Guinea, Philippine Islands.

*Hosts* : *Artocarpus integrifolia*, *Ficus* spp., *Macaranga andamanica*, *Symplocos* spp.

*Remarks* : *Diemerus curvifer* is a widely distributed species in many territories of the the Oriental and Australian Regions. The species sparsely occurs in the sub-Himalayan West Bengal and is closely allied to *D. nigrosetosus* Eggers, from which it can hardly be distinguished, except the characteristic punctures on the pronotum. In India, it is known to infest 4 species of *Ficus* and one each species of *Artocarpus* and *Odima* as reported by Beeson (1961) and Schedl (1959). However, in the Andamans, it is also collected from *Dipterocarpus* sp. (Maiti and Saha, 1986) along with *Macaranga andamanica*. The species is usually observed to carry along with its body some species of mites. Browne (1961) reported its strong affinities with the trees of the family Urticaceae in Malaysia.

#### 14. *Diemerus fici* Blandford

##### 1. *Diemerus fici* Blandford

1898. Blandford, *Trans. Ent. Soc. Lond.*, p. 426. *Holotype* Male ? in BMNH, London. *Type-locality* : Tista Valley, West Bengal, India.

1961. Beeson, *Ecol. And Cont. For. Ins. India and neighbouring countries*, p. 287.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 195.

##### 2. *Diemerus naganus* Beeson

1941. Beeson, *Ecol. & Con. For. Ins. Of India and Neighbouring Countries*, p. 287 (nom. Nud.)

1959. Schedl, *Indian For. Rec.*, (N.S.), *Ent.*, 10(2) : 164(syn.)

*Description* : *Female* : Body dull black, head and pronotum comparatively darker. Body length 5.00-5.10 mm, nearly 1.8 times as long as wide.

Frons flat with a transverse impressed area in the middle; entire surface with minute punctures and fine hairs; antennal club 1.7-1.8 times as long as wide.

Pronotum 1.4 times as wide as long; surface plano-convex with weak median line on basal half and with large close punctures, each with a setae, interpuncture space reduced.

Elytra 2.3 times as long as pronotum; nearly 1.3 times as long as its width and much wider than pronotum; basal margin angularly projected upwards upto the level of interstriae 4 and 5 with weak cremulations and antero-lateral corners strongly emarginated; lateral sides subparallel upto basal three-fourths, thence gradually narrowing posteriorly to broadly rounded apex; striae forming uniform impressed line upto apex, marked by comparatively close minute punctures except on basal, narrow strip and with inconspicuous microhairs; interstriae wider than striae becoming roughened on basal narrow strip, rest feebly convex with irregular large punctures and irregular 4-5 rows of scale-like setae. Declivity commencing on posterior fourth, face convex and somewhat stiff; striae and interstriae as on disc, except interstriae with some pointed spines, more distinct laterally.

*Male* : The males are very similar to females, except the frons with shallow concavity covered with dense fine comparatively long pubescence throughout.

*Distribution* : INDIA : Nagaland, West Bengal.

*Elsewhere* : Myanmar, China, Sri Lanka, Tonkin Island in Vietnam.

*Hosts* : *Ficus elastica*.

*Remarks* : *D. fici* Blandford seems to be predominantly occurred in the hilly areas of the north-eastern India. The species infests the above host including some fallen logs in the place of its occurrence.

## 15. *Diamerus nigrosetosus* Eggers

(Fig. 8)

### 1. *Diamerus nigrosetosus* Eggers

1936. Eggers, *Tijdschr. Ent.*, **79** : 79. Types *Type-locality* : Java, Indonesia

1959. Schedl, *Indian For. Rec., Ent.* (N.S.), **10**(2) : 40-41

1992. Wood and Bright, *Gt. Basin Na. Memo.*, No. **13**(Vol. A) : 193.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, **3**(Part 6B) : 791.

*Description* : *Female* : Body stout, elytral apex terminating into a weak spiny structure; head, pronotum and elytra deep reddish brown in colour. Body length 4.50 mm, nearly twice as long as wide.

Head somewhat subrostrate, weakly narrowing anteriorly; frons plano-convex and broad, surface with dense large punctures and recumbent fine hairs. Eyes entire and

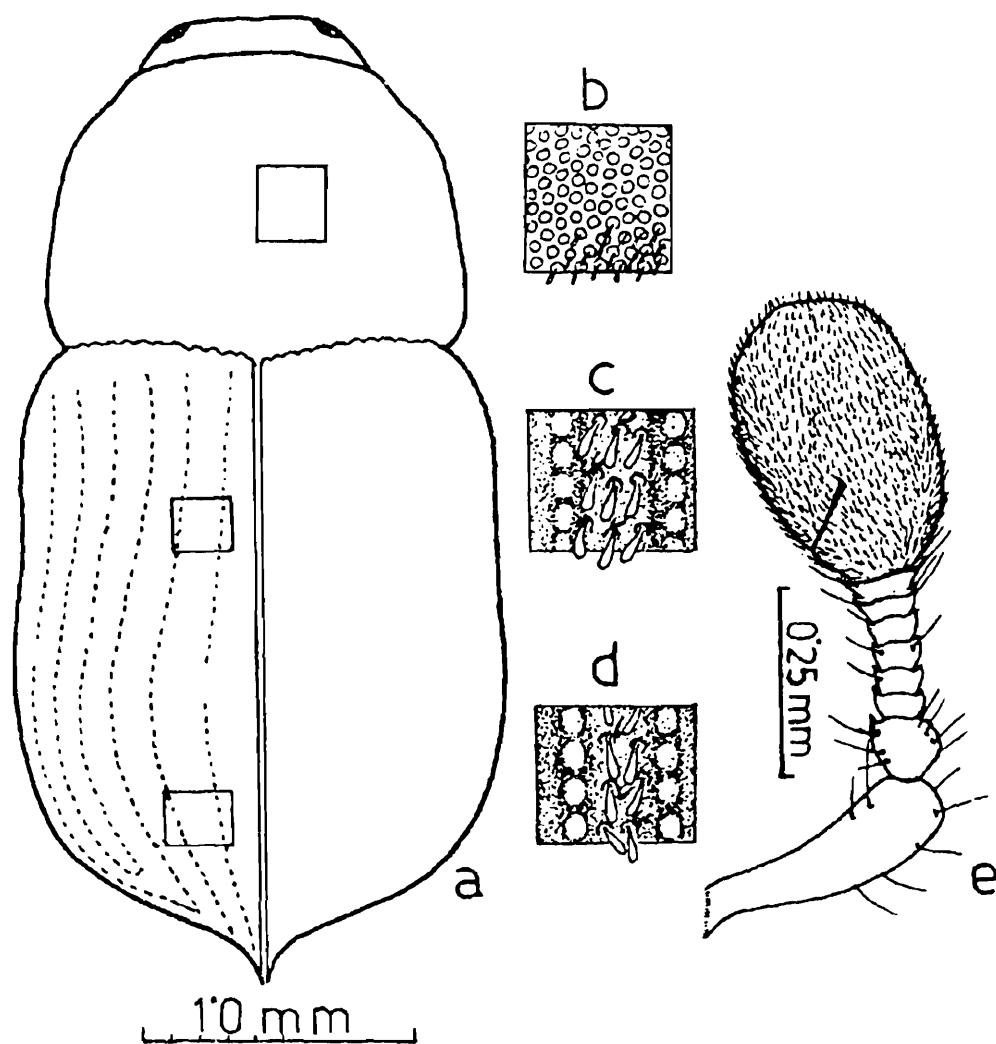


Fig. 8. a-e. *Diamerus nigrosetosus* Eggers, Male : a, Pronotum and elytra in dorsal view; b, enlarged portion of pronotum; c, enlarged portion of elytral disc; d, enlarged portion of elytral declivity; e, antenna.

elongately oval. Antennal scape short and stout; funicle with 7 segments; club flat, larger than funicle and scape combined together with distinct oblique septum from postero-lateral side; entire surface with fine pubescence.

Pronotum 1.3 times as wide as long; lateral sides fairly outcurved, gradually narrowing anteriorly with a feebly constriction; anterior margin substraight; surface plano-convex, with a feebly marked median line and large close punctures, interpuncture space very much reduced, each with a stout recumbent setae.

Scutellum not visible.

Elytra 2.5 times as long as pronotum; 1.4 times as long as wide and much wider than pronotum; basal margin moderately outcurved with weak crenulations; lateral sides subparallel upto basal three-fourths, but weakly emarginate at the level of basal one-third, thence converging posteriorly and terminating into weak tuberculate apices; striae forming uniform impressed line upto apex marked by comparatively close minute

punctures, each with a micro hair, except on basal narrow transverse strip with granulate asperities; interstriae 2-3 times wider than striae, surface flat and rugosely punctate with irregular rows of scale-like setae. Declivity commencing on posterior fifth, face convex and somewhat stiff; striae and interstriae as wide as on disc; striae 4 and 5 forming a loop; interstria 4 terminating with a patch of dense scale-like setae.

*Male* : Males are very similar to females, but smaller. Body length, 3.7 mm and frons strongly excavate.

*Distribution* : INDIA : West Bengal (Darjiling Dist : Tista Valley).

*Elsewhere* : Indonesia (Java).

*Hosts* : *Macaranga denticulata*, *Mangifera indica*, *Terminalia tomentosa*.

*Remarks* : Since the discovery of the species by Eggers (1936) from Java, it remained unknown until 1959, when Schedl recorded it from Tista Valley and Samsingh, north Bengal. But, the material examined from Samsingh has been proved to be *D. striatus* Eggers while those from Tista Valley are typical *D. nigrosetosus*. *Terminalia tomentosa* is the only host from which it has been collected from Tista Valley. Biologically, the species is least known.

## 16. *Diaperus striatus* Eggers (Fig. 9)

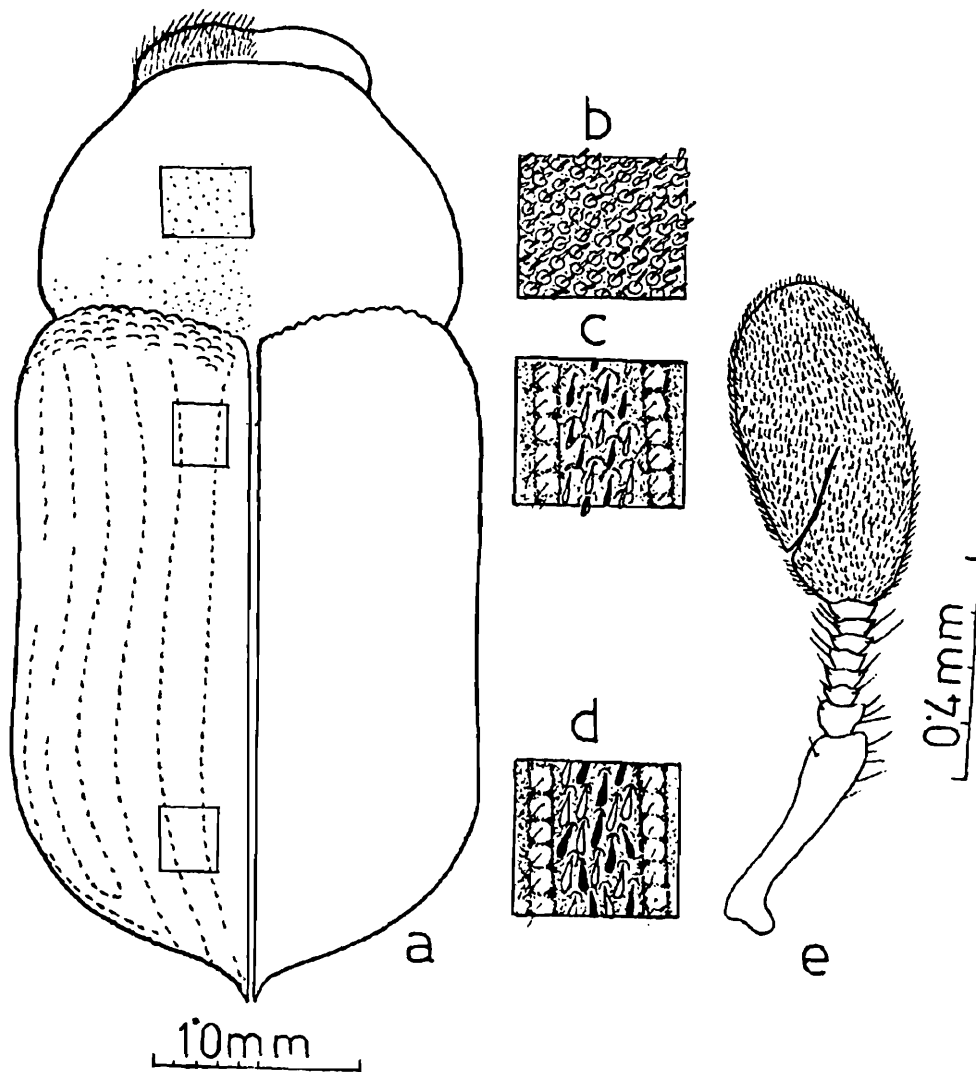
### 1. *Diaperus striatus* Eggers

1927. Eggers, *Philipp. J. of Sci.*, **33**(1) : 67. Lectotype female in USNM, Washington. *Type-locality* : Philippine, Mindoro, San Teodoro.
1955. Browne, *Sarawak Mus. J.*, **6** : 345, Malaya.
1961. Browne, *Malay. Forest Rec.*, no. **22** : p. 59.
1966. Schedl, *Entom. Abh. Mus. Tierk. Dresden*, **35** : 13.
1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. A) : 198.
1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, **3**(Part 6B) : 791.

*Description* : *Female* : Body stout and oval, elytral apex forming distinct spiny structure; head, pronotum and elytra deep reddish brown. Body length 3.50-3.70 mm, nearly twice as long as wide.

Head somewhat subrostrate, distinctly narrowing anteriorly; frons flat, weakly impressed medially; surface with close, large punctures and recumbent stout setae. Eyes entire and elongately oval. Antennal scape short and stout; funicle with 7 segments, funicular joint 1 with long hairs; club solid, not so strongly compressed, comparatively small, distinct oblique septum from postero-lateral side and entirely pubescent.

Pronotum 1.3 times wider than long; lateral sides weakly outcurved, gradually narrowing anteriorly with a weak constriction; anterior margin substraight; surface



**Fig. 9. a-e.** *Diamerus striatus* Eggers, Male : a, Pronotum and elytra in dorsal view; b, enlarged portion of pronotum; c, enlarged portion of elytral disc; d, enlarged portion of elytral declivity; e, antenna.

plano-convex with median line feebly marked and with dense close punctures, interpuncture space reduced, each with a stout bent seta.

Scutellum submerged, not visible.

Elytra twice as long as pronotum, 1.3 times as long as its width; basal margin very weakly outcurved with inconspicuous crenulations lateral sides outcurved, but weakly emarginate at the level of basal one-third, converging posteriorly and each elytron terminating into a tuberculate apex; discal striae much impressed, broadening towards apex, marked by minute punctures; interstriae flat, nearly as wide as striae, but wider towards base and narrowing towards apex with irregular punctures, each bearing scale-like seta. Declivity commencing on posterior third, face somewhat flat, rather convex on its either side, striae much wider than on disc; interstriae gradually narrowing towards apex, with sparse and uniseriate granules; interstriae terminating with uniseriate recumbent stout setae, except on interstria 4.

*Male* : Not available in the material studied.

*Host* : *Macaranga denticulata*

*Distribution* : INDIA : West Bengal.

*Elsewhere* : China (Yunnan), Malaya, Philippine Islands (Mindoro).

*Remarks* : *D. striatus*, originally described from the Philippines by Eggers (1927), is now a fairly well known species in Malaya and New Guinea. It has been recorded for the first time from India, occurring only in the lower altitude of the sub-Himalayan West Bengal (Saha and Maiti (1996). The material examined comes close to the typical *D. striatus*, except the absence of large patch of dark brown scales at the middle of declivity, extending sometimes upto interstriae 3 and 4. The biological information is only limited to record of a single host, *Macaranga denticulata* from north Bengal being its only place of occurrence in India.

## 17. *Diamerus variegates* Schedl

### 1. *Diamerus variegates* Schedl

1959. Schedl, *Indian For. Rec. (N.S.) Ent.*, 10(2) : 41. *Holotype* : Female in F.R.I., Dehra Dun (?) *Type-locality* : Thano, Dehra Dun, Uttarakhand, India.

1961. Beeson, *Ecol. & Cont. For. Ins. Of India and Neighbouring countries* (Revised), p. 287 (nom.nud.)

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 198.

*Description* : *Female* : Body dull; head and pronotum blackish brown, former slightly darker, elytra yellowish to yellowish brown. Body length 3.60 mm, 2.1 times as long as wide.

Frons flatly convex, slightly depressed below the level of antennal insertion; entire surface with deep close punctures, with dense recumbent hairs, space between puncture rather reticulate, Antennal club 1.4 times as long as wide.

Pronotum 1.3 times as wide as long; surface weakly convex with feebly marked median line on basal half and with distinct close punctures, each with a scale like seta, interpuncture space reduced.

Elytra 2.1 times as long as pronotum and 1.4 times as long as its own width; basal margin of elytra substraight to fairly convex, with weak crenulation upto interstriae 7; lateral sides subparallel upto apical third thence strongly narrowing terminating to rounded apex; discal striae feebly impressed and marked by shallow punctures, each with a microhair; interstriae flat, very much wider than striae, interstitial surface coarse with irregular shallow punctures, each with a scale like setae in 4 to 5 rows. Declivity commencing on apical third and face rather steep and convex; striae as wide as on disc; interstriae feebly convex and with dense punctures, each with a scale like variegated setae, sometimes more dense than on disc.

*Male* : Not available for study.

*Distribution* : INDIA : Madhya Pradesh, Tamil Nadu (Amarampallan, Nilambur), Uttarakhand (Thano Range, Dehra Dun).

*Elsewhere* : Myanmar.

*Hosts* : *Ficus bengalensis*, *F. religiosa* and *F. rumphii*.

*Remarks* : The species is known to infest three species of *Ficus*, distributed all over the country. Biology of the species is only known to the extent of the axial gallery pattern provided with aeration-holes in the log nest as reported by Beeson (1961).

## Genus *Sphaerotrypes* Blandford

### 1. *Sphaerotrypes* Blandford

1894. Blandford, *Trans. Ent. Soc. Lond.*, p. 61

1910. Hagedorn, *Coleopt. Cat.*, **26**(4) : 18.

1914. Hopkins, *Proc. U.S. nat. Mus.*, **48** : 129.

1961. Browne, *Malay. Forest Rec.*, No. **22** : p. 60.

1988. Choo, Woo & Nobuchi, *Korean J. of Applied Ent.*, **27** : 131-137.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. **13**(Vol. A) : 198.

*Type of genus* : *Sphaerotrypes* : *S. pila* Blandford

The genus *Sphaerotrypes* was first described by Blandford (1894) from Japan. Subsequently, it was reported from widely isolated localities from Central Africa eastward to Japan including the intervening areas of the Orient. Out of 25-30 species known so far, only nine species are known so far from India. However, three species, *S. limbatus* Eggers, *S. quadrituberculatus* Sampson and *S. subtectus* Browne could not be dealt due to lack of material.

### Key to the species of *Sphaerotrypes* Blandford

1. Elytral declivital margin with distinct tubercles; interstriae wider; body length 3.6 mm ..... *S. querci* Stebbing
- Elytral declivital margin devoid of any prominent tubercle ..... 2
2. Elytral interstriae 6 times wider than striae; surface rugose, crenulations very small, except on basal margin as well as and base of declivity; body-length 2.20 (2.30-2.40 Paratype) ..... *S. costatus* Wood
- Elytral interstriae moderately wide ..... 3
3. Elytral interstriae three times as wide striae ..... 4
- Elytral interstriae two times as wide striae ..... 5

4. Interstriae punctures confused and small rather deep; small crenulations (subasperities) towards base; body-length 3.4-3.6 mm ..... *S. bengalensis* Wood
- Interstriae surface granulate with 3-4 irregular setae; body-length 3.30-3.40 mm ..... *S. globulus* Blandford
5. Interstriae more than twice the striae; surface subasperities towards base; body-length 2.57-2.60 mm. .... *S. coimbatorensis* Stebbing
- Interstriae nearly twice the striae with uniseriate row of rounded asperities, body-length 2.60-2.70 mm ..... *S. siwalikensis* Stebbing

### 18. *Sphaerotrypes bengalensis* Wood

#### 1. *Sphaerotrypes bengalensis* Wood

1988. Wood, *Gt. Basin Nat.*, 48(1) : 35. *Holotype* (Male) and *Allotype* (Female) in FRI., Dehra Dun; *Paratypes* in wood's collection, *Type-locality* : Samsing, Kalimpong, West Bengal, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A)

*Description* : (Based on Wood, 1988). *Male* : Length 3.3 mm (paratypes 3.4-3.6 mm), 1.4 times as long as wide; general color light brown, vestiture apparently dark.

Frons weakly impressed on lowerhalf, flattened above, lateral areas of lower half with a few lateral tubercles, a weak median carina on lower third; vestiture of abundant, multiple divided setae, surface largely obscured. Antennal club with nine transverse rows of setae.

Pronotum outline as for genus; punctures coarse, very close, interspaces much less than one fourth diameter of a puncture; vestiture all of one kind of suberect scale, each about three times as long as wide, short, close, rather abundant.

Elytra about as wide as long; striae abruptly, deeply, narrowly impressed, punctures rather weakly convex, three to four times as wide as striae, small crenulations restricted to near base. Declivity gradual, beginning on basal fourth, broadly convex, sculpture as on disc; interstitial punctures confused, rather small, very deep, some with posterior margin feebly subcrenulate. Vestiture all of one kind, small, erect scales at posterior bottom of puncture, each scale about twice as long as wide, of uniform length throughout.

*Female* : Similar to male except frons more distinctly convex.

*Distribution* : INDIA : West Bengal, Samsing.

*Hosts* : *Sahaje jahara*

*Remarks* : "This species is allied to *S. tsugae* Tsai and Yin, from China; they share the large size and shape, and nine rows of setae on the antennal club; this species is distinguished from *S. tsugar* by the finer sculpture and by the unique arrangement of elytral setae" (Wood, 1988).

## 19. *Sphaerotrypes coimbatorensis* Stebbing

### 1. *Sphaerotrypes coimbatorensis* Stebbing

1906. Stebbing, *Office of the Superintendent of Govt. Printing*, Calcutta, Nr. 3, p. 395.

*Syntypes* 2 Males in FRI., Dehra Dun. *Type-locality* : India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 199.

*Description* : Body globular, small; head and pronotum straw-yellowish and elytra deeper in colour, antennae deep brown. Body length 2.57-2.60 mm, 1.4 times as long as wide.

Frons flat roughened with punctures and scale like setae throughout, transversely concave with a broad distinct tubercle with indistinct median line, vertex weakly convex. Eyes large, somewhat round without any distinct emargination. Antennae scape short and stout, funicles with 7 segments, club swollen with two distinct sutures along with a sutural lines marked with hairs.

Pronotum one and a half times as broad as long, broadest at base and gradually narrowing anteriorly; anterior margin weakly concave and either sides of the median line weakly depressed, median line distinct constricted below the anterior margin; lateral margins with distinct ridges; pronotal surface convex medially with distinct punctures and scale-like setae; posterior margin angularly produced medially.

Scutellum small, triangular, glabrus and submerged.

Elytra strongly globose, 1.7 times as long as pronotum and as long as its width; basal margin of each elytron outcurved with 10-12 crenulations; lateral margins outcurved, gradually tapering posteriorly and terminating into a rounded apex; striae depressed, distinctly marked by deep punctures becoming more prominent towards declivity and devoid of any hairs; interstriae more than twice the width of striae, subasperate towards base and commencing slightly below the basal margin of elytra, asperities posteriorly with row of prominently tooth like asperities, each having one short setae at the base. Declivity gradually sloping with convex face; interstriae gradually narrowing posteriorly, 3 and 5 combined with 9 and 7 respectively and the rest 4,6,8 obsolete, not reaching to apex; interstriae with rounded elevation towards apex.

*Distribution* : INDIA : Karnataka, Maharashtra, Tamil Nadu.

*Elsewhere* : Myanmar, Sri Lanka.

*Hosts* : *Anogeissus ocuminata*, *A. latifolia*

## 20. *Sphaerotrypes costatus* Wood

### 1. *Sphaerotrypes costatus* Wood

1988. Wood, *Gt. Basin Nat.*, 48 : 35. *Holotype* Male in FRI., Dehra Dun. *Type-locality* : North Andaman Island, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 199.

*Description* (Based on Wood, 1988) : *Male* : "Length 2.2 mm (paratypes 2.3-2.4 mm), 1.4 times as long as wide; mature color dark brown.

Frons (as in *S. cristatus*) convex, a feeble impression on lower half and near vertex; a short, feeble, median carina indicated on lower third; surface apparently smooth, shining and finely, closely punctured, largely obscured by short bifid hairs and small scales; eyes separated by 1.4 times width of any eye.

Pronotum as in *S. cristatus* except several larger punctures with their lateral margins very weakly crenulate.

Elytra 1.03 times as long as wide; sides straight and subparallel on more than basal half, broadly rounded, then sinuate between interstriae 3; striae narrowly, abruptly, deeply impressed, punctures very small, rather close; interstriae six times as wide as striae, surface rugose, crenulations very small except on basal margin and submargin and on base of declivity.

Declivity beginning rather abruptly one-fourth elytral length from base, rather steep, very broadly convex; as in *S. cristatus* except crenulations obsolete except on interstriae 7 (these larger, 6 in number), 8 more strongly costate, this costa extending further toward base and apex continuing to and slightly up 3; interstriae on base of declivity each with about three coarse crenulations, each about two-thirds as wide as an interstriae. Vestiture as on *S. cristatus* except erect scales wider, each about three times as long as wide.

*Female* : As in male.

*Distribution* : INDIA : North Andaman Island.

*Host* : *Dipterocarpus turbinatus*

*Remarks* : "This species is distinguished from *S. cristatus cristatus* Wood by the very different sculpture of the elytral declivity" Wood (1988).

## 21. *Sphaerotrypes globulus* Blandford

### 1. *Sphaerotrypes globulus* Blandford

1894. Blandford, *Trans. Ent. Soc. Lond.*, 1894 : 63. Syntypes, sex ? in B.M.N.H., London. *Type-locality* : Belgaun, India.

1910. Hagedorn, *Coleopt. Cat.*, 26(4) : 18.

1922. Beeson, *Indian Forester*, 48 : 499.

1961. Beeson, *Ecology and Control of Forest Insects of India and Neighbouring Countries*, 287 p.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 199.

*Description : Female :* Body somewhat oval in form; head and pronotum pitchy black with blackish brown elytra. Body length 3.30-3.40 mm.

Frons plano-convex with small narrow median line above epistomal margin; surface granulate punctuate, with fine plumose hairs and a few erect stout setae. Eyes and antennae (vide, under *Sphaerotrypes siwalikensis* Stebbing).

Pronotum nearly twice as wide as long, broadest at base and gradually narrowing anteriorly; basal margin produced medially; lateral sides distinctly ridged, anterior constriction distinct; anterior margin substraight with row of setae; surface quite dull with close irregular punctures, interpuncture space reduced, punctures with admixture of scale-like setae and bifurcated ones.

Scutellum oblong, surface rugose.

Elytra twice as long as pronotum and slightly longer than its width; basal margin strongly outcurved with 17-18 crenulations and extending upto interstriae 7; lateral sides outcurved, then gradually narrowing posteriorly to broadly rounded apex; striae distinctly impressed with sparse minute punctures, devoid of any microhair; interstriae 4 to 5 times as wide as striae, gradually narrowing towards declivity, subasperite at elytral base and rest with 2 to 3 irregular rows of punctures with small scale like setae; declivity gradually sloping with convex surface.

*Distribution :* INDIA : West Bengal : Buxa (Beeson, 1922) and Kolkata; Madhya Pradesh, Maharashtra, Tamil Nadu and Uttar Pradesh.

*Elsewhere :* Bangladesh, Thailand and Vietnam.

*Host :* *Anogeissus latifolia*, *Lagerstroemia parviflora*, *Terminalia tomentosa*

*Remarks :* *Sphaerotrypes globulus*, purely an Oriental species, can easily be distinguished from its allied one, *S. siwalikensis* from West Bengal, by its globose body form and much wider elytral interstriae.

The species is known as a bark borer of different plants (Beeson, 1922 and Schedl, 1958) forming single longitudinal egg gallery from which the larval tunnels radiate in all the directions. *Tamarindus indicus* is recorded as its new host from north Bengal.

## 22. *Sphaerotrypes querci* Stebbing

### 1. *Sphaerotrypes querci* Stebbing

1908. Stebbing, *Indian For. Memo., For. Zool. Sr. 5*, 1(1) : 5. Syntype Sex? In FRI., Dehra Dun (lost). *Type-locality :* Kumaon, N.W. Himalaya, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 201.

### 2. *Chramesus globules* Stebbing

1909. Stebbing, *Indian For. Memo., For. Zool. Ser.*, 1(2) : 21.

1992. Wood, *Gt. Basin Nat.*, 52 : 84 (syn.)

### 3. *Sphaerotrypes tectus* Beeson

1921. Beeson, *Indian Forester*, **47** : 514. *Holotype*, Sex ? in F.R.I., Dehra Dun. *Type-locality* : Kathian, Chakrata Uttarakhand, India.

1992. Wood, *Gt. Basin Nat.*, **52** : 84-85 (syn.)

*Description* : Body globular, head and pronotum blackish brown, head more black. Elytra chestnut brown. Antennae light brown. Body of medium size, length 3.46 mm, width 2.23 mm, body 1.4 times as long as wide.

Frons plano-convex fringed with dense whitish pubescence roughened with longitudinal granules and hairs with small median tubercles placed below the epistomal margin, epistomal margin substraight with a feeble ridge with some erect long hairs. Vertex distinctly convex with minute granules. Antennal scope curved, funicle seven jointed and club with 8-9 distinct sutural lines marked by microhairs, other sutures confused at the tip.

Pronotum wider, one and a half times as broad as long, broadest at the base, thence converging anteriorly with weak convex lateral margins. Anterior margin somewhat straight with some minute granules, median line distinct but not forming any ridge. Dorsum minutely granulate punctuate, covered with dense scale-like setae as well as with some scattered erect hairs. Posterior margin with distinct ridge forming somewhat V-shaped divergence, laterally.

Elytra somewhat globose slightly longer than broad and almost double the pronotum. Basal margin of each elytron outcurved with more than a dozen of crenulations. Lateral margins strongly outcurved, gradually narrowing posteriorly and terminating into a angularly rounded apex; striae distinctly depressed marked with shallow punctures and reaching almost tip of elytra except striae 5 and 6; interstriae much wider, flat except basal one-fifth becoming convex with distinct regular asperities; discal striae with three to four rows of granules and covered with scale like minute setae throughout. Declivity commencing on the posterior third, gradually sloping posteriorly with convex face. Declivital interstriae with somewhat distinct minute tubercles becoming somewhat prominent towards apex.

*Distribution* : INDIA : Maharashtra, Punjab, Uttarakhand.

*Elsewhere* : China (Anhui, Habei, Shanxi, Sichuan & Yunan).

*Hosts* : *Quercus dilatata*, *Q. incana*, *Q. semicarpifolia*.

### 23. *Sphaerotrypes siwalikensis* Stebbing (Fig. 10)

#### 1. *Sphaerotrypes siwalikensis* Stebbing

1906. Stebbing, *Dept. Notes*, **1** : 389. Types in F.R.I., Dehra Dun (lost). *Type-locality* : Siwalik Hills, Uttarakhand, India.

1908. Stebbing, *Indian Forest Mem., Zool.*, **1**, p. 3.

1910. Hagedorn, *Coleopt. Cat.*, 26(4) : 18.

1914. Stebbing, *Indian Forest Insects (Coleopt.)* : 476-481.

1922. Beeson, *Indian Forester*, 48 : 499.

1975. Browne, *Oriental Ins.*, 9(3) : 296.

1980. Browne, *Kontyu*, 48(3) : 370.

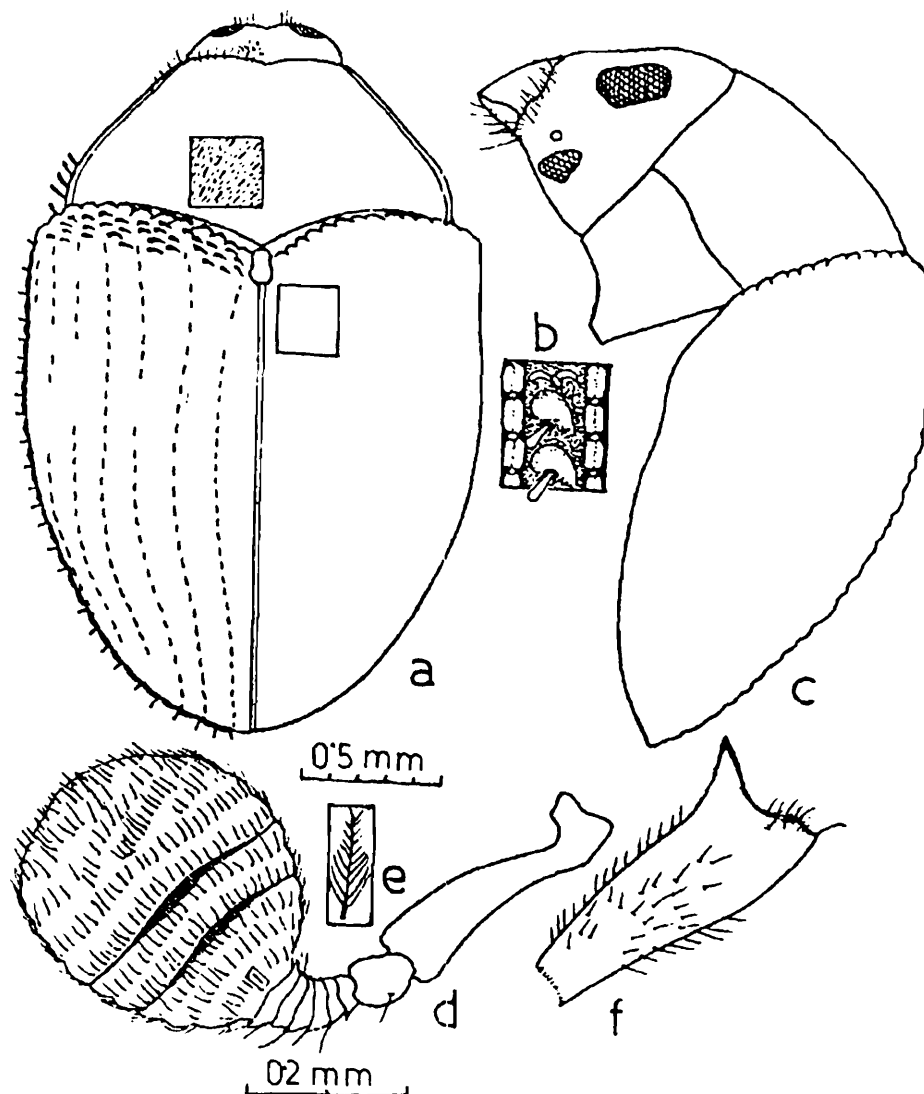
1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 201.

## 2. *Sphaerotrypes assamensis* Stebbing

1908. Stebbing, *Indian For. Mem. Zool., Ser.*, 1, p. 4. Types in *Type-locality* : Goalpara, Assam, India.

1914. Stebbing, *Indian For. Ins. (Coleopt.)*, 481-487.

1921. Beeson, *Indian Forester*, 47 : 514-518 (syn.).



**Fig. 10. a-f.** *Sphaerotrypes siwalikensis* Stebbing, Male : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc; c, head, pronotum and elytra in lateral view; d, antenna; e, enlarged antennal hairs; f, protibia.

*Description : Female* : Body elongately globular; head, pronotum and legs pitchy black; elytra blackish brown; antennae yellowish brown. Body length 2.8-3.00 mm, 1.5 times as long as wide.

Head globose; frons weakly convex, feebly impressed just above epistoma with a knob like feeble elevation on the median line; surface roughened with irregular large punctures and with short hairs, epistomal margin with a few erect seta and vertex densely pubescent. Eyes divided into two parts, one on dorso-lateral and another on ventro-lateral sides. Antennal scape short and stout; funicle with 7 segments; club swollen with two distinct sutures along with a few sutural line marked by hairs.

Pronotum about 1.8-1.9 times as wide as long; broadest at base and gradually narrowing anteriorly; basal margin produced medially; lateral sides weakly ridged and constricted slightly below apical margins; anterior margin substraight with row of setae; surface rather coarse and wrinkled, indistinctly punctuate and with indistinct short setae, some of which bifurcated at apices.

Scutellum elongate with broad apex.

Elytra elongately globose, 2.0-2.2 times as long as pronotum and 1.1-1.2 times as long as its width; basal margin strongly outcurved with 11-12 crenulations and extending upto interstria 7; lateral margins outcurved, gradually tapering posteriorly with somewhat broadly rounded apices; striae distinctly impressed with minute shallow punctures throughout, more distinct towards declivity, devoid of any hair; interstriae more than twice as wide as striae, subasperate at elytral base and posteriorly with row of prominent rounded blunt teeth-like elevations, each having one short seta from the base. Declivity gradually sloping with convex face; interstriae 1 and 2 comparatively narrowing at apex, 3 and 5 combined with 9 and 7 respectively, and rest 4, 6 and 8 obsolete, not reaching to apex; interstriae with rounded elevations towards apex.

*Male* : Male is not recognized in the material studied.

*Distribution* : INDIA : West Bengal : Darjiling Dist. : Tista Valley; Jalpaiguri District : Buxa and Jalpaiguri (Beeson, 1922); Assam, Bihar, Madhya Pradesh, Orissa and Uttarakhand.

*Elsewhere* : Myanmar, Pakistan, Thailand, imported from Vietnam to Japan.

*Remarks* : The species was first recorded from north Bengal by Beeson (1922), although it was described much early by Stebbing from the Siwalik Hills, Uttarakhand. *Sphaerotrypes assamensis*, another species of Stebbing (1908), had been synonymised under it by Beeson (1921). However, its distribution range had much been enlarged by Beaver and Browne (1975) to many countries in the Orient. It has been recorded from two species of *Shorea* in north Bengal and its biology has been studied by Stebbing (1914) and Beeson (1961) in fair details.

Tribe **Phloeosinini** NusslinKey to the genera of the tribe **Phloeosinini** Nusslin

1. Antennal club bluntly terminating at the tip. .... 2
  - Antennal club not bluntly terminated, rather acutely terminating at tip with septa and sutures. .... 3
2. Club smaller in size, somewhat flattened with 5 segments ..... **Phloeosinus** Chaupuis
  - Club bigger in size, strongly flattened with two incomplete transverse septa...  
..... **Phloeocranus** Schedl
3. Antennal club with two incomplete septa ..... **Hyledius** Sampson
  - Antennal club with complete sutures lined by microhairs .....  
..... **Phloeoditica** Schedl

Genus **Phloeoditica** Schedl1. **Phloeoditica** Schedl

1962. Schedl, *Beit. Verhan. Nat. Gesell. Basel*, **173** : 189.

1986. Wood, *Gt. Basin nat. Memo.*, **10** : 52.

1992. Wood and Bright, *Gt. Basin nat. Memo.*, No. **13**(Vol. A) : 236.

Type of the genus : *Kissophagus* : *K. curtus* (Eggers)

The genus had been established by Schedl (1962) with its type species *Kissophagus curtus* (Eggers). It is a very small oriental genus containing only four species from Asian countries like India, Myanmar, Philippine and Vietnam.

24. **Phloeoditica curtus** (Eggers)1. **Kissophagus curtus** Eggers

1925. Eggers, *Sbor. Fauni. Praci Entomo. Oddel. Narod. Mus. Musea v Praze*, **3**(21) : 155.  
Syntypes 3, sex ? in Prague Mus. And Eggers Coll., Eggers syntype in NHMW., Wien.  
*Type-locality* : Tenasserim, Myanmar.

1962. Schedl, *Beit. Verhandl. Naturf. Gesell. In Basel*, **73** : 184 and 189.

1963. Schedl, *Beit. Ent. Abhandl. Berich. Staatl. Mus. Tierk Dresden*, **28**(5) : 260.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. **13**(Vol. A) : 236-237.

*Description* : Body small, oblong and with dense scale-like setae, devoid of erect hairs; grayish in colour throughout, head slightly paler. Body length 2.28 mm and 1.98 times as long as wide.

Frons distinctly convex, almost glabrous but with a few minute hairs and reticulately rugose, a weak depression at the centre; epistomal margin strongly chitinised and feebly outcurved; vertex convex with a few erect hairs. Eyes much elongate, weakly emarginate anteriorly; ventral end much narrower than dorsal end. Antennae short, scape narrow and elongate, club lanceolate in shape with basal segment strongly chitinised with sutures lined by microhairs.

Pronotum dome-shaped, much wider than long especially at the basal angles; lateral margins narrowing anteriorly with very convex sides; anterior margin with weakly convex, chitinized border, surface convex with dense broad punctures each with scale-like setae; summit indistinct; posterior margin bisinuate with median projection downwards.

Scutellum not distinctly visible.

Elytra 1.2 times as long as wide and nearly as wide as pronotum and 1.9 times as long as pronotum; elytral base individually convex with series of distinct cranulations; lateral sides subparallel up to basal two-thirds whence converging posteriorly and terminating into subround posterior margin; disc marked with distinct striae and interstriae almost equal width; striae deep and marked by distinct punctures, each puncture with scale-like setae, sutural striae almost reaching up to terminal end along with stria 1; striae 2-5 terminating before the posterior end, rest reaching almost to the terminal end; sutural interstriae narrow, terminating at the end; 2 slightly thick and raised, interstriae 1, 3, 4 and 5 terminating at the middle of declivity; rest of the interstriae with distinct tubercles gradually becoming prominent, more strong on the lateral interstriae; all the interstriae densely covered with scale-like setae with uniseriate punctures, each puncture with a erect elongate thick and thin hair.

*Distribution* : INDIA : Andaman Islands, Assam, Karnataka, Tamil Nadu.

*Elsewhere* : Myanmar.

*Host* : *Pongamia glabra*.

### Genus *Phloeocranus* Schedl

#### 1. *Phloeocranus* Schedl

1942. Schedl, *Tijdschr Ent.*, **85** : 7.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 236.

#### 2. *Diamerides* Browne

1949. Browne, *Ann. Mag. Nat. Hist.*, (12)1 : 893.

1954. Schedl, *Philipp. J. Sci.*, **83**(2) : 137 (syn.)

Type of the genus : *Phloeocranus* : *P. bruchoides* Schedl; *Diamerides* : *D. litseae* Browne = *Phloeocranus bruchoides* Schedl.

The genus was established by Schedl in 1942 to accommodate his own species *P. bruchoides* Schedl from Java. Subsequently, Browne (1949) described a genus *Diamerides* based on his species *D. litseae* Browne which was synonymised under this genus. However, it is still a monobasic genus only known from the Asian country containing only *P. bruchoides* Schedl.

## 25. *Phloeocranus bruchoides* Schedl

(Fig. 11)

### 1. *Phloeocranus bruchoides* Schedl

1942. Schedl, *Tijds. Ent.*, **85** : 7. *Type-locality* : Java, Indonesia

1992. Wood and Bright, *Gt. Basin nat. Memo.*, No. **13**(Vol. A) : 236.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, **3**(Part 6B) : 793.

### 2. *Diamerides litseae* Browne

1949. Browne, *Ann. Mag. Nat. Hist.*, **12**(1) : 94. *Typ-locality* : Kalantan, Malaysia.

1972. Schedl, *Ent. Abh. Mus. Frey*, **33** : 152 (syn.)

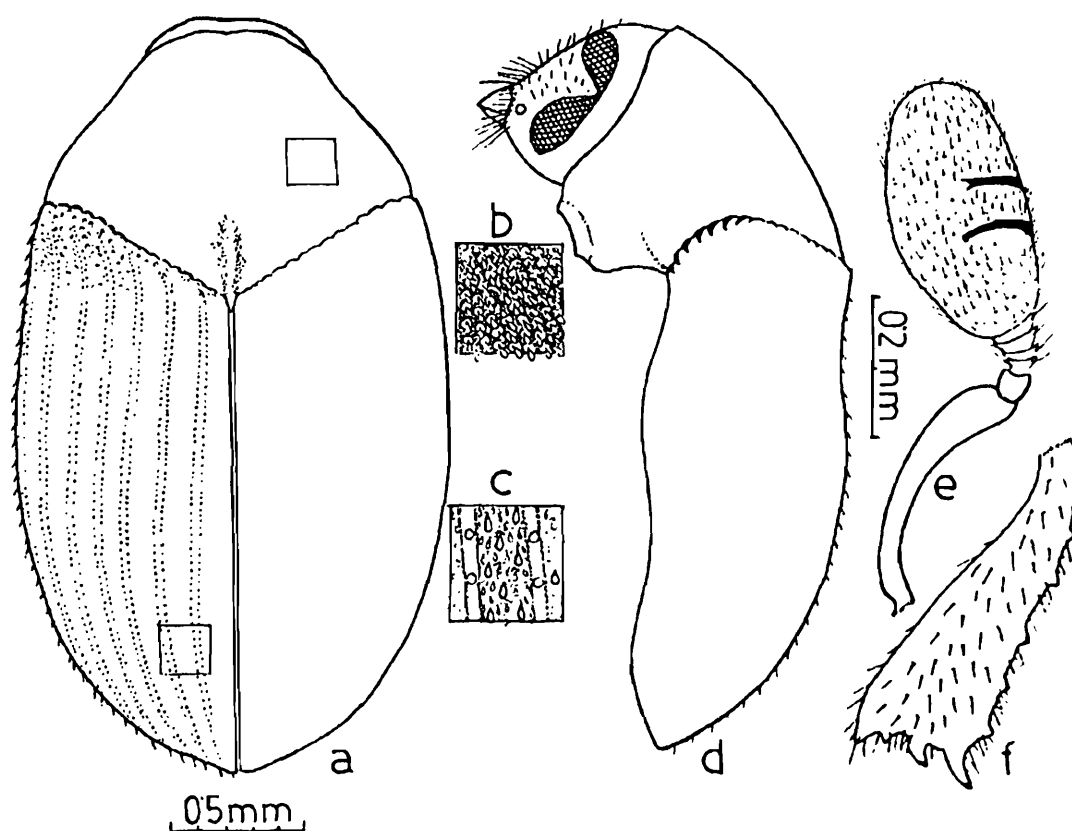
*Description : Female* : Body stout and ovoid; head black, pronotum reddish brown to blackish brown and elytra reddish brown. Body length 2.90-3.00 mm, 1.7 times as long as wide.

Head weakly subrostrate, frons feebly impressed with a distinct median line; surface reticulately granulate and fairly densely pubescent with stout setae, particularly more dense towards vertex; antero-lateral corners carinate and confluent with the epistomal margin. Eyes strongly emarginate, halves connected by a narrow line of facets. Antennal scape long and slender, funicle with 5 segments; club large, strongly flattened with two incomplete transverse septa.

Pronotum 1.3 times wider than long; postero-lateral angles of pronotum concealed under the projection of elytra and with a weak ridge corresponding the anterior margin of elytra; basal margin bisinuate at the middle; posterior half with a weakly elevated median line; lateral sides strongly converging anteriorly and anterior margin substraight with a weak median emargination; surface roughened with close minute punctures, each bearing one stout small setae.

Scutellum not distinctly visible.

Elytra 2.1 times as long as pronotum, 1.3 times as long as wide and much wider than pronotum; basal margin angularly outcurved at the level of interstriae 6 and 7; crenulation gradually increasing in size towards lateral margins; lateral sides subparallel upto half and thence gradually narrowing posteriorly, each elytron with somewhat rounded apex; disc flat, impressed along sutural line; striae impressed with minute sparse punctures; interstriae 2-3 times wider than striae, with inconspicuous



**Fig. 11. a-f.** *Phloeocranus bruchoides* Schedl, Female : a, Pronotum and elytra in dorsal view; b, enlarged portion of pronotum; c, enlarged portion of elytral declivity; d, head, pronotum and elytra in lateral view; e, antennae; f, protibia.

punctures and scale-like setae. Elytra weakly declivous posteriorly and apices rather ascending; face flatly convex, striae as on disc; interstriae with granules and scale-like setae; interstriae 1 much wider than other interstriae, interstriae 4,5,6,7 and 8 obsolete between interstriae 3 and 9. Protibiae truncated at apices, with distinct spines laterally, meso- and meta-tibiae grooved for tarsal insertion.

*Male* : Not available in the material studied.

*Distribution* : INDIA : West Bengal : Darjiling Dist. : Bagdogra, Kurseong. Assam, Bihar and Orissa.

*Elsewhere* : Indonesia (Java) and Malaysia.

*Remarks* : *Phloeocranus bruchoides* was unknown to India until Browne (1970) recorded *Diamerides litseae* from eastern India which was latter on synonymised with *Phloeocranus bruchoides* by Schedl (1972). However, it is recorded recently from north Bengal infesting *Cinnamomum cecicodaphae* (Saha and Maiti, 1996). It can easily be identified by its elongately globose body form and basal margin of each elytron angularly outcurved at the level of interstriae 6 and 7. Biological information of the Malayan population has been furnished by Browne (1961), but such information is not available for the Indian population.

Genus *Phloeosinus* Chapuis1. *Phloeosinus* Chapuis

1869. Chapuis, Synopsis des Scolytides, p. 37

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 239-240

2. *Phloeosinites* Hagedorn

1906. Hagedorn. *Konigsberg Schriften der Physikonom. Gesellschaft*, p. 118.

1910. Hagedorn. *Coleopt. Cat.*, 26(4) : 25.

*Type of genera* : *Phloeosinus* Chapuis : *Hylesinus thufae* Perris; *Phloeosinites* Hagedorn : *Phloeosinites rehi* Hagedorn.

The genus *Phloeosinus* is a quite known genus established as early as in 1869 by Chapuis. It is a widely distributed genus containing more than 100 species as referred by Wood and Bright (1992). However, only four species are so far known to occur in India, of which *P. phobe* Wood could not be dealt due to lack of material.

Key to the species of *Phloeosinus* Chapuis

1. Declivital margin demarcated by distinct blunt tubercles; elytral interstriae devoid of scale-like setae; interstriae 1 & 2 not reaching upto margin of declivity; body length 3.50-3.70 mm ..... *P. jubatus* Sampson
- Declivity neither distinctly marked nor margin lined by tubercles, elytral interstriae with confused scale-like setae; interstriae 1 & 2 reaching upto tip of elytra ..... 2
2. Scale-like setae throughout on discal interstriae, more dense on declivity; interstria 2 not narrower and depressed towards declivity; pronotal median basal ridge prominent; body length 2.60 mm ..... *P. squamulatus* Chapuis
- Scale-like setae only on the declivity, interstria 2 becoming narrower and depressed towards declivity; pronotal median ridge from base indistinct; body length, 2.9 mm ..... *P. machilus* Schedl

26. *Phloeosinus jubatus* Sampson1. *Phloeosinus jubatus* Sampson

1919. Sampson, *Ann. Mag. Nat. Hist.*, 4(9) : 112. Type : Syntype, Male, Female in BMNH, London. *Type-locality* : Dehra Dun, Uttarakhand, India.

1961. Beeson, *Ecol. & Control of For. Ins. Of India & Neighbouring Countries*, p. 290.

1980. Schedl, *Katalogue*, p. 130.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) 1 : 249.

**Description** : Body cylindrical; head, pronotum and elytra reddish brown to blackish brown. Body length 3.50-3.70 mm.

Frons somewhat impressed above epistomal margin with distinct median line, surface with some crenulations as well as granules and dense long hairs except on smooth median area on either side of median line. Eyes elongate, nearly half of its width emarginated. Antennal scape long and stout; funicle with 5 segments; club flat and elongate with five segments.

Pronotum 1.2 times as wide as long; lateral sides outcurved with feeble antero-lateral constriction; surface with dense punctures and each with a bent hair except smooth median line.

Scutellum submerged.

Elytra 1.5 times as long as its own width and 2.4 times as long as pronotum; basal margin feebly curved with distinct crenulations up to interstria 10; lateral sides subparallel upto apical fourth, whence broadly rounded apically; discal striae marked by distinct punctures, striae 1-4 running up to declivity margin, rest running almost to tip; interstriae on basal narrow strip with small scattered asperities and small granules, and rest with small granules and erect setae. Declivity commencing on posterior third, face flatly concave, surface glabrous with fine irregular punctures, margin demarcated by line of distinct blunt tubercles on interstria 1 forming the margin of declivity.

**Distribution** : INDIA : Uttarakhand : Dehra Dun.

**Host** : *Cupressus torulosa*

## 27. *Phloeosinus machilus* (Schedl)

### 1. *Hylesinus machilus* Schedl

1959. Schedl, *Indian Forest Rec. (N.S.), Ent.*, 9(8) : 173. *Holotype* in F.R.I., Dehra Dun; *Partypes* in Schedl's Coll., Nat. Hist. Mus. Wien, Austria. *Type-locality* : Chachpur, Chakrata, Uttarakhand, India.

### 2. *Phloeosinus machilus* (Schedl)

1992. Wood and Bright, *Gt. Basin. Nat. Memo*, No. 13(Vol. A) : 249.

**Description** : (After, Schedl, 1959) : "Head and pronotum pitchy black, elytra dark reddish brown, 2.9 mm long, not quite twice as long as wide. Another species with alternate interstices on elytral declivity but easily separated from *H. alternans* n. sp. by the fine granules and type of vestiture.

Front broadly convex, opaque, densely and finely granulate, punctate and with a very fine longitudinal carina below.

Pronotum much wider than long (37 : 25) widest at base, sides subparallel on the basal third, thence strongly incurved, apex broadly rounded, subapical constriction strongly developed; ascending and feebly convex from apex to the base, the sub apical constriction connected by a feebly developed transverse depression, surface opaque, minutely punctulate, very finely granulate-punctate, pubescence as far as visible hairlike, inclined.

Scutellum minute, knob-like.

Elytra distinctly wider (45 : 37) and 2.4 times as long as pronotum, sides parallel on the basal two-fifths, apex rather broadly rounded, declivity commencing somewhat before the middle, gradually but rather strongly convex; disc striate-punctate, striae well impressed but rather narrow, strial punctures relatively small and indistinct in parts, interstices wide, very densely and finely sculptured and each with a row of more distinct larger granules, pubescence consisting of short inclined but slender scales arranged irregularly in about fourfold rows; declivity with the alternate interstices elevated, one and three reaching the apical margin, the others gradually shorter, these alternate interstices each with a row of fine granules bearing semi-erect more slender scales while the ground vestiture consists of very short stout inclined scales arranged in the same way as on the disc.

*Distribution* : INDIA : Uttarakhand Chachpur (6500 ft), Chaknata.

*Host* : *Machilus odoratissima*.

## 28. *Phoeosinus squamulatus* Chapuis

### 1. *Phloeosinus squamulatus* Chapuis

1869. Chapuis, Synopsis des Scolytides, p. 39. *Holotype* : Sex ? in IRSNB, Brussels. *Type-locality* : Himalaya.

1909. Stebbing, *Indian For. Memo., For. Zool. Sr.*, No. 1(2) : 17.

1923. Eggers, *Zool. Medul.*, 7 : 138.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 255.

*Description* : Body broad and stout, head fairly hairy, pronotum and elytra densely covered with scale-like setae, head and pronotum black and elytra deep brown in colour. Body length 2.60 mm, 1.30 times as long as wide.

Head globose, frons strongly depressed like a broad cavity with median longitudinal carina having a small tubercle much below the epistomal margin; epistomal margin with a few erect hairs along the margin; frontal cavity with granules and scattered hairs as also the rest of the surface. Eyes divided almost into two halves with thin connection.

Pronotum much wider than long, 1.60 times as wide as long; lateral margins outcurved with constriction at anterior third; anterior margin feebly outcurved;

posterior margin subround with a weak median outbulge; median line distinct and shining, terminating almost at the middle with somewhat broad shining surface, dorsum with dense scattered granules and minute scale; summit distinct; declivous portion less marked.

Elytra 1.3 times as long as broad; anterior margin moderately outcurved with distinct crenulations up to 10<sup>th</sup> intersiae; lateral margins subparallel converging posteriorly from apical fourth; striae depressed, well marked by shallow close punctures with some small scale-like setae more dense and prominent towards declivity; interstriae 1-3 almost reaching to the posterior apex of elytra; interstriae 3-5 forming loop at the tip of elytra; interstitial surface convex, roughened with some granules and scale-like setae throughout. Declivity commencing from posterior two-thirds; striae and interstriae as in disc; posterior margin with feeble ridge.

*Host : Machilus odoratissima*

*Distribution : INDIA : Assam and Uttar Pradesh*

### Genus *Hyledius* Sampson

#### 1. *Hyledius* Sampson

1921. Sampson, *Ann. Mag. Nat. Hist.*, (9)7 : 35.

1992. Wood and Brigh, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 259.

#### 2. *Holonthogaster* Gemminger and Harold

1872. Gemminger and Harold, *Munchen*, 9 : 2676.

#### 3. *Olonthogaster* Motschulsky

1866. Motschulsky, *Bull. Soc. Imp. Naturl. Moscou*, 39 : 401.

1986. Wood, *Gt. Basin Nat. Memo.*, 10 : 52 (syn.).

#### 4. *Hylurgulus* Eggers

1927. Eggers, *Treubia*, 9(4) : 392.

1986. Wood, *Gt. Basin Nat. Memo.*, 10 : 52 (syn.).

#### 5. *Phloeosinopsis* Schedl

1936. Schedl, *J. Fed. Malay State. Mus.*, 18(1) : 23.

1986. Wood, *Gt. Basin Nat. Memo.*, 10 : 52 (syn.)

*Types of the genus : Hyledius : Helesinus* as per Sampson = *Olonthogaster nitidicollis* Motschulsky, monobasic *Olonthogaster : Olonthogaster nitidicollis* Motschulsky. *Hylurgulus : H. sumatranus* Eggers. *Phloeosinopsis : P. armatus* Schedl = *Phloeosinus spinifer* Schedl.

The genus was continued to remain valid upto now since its inception in 1921 by Sampson as a monobasic with its type-species *Hylesinus asper* Sampson from Laos which was synonymised under *Hyledius nitidicollis* (Motsch.). However, four genera as referred to above have been synonymised under this from time to time. About two dozen of species are so far recorded from the Asian countries including a single species, *H. jiri* (Wood) from India.

### 29. *Hyledius jiri* (Wood)

#### 1. *Olonthogaster jiri* Wood

1988. Wood, *Gt. Basin Nat.*, 48 : 198, *Holotype* Female in FRI, Dehra Dun. *Type-locality* : Jiri Forest, Cachar, Assam, India.

#### 2. *Hyledius jiri* (Wood)

1992. Wood and Bright, *Gt. Basin. Nat. Memo.*, No. 13(Vol. A) : 260.

*Description* : *Male* : Body globose; head, pronotum and elytra light brown, head comparatively darker. Body length 3.00-3.20 mm; 1.38 times as long as broad.

Frons concave with dense granules and hairs, hairs arranged in uniform rows along the entire margin of frontal concavity; median line smooth and distinctly marked. Antennal club with two incomplete septa.

Pronotum becoming much narrower anteriorly with a weak constriction below the apical margin, being distinctly outcurved at the middle; lateral sides strongly outcurved at the middle; dorsum convex and with a smooth median line from base to apical margin, surface densely punctate with microhairs, posterior margin with feeble carina.

Scutellum somewhat knob-like.

Elytral 1.2 time as long as its own width, and 1.8 times as long as pronotum; basal margin feebly outcurved with crenulations throughout; interstriae convex, much wider than striae, each striae with a single row of granules upto apices, but interstriae 2,4,6 devoid of any distinct tubercles on declivity face, discal striae with granules and minute hairs and those on the declivity with scale like setae; striae very narrow with small shallow punctures; elytral lateral side subparallel upto almost middle, then narrowing posteriorly, posterior sides granulately margined.

*Female* : Very similar to males, except the frons with median depression, vertex somewhat convex, median line smooth forming a carina, outcurved at the middle supporting a tubercle, either side of median line granulately punctate, somewhat rugose, area below epistomal margin almost plano-concave.

*Distribution* : INDIA : Assam.

*Host* : *Myristica longifolia*.

Tribe **Hypobonini** Niisslin

Genus ***Liparthrum*** Wollaston

1. ***Liparthrum*** Wollaston

1854. Wollaston, *Insecta Maderensia*, being an account of the insects of the Islands of the Madeiran group [*Scolytidae*, pp. 294].

2. ***Erineosinus*** Blackman

1920. Blackman, *Mississippi Agric. Experimental Station, Technical Bulletin*, pp. 53.

1957. Wood, *Canadian Entomologist*, **89** : 399.

3. ***Phloeochilus*** Schedl

1953. Schedl, *Annals and Mag. Of Nat. Hist.*, (12)**6** : 292.

1963. Schedl, *Mus. Fur Tierkunde in Dresden*, **28(6)** : 263.

4. ***Phloeotrypetus*** Wood

1960. Wood, *Insects of Micronesia*, **18(1)** : 16.

1963. Schedl, *Mus. Fur Tierkunde in Dresden*, **28(6)** : 263.

5. ***Dacryophthorus*** Schedl

1971. Schedl, *Entomologica Scandinavica* (Suppl.) **1** : 281.

1984. Wood, *Gt. Basin Nat.*, **46(3)** : 226.

6. ***Trypanophellos*** Bright

1982. Bright, *Studies on Neotropical Fauna and Environment*, **17(2-3)** : 166.

1992. Wood, *Gt. Basin Nct.*, **52** : 81.

*Types of Genus* : *Liparthrum* : *L. bituberculatum* Wollaston; *Erineosinus* Blackman : *E. squamosus*; *Phloeochilus* Schedl : *P. palaquius*; *Phloeotrypetus* Wood : *P. palauensis*; *Dacryophthorus* Schedl : *D. brincki*; *Trypanaphellos* Bright : *T. necopinus*.

**Key to the species of *Liparthrum* Wollaston based on male**

1. Strial punctures more coarse; interstriae with fine, regular rather closely spaced granules; very smaller species, body length, 0.8 mm (paratypes 0.8-0.9 mm)..  
..... *L. artocarpus* Wood
2. Strial punctures not so coarse; interstriae with both fine granules and scale-like setae and hairs; larger species, body length-1.30 mm ..... *L. longifolia* Stebbing

### 30. *Liparthrum artocarpus* Wood

#### 1. *Liparthrum artocarpus* Wood

1988. Wood, *Gt. Basin Nat.*, 48(2) : 193. *Holotype*, Male and Allotype. Female in F.R.I, Dehra Dun; *Paratypes* in Wood's collection, U.S.A. *Type-locality* : Hattikeri, S. Kanara Div., Bombay, Maharashtra, India.

1992. Wood, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 274.

*Description* (Wood, 1988) : *Male* : Length, 0.8 mm (paratypes 0.8-0.9 mm), 2.0 times as long as wide; color brown, vestiture pale.

Frons weakly convex from epistoma to well above eyes, epistomal margin weakly elevated; surface finely rugose-reticulate except smooth and shining near epistoma and on median line on lower half; vestiture of fine, inconspicuous hairs.

Pronotum 0.90 time as long as wide, widest just behind middle, sides strongly arcuate; surface shining, obscurely reticulate, median third armed by fine, rather abundant tubercles of uniformly small size from anterior margin to near base; anterior margin unarmed; vestiture of rather abundant, stout, recumbent hair and less numerous, erect scales, each scale rather short, wider than long.

Elytra 1.75 times as long as wide; outline as for most members of genus; basal margin of each elytron armed by five crenulations; striae not impressed, punctures rather coarse, impressed; interstriae slightly narrower than striae, smooth, shining, each armed by a row of small, rounded, rather closely set tubercles. Declivity convex, steep; sculpture as on disc except striae more distinctly impressed. Vestiture of semi recumbent, stout hair and row of erect scales, both of equal length; widest scales almost as wide as long.

*Female* : Specimens considered to be females are as in males except frons more strongly convex and pronotum with a few (two to four) asperities on anterior half distinctly larger.

*Distribution* : INDIA : Maharashtra (Bombay) : Hattikeri.

*Host* : *Artocarpus integrifolia*.

*Remarks* : The species is distinguished from *L. longifolia* (Stebb.) by much more coarsely punctured striae and by the fine, regular, rather closely spaced interstitial granules. This was *L. artocarpus*, nomen nudum, of Beeson, 1961 : 290 (Wood, 1988).

### 31. *Liparthrum longifolia* (Stebbing)

#### 1. *Cryphalus longifolia* Stebbing

1903. Stebbing, *Office of the Superintendent of Govt. Printing, Calcutta*, 2 : 267. *Syntype* sex? In F.R.I., Dehra Dun. *Type-locality* : Types labeled as Toris Valley, NW Himalayas, published as NW Himalayas. Jaunsar Div. Heshahr State : Taklesh.

## 2. *Liparthrum longifolia* (Stebbing)

1992. Wood and Bright, *Gt. Basin nat. Memo.*, No. 13(Vol. A) : 278.

*Description* : (Stebbing, 1914) : Minute insect, yellow to dark brown in colour, and clothed with a fairly dense mass of long whitish or whitish-yellow hairs. Head with vertex smooth, shining and very finely punctuate; front clothed with longish yellow hairs. Antennae and legs bright yellow. Head hidden by the thorax. Mandibles short. Scape of antennae thickened anteriorly, funiculus of four joints, the first large, longish; club flattened and oval. Prothorax wider than long, convex dorsally, armed with small spiny tubercles anteriorly. Elytra cylindrical, rounded at their posterior declivities, not wide than the thorax. Tibiae finely toothed on their outside edges. Tarsus with joints 1 to 3 of equal length. Body cylindrical. Length, 1 mm or a little over.

*Distribution* : INDIA : Bashahr, Punjab; Uttar Pradesh.

*Host* : *Pinus roxburghii*.

### Tribe **Polygraphini** Chapuis

Three genera of the Tribe Polygraphini are represented in India, of which genus *Bothinodroctonus* Wood could not be included in key due to non-availability of material. However, two species *B. indicus* and *B. setosus* recently described from India by Wood (1988) have been reproduced here.

### Key to the genera under Tribe Polygraphini

1. Eyes divided; antennal club unsegmented, scape much longer than the funicle; the base of elytra not much elevated and feebly crenulate; antennal funicle 7 segmented ..... ***Polygraphus*** Erichson
- Eyes not divided rather emarginate; scape slightly longer than all the funicle together; antennal club segmented; antennal funicle 5-segmented .....  
..... ***Carphoborus*** Eichhoff

### Genus ***Polygraphus*** Erichson

#### 1. ***Polygraphus*** Erichson

1836. Erichson, *Archiv fur Naturgeschichte*, 2(1) : 57.

#### 2. ***Lepisomus*** Kirby

1837. Kirby, Part 4, *Insects : Coleoptera*, Family Scolytidae., P. 193

1918. Swaine, Dominion of Canada Department of Agriculture, Entomological Branch, Technical Bulletin, P. 55.

### 3. *Spongotarsus* Hagedorn

1908. Hagedorn, *Deutsche Entomologische Zeitschrift*, (3) : 372  
 1972. Schedl, *Entomologischen Arbeiten am dem Museum G. Frey*, **23** : 153

### 4. *Pseudopolgraphus* Seitner

1911. Seitner, *Centralblatt fur das Gesamte Forstwesen*, **37** : 99, 105  
 1915. Hopkins, *United States Dept. of Agric., Bureau of Entomology, Technical Bulletin.*, **17(2)** : 222.

### 5. *Ozophagus* Eggers

1919. Eggers, *Entomologische Blatter.*, **15** : 234  
 1950. Schedl, *Institut Royal des Sciences Naturelles de Belgique, Bulletin* **26(50)** : 2

### 6. *Nipponopolygraphus* Nobuchi

1981. Nobuchi, *Kontyu*, **49(1)** : 12  
 1992. Wood, *Gt. Basin Nat. Memo.* P. 81

*Types of Genus : Polygraphus : Hylesinus pubescens* Fabricius = *Dermestes poligraphus* Linnaeus; *Lepisomus* Kirby : *Apate (Lepisomus) rufipennis* Kirby; *Spongotarsus* Hagedorn : *S. quadrioculatus* Hagedorn; *Pseudopolygraphus* Seitner : *Polygraphus grandiclava* Thomson; *Ozophagus* Eggers : *O. camerunus* Eggers; *Nipponopolygraphus* Nobuchi : *N. kaimochii* Nobuchi.

### Key to the species of *Polygraphus* Erichson

1. Larger species, body length above 3.00 mm ..... 2
  - Smaller species, body-length below 3.00 mm ..... 4
2. Body elongate; larger species, 3.26 mm.; median line on pronotum distinct and apex of pronotum blackish ..... *P. trenchi* Stebbing
  - Body somewhat stumpy and comparatively smaller species, 3.00 mm ..... 3
3. Antennal club-acute; frontal surface plano-concave, posterior margin somewhat truncate and with dense hairs, posterior marginal hairs very long and curled to touching each other at tips ..... *P. major* Stebbing
  - Antennal club obtuse; frontal surface towards posterior margin no truncate, ather somewhat round with dense hairs, hairs not so long and not touching each other at tips, females with frontal tubercles ..... *P. aterrimus* Strohmeyer

4. Frons transversely impressed and armed anteriorly with a pair of transverse tubercles (both male and female), antennal club obtuse, body length 1.70 mm.  
..... *P. anogeissi* Wood
- Frons not transversely impressed and devoid of any tubercles, antennal club acute, body length mm
5. Elytral interstriae with long hairs particularly on declivity....*P. setosus* Schedl
- Elytral interstriae with short hairs throughout both on elytra disc and declivity  
..... 6
6. Frons with curled tuft of hairs ..... *P. pini* Stebbing
- Frons without curled tuft of hairs, but with long hairs
7. Body somewhat cylindrical and elongated; elytral disc and declivity indistinctly roughened; antennal club not ovate ..... *P. longifolia* Stebbing
- Body not so elongated; elytral disc and declivity smooth, antennal club ovate  
..... *P. difficilis* Wood

### 32. *Polygraphus anogeissi* Wood

#### 1. *Polygraphus anogeissi* Wood

1988. Wood, *Gt. Basin Nat.*, 48 : 194. *Holotype* : Female in FRL., Dehra Dun. *Type-locality* : Kirwatti, E. Kanara, Bombay, India [Beeson 1941, referred the species as *P. bassiae* nom. Nud. (Wood and Bright, 1992)]

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. 13(Vol. A) : 285

*Description* : *Female* : Female length 1.70 mm (paratype 1.50-1.70 mm), 2.5 times as long as wide, colour dark brown, vestiture pale.

Frons as in male, strongly, transversely impressed on lower half convex above and armed just below upper level of eyes by a pair of transversely arranged tubercles, surface closely deeply, rather coarsely puncture, lower area between punctures smooth, shining, upper area subreticulate, vestiture below tubercles of rather sparse, fine, long hair. Eye large, coarsely faceted, divided. Antennal funicle 5-segmented; club small, orate.

Pronotum 0.90 times as long as wide, sides almost straight and parallel on basal half, moderately constricted before broadly rounded anterior margin; surface smooth and shining except reticulate on anterior third, punctures rather small shallow, moderately abundant, spaced by about two diameters of a puncture; vestiture an almost equal mixture of fine hair and slender scales.

Elytra 1.8 times as long as wide, 2.1 times as long as pronotum; sides almost straight and parallel on basal three-fourths, broadly rounded behind; surface finely rugose, punctures small, obscure, confused; most interstriae marked by a row of fine

granules at least near declivity. Declivity steep, convex, sculpture as on disc, fine granules on at least interstriae 1-3. Vestiture of aground cover of small, suberect, short, interstitial scales, each scale about two to three times as long as wide, and rows of erect, interstitial scales, each scale about twice as long as ground cover and four times as long as wide”

*Distribution* : INDIA : Maharastra : East Kanara Dist, Mumbai; West Bengal.

*Elsewhere* : Myanmar and Sri Lanka.

*Host* : *Anogeissus acuminata*, *Bassia latifolia* and *Odina wodier*.

*Remarks* : The species is unique in having the female frons transversely impressed and armed above by a pair of transverse tubercles as in males of many species of this genus. It's smaller size and slender body help to distinguish it from other species. Beeson used the manuscript names *P. anogeissi* and *P. bassiae* for this species. The label on the latter series had been changed by him and replaced by the former name.

### 33. *Polygraphus aterrimus* Strohmeier

#### 1. *Polygraphus aterrimus* Strohmeier

1908. Strohmeier, *Ent. Wochenbl*, **27** : 69, *Syntype* (sex ?) in Strohmeier Collection. *Type locality* : Kulu, Himachal Pradesh, India. Kulu Valley, North West Himalaya
1910. Hagedorn, *Coleopt. Cat.*, **26**(4) : 40.
1914. Stebbing, *Indian Forest Insects* (Coleopt.) : 522.
1972. Browne, *Oriental Ins.*, **6**(1) : 19, Thailand.
1992. Wood and Bright, *Gt. Basin nat. Mem.*, No. 13(Vol. A) : 285.

#### 2. *Polygraphus niger* Stebbing

1906. Stebbing, *Depart Notes*, **i** : 258.
1914. Stebbing, *Indian Forest Insects* (Coleopt.) : 520-522, Fig. 337, *Syntype* (Sex ?). F.R.I., Dehra Dun. *Type-locality* : Jaunsar, N.W. Himalaya, India
1992. Beeson, *Indian Forester*, **48** : 497 (Synonym).

*Description* : *Male* : Body somewhat cylindrical; head pitchy black, pronotum and elytra paler. Body length 3.40 mm; 2.4 times as long as wide.

Frons plano-concave, entire surface with close dense punctures and long erect dense hairs more so around margin forming a ring. Eyes completely divided into two parts. Antennal scape long, funicle with 5-segments, club laterally compressed; club flat, devoid of any septum or suture and with fine pubescence.

Pronotum 1.4 times wider than long, median line distinct, basal margin substraight, lateral sides outcurved and suddenly narrowing immediately before emarginate anterior

margin; surface shining with distinct dense punctures, each with either small fine hairs or small scale-like setae.

Scutellum submerged.

Elytra times as long as pronotum and 1.62 times as long as its own width; basal margin somewhat substraight with weak crenulations; lateral sides subparallel on basal three fourth, thence broadly rounded posteriorly; discal striae marked by punctures; each with a microhair; striae 1 and 2 more impressed than others; interstriae with small irregular punctures, but each with a small, blunt setae; interstriae toward basal margin more roughened and granulate; declivity commencing on posterior one-fourth, face convex and steep; stria 1 impressed.

*Distribution* : INDIA : Himachal Pradesh : Kulu, Simla; Punjab; Uttarakhand : Dehra Dun Dist., Chakrata; Tehri Garhwal Dist.

*Elsewhere* : Thailand.

*Hosts* : *Pinus griffithii*, rare in *P. roxburghii*, *Cedrus deodara*, *Abies webbiana*

### 34. *Polygraphus difficilis* Wood

#### 1. *Polygraphus difficilis* Wood

1988. Wood, *Gt. Basin Nat.*, 48 : 194. *Holotype* Female in FRI., Dehra Dun. *Type-locality* : Almora, Uttarakhand, India. [Note : Beeson, 1961 referred to the species, as *Urdugraphs difficilis*, nomen nudum (Wood and Bright, 1992, p. 286)]

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 286.

*Description* (After, Wood, 1988) : *Female* : Length 2.0 mm (paratypes 2.0-2.2 mm), 2.2 times as long as wide; colour reddish brown, vestiture pale.

Frons moderately concave on central half from epistoma to above upper level of eyes, surface smooth, shining, rather coarsely, very closely punctured; vestiture of rather abundant hair of moderate length in concave area, much longer on upper and lateral margin, longest setae on vertex could extend two-thirds of distance to epistoma; eye rather large, two-thirds divided by deep emargination. Antennal funicle 6-segmented, club rather small, ovate, with apex acutely acuminate.

Pronotum 0.60 times as long as wide; widest on basal third, strongly arcuate on basal half, a strong constriction just in front of very broadly rounded anterior margin; surface smooth, shining, punctures small, moderately abundant, interspaces equal in width to one to four diameters of a puncture; vestiture uniformly short, erect fine hairs (scales not evident). Elytra 1.55 times as long as wide, 2.5 times as long as pronotum; sides almost straight and parallel on basal three-fourth, broadly rounded behind; striae not impressed, punctures in obscure rows; interstriae four times as wide as striae, punctures slightly smaller than those of striae, close, confused. Declivity steep, convex except shallowly sulcate on interstria 2; striae not indicated; interstriae

1 weakly elevated, 1 and 3 each armed by a row of small tubercles. Vestiture of small, rather sparse, interstitial scales, each scale about three to four times as long as wide.

*Male* : Similar to female except frons transversely impressed on lower third, convex above, armed by a transverse pair of rather widely spaced tubercles at upper level of eyes, vestiture on frons inconspicuous.

*Host* : *Pinus roxburghii*.

*Distribution* : INDIA : Himachal Pradesh, Uttarakhand (Almorha) and Punjab.

*Remarks* : This species is allied to *P. querci* Wood in having the eye emarginate, but it differs in having the protibia as in other members of the genus. The elytral scales are also smaller and less abundant than in other members of the genus. This name was used as a nomen nudum by Beeson (Wood, 1988).

### 35. *Polygraphus longifolia* Stebbing

#### 1. *Polygraphus longifolia* Stebbing

1902. Stebbing, Office of the Superintendent of Govt. Printing, Calcutta, 1 : 255. *Holotype* Female (labelled Tons Valley, Tehri Garwal, Uttarakhand India; published as N.W.Himalayas : Bashahr St. : Taklesh, Juansar Div., Tehri-Garwal) in F.R.I., Dehra Dun. *Type-locality* : As above.
1910. Hagedorn, In Wytsman, *Genera Insect*; 4 : 178.
1922. Beeson, *Indian Forester.*, p. 497.
1934. Gardner, *Ind. For. Rec.*, 20(8) : 11, 12.
1969. Schedl, *Oriental Ins.*, 3(1) : 47, U.P.
1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 289.

#### 2. *Polygraphus himalayansis* Stebbing

1908. Stebbing, *Ind. For. Memo., Zool. Ser.*, I : 8. *Holotype* male in F.R.I., Dehra Dun. *Type-locality* : Labelled as Ringali, Chakrata, Uttar Pradesh (Uttarakhand), published as N.W. Himalayan Forests, India.
1988. Wood, *Gt. Basin Nat.*, 48 : 189 (Syn.).

*Description* : *Male* : Body length 2.58-2.60; 2.1 times as long as wide.

Frons dorso-ventrally flattened with concavity extending upto vertex; fringe of short curled golden yellowish hairs around the margin of vertex upto posterior margin of eyes.

Pronotum 1.2 times wider than its length, widest at base, lateral sides gradually converging anteriorly then rather constricted just before substraight anterior margin; pronotal surface unarmed, shining and with minute deep fine punctures and small fine hairs throughout.

Scutellum submerged.

Elytra 1.3 times as long as wide; basal margin weakly outcurved with weak crenulation and extending upto interstria 7; lateral sides almost straight upto three-fourth, thence converging posteriorly to rounded apex; striae not impressed, punctures obscure; interstriae 2 to 3 times as wide as striae, puncture close, confused, forming some irregular structure. Declivity gradually sloping, surface plano-convex, but impressed along stria 1, striae not distinct; interstria 1 (sutural) elevated at declivital surface, rest of interstriae roughened with uniseriate small granules. Vestiture of small scales.

*Distribution* : INDIA : Himachal Pradesh and Uttarakhand.

*Host* : *Pinus roxburghii*.

*Remarks* : The sex differentiation is very difficult. However, the specimens with tuft of curled hairs on frons are probably males.

### 36. *Polygraphus major* Stebbing

#### 1. *Polygraphus major* Stebbing

1903. Stebbing, *Depart. Notes*, no. 2 : 234, Syntype Female and Male in FRI, Dehra Dun.  
*Type-locality* : Simla, Himachal Pradesh, India.

1910. Hagedorn, *Coleopt. Cat.*, 26(4) : 39.

1914. Stebbing, *Indian Forest Insects (Coleopt.)* : 501-505 Fig. 328-331.

1973. Schedl, *Ent. Bl.*, 69(3) : 210, Nepal.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 289-290.

*Description* : *Female* : Frons plano-concave, surface shiny and with dense punctures throughout with fairly dense pubescence, tuft of long hairs around the upper margin of concavity almost touching each other at the middle of frons.

Pronotum 1.3 times wider than long with distinct median line; basal margin substraight, lateral sides somewhat convex, gradually narrowing anteriorly with antero-lateral weak constriction; surface shiny with dense punctures and each with either small scale-like setae or microhair, interpuncture space reduced than other species of the genus.

Scutellum submerged.

Elytra 1.6 times as long as its own width; lateral sides sub-parallel on basal three-fourth, gradually narrowing posteriorly broadly rounded apex; stria 1 distinctly impressed; other striae marked by minute shallow punctures, each with a microhair; interstriae with irregular minute punctures and granules, and covered with minute scale like setae. Declivity commencing on posterior one fourth; sutural interstriae elevated and with uniseriate sparse granules and intermingled with punctures;

interstria 2 flat with minute punctures, devoid of any granules, except a few at its apex; rest of interstriae with uniseriate granules and small punctures, each with scale like setae.

*Remarks* : The species can easily be distinguished from *P. aterrimus* by its tuft of hairs on frons, but in *P. attarimus*, it is only with long hairs on frons.

*Distribution* : INDIA : Himachal Pradesh : Chamba, Simla, Bashahr; Punjab; Uttarakhand : Dehra Dun Dist. Chakrata; Tehri Garhwal Dist.

*Elsewhere* : Bhutan Nepal, Xizang [Tibet] in China.

*Hosts* : *Pinus griffithii*, rare in *Abies fabri*, *Pinus garardiana*, *Picea morinda*, *Cedrus deodara*.

*Remarks* : The species can easily be distinguished from *P. aterrimus* by its tuft of hairs on frons, whereas *P. aterrimus* is having long hairs of frons.

### 37. *Polygraphus pini* Stebbing

#### 1. *Polygraphus pini* Stebbing

1914. Stebbing, *Indian For. Ins.*, p. 522. Syntypes Male and Female in FRI., Dehra Dun. *Type-locality* : Bashar, Chogaum Dist., Uttar Pradesh, India (in label, but published as N.W. Himalayas, India).
1922. Beeson, *Gt. Basin Nat.*, 1922, p. 50.
1969. Schedl, *Oriental. Ins.*, 3(1) : 48.
1973. Schedl, *Ent. Bl.*, 69(3) : 210, Nepal.
1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 291.

#### 2. *Polygraphus minor* Stebbing

1903. Stebbing, *Dept. Notes*, I, 234. Syntypes, Sex ? labeled Chogaum Dist., Bashar, Uttar Pradesh, India, published as N.W. Himalayas, India; FRI. Dehra Dun, (preoccupied by Lindemann, 1875 : 242).

*Description* : *Male* : Body length 2.10-2.15; 2.10 times as long as wide. Frons shallowly concave, surface shiny with punctures, more dense towards epistomal margin; thick, tuft of long hairs around the upper margin of concavity, touching each other at the middle of frons, covering frontal two-thirds portion; disc finely granulate and not shiny.

Pronotum 1.3 times wider than long; lateral sides gradually narrowing anteriorly with antero-lateral constriction, surface shiny, median line inconspicuous with distinct dense punctures, each with a long fine hair; interpuncture space more distinct than any other species of the genus.

Scutellum submerged.

Elytra 2.4 times as long as pronotum and 2.5 times as long as its own width; basal margin weakly crenulate; lateral sides subparallel on basal three-fourth, gradually narrowing posteriorly to broadly rounded apex; discal striae 1 and 2 distinctly impressed upto commencement of declivity; striae marked by shallow punctures; interstriae roughened, marked with small granules, becoming distinct towards declivity and covered with minute scale-like setae. Declivity commencing on posterior fourth, strongly convex; sutural and 1st striae indistinctly marked by punctures; interstria 1 marked by granules and scale-like setae rather faintly marked, others not so prominent but somehow demarcated; interstriae 1 and 2 terminating at the commencement of declivity; terminal end of interstria 3 terminating at the commencement of declivity, 3-8 gradually extending upto end of declivity, and surface weakly convex and roughened.

*Female* : Females are very much similar to male except the following characters : Frons devoid of any tuft of hairs; elytral interstriae roughened with somewhat distinct granules.

*Distribution* : INDIA : Himachal Pradesh, Kashmir, Punjab, Uttarakhand.

*Hosts* : *Abies webbiana*, *Cedrus deodara*, *Picca morinda*, *Pinus excelsa*.

### 38. *Polygraphus setosus* Schedl

#### 1. *Polygraphus setosus* Schedl

1979. Schedl, *Entomologischen Arbeiten aus dem Museum G. Frey*, **28** : 128.

*Holotype* : In NHMW, Wien. *Type-locality* : Himachal Pradesh, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo No. 13*(Vol. A) : 299.

*Description* : *Female* : Frons transversely depressed, shiny, with indistinct fine punctures and devoid of any conspicuous hairs; vertex weakly outcurved; median line absent.

Pronotum 1.25 times wider than long with a distinct depressed and short median line at the basal third; somewhat narrowed anteriorly with weak outcurved lateral margins; anterior-third with a transverse collar-like depression; basal margin with a sharp transverse weak ridge; surface shiny, convex with minute punctures, those on declivous portion more prominent with sparse feeble hairs.

Scutellum submerged.

Elytra 1.6 times longer than its own width and slightly less than double the pronotum; lateral sides subparallel, slightly wider toward apex; anterior margin weakly carinate with a minute granules throughout; surface convex, roughened with fine granules and small hairs, those on margins and on declivity prominent, discal striae

1, 2 and 3 with some granules and those on others indistinct but with roughened surface; interstria 1 distinctly marked upto apex with distinct punctures; interstria 2 distinct upto declivity and rest feebly marked. Declivity distinct on posterior third, surface weakly convex, but sharply declivious with some minute scale like setae; interstria 1, 2 and 3 with some granules; striae 1,2 and 3 somehow prominent, rest indistinct.

*Host* : *Pinus griffithii* and *P. roxburghii*

*Distribution* : INDIA : Himachal Pradesh, Punjab and Uttar Pradesh.

### 39. *Polygraphus trenchi* Stebbing

#### 1. *Polygraphus trenchi* Stebbing

1905. Stebbing. *Indian Forest Bull.*, No. 3 : 6. *Syntypes 3 Female*, F.R.I., Dehra Dun. *Type-locality* : Labeled Shinghar Forest, published as Chilgoza Forests, Suliman Range north of Zhob, Baluchistan.

1914. Stebbing, *Indian Forest Insects* (Coleopt.) : 510

1992. Wood and Bright, *Gt. Basin nat. Mem.*, No. 13(Vol. A) : 301.

*Description* (Stebbing, 1914) : *Female* : Oblong, cylindrical, black, moderately shining; two brilliant, prominent, reddish-golden brushes of hair on the front of the head; base of thorax with at times a reddish tinge; the elytra black or very dark brown with a yellowish tinge, their bases often black, the black protion often triangular in shape; the upper surface is more or less covered with small, stiff, white hairs, densest laterally. Head small, black, partially covered in front by two curved brushes of long, stiff, reddish-golden hairs which take off from the anterior edge of head and occupy all the area between the inner upper edges of the eyes except a narrow channel medially. These long brushes of hair curve towards one another medially (the tufts on the two sides remaining apart) to about halfway down the front of the head, and then continue down it in two thin strands; a few separate hairs starts from the inner surface of eye and coverage to meet the strands near the upper ends. The position and configuration of these brushes of hair serve easily to distinguish the insect. There is a brush of yellow hairs at the mouth, and the antennae are yellow and terminate in a solid club. The thorax is one-third as long as broad, and is sharply constricted at about the basal fourth, the outer angles being constricted and rounded; a median shining longitudinal line down central portion; the surface is finely pitted, but the pits are not placed closely together; the lateral margin set with a fringe of rough hairs. The elytra are finely striate, the intervals between the longitudinal striations filled with fine, close granulations which become larger and wider apart in apical fourth. Under-surface black, moderately shining and set with small rough projections and with sparse, stiff, yellow hairs. Legs yellow, with scattered yellow hairs; tibiae of front legs brownish black. Length, 3.12 mm to 3.4 mm.

*Male* : Differs from female in its smaller size, in the absence of the remarkable reddish-golden brushes of hair on the front of the head, their place being taken by a few sparse yellow hairs, and in the presence of two small tubercles on the head, placed transversely. The hairs on the upper surface are also denser. Length, 2.6 mm. to 2.8 mm.

*Distribution* : INDIA : Punjab.

*Elsewhere* : Pakistan.

*Host* : *Pinus gerardiana*

### Genus *Carphoborus* Eichhoff

#### 1. *Carphoborus* Eichhoff

1864. Eichhoff, *Berlin Ent. Zeits.*, **8** : 27.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 302.

#### 2. *Estenoborus* Reitter

1913. Reitter, *Weiner Ent. Zeit.*, **32** : 58.

1982. Wood, *Gt. Basin Nat. Memo.*, **6** : 371(syn.)

Type of the genus : *Carphoborus* : *Hylesinus minimus* Fabricius; *Estenoborus* : *Hylesinus perrisi* Chapuis.

The genus remained as a well recognized genus, since its inception in 1864. It is a well spread genus in various zoogeographical regions with inclusion of about 35 species. Only four species occur in India. Out of 4 species, *C. perrisi* (Chapuis) has not been dealt due to non-availability of material, *C. latus* studied by us based on single material, was probably a male as indicated by its frontal structure as well as declivital tubercles. As such, the species had not been kept in key based on females of other species.

### Key to the species of *Carphoborus* Eichhoff

1. Larger species, body length 2.20 mm; declivital interstriae more strongly elevated and with strong granules ..... *C. costatus* Wichmann
- Smaller species, body length 1.96 mm; declivital interstriae less strongly elevated ..... *C. boswelliae* (Stebbing)

#### 40. *Carphoborus boswelliae* (Stebbing)

##### 1. *Cryphalus boswelliae* Stebbing

1903. Stebbing, *Office of the Superintendent of Govt. Printing, Calcutta*, **2** : 261. *Holotype* Female in FRI., Dehra Dun. *Type-locality* : Bhamburda Reserve near Pune, Maharashtra, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 304.

*Description : Female* : Body brownish colour throughout. Body length, 1.96 mm.

Frons shallowly concave, with tuft of yellowish hairs around the concave frontal margin, surface of shallow area reticulate but impunctate on median small area, a small but conspicuous tubercle placed near upper level of eyes. Antennal scape elongate, funicle with 5 segments; antennal club slightly asymmetrical, 3 procurved suture fringed with minute hairs present on ventral surface. Eyes elongately kidney shaped.

Pronotum 1.2 times wider than long, widest near base; basal one-third sub-straight, thence gradually narrowing anteriorly, lateral constriction before anterior margin, anterior margin broadly rounded; surface finely reticulate, with close deep punctures and small erect scales except a small longitudinal median portion.

Elytra 1.40 times as long as wide; lateral sides almost straight on  $\frac{3}{4}$  portion gradually narrowing posteriorly to broadly rounded posterior margin; each basal margin with 9 to 10 crenulations, other smaller crenulations towards basal narrow portion from interstria 2 and extending upto interstriae 5 and 6; striae feebly impressed, forming a uniform line and marked by shallow punctures, placed more or less of their own width; interstriae 2 to 3 times wider than striae, but gradually narrowed towards declivity, with confused punctures and small scale.

*Host* : *Boswellia serrata*.

*Distribution* : INDIA : Maharashtra.

#### 41. *Carphoborus costatus* Wichmann

##### 1. *Carphoborus costatus* Wichmann

1915. Wichmann, *Ent. Blatt.*, 11 : 106. *Syntypes* Female. *Type-locality* : Jaussar Forest (5000 ft.) N.W. Himalayas, India.

1971. Roonwal, *Zeit. Fur Ang. Ent.*, 67(3) : ?

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 305.

*Description : Female* : Body elongate; colour blackish in colour throughout. Body length 2.20 mm.

Frons convex with fine granules with a few scale-like setae at the antero-median area; antero-median portion transversely weakly convex. Antennae and eyes as in *C. boswalliae* Stebbing.

Pronotum 1.24 times wider than long, widest almost at the middle and weakly converging posteriorly and strongly narrowing anteriorly, lateral margins weakly out curved, posterior margin bisinuate and anterior with convex margin; dorsal median short ridge visible; surface convex coarsely granulate with uniform minute granules and covered with scale-like setae.

Scutellum not visible.

Elytra 1.6 times longer than wide, lateral sides almost parallel gradually narrowing particularly on the basal fourth, surface uniformly convex; anterior margin convex on middle provided with granulate margin; striae 1,2 and 3 well marked and slightly raised than the levels of others; stria 2 terminated almost at the commencement of declivity, stria 3 slightly raised on the declivity; all striae marked with rows of granules and confused scale-like setae.

Declivity short and steep marked with distinct granules on striae 1 and 3; interstitial punctures well marked with scale-like setae; declivity margin roughened with denticles.

*Distribution* : INDIA : Himachal Pradesh, Kashmir, Uttarakhand.

*Hosts* : *Pinus gregii*, *P. griffithii*, *P. ponderosa*, *P. roxburghii*.

#### 42. *Carphoborus latus* Wood

##### 1. *Carphoborus latus* Wood

1988. Wood, *Gt. Basin Nat.* 48(2) : 192. *Holotype* Female and *Allotype* Male in F.R.I., Dehra Dun; Paratypes in Woods collection, U.S.A. *Type-locality* : Baehar, Balaghat. Madhya Pradesh, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 305

*Description* (Based on Wood, 1988) : *Female* : "Length 1.8 mm (paratypes 1.6-2.0 mm), 2.0 times as long as wide (2.2 times in *C. boswelliae*); color rather pale brown, vestiture pale.

Frons broadly, shallowly impressed on lower two-thirds, armed on upper third by a conspicuous, subcarinate, median tubercle; surface smooth, shining, punctures very abundant, small; vestiture shorter in central area, longer on lateral and upper margins, distance from eye to lateral fringe equal three times diameter of a facet of eye (in *C. boswelliae* frons shallowly concave, tubercle absent, eye separated from lateral fringe by six diameters of a facet).

Elytra 1.3 times as long as wide; sides almost straight and parallel on basal half, broadly rounded behind; stria 1 feebly, others not impressed, punctures small, shallow, distinct (largely obsolete in *C. boswelliae*); interstriae about six times as wide as striae, smooth, shining, a few impressed lines, punctures small, close, confused. Declivity steep convex; sculpture almost as on disc except interstriae 1 and 3 each with a row of small, pointed tubercles, a few similar tubercles on 5,7 and 9. Vestiture of minute, strial hair and erect, small, interstitial scales.

*Male* : Similar to female, except frons more nearly convex, median tubercle higher, more sharply pointed, frontal vestiture inconspicuous.

*Host* : *Boswellia serrata*.

*Distribution* : INDIA : Madhya Pradesh, Baehar, Balaghat; Sillari Forest, Nagpur-Wardah Div. and S. Kanker.

*Remarks* : "This species is distinguished from *C. boswelliae* (Stebbing) by much stouter body form, by small, shallow, distinct, striae punctures, by presence of small tubercles on declivital interstriae 1 and 3, and by the less strongly impressed, female frons that is armed by conspicuous, subcarinate, median tubercle, with setae on lateral and upper margins shorter. All published citations to *boswelliae* except those by Stebbing are to this species. The name *lautus* was used by Beeson as a nomen nudum for this species (Wood, 1988). Biology of the species has been dealt by Roonwal (1971).

### Genus *Bothinodroctonus* Schedl

#### 1. *Bothinodroctonus* Schedl

1969. Schedl, *Kontyu*, 37(2) : 208

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 310.

Type of the genus : *Bothinodroctonus bicinctus* Schedl.

The genus is described recently by Schedl (1969) based on its type species *B. bicinctus* Schedl from Borneo. Two more species from India have been added to this genus by Wood (1988). It is purely an Oriental genus represented by only three species.

#### Key to the species of *Bothinodroctonus* Schedl

1. Frontal vestiture (Female) of comparatively stouter setae of uniform length, but much shorter (about half as long as); discal interstriae of elytra less than twice as wide as striae and armed by a uniseriate row of very closely set, low rounded nodules (as wide as interstriae and except on interstria 2) on basal half, and confused towards declivity; body length 1.7 mm ..... *B. setosus* Wood
- Frontal vestiture (Female) less stouter but comparatively longer; discal interstriae of elytra about four times as wide as striae and with confused small punctures, body length 2.1 mm ..... *B. indicus* Wood

#### 43. *Bothinodroctonus indicus* wood

##### 1. *Bothinodroctonus indicus* Wood

1988. Wood, *Gt. Basin Nat.*, 48(2) : 191. *Holotype* Male, *Allotype* Female and 6 *Paratypes*.  
Holotype and Allotype in F.R.I., Dehra Dun; Paratypes in Wood's collection, U.S.A.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 310.

*Description* (Based on Wood, 1988) : *Male* : "Length 2.1 mm (paratypes 1.8-2.4 mm), 2.1 times as long as wide; colour almost black, vestiture pale.

Frons profoundly excavated and armed as in *B. bicinctus* except almost glabrous.

Pronotum similar to *bicinctus* except surface smooth, shining, closely, rather coarsely punctured, granules reduced to about 4-6 near middle; vestiture very sparse, slender.

Elytra resembling *bicinctus* except striae punctures distinctly impressed, punctures small, shallow, close; interstriae about four times as wide as striae, smooth shining, punctures only slightly smaller than those of striae, confused. Declivity moderately steep, broadly impressed, almost flat between interstria 3(1 not elevated as in *bicinctus*); striae not evident, punctures confused; interstria 3 each armed by 3-4 small granules; lateral margin from striae 7 to sutural apex strongly, acutely elevated (explanate, somewhat as in *Ips*), crest armed by about five obtuse tubercles (elevation much stronger than in *bicinctus*). Ground vestiture obsolete; interstriae on and near declivity each with a sparse row of erect, rather stout setae.

*Female*—Similar to male except frons moderately concave, vertex not modified, surface apparently closely punctured, covered by a dense tuft of long, yellow hair, hair much longer on lateral and upper margins; pronotum with sparse, slender hair; elytral declivity steeper, much less strongly impressed; ventro-lateral margin less strongly elevated, sparse granules also on interstriae 1 and 2, vestiture in interstitial rows attains base, longer, much more slender.

*Distribution* : INDIA : Bombay, Belgaun, Travargati; West Bengal.

*Elsewhere* : Sri Lanka.

*Remarks* : This species is distinguished from *B. bicinctus* Schedl by the much shorter frontal vestiture on the female, by the absence of pronotal granules, by the more distinctly punctured striae, by the absence of granules on discal interstriae, and by the much stronger declivital impression, elytral scales much less abundant to obsolete, erect setae more slender (Wood, 1988).

#### 44. *Bothinodroctonus setosus* Wood

##### 1. *Bothinodroctonus setosus* Wood

1988. Wood, *Gt. Basin Nat.*, 48(2) : 192. *Holotype* : Female in Wood's collection, U.S.A. *Type-locality* : North Andaman, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 310.

*Description* (Based on Wood, 1988) : *Female* : "Length 1.7 mm, 2.2 times as long as wide; colour reddish brown, vestiture pale.

Frons shallowly concave on central half; surface closely, rather finely punctured; vestiture of dense, erect rather stout setae of uniform length, about half as long as in *indicus*.

Pronotum 1.3 times as long as wide; widest on basal third, sides weakly arcuate, converging slightly to very broadly rounded anterior margin; vestiture of erect scales, each about twice as long as wide and fine hair.

Elytra 1.6 times as long as wide; sides almost straight and parallel slightly more than basal two thirds, rather broadly rounded behind, postero-lateral profile interrupted by tubercles; striae not impressed, puncture rather coarse, moderately deep, very close; interstriae less than twice as wide as striae, shining, each armed by a uniseriate row of very closely set, low, rounded nodules (almost as wide as an interstriae) except on 2, these nodules confused on posterior half of disc. Declivity steep, impressed between striae 2; interstriae 1 and 2 with tubercles suppressed, 1 feebly elevated, 3 much more strongly elevated on lower half, this crest continuing 7 to suture; tubercles becoming pointed on 3-9, those along 7 to suture moderately large. Vestiture of rather sparse, short, strial and interstitial hair, and rows of longer, erect scales, each scale about four-times as long as wide and about two thirds as long as distance between rows.

*Host* : *Canarium euphyllum*.

*Distribution* : INDIA : Andaman.

*Remarks* : This unique species is distinguished by the reddish brown colour, by the more abundant, shorter female, frontal vestiture, by the more narrowly impressed elytral declivity and by the larger spines on the postero-lateral area of the declivity (Wood, 1988).

#### Subfamily SCOLYTINAE

#### Tribe **Scolytini** Latreille

#### Genus ***Scolytus*** Geoffroy

##### 1. ***Scolytus*** Geoffroy

1762. Geoffroy, *Histoire abregee des insects qui se trouvent aux environs de Paris danlaquelle ces animaux sont ranges suivant un order methodique* (Solytidae), 1 : 309-310, (Paris, 523 P.).

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. B) : 321.

##### 2. ***Ekkoptogaster*** Herbst

1793. Herbst, *Der 'Kafer*, 5 : 124.

##### 3. ***Coptogaster*** Illiger

1807. Illiger, *Mag. Insektenkunde*, 6 : 321.

##### 4. ***Eccoptogaster*** Gyllenhal

1813. Gyllenhal, *Col. Eleuterata* (Scolytidae : 335-372) *F.J. Leverentz, Series*, 1(3) : 346.

### 5. *Scolytochelus* Reitter

1913. Reitter, *Wien. Entomol. Zeit.*, **32** : 23.

### 6. *Ruguloscolytus* Butovitsch

1929. Butovitsch, *Stettiner Ent. Zeit.*, **90**(1) : 20.

### 7. *Archaeoscolytus* Butovitsch

1929. Butovitsch, *Stettiner Ent. Zeit.*, **90**(1) : 21, 23

### 8. *Spinuloscolytus* Butovitsch

1929. Butovitsch, *Stettiner Ent. Zeit.*, **90**(1) : 21, 24.

### 9. *Tubuloscolytus* Butovitsch

1929. Butovitsch, *Stettiner Ent. Zeit.*, **90**(1) : 21, 23.

### 10. *Pygmaeoscolytus* Butovitsch

1929. Butovitsch, *Stettiner ent. Zeit.*, **90**(1) : 21, 28.

### 11. *Pinctoscolytus* Butovitsch

1929. Butovitsch, *Stettiner, Ent. Zeit.*, **90**(1) : 22, 48.

### 12. *Confusoscolytus* Tsai and Huang

1962. Tsai and Huang, **4** : 14.

Type of genera : *Scolytus* : *Bostrichus scolytus* Fabricius; *Coptogaster* : *Bostorichus scolytus* Fab; *Eccoptogaster* : *B. scolytus* Fab; *Scolytochelus* : *Ips multistriatus* Marsham; *Ruguloscolytus* : *Bostrichus rugulosus* Muller; *Archaeoscolytus* : *Scolytus claviger* Blandford; *Spinuloscolytus* : *Ips multistriatus* Marsham; *Tubuloscolytus* : *Eccoptogaster intericalus* Ratzeburg; *Pygmaeoscolytus* : *Bastrichus pygmaeus* Fab.; *Pinctoscolytus* : *Scolytus marawitzi* Semenov; *Confusoscolytus* : *Eccoptogaser confuses* Eggers.

Since 1762, the genus *Scolytus* had been in existence as conceived by Geoffroy with designation of its type-species *Bostrichus scolytus* Fabrecious. However, *Bostrichus* as we know to-day is a genus under *Bostrichidae*, while *Scolytus scolytus* (Fab.) is a valid species. This species is unknown from India, but occurs in many countries in the old world including Asia. It is a cosmopoliton genus containing many species, of which only three occur in India. Three species are so far recorded from India which are dealt herewith.

#### 45. *Scolytus chelogaster* Schedl

##### 1. *Scolytus chelogaster* Schedl

1958. Schedl, *Indian For. Rec. (Ent.)*, N.S., **9**(7) : 168. 4(2 male and 2 Female) *Synotypes* in Schedl coll. in NHMW., Wien *Type-locality* : Naga Hills (3000 ft.), India.
1961. Beeson, *Ecology and control of the Forest Insects of India and the neighbouring countries* (2<sup>nd</sup> Ed.), Govt. India, p. 296.
1961. Mathur and Singh, *Indian For. Bull. (N.S.)*, **171**(8) : 63.
1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. A) : 327.

*Description* : *Male* (Based on Schedl, 1958) : Head, pronotum and the medium anterior part of the elytra nearly black, sides and apex of the latter reddish brown, brightly shining, 3.5 mm long, twice as long as wide. A new species more closely related to *Scolytus ensifer* Eichh, but much larger, with a different sculpture of the elytra and the sternites three and four unarmed.

Frons flattened in its greater part, sub-impressed in the middle, brightly shining, remotely punctured medially and with some longitudinal acciculations laterally originating around the deep epistomal emargination, with some very long incurved hairs along the side margins and along the vertex which is separated from the front by a fine rim-like margin.

Pronotum feebly wider than long (51 : 47), widest near the base, postero-lateral angles broadly rounded, the sides very feebly and obliquely narrowed in the basal three fourths, followed by a distinct but short subapical constriction, apical margin very broadly rounded, subtransverse in the middle; disc feebly convex, shining, very regularly covered with not closely placed punctures of moderate size, glabrous.

Scutellum triangular, finely punctured.

Elytra about as wide and 1.1 times as long as the pronotum, sides feebly and obliquely narrowed, apex very broadly rounded, transverse near the suture; disc shining, regularly striate punctuate, the strae merely indicated, the strae punctures rather small, interstices wide, also with a row of punctures, but these somewhat smaller than those of the strae and not in impressed lines; second sternite perpendicular, with a well defined margin below and a long slender hook like tooth at its lower border, all sternites subopaque, rather densely punctured.

The two females are both badly damaged but the one shows the front being more evenly convex, the punctuation fine and sparse, the epistomal emargination shallow and the pubescence nearly absent, in the other and second sternite with the median tooth lower, not hook-like curved at the extremity.

*Distribution* : INDIA : Nagaland.

*Host* : *Ulmus lancifolia*.

46. *Scolytus kashmirensis* Schedl1. *Scolytus kashmirensis* Schedl

1958. Schedl, *Indian For. Rec. (Ent.) N.S.*, 9(7) : 168. *Lectotype* Male in Schedl's coll. in NHMW., Wien, and *Syntypes* in F.R.I., Dehra Dun designated by Schedl (1979 : 131). *Type-locality* : Lidar Valley, Pahlgam (7000 ft) Kashmir, India.

1979. Schedl, *Entomologie*, 3(2) : 131.

1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. 13(Vol. A) : 336.

*Description* : *Male* (Based on Schedl, 1958) : Reddish brown, head and anterior part of the pronotum nearly black, brightly shining, 3.3 to 3.6 mm long, nearly 2.2 times as long as wide.

Frons strongly flattened, subdepressed medially, very densely covered with longitudinal punctures arranged in radiating striae, with long erect hairs along the side margins and above, a triangular flush of short densely placed hairs on the narrow epistomal process.

Pronotum somewhat wider than long (46 : 42), widest at the base, postero-lateral angles strongly rounded, sides subparallel on the basal third, thence gradually more strongly narrowed, subapical constriction very short but well developed, anterior margin broadly rounded; disc brightly shining, fairly densely punctured, the punctures rather small, somewhat increasing in size towards the anterior margin, crowded on the anterior constriction; pubescence sparse, fine, more distinct on the sides. Scutellum triangular, large, covered with pale yellow scales.

Elytra feebly wider (48 : 46) and 1.35 times as long as the pronotum, sides parallel on the basal half, feebly and obliquely narrowed behind, apical margin very broadly rounded; disc rather shining, very regularly striate-punctate, the striae punctures comparatively small, the striae moderately impressed, the interstices wide, each with a row of punctures which are hardly smaller than those of the striae; scutellar impression covered with pale yellow and fine scales, apex of each elytron with a subapical transverse impression bearing scattered long hairs; second abdominal sternite obliquely ascending medially, near the anterior border with a low blunt tooth-like structure, posterior margin armed with a lip like extension in the middle and with a knobbed tooth on each side; surface covered with pale yellow, inclined scale-like hairs, some very long hairs along the anterior margin of the second sternite; sternites three to five, subopaque, densely and finely punctured.

*Female* of similar proportions to male, front broadly convex, transversely impressed along the anterior border, punctuation as in the male, pubescence inconspicuous, abdomen with the median tooth on the second sternite much larger, the lip-like structure strongly reduced, the lateral teeth on the posterior border much smaller, like pointed tubercles and further apart from each other.

*Distribution* : INDIA : Kashmir.

*Host* : *Ulmus wallichiana*.

#### 47 *Scolytus major* Stebbing

##### 1. *Scolytus major* Stebbing

1903. Stebbing, *Office of the Superintendent of Government Printing, Calcutta*, 2 : 203. *Syntype* 2 Male in F.R.I., Dehra Dun. *Type-locality* : Konian, Chakrata, Uttarakhand, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 340.

##### 2. *Scolytus minor* Stebbing

1903. Stebbing, *Office of the Superintendent of Govt. Printing, Calcutta*, 2 : 207. *Holotype* Male in F.R.I., Dehra Dun. *Type-locality* : North West Himalaya, India.

1941. Beeson, *Ecology and Control of the forest insects of India and the neighbouring countries*, Dehra Dun, p. 207 (syn.).

##### 3. *Scolytus deodara* Stebbing

1903. Stebbing, *Office of the Superintendent of Govt. Printing, Calcutta*, 2 : 220, *Syntype*, Sex?. Repository not known. *Type-localities* : Simla Hills, Jaunsar and Chamba Division, Himachal Pradesh.

1941. Beeson, *Ecology and Control of the forest insects of India and the neighbouring countries*, Dehra Dun, p. 296.

*Description* : *Male* : Body broad and stout; head pitchy black, fairly densely hairy, pronotum paler with sparse minute hair, elytra brown, deeper anteriorly with distinct sparse hairs throughout. Body length, 9.90 mm, width slightly less than half the length.

Frons plano-convex roughened with minute tubercles scattered hairs and with a distinct tubercule at the centre; epistomal margin feebly concave with a tuft of hairs at the middle directing forward. Eyes very much elongated with a wide shallow emargination anteriorly.

Pronotum as long as broad, lateral margins convex with its maximum width at the basal third whence converging both posteriorly and anteriorly more narrowed anteriorly, anterior margin convex with a feeble median emargination and with very weak smooth carina; surface convex, smooth and shining with uniform small punctures and feeble hairs, hairs more pronounced anteriorly; summit indistinctly marked at the centre of the posterior third; posterior margin with a feeble carina.

Scutellum small, triangular and submerged.

Elytra as long as double the width and one and a half time as long as pronotum; elytral irregularly margined with weak bulging and concavity, lateral margins subparallel upto almost basal half whence converging posteriorly and terminating

into a convex margin, margin almost smooth above which some small regular granules; elytron individually convex along the middle line upto the commencement of elytral declivity; sutural line smoothly carinate and depressed; discal striae marked by distinct shallow punctures with some hairs running upto declivity; interstriae smooth and weakly convex with erect hairs; declivity on posterior fourth, surface depressed below the discal hump on both elytra, discal striae forming loop on the declivity surface where punctures and hairs more distinct.

*Distribution* : INDIA : Himachal Pradesh, Kashmir, Punjab, Uttarakhand.

*Hosts* : *Cedrus deodara*, rare in *Pinus excelsa*.

### Tribe *Scolytoplatypodini* Blandford

#### Genus *Scolytoplatypus* Schaufuss

##### 1. *Scolytoplatypus* Schaufuss

1891. Schaufuss, *Tijds. Ent.*, **34** : 31  
 1975. Schedl, *Ent. Abb. Mus. Tierk. Dresden*, **40**(7) : 199-287 (Revision of world species)  
 1980. Nobuchi, *Kontyu*, **48**(1) : 42-52 (syn.)  
 1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. **13**(Vol. A) : 401.  
 1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, **3**(Part 6B) : 793.  
 2000. Saha and Maiti, *Fauna of Meghalaya, State Fauna Series*, **4**(Part 5) : 643.

##### 2. *Taeniocerus* Blandford

1893. Blandford, *Trans. Ent. Soc. Lond.*, p. 437  
 1910. Hagedorn, *Coleopt. Cat.*, **26**(4) : 117 (syn.)  
 1914. Hopkins, *Proc. U.S. Nat. Mus.*, **48** : 130 (Type-designation of *S. mikado* Blandford)

##### 3. *Strophinocerus* Sampson

1921. Sampson, *Ann. Mag. Nat. Hist.*, **7**(9) : 36.  
 1932. Schedl, *Cat. Coleopt. Reg. Palaearctic*, p. 1642

*Types of the genus* : *Scolytoplatypus* : *S. permirus* Schaufuss; *Spongocerus* : *Scolytoplatypus tycon* Blandford; *Taeniocerus* : *Scolytoplatypus mikado* Blandford; *Strophinocerus* : *Scolytoplatypus mikado* Blandford.

Schaufuss (1891) described the genus to accommodate *Scolytoplatypus permirus*, a species described by him from Madagascar and placed it under the family Platypodidae. Blandford (1893) erected a new subfamily Scolytoplatypinae and transfer it to Scolytidae. The two subgenera, namely, *Spongocerus* Blandford and *Strophinocerus* Sampson (new name for *Taeniocerus* Blandford) recognised by different authors under

the genus *Scolytoplatypus*, are not considered valid ultimately. It is predominately found in the Old World Tropics with a few species extending to the subtemperate islands of Japan. In India, 12 species have been recognised so far, of which three species have been described as new to science. Large majority of the Indian species are found in the high altitude of the eastern Himalayas. Females usually bearing one mycetangium on anterior third of pronotum, except visibly absent in *Scolytoplatypus nitidicollis* Eggers and *S. lopchuensis* sp. nov.

### Key to the species of the genus *Scolytoplatypus* based on male and female

1. Male : Frons concave; pronotum with foveae on lateral sides; protibiae rather slender and its posterior face devoid of any distinct tubercle, if at all present, present in the form of granules (Fig. 15f); pronotum devoid of mycetangium ..  
..... 2
- Female : Frons convex; pronotum without any foveae on lateral sides; protibiae strongly dilated at the middle and its posterior face with strong tubercles (Fig. 15, g); pronotum with mycetangium on or near anterior third (except in *S. lopchuensis* and *S. nitidicollis*) ..... 11
2. Elytral disc smooth, without any interstitial ridge ..... 3
- Elytral disc not smooth, but with distinct interstitial ridges ..... 6
3. Posterior and lateral elevated margins of frons with uniform dense short or long hairs, but devoid of any tuft of long hairs; anterior margin of pronotal foveae not confluent with the anterior margin of pronotum (Fig. 15, e)..... 4
- Posterior and lateral elevated margins of frons without any uniform long hairs, but with tuft of long hairs on margins of both anterior and posterior borders of eyes; tuft of hairs touching each other at the middle of their length above the frons (Fig. 15, a); anterior margin of pronotal foveae confluent with the anterior margins of pronotum (Fig. 15, d) ..... 5
4. Margin of vertex with comparatively short hairs in irregular rows, tip of hairs directed forward; frontal surface also with dense hairs as on the margin; antennal club lanceolate in shape (Fig. 14, d) elytral disc uniformly coloured; declivital face with comparatively less hairs; body Length 2.57-2.60 mm .....  
..... *S. gardneri* sp. nov.
- Margin of vertex with long hairs in regular row (except on median portion), tip of hairs converging towards centre of frons; frontal surface without any long hair, rather with sparse minute hairs; antennal club elongately rounded in shape (Fig. 12, f) elytral disc not uniformly coloured, but with two large yellowish brown patches towards basal sutural angles; declivital face more hairy; body length 2.65-2.80 mm ..... *S. darjeelingi* Stebbing

5. Smaller species, 1.80 mm ..... *S. nitidicollis* Eggers
  - Larger species, more than 3.00 mm ..... 6
6. Elytral interstriae at commencement of declivity devoid of any ridge. Body length 3.90-4.00 mm ..... *S. pubescens* Hagedorn
  - Elytra declivity with a few small hairs; elytral interstriae at commencement of declivity with distinct ridges. Body length about 3.00 mm .....  
..... *S. siomio* Blandford
7. Terminal ends of all interstitial ridges or alternate ones at the commencement of declivity bearing distinct spines (Figs. 16,a; 19,a); elytral declivity abrupt ..... 8
  - Terminal ends of interstitial ridges at the commencement of declivity devoid of any distinct spine, rather with weak spiny structures on interrupted ridges; elytral declivity rather gradually sloping ..... 9
8. Alternate interstitial ridges 1,3,5 and 7 each with a spine at its terminal end at the commencement of declivity; pronotal surface with large close punctures, lateral sides strongly emarginate on basal half and basal angles rather acutely produced laterally; declivital striae very much impressed and interstriae with distinct granules; larger species, body length 3.00-3.10 mm ..... *S. raja* Blandford
  - All interstitial ridges 1 to 8, each with a spine at its terminal end at the commencement of declivity; pronotal surface with inconspicuous punctures, lateral sides weakly emarginate on basal half and basal angles rather obtuse, but not produced laterally; declivital striae feebly impressed and interstriae with indistinct granules; smaller species, body length 1.73 mm ..... *S. minimus* Hagedorn
9. Pronotal surface with dense fine hairs throughout; apical outer angles of fore-femora without any flap-like pronuberance; elytral surface with dense hairs; pronotal foveae rhomboid, more than twice as long as wide (Fig. 15,c); smaller species, body length 2.55-2.60 mm ..... *S. lopchuensis* sp. nov.
  - Frontal surface with hairs only on upper half; apical outer angles of fore-femora with flap-like protuberance (Fig. 20,f); elytral surface only with a few sparse long hairs towards declivity; pronotal foveae large and suboval, almost twice as long as wide (Fig. 13,c); larger species ..... 10
10. Striae 1 and 2 marked upto the lower half of declivity, terminal ends of interstriae 1 and 3 slightly elevated at declivital face and, on and near the elevation with fairly large granules; strial grooves marked by elongate, confluent and distinct punctures particularly towards apex; punctures on pronotum rather deep; larger species, body length 3.75-3.80 mm ..... *S. samsinghensis* sp. nov.
  - Striae 1 and 2 marked only upto upper half of declivity; interstriae 1 and 3 not elevated at declivital face; granules in the declivity very small; strial grooves marked by indistinct confluent punctures; punctures on pronotum, rather shallow; smaller species, body length 2.65-2.75 mm ..... *S. eutomoides* Blandford

11. Pronotal surface with a distinct mycetangium below the anterior third; larger species, body length 2.65-4.00 mm ..... 12  
 – Pronotal surface devoid of any mycetangium; smaller species, body length 1.85-2.60 mm ..... 16
12. Pronotal base weakly bisinuate, basal angles not acutely produced laterally; elytral disc smooth; interstriae rather flat without forming any ridge ..... 13  
 – Pronotal base strongly bisinuate, basal angles acutely produced laterally; elytral disc not smooth; interstriae with weakly to fairly developed ridges ..... 14
13. Elytral basal margin carinate; declivity of elytra commencing on posterior fifth and face steep; discal hairs of elytra very distinct; smaller species, body length 3.00-3.10 mm ..... *S. darjeelingi* Stebbing  
 – Elytral basal margin without forming any carina; declivity of elytra commencing on posterior third and face rather steep only on lower half; discal hair of elytra inconspicuous; larger species, body length 3.90-4.00 mm.....*S. pubescens* Hagedorn
14. Elytral interstriae distinctly elevated, but not ridged and striae with distinct confluent punctures; apical outer angles of fore-femora without any flap-like protuberance; pronotal surface with distinct punctures, interpuncture space pronounced; body length 3.00-3.10 mm ..... *S. raja* Blandford  
 – Elytral interstriae with feeble ridges, striae unmarked; apical outer angles of fore-femora with distinct flap-like protuberance; pronotal surface with punctures of irregular shape and size, interpuncture space not demarcated..... 15
15. Interstitial ridges of elytral disc narrow and conspicuous; declivital face devoid of any hair; larger species, body length 3.70 mm ..... *S. samsinghensis* sp. nov.  
 – Interstitial ridges of elytral disc inconspicuous, feebly marked towards commencement of declivity; declivital face with dense moderately long hairs on lower half; smaller species, body length 2.65-2.75 mm.....*S. eutomoides* Blandford
16. Elytral disc smooth, without any interstitial ridge or hair; discal striae not grooved, but with distinct punctures; body length 1.85-1.90 mm .... *S. nitidicollis* Eggers  
 – Elytral disc not smooth, but with distinct interstitial ridges and microhairs; discal striae distinctly grooved, but with inconspicuous confluent punctures; body length 2.60 mm ..... *S. lopchuensis* sp. nov.

#### 48. *Scolytoplatypus darjeelingi* Stebbing

(Fig. 12)

##### 1. *Scolytoplatypus darjeelingi* Stebbing

1914. Stebbing, *Indian Forest Insects (Coleopt.)*, pp. 607-608, Male and Female *Syntypes* in F.R.I., Dehra Dun. *Type-locality* : Darjeeling, East Himalaya, India.

1922. Beeson, *Indian Forester*, 48 : 499.

1939. Eggers, *Entomologie*, 6 : 114.

1941. Beeson, *Ecology and Control of Forest Insects of India and Neighbouring Countries*, p. 383.

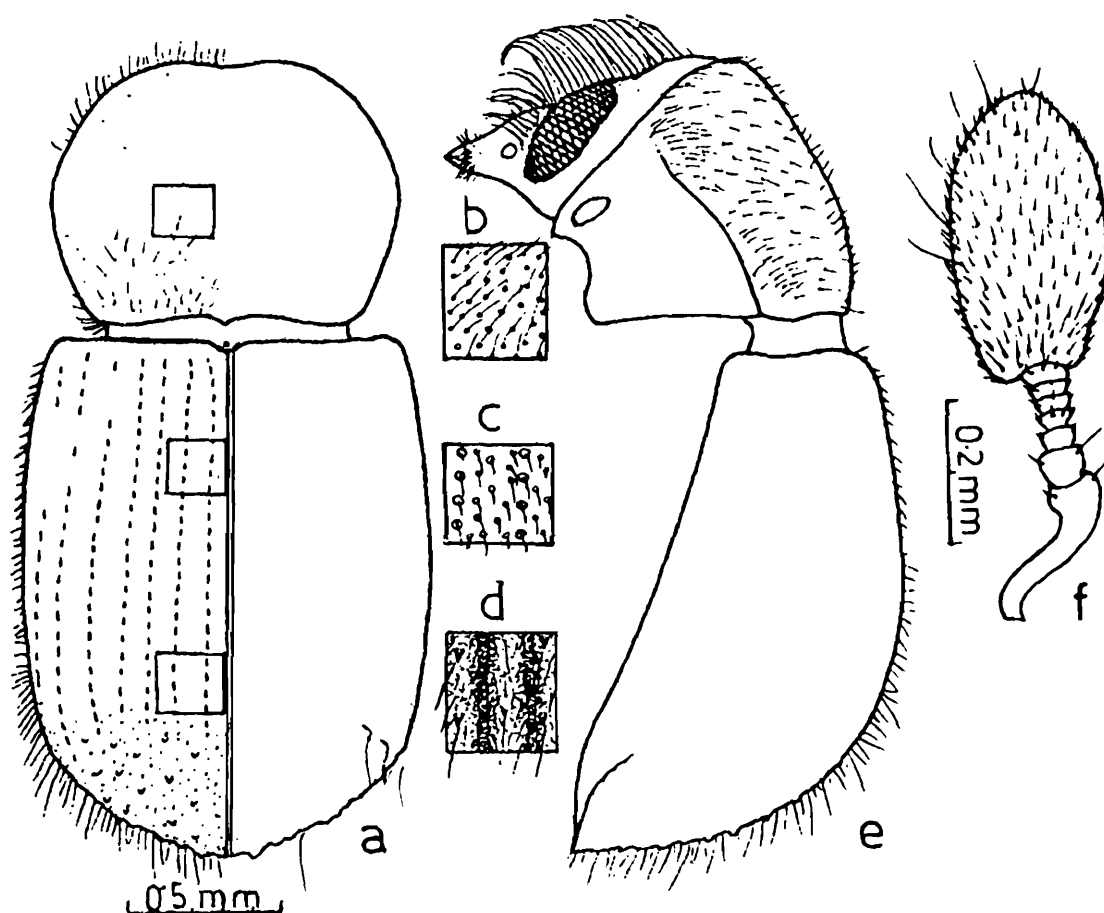
1967. Nobuchi, *Bull. Govt. For. Exp. Sta.*, No. 207 : p. 24, Taiwan

1975. Schedl, *Ent. Abh. Mus. Tierk. Dresden.*, 40(7) : 217 (syn. Under *Scolytoplatypus kunala* Strohm.)

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. 13(Vol. A) : 402.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 793, 794 (Fig. 4, a-f)

**Description : Male** : Body short and cylindrical; colour blackish brown with yellowish brown patch on basal half towards elytral sutural angle spreading upto interstria 5; antennae and legs yellowish brown. Body length 2.65-2.80 mm, 1.8 times as long as wide.



**Fig. 12.a-f.** *Scolytoplatypus darjeelingi* Stebbing, Male: a, Pronotum and elytra in dorsal view; b, enlarged portion of pronotum; c, enlarged portion of elytral disc; d, enlarged portion of elytral declivity; e, head, pronotum and elytra in lateral view; f, antenna.

Head subrostrate, dorso-ventrally flattened with concavity on frons extending upto vertex; surface reticulate on lower half with yellowish patch, rest of the surface smooth and shiny with indistinct punctures and sparse small hairs; presence of calosity below the eyes; fringe of long curled golden yellowish hairs around the margin of vertex upto posterior margins of eyes, except on median protion. Eyes elongate, weakly convex and placed along lateral magins. Antennal scape short and stout; funicle with 6 segments; club elongately oval, with dense fine hairs along with sparse and moderately long erect hairs on anterior face.

Pronotum 1.2 times as wide as long, widest at the middle; basal margin feebly bisinuate; lateral sides distinctly outcurved and feebly ridged; basal emargination not distinct; anterior margin substraight with a weak median emargination; foveae sub-oval, almost twice as long as wide, not touching the anterior margin of pronotum; surface feebly convex and finely reticulate with minute punctures and dense pubescence.

Scutellar tip only visible.

Elytra 1.2 times as long as pronotum, much wider than pronotum and 1.2 times as long as its own width; basal margin substraight and weakly carinate upto stria 5, lateral sides subparallel on basal three-fourths; postero-lateral margins carinate, weakly granulate towards interstria 9; apex broadly rounded; disc smooth and shiny; striae marked by minute punctures, becoming more distinct towards declivity, each with a microhair; interstriae much wider than striae, with fine punctures and hairs. Declivital face steep and convex; striae feebly impressed at declivital face with inconspicuous punctures; interstriae 1-2 with sparse and prominent granules upto middle of declivity, except on 2; interstriae 1 with granules upto apices; entire declivital surface reticulate and roughened; surface with dense admixture of fine and a few erect hairs.

*Female* : Females are very similar to males in characteristics, but differ as follows : Body comparatively long, length 3.10 mm; frons convex, devoid of tuft of hairs on margin of vertex, surface finely reticulate with fine punctures and erect hairs, with a median incised line and a transverse depressed area above epistomal margin; pronotum with a rounded mycetangium; declivity less roughened with comparatively smaller granules; protibiae more dilated and with more distinct tubercles on posterior face.

*Distribution* : INDIA : Assam, Uttar Pradesh and West Bengal (Darjiling Dist : Darjiling, Debrepani, Ghum, Lepchajagat, Rangirum and Senchal Range).

*Elsewhere* : Taiwan.

*Host* : *Acer caesium*, *Alnus nepalensis*, *A. theaeifolia*, *Eucalyptus globulus*, *Litsaea* spp., *Prunus nepalensis*, *Quercus lamellosa*, *Symplocas theaeifolia*.

*Remarks* : Since its first description by Stebbing (1914), the species remained valid until 1975, when Schedl synonymised it under *S. kunala* Strohmeier, a species known from Kashmir. However, Scheld (1975a) has synonymised it under *S. siomio* Blandford,

a widely distributed in Asia. *S. darjeelingi* is known to infest as many as 7 hosts occurring only in the high altitude of Darjiling hills (Beeson, 1961; Saha and Maiti, 1996).

**49. *Scolytoplatypus eutomoides* Blandford**  
(Fig. 13)

**1. *Scolytoplatypus eutomoides* Blandford**

1896. Blandford, *Trans. Ent. Soc. Lond.*, p. 196. *Holotype* : Male in IRSNB, Brussels; *Cotypes* in Egger's collection in NHMW, Wien. *Type-locality* : Cebbes, Indonesia.
1950. Schedl, *B.P. Bishop Mus., Occas. Papers*, **20**(3) : 46-49.
1992. Wood and Bright, *Gt. Basin Nat. Mamo.*, No. **13**(Vol. A) : 402.
1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, **3**(Part 6B) : 794, 795.

**2. *Scolytoplatypus brahma* Blandford**

1898. Blandford, *Trans. Ent. Soc. Lond.*, pp. 424-426. *Holotype* Femlae in BMNH, London. *Type Locality* : Chittagong Hills, Bangladesh.
1955. Browne, *Sarawak Mus. J.*, **6**(5) : 361(syn.).

**3. *Scolytoplatypus hamatus* Hagedorn**

1904. Hagedorn, *Insekten-Borse*, **21** : 260. *Syntypes* Male and Female in Hamburg Mus. (lost).
1952. Schedl, *Ent. Blatt.*, **47-48** : 159 (syn.)

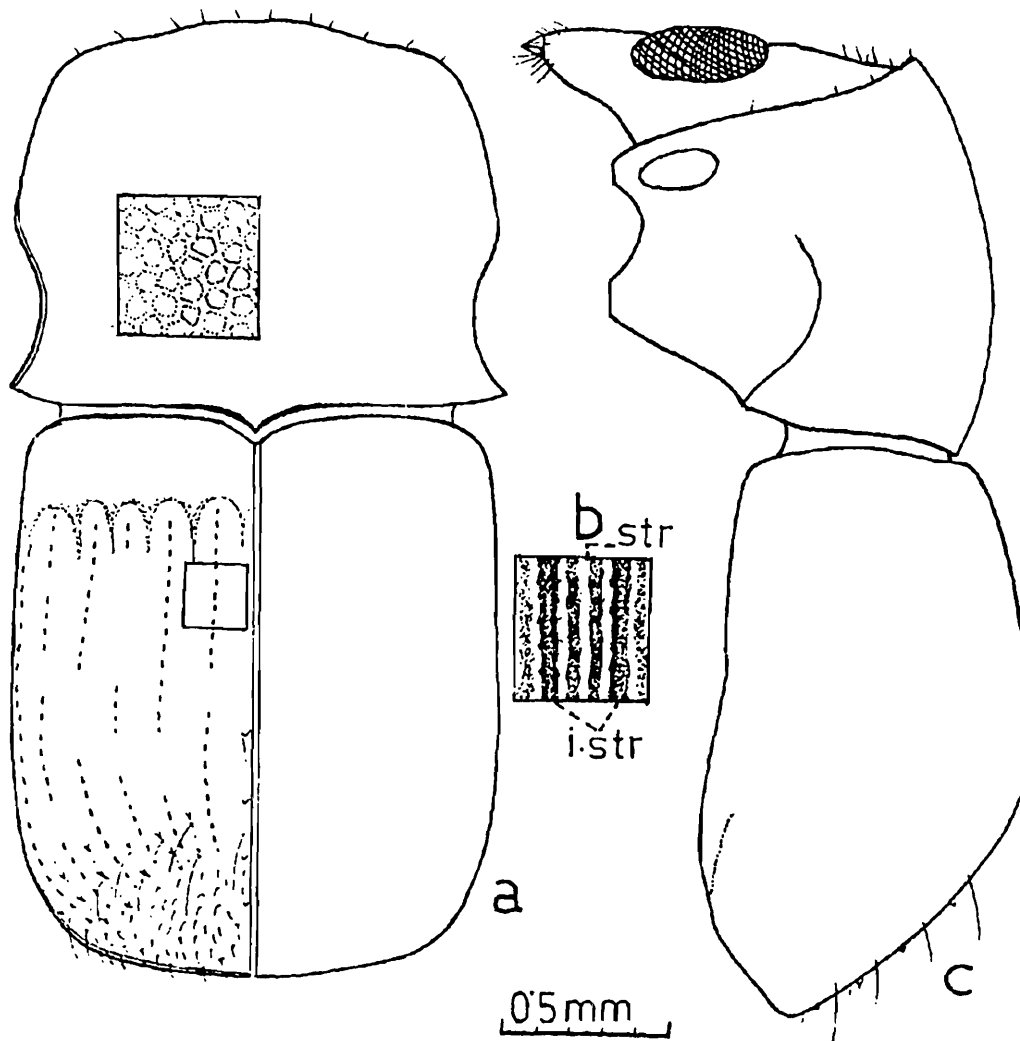
**4. *Scolytoplatypus bombycinus* Browne**

1955. Browne, *Sarawak Mus. J.*, **6**(5) : 361. *Holotype* Male in BMNH, London. *Type-locality* : Malay Peninsula Kalantan (Borneo).
1975. Schedl. *Ent. Abhandl. Staatt. Mus. Tierk. Dresden.*, **40**(7) : 217 (syn.)

*Description* : *Male* : Body short and stout; colour reddish brown to blackish brown. Body length 2.75-3.00 mm, 1.7-1.8 times as long as wide.

Head subrostrate, dorso-ventrally flattened, frontal concavity extending upto vertex with a median incised line from vertex to middle; surface finely reticulate; upper half with moderate fine hairs and a few towards epistomal margin. Eyes elongate and weakly convex, placed along lateral margins. Antennal scape long, swollen apically; funicle with 6 segments; club flattened, lanceolate and entirely pubescent.

Pronotum slightly wider than long; basal margin strongly bisinuate and carinate upto bisinuate margins or beyond; lateral sides with basal emargination very distinct and ridged on basal two-thirds; anterior margin either substraight or weakly out-curved; postero-lateral corners of pronotum distinctly acute; foveae large and suboval,



**Fig. 13. a-c.** *Scolytoplatypus eutomoides* Blandford, Male : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc (i. str. = interstria; str. = stria); c, head, pronotum and elytra in lateral view.

almost twice as long as wide, not touching the anterior margin of pronotum; surface opaque, rugosely punctuate, punctures of irregular shape and size; a few minute hairs towards anterior margin.

Scutellum submerged.

Elytra 1.2-1.3 times as long as pronotum and slightly longer than its own width; basal margin substraight and feebly elevated; lateral sides subparallel; postero-lateral margins with distinct carinae, confluent with interstria 9; basal transverse narrow strip devoid of any strial ridge, but irregularly sculptured somewhat like that of pronotum; strial groove shallow and marked by confluent indistinct punctures; all interstitial ridges running parallel upto commencement of declivity and becoming obsolete within declivity but marked with small spine-like structures, 2 and 4 comparatively short. Declivital face weakly convex and lower half slightly raised, roughened with irregular granules; striae 1,2 and 6 somewhat marked on upper half,

stria 2 incurved towards 1 at the commencement of declivity; declivital face with fairly dense microhairs, as well as with a few sparse long erect hairs, specially towards the terminal end of interstitial ridges.

*Female* : Females are very much similar to males, but differ from them as follows : Frons convex, surface finely reticulate with fine punctures and hairs, along with a median incised line. Pronotum with a rounded mycetangium, placed just below the anterior thirds; interstitial ridges on elytral disc very weak, elytral declivity at its lower half with fairly dense hairs; protibiae more dilated with more distinct tubercles on posterior face.

*Distribution* : INDIA : Assam and West Bengal (Darjiling Dist. : Sukna and Jalpaiguri Dist. : Khuntimari).

*Elsewhere* : Bangladesh, Indonesia (Celebes and Java), Myanmar.

*Host* : *Cryptocarya wrightiana*, *Ilex dipyrena*, *Swietenia mahagoni*.

*Remarks* : The species was first described from Celebes by Blandford (1986). Since then, some 10 species have been synonymised under it. Thus, it appears that this is a very variable and widely distributed species in the Oriental and Papuan Regions. However, *S. brahma* known from Bangladesh which is now considered as one of the synonymy of the species, is the only previous record from Indian subcontinent. Beeson identified a few examples from North Bengal indicating the existence of the species in the area. Some examples collected by Roonwal from north Bengal have been identified here as *S. eutomoides* which are slightly smaller than the original species, otherwise typical *eutomoides*. Biological feature of the species is limited only to the host-records of *Ilex dipyrena* and *Macaranga denticulate* from the sub-Himalayan West Bengal.

## 50. *Scolytoplatypus gardneri* sp. nov

(Fig. 14)

### 1. *Scolytoplatypus lepcha* Beeson

1941. Beeson *Ecology and Control of Forest Insects of India and Neighbouring Countries*, 384 p., (nom. nud.).

1976. Schedl, *Entom. Abh. Mus. Tierk. Dresden*, 40((7) : 219 (nom. nud)

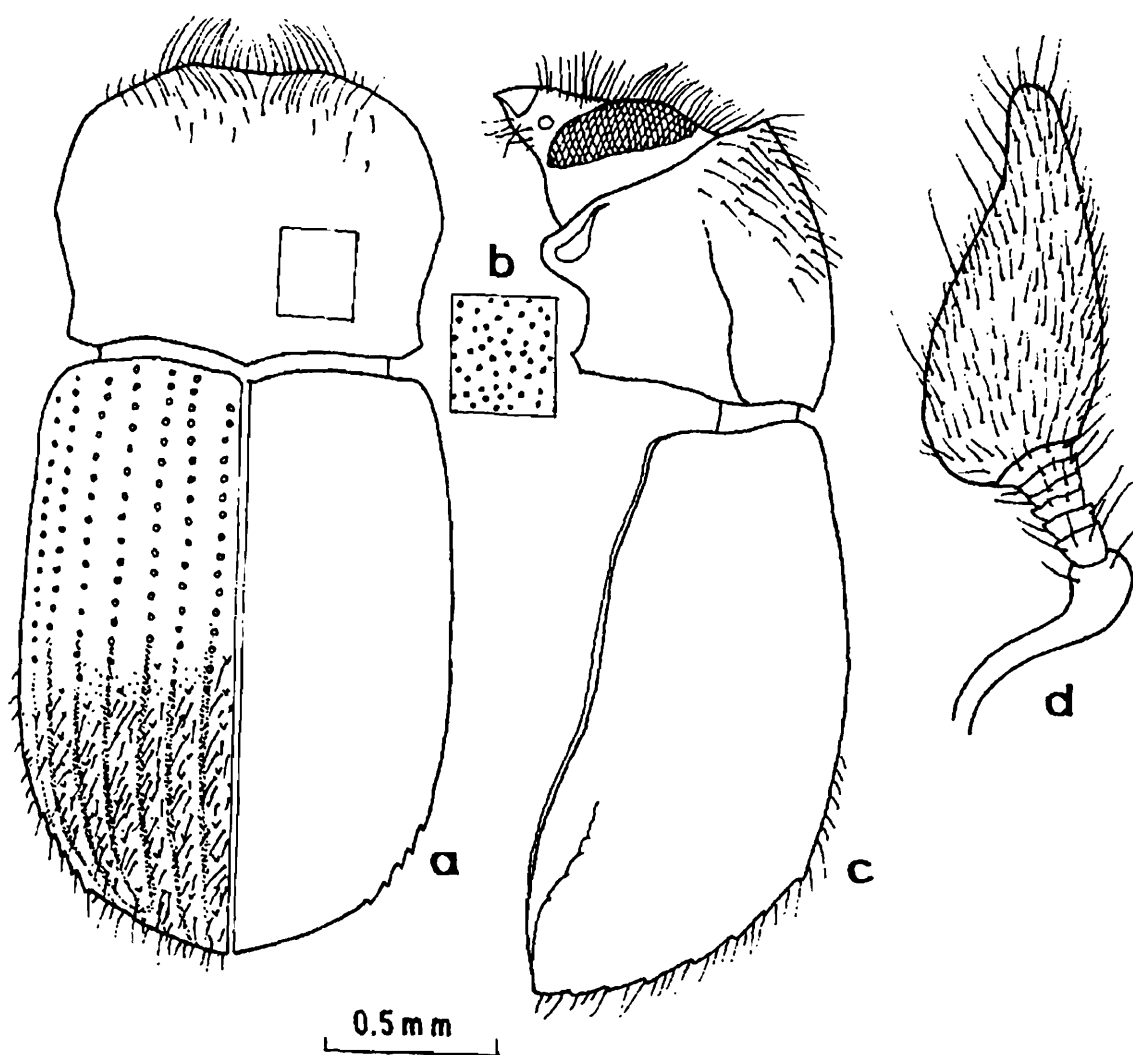
*Material examined* : 2 Males, Lepchajagat, Darjiling Dist., J.C.M. Gardner coll., 11.ix.1929, ex. "*Symplocos theaefolia*"

*Description* : *Male* : Body short and cylindrical; head, pronotum and elytra yellowish brown; elytra somewhat paler. Body length 2.57-2.60 mm, nearly twice as long as wide.

Head subrostrate, flattened dorso-ventrally with shallow concavity on frons extending upto vertex with a longitudinal median incised line marked only on vertex;

uniform dense hairs along the margin of vertex running upto posterior margins of eyes; entire surface finely reticulate with punctures and dense, long hairs, devoid of any tuft of hairs on frontal margin; punctures indistinct towards lower half. Eyes elongate. Antennal scape long and swollen apically; funicle with 6 segments; club large and lanceolate, entirely pubescent along with a few long hairs.

Pronotum 1.27 times as wide as long; basal margin feebly bisinuate and indistinctly carinate; lateral sides with very weak basal emargination, feebly ridged upto anterior third, widest at middle, whence gradually narrowing anteriorly; anterior margin substraight with weak median emargination; in profile plano-convex with antero-median feeble elevation; foveae somewhat pyriform, not touching the anterior margin of pronotum; surface finely reticulate mostly with sparse minute punctures and with a few comparatively large, irregular punctures in transverse rows below the anterior margin and dense coat of fine hairs more prominent anteriorly.



**Fig. 14. a-d.** *Scolytoplatypus gardneri* sp. nov., Male : a, Pronotum and elytra in dorsal view; b, enlarged portion of pronotum; c, head, pronotum and elytra in lateral view; d, antenna.

Scutellum submerged, not visible distinctly.

Elytra twice as long as pronotum and much wider than it; basal margin feebly outcurved, weakly carinate and elevated; lateral sides somewhat subparallel to basal three-fourths, but a little wider posteriorly; apex broadly rounded; postero-lateral margins feebly carinate, but confluent and crenulated at interstria 9; disc weakly convex; striae marked by shallow small punctures, devoid of any microhair, interstriae much wider than striae with shallow irregular punctures and sparse small hairs along with few sparse long erect hairs, specially towards declivity; declivity commencing on posterior third; face steep, convex and roughened; striae impressed, but punctures inconspicuous; interstriae 1 and 3 feebly elevated; interstriae 1,3,5 and 7 with distinct and sharp granules comparatively larger on interstriae 1 and 3 and rest with minute granules.

*Female* : Female not available in the material studied.

*Type-locality* : Lepchajagat (1846 m), Darjiling Dist., West Bengal, India.

*Type-specimen* : *Holotype* : Male from a single source as under "Material", deposited in F.R.I., Dehra Dun. *Paratypes* : Males from same lot as above, deposited as follows :

a) 1 Male in Z.S.I., Calcutta and (b) 1 Male with Prof. S.L. Wood, Utah (U.S.A.).

*Comparison*—*Scolytoplatypus gardneri* sp. nov. is certainly a distinct species in having dense fine long hairs on frons particularly towards the margin in male, by which it can be separated from all other Indian species of the genus *Scolytoplatypus*. However, *S. lopchuensis* sp. nov. being described here from north Bengal has also the dense hairs on the frons, but these hairs are comparatively short. Further, the interstitial ridges on elytra of *S. lopchuensis* are absent in *S. gardneri*.

However, the species comes close to *Scolytoplatypus darjeelingi* Stebbing in shape and size, but differs from it on the basis of characteristic features of the males as follows : (i) Entire frontal surface with dense fine long hairs (vs. frontal surface with sparse minute hairs, but with curled long hairs, from the upper margin of frontal cavity in *S. darjeelingi*); (ii) Antennal club lanceolate (vs. elongately rounded) and (iii) Elytra uniformly coloured (vs. each elytral disc with a single large brownish patch).

*Remarks* : Beeson (1961) recognized this species as *Scolytoplatypus lepcha* based on the material from Lepchajagat and referred to the same in his book, without providing any description and illustration. There is minor variation in the placement of tubercles on each elytron as observed in the material studied. However, the species is renamed and described here as a new one

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The species is named in honour of J.C.M. Gardner, for his excellent work on Indian Forest Insects.

51. *Scolytoplatypus lopchuensis* sp. nov.

(Fig. 15).

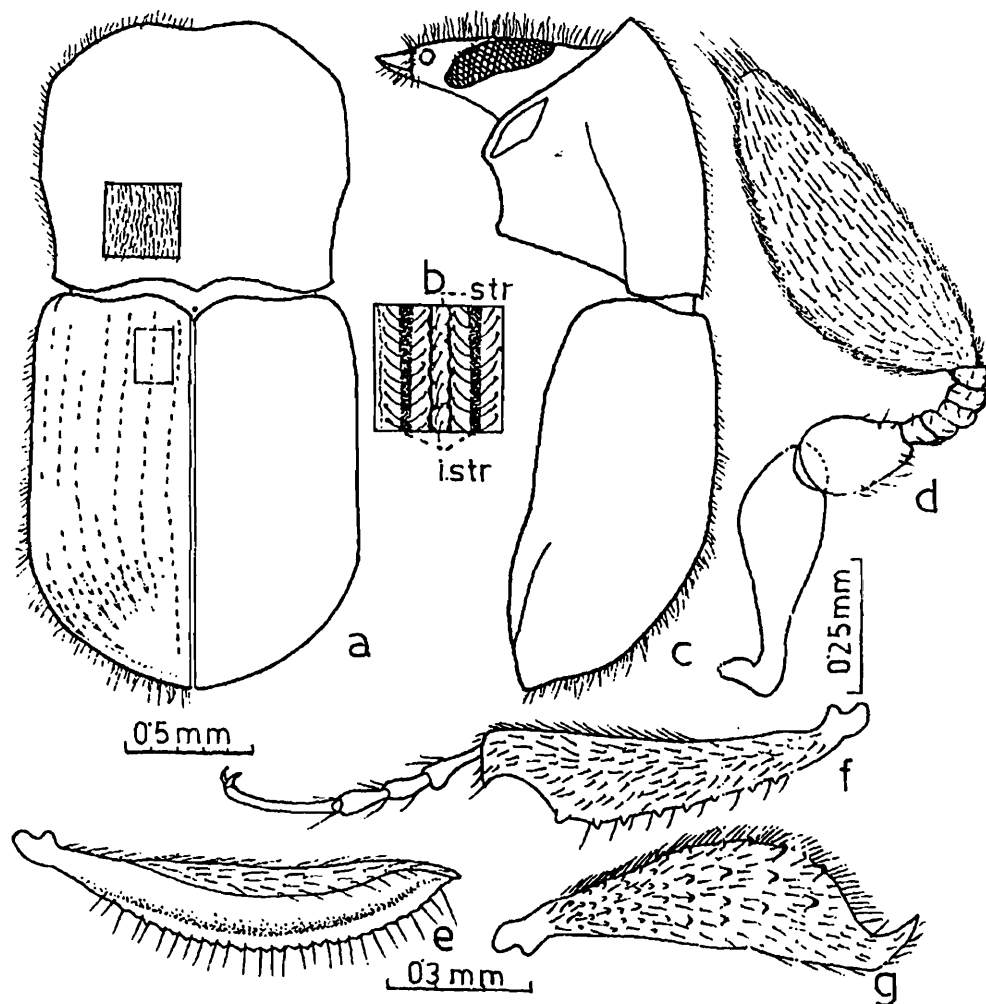
1. *Scolytoplatypus discicollis* Beeson

1941. Beeson *Ecology and Control of Forest Insects of India and Neighbouring Countries*, 384 p. (nom. nud.)

1975. Schedl. *Entom. Abh. Mus. Tierk. Dresden*, 40(7) : 219 (nom.nud.).

*Material examined* : 13 exs. from Darjiling Dist., J.C.M. Gardner coll. as follows : (i) 5 Females and 4 Males, Lopchu, 5-12.x.1929, ex. "*Litsaea elongate*"; (ii) 1 Female, Rangirum, 6.ix.1929, ex. "*Symplocos theaeifolia*" and (iii) 2 Females and 1 Male, Rangirum, 4.ix.1929, ex. "*Evodia fraxinifolia*"

*Description* : *Male* : Body short and stout; colour yellowish brown, slightly darker at places. Body length 2.55-2.60 mm, nearly twice as long as wide.



**Fig. 15, a-g.** *Scolytoplatypus lopchuensis* sp. nov., Male : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc (str = Stria, I, str = interstria); c, head, pronotum ad elytra in lateral view; d, antenna; e, mesotibia showing cavity; f, protibia. Female : g, protibia.

Head subrostrate, frons concave, surface finely reticulate with dense fine erect hairs, but devoid of any tuft of hairs. Eyes elongate. Antennal scape short and stout; funicle with 6 segments, basal two segments most irregular in shape.

Pronotum 1.2 times as wide as long; basal margin distinctly bisinuate; lateral sides feebly ridged on basal two-thirds, widening towards apex and with feebly basal emargination; anterior margin slightly outcurved with a broad median emargination; foveae rhomboid, more than twice as long as wide and not touching the anterior margin; surface plano-convex, medially feebly elevated with antero-median longitudinal feeble impression; entire surface with minute punctures and dense coat of microhairs.

Scutellum submerged, only tip visible.

Elytra 1.4 times as long as pronotum, 1.1 times as long as its width; basal margin somewhat bisinuate; but devoid of any distinct carina; lateral sides subparallel on basal two-thirds, postero-lateral margins feebly carinate, confluent with interstria 9 and apex broadly rounded; discal stria groove shallow with confluent indistinct punctures, each with a microhair; all interstitial ridges running parallel nearly from the base upto commencement of declivity, except the marginal ones extending almost to the lower half of declivity and terminating into series of spines on interrupted ridges, comparatively long hairs between stria groove and interstitial ridges, declivital face flatly convex, lower half slightly raised and roughened with irregular granules and dense long hairs.

*Female* : Females are very similar to males, but differs as follows : Frons convex; surface finely reticulate with fine punctures and microhairs; median incised line distinct only towards vertex. Pronotum devoid of mycetangium; elytra as in male, but interstitial ridges along with the spines obsolete in the declivity; protibiae more dilated and with more distinct tubercles on posterior face (Fig. 2g).

*Type-locality* : Lopchu (1500 m), Darjiling dist., West Bengal, India

*Type-specimen* : *Holotype* Male and *Allotype* Female from the "Material" under (i) as above, deposited in F.R.I., Dehra Dun. *Paratypes* : Males and Females from the "Material" as above deposited as follows : (a) 2 Males and 3 Females from "Material" under (i) and (ii) deposited in F.R.I.; (b) 1 Male and 3 Females from "Material" under (i) and (iii) in Z.S.I., Calcutta and (c) 1 Male and 1 Female from "Material" under (iii) with Prof. S.L. Wood, Utah (U.S.A.).

*Comparison* : The species, *S. lopchuensis* sp. nov. comes very close to *S. eutomoides* Blandford but differs from it on the basis of male as follows (i) smaller species, 2.55-2.60 mm (vs. larger species, 3.75-3.80 mm in *S. eutomoides*); (ii) Entire frontal surface with dense fine hairs (vs. frontal surface with hairs only on upper half); (iii) Apical outer angles of fore-femora without any flap-like protuberance (vs. apical outer angles of fore-femora with flap-like protuberance) and (iv) Elytral surface with dense hairs (vs. elytral surface only with a few sparse long hairs towards declivity).

*Remarks* : Beeson (1961) recognized this species as *Scolytoplatypus discicollis* based on the material from Rangirum and referred to the same in his book without providing any description and illustration. However, the species is renamed and described here as a new one.

52. *Scolytoplatypus minimus* Hagedorn  
(Fig. 16)

1. *Scolytoplatypus minimus* Hagedorn

1904. Hagedorn, *Mus. D'Hist. Nat. Bull.*, 1904 : 125. *Holotype* : Female in MNHN, Paris. *Type-locality* : Darjiling, West Bengal, India.

1922. Beeson, *Indian Forester*, 48 : 499.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 404.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 794, 795.

*Description* : *Male* : Body short and stout; colour yellowish brown, postero-lateral margins of pronotum and anterior half of elytra much lighter. Body length 1.73 mm, 1.8 times as long as wide.

Head subrostrate, dorso-ventrally flattened; frons shallowly concave, surface dull, finely reticulate and with minute punctures; fringe of long dense incurved hairs

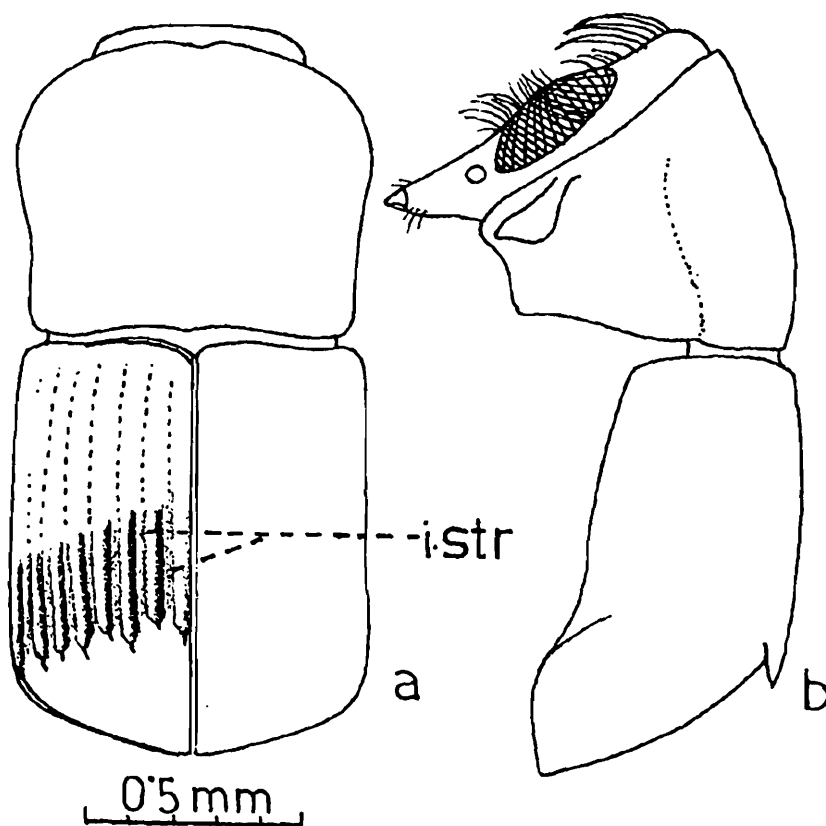


Fig. 16. a-b. *Scolytoplatypus minimus* Hagedorn. Male : a, Pronotum and elytra in dorsal view (i. str = interstria); b, head, pronotum and elytra in lateral view.

around the margin of vertex upto lower side of eyes. Eyes elongate and weakly convex, placed along lateral margins. Antennal scape short and swollen anteriorly; funicle with 6 segments; club lanceolate, entirely pubescent, along with a few long hairs.

Pronotum subquadrate, 1.15 times as wide as long; basal margin bisinuate; lateral sides weakly ridged beyond basal two-thirds, basal third narrowest; widest at anterior third; anterior margin somewhat straight with weak median emargination; foveae comparatively large, nearly twice as long as wide; surface finely reticulate and dull, punctures and hairs inconspicuous.

Scutellum submerged.

Elytra 1.4 times as long as pronotum and slightly wider than its own width; basal margin somewhat bisinuate and carinate; lateral sides subparallel upto the middle whence slightly diverging posteriorly, postero-lateral margins converging posteriorly with distinct carinae and the carinae confluent with interstria 9; discal striae impressed marked by indistinct punctures; interstriae weakly convex gradually elevated posteriorly; interstriae 1 to 8 terminating into a single spine at the commencement of declivity, interstriae 2 and 4 comparatively short, surface with indistinct granules in single row. Declivity abrupt, face weakly convex, entire surface roughened with minute granules; striae 1, 2, 7 and 8 indistinctly marked, others obsolete, 7 and 8 incurved towards sutural line.

*Female* : Female not available in the material studied.

*Distribution* : INDIA : Assam, Uttarakhand (Mussoorie), West Bengal (Darjiling Dist. : Darjiling and Samsingh).

*Hosts* : *Alnus nitida*, *Cornus onicophylla*, *Machilus odorissima*, *Prunus armeniaca*, *Salix tetrasperma*, *Wendlandia tinctoria*.

*Remarks* : Since the description of the species by Hagedorn (1904) from Darjiling, it was unknown for a long time, until Schedl (1975) reported the species from the Western Himalaya and Browne (1975) from Thailand. However, it is recorded here from Samsingh infesting the host of *Acrocarpus fraxinifolius*. The species can be recognized by its smallest size among all the Indian representatives of the genus, occurring only in the Himalaya. Beeson (1961) recorded the species from three host plants in India, namely, *Alnus nitida*, *Cornus macrophylla* and *Prunus armeniaca*.

### 53. *Scolytoplatypus nitidicollis* Eggers

(Fig. 17)

#### 1. *Scolytoplatypus nitidicollis* Eggers

1935. Eggers, *Ent. Blatt.*, **31** : 241. *Holotype* : Female in Eggers Collection in NHMW, Wien. *Type-locality* : Batoerraden, Java, Indonesia.

1975. Schedl, *Ent. Abh. Staat. Mus. Tierk. Dressd.*, 40(7) : 251.

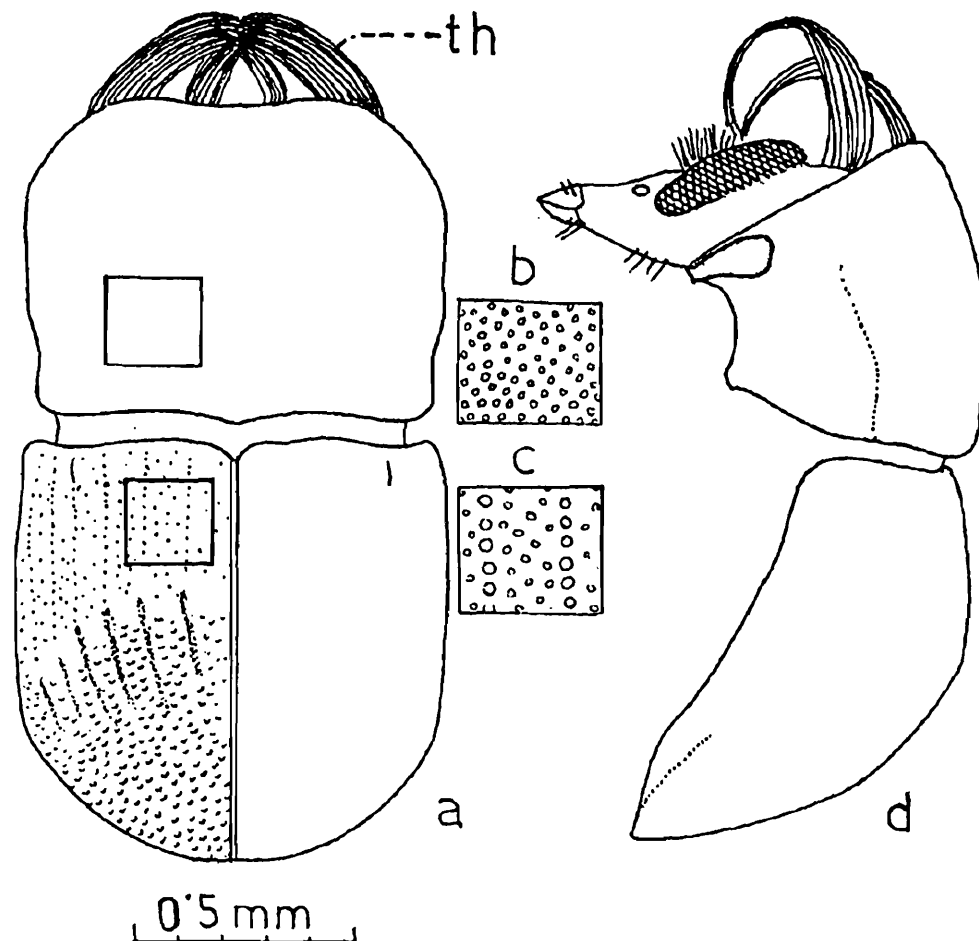
1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 405.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 793, 795.

*Description : Male* : Body short and stout; colour varies from yellow to yellowish brown. Body length 1.8 mm.

Head subrostrate, flattened dorso-ventrally with deeply concave frons, surface finely reticulate, punctures and hairs inconspicuous except towards epistomal margin; tuft of long curled hairs on margins of both anterior and posterior borders of eyes and those on vertex small. Eyes elongately oval and placed along the lateral margins. Antennal scape short and stout; funicle with 6 segments; club lanceolate, twice as long as the funicle and the scape jointed together; surface clothed with small hairs along with a few long hairs laterally.

Pronotum somewhat subquadrate, 1.2 times as wide as long; basal margin bisinuate, lateral sides slightly widening from base towards apex and distinctly ridged beyond the middle with weak basal emargination; anterior margin somewhat straight with



**Fig. 17. a-d.** *Scolytoplatypus nitidicollis* Eggers, Male : a, Pronotum and elytra in dorsal view; b, enlarged portion of pronotum; c, enlarged portion of elytral disc; d, head, pronotum and elytra in lateral view.

a shallow median emargination; antero-median line feebly marked; anterior margin of foveae confluent with the pronotal margin, twice as long as wide; surface reticulate, with minute punctures more distinct on basal third; vestiture inconspicuous, except a few towards anterior margin.

Scutellum submerged, only the tip visible.

Elytra 1.2 times as long as pronotum and nearly as long as its width; basal margin somewhat bisinuate, margined by indistinct carinae; lateral sides subparallel; postero-lateral margins feebly carinate upto interstria 9 and apex broadly rounded; discal striae indistinct with minute punctures, devoid of any microhair; interstriae smooth and shiny with irregular punctures, without any conspicuous hair. Declivity commencing below the basal third, face convex, and opaque; on upper half of declivital face striae line distinctly impressed, but punctures inconspicuous; interstriae feebly convex, finely granulate; on lower half of declivity striae and interstriae obsolete and with minute irregular granules and small hairs.

*Female* : Females are very similar to males, but differs as follows : Body length, 1.90-2.16 mm; frons convex, surface finely reticulate with fine punctures and median incised line only towards vertex. Pronotal surface smooth and shiny with fine punctures, but devoid of any mycetangium; elytra comparatively slightly long and less convex; striae punctures distinct on basal half of disc, whence striae feebly impressed towards commencement of declivity and distinctly marked at declivital face, but punctures rather indistinct; interstriae feebly convex, surface roughened, but not granulate; protibiae more dilated with distinct tubercles on posterior face.

*Distribution* : INDIA : West Bengal (Darjiling Dist : Samsingh).

*Elsewhere* : Indonesia (Java).

*Host* : *Acrocarpus fraxinifolius*.

*Remarks* : The species can easily be separated from all other representatives of the genus *Scolytoplatypus* from India, in having no mycetangium on pronotum in the female (as also in *S. lopchuensis* sp. nov.). It is a rare species only so far known from Java. However, it is recognized for the first time from the sub-Himalayan West Bengal represented by a single collection. Nothing is known of its biological feature.

#### 54. *Scolytoplatypus parvus* Sampson

##### 1. *Scolytoplatypus parvus* Sampson

1921. Sampson, *Ann. Mag. Nat. Hist.*, (9)7 : 36. *Holotype* Male in B M N H., London. *Type locality* : Mt. Matang, Sarawak, Malaysia.

1949. Browne, *Ann. Mag. Nat. Hist.*, (12)1 : 909.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 405.

## 2. *Scolytoplatypus ruficauda* Eggers

1939. Eggers, *Arkiv Zoologi*, 31A(4) : 9. Holotype female in N H R, Stockholm.

1992. Wood, *Gt. Basin Nat.*, 52 : 84 (syn.)

*Description* : *Male* (Sampson, 1921) : Short, oblong, very pale (immature); prothorax and elytral declivity sub opaque. Front deeply concave to the eyes, which are long and narrow; the vertex provided with two small fasciculi of longish hairs, curved downwards over the front and reaching half-way to the mandibles; four tufts of very long hairs, originating one above and the other below each eye, extend in an arch transversely over the frontal cavity, which is dull and minutely pubescent; the antennal club elongate, subtriangular solid and coarsely hairy. Prothorax slightly broader than long, with rounded sides which are constricted for the basal third; the surface dull and finely punctured laterally, with a median longitudinal line extending from near the apex to the basal third; the apex rounded and slightly emarginated in the centre, the base bisinuate. Scutellum minute. Elytra one-sixth longer and one-tenth broader than the prothorax; the sides subparallel to the apical third and then abruptly rounded to the somewhat acute apex; the base sinuate and depressed, the shoulders distinctly nodose; the dorsal surface dull, irregularly and obscurely punctured except laterally, where the punctures are more distinct; the declivity commences at the basal third and is lineate-punctate; the interstices broad and convex at the vertex of the declivity, but becoming obscure on the apical half; the three first interstices nearest the suture are raised towards the apex and furnished with biseriate incurved pale hairs and single central row of small tubercles; the anterior coxae are widely separated, but the prosternal process is obscure. Length 1.4, breadth 0.9 mm.

*Distribution* : INDIA : West Bengal.

*Elsewhere* : Indonesia (Sarawak in Borneo), Malaysia and Myanmar.

*Host* : Recorded from numerous hosts (Wood and Bright, 1992).

## 55. *Scolytoplatypus pubescens* Hagedorn

(Fig. 18)

### 1. *Scolytoplatypus pubescens* Hagedorn

1904. Hagedorn, *Mus. D'Hist. Naturelle*, 1904 : 123. Syntypes, sex? In Hamburg Mus. *Type-locality* Darjiling, West Bengal, India.

1939. Eggers, *Arbeet. Morph. Taxono. Ent.*, 6 : 114.

1954. Roonwal, *Indian For. Bull. Ent.*, 171(1) : 29.

1992. Wood and Bright. *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 406.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 793, 795.

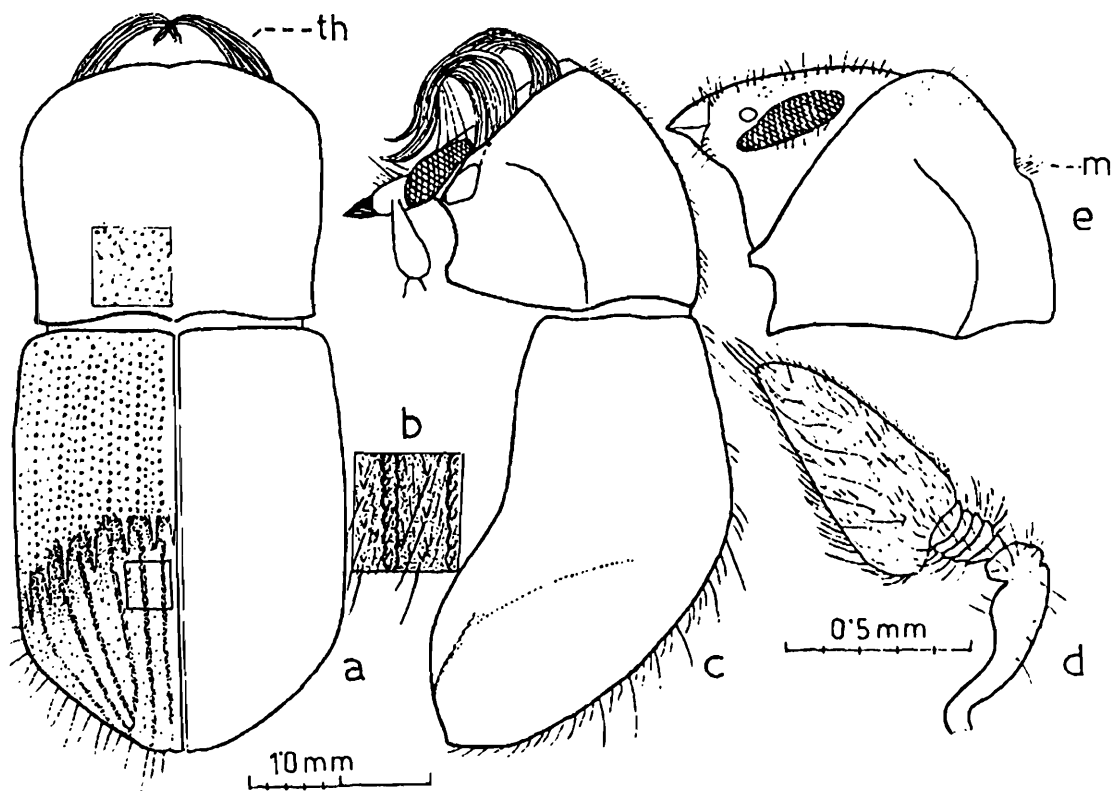
2000. Saha and Maiti, *Fauna of Meghalaya, State Fauna Series*, 4(Part 5) : 643.

*Description* : *Male* : Body fairly large; colour yellowish brown to blackish brown. Body length 3.90-4.00 mm, 2.3 times as long as wide.

Head subrostrate, flattened dorso-ventrally, frons concave upto vertex with a transverse suboval area covered with dense coat of short hairs placed somewhat at middle at the level of eyes; surface smooth and shiny with punctures and fine pubescence of hairs; upper level of eyes with tuft of long hairs curving above the frons and touching each other, a few long hairs along the lateral margin and increasing in density towards epistoma. Eyes elongate and weakly convex, placed along lateral margins. Antennal scape short and stout; funicle with 6 segments, club laceolate, flattened with fine pubescence of hairs and a few long curved hairs on anterior face.

Pronotum subtrapezoid, 1.1 times as wide as long, basal margin feebly bisinuate, lateral sides gradually broadening from base towards apex, margin distinctly ridged nearly upto apex, basal emargination not distinct; anterior margin substraight with weak emargination; anterior margin of foveae confluent with the pronotal margin, less than twice as long as wide; surface feebly convex, finely reticulate with minute punctures and dense pubescence.

Scutellum visible only on anterior declivous portion of elytral base.



**Fig. 18. a-e.** *Scolytoplatypus pubescens* Hagedorn, Male : a, Pronotum and elytra in dorsal view (th = tuft of hair); b, enlarged portion of elytral declivity; c, head, pronotum and elytra in lateral view; d, antenna. Female: e, head and pronotum in lateral view (m = mycetangia).

Elytra 1.4 times as long as and much wider than pronotum, 1.3 times as long as its own width; basal margin truncated and weakly carinate; lateral sides parallel upto half, thence slightly widening posteriorly and apex broadly rounded, postero-lateral margins carinate and confluent with interstria 9; disc smooth and shiny with minute punctures throughout; stria punctures hardly marked, with a few sparse, small and erect hairs. Declivital slope gradual, face opaque and convex; striae 1, 2, 3 and 4 feebly impressed, marked by minute confluent punctures, each with a microhair; interstriae at the commencement of declivity with short longitudinal ridges either generally terminating with a short spine or more than one when interrupted, ridge either obsolete within declivity or feebly marked by spines at places, spines comparatively strongly developed laterally; entire declivital surface reticulate and roughened; declivital surface with fine dense small hairs and single row of erect hairs along interstriae.

*Female* : Females are very similar to males, but differ from them as follows : Frons convex, surface finely reticulate with distinct close punctures. Pronotum with distinct mycetangium below the anterior one-third; elytral interstriae without any ridge at the commencement of declivity, but with comparatively smaller granules; declivital face with vestiture of fine dense hairs, but devoid of any long erect hairs; protibiae more dilated and with distinct tubercles on posterior face.

*Distribution* : INDIA : Assam, Uttar Pradesh and West Bengal (Darjiling Dist. : Darjiling, Lopchu, Rongirum, Samsingh and Sivakhola.

*Hosts* : *Acer campbelli*, *Alnus nepalensis*, *Amoora wallichii*, *Engelhardtia spicata*, *Evodia froxinifolia*, *Litsaea elongate*, *Prunus nepalensis*, *Quercus incana*, *Symplocos theaefolia*.

*Remarks* : This is the largest species of the genus *Scolytoplatypus* found in India, described as early as 1904 by Hagedorn from Darjeeling, West Bengal. Subsequently, it has been recorded from foot hills of north Bengal upto the elevation of 1846m in the Darjiling hill range. Biology of the species has been studied by Beeson (1961) with respect to their life history, gallery pattern, brood size, etc. As many as eight host plants are recorded from India and a new host *Symplocos theaefolia* is recorded for the first time from the sub-Himalayan West Bengal.

## 56. *Scolytoplatypus raja* Blandford (Fig. 19)

### 1. *Scolytoplatypus raja* Blandford

1893. Blandford, *Trans. Ent. Soc. Lond.*, 1893, p. 440. *Syntype* 1 Male in BMNH., London and *Syntype* 1 Female in IRSNB, Brussels. *Type-locality* : Himalaya, India.
1939. Eggers, *Entomologie*, 6 : 114.
1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 406.
1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 794-796.
2000. Saha and Maiti, *Fauna of Meghalaya, State Fauna Series*, 4(Part 5) : 643.

## 2. *Scolytoplatypus himalayensis* Stebbing

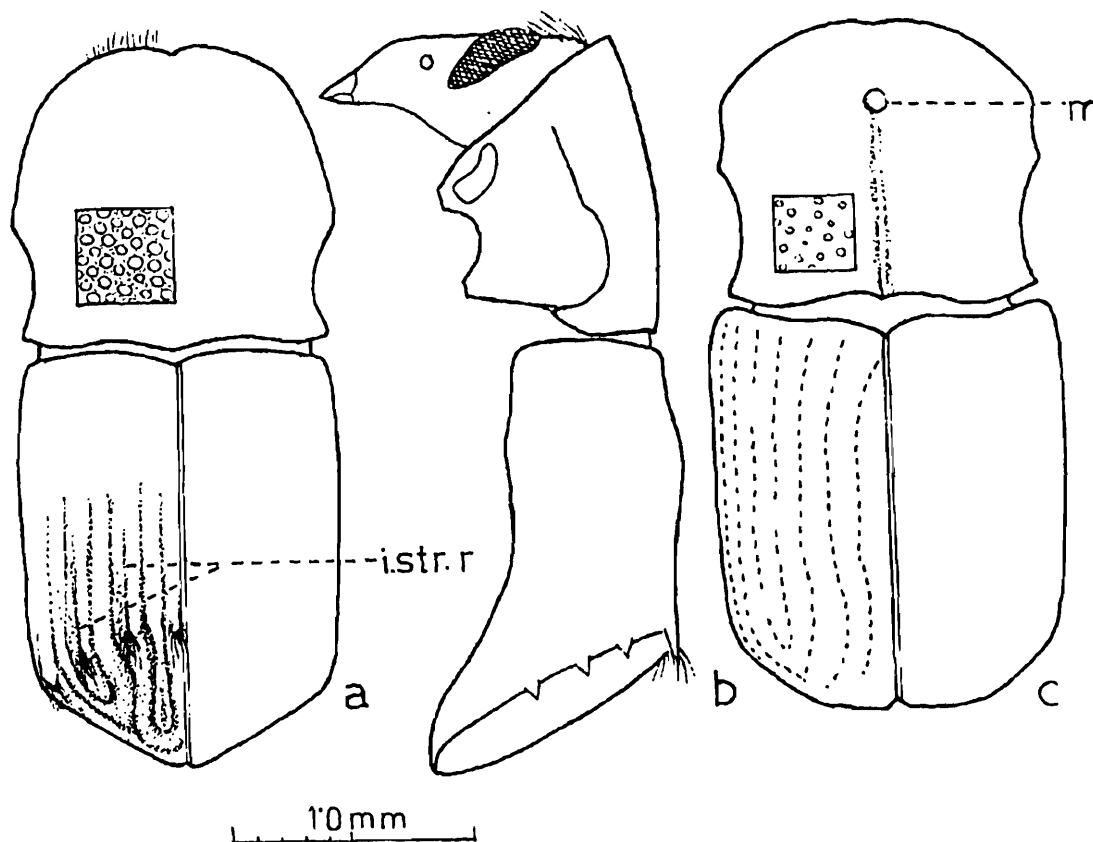
1914. Stebbing, *Indian For. Ins. Econ. Imp.*, *Coleopt.*, Eyre and Spottiswoode, London, p. 604. *Holotype* Male in F.R.I., Dehra Dun. *Type-locality* : Chamba St., Punjab, published as North-West Himalaya.

1922. Beeson, *Indian Forester*, 48 : 500 (syn.).

*Description* : *Male* : Body short and stout; colour blackish brown, elytral disc, antennae and legs comparatively lighter. Body length 3.00-3.10 mm, nearly twice as long as wide.

Head subrostrate, dorso-ventrally flattened; frons strongly concave upto vertex; surface reticulate, roughened and with sparse bent hairs more distinct on upper half; the upper margin of frontal cavity with uniform curved hairs except medially. Eyes elongate and weakly convex, placed along the lateral margins. Antennal scape long, swollen apically; funicle with 6 segments, basal one somewhat flattened and much wider than series of long hairs; club large and lanceolate, slightly longer than scape and funicle combine together.

Pronotum nearly as long as wide and widest at the middle; basal margin strongly bisinuate, lateral sides with basal emargination very distinct and ridged beyond the



**Fig. 19. a-c.** *Scolytoplatypus raja* Blandford, Male : a, Pronotum and elytra in dorsal view (i. str. interstriae); b, head, pronotum and elytra in lateral view. Female: c, pronotum and elytra in dorsal view (m = mycetangia).

middle and thence sub-parallel; anterior margin substraight with a weak median notch; posterior-lateral corners rather acute and directed outwards; foveae narrowly elongated, more than twice as long as wide; surface opaque with close large punctures, except a median smooth portion; hairs inconspicuous.

Scutellum submerged, not distinctly visible.

Elytra nearly as long as pronotum upto commencement of declivity and wider than pronotum; basal margins truncated and somewhat weakly carinate; lateral sides substraight, but very weakly diverging posteriorly; postero-lateral margins feebly carinate and confluent with interstria 9; disc with striae strongly impressed, with indistinct punctures; interstriae 1,3, 5 and 7 gradually distinctly ridged posteriorly and each terminating into a spine at commencement of declivity; interstitial surface reticulate with fine irregular punctures; base of each spine with a few long hairs. Declivity rather abrupt and face uneven; striae impressed and obsolete at middle of declivity; striae 1 and 2 confluent, 4 and 5 forming loop, 3 and 6 running upto posterior half of declivity; interstriae 1 and 3 strongly ridged, terminating slightly above the posterior margin, forming a blunt projection; interstria 2 obsolete, 4 depressed and narrowed, 5 broad; interstitial surface with close granules of irregular shape and size.

*Female* : Females are very similar to males, except the following characters : Frons convex, surface finely reticulate with minute punctures and with a median distinct incised line towards vertex. Pronotal surface finely reticulate with minute punctures and sparse bent hairs; mycetangium at about anterior third; striae impressed, and marked by confluent punctures; interstriae convex, surface finely reticulate without any spine at commencement of declivity and irregularly punctate; declivital interstriae with irregular granules; protibiae more dilated and with distinct tubercles on posterior face.

*Distribution* : INDIA : Assam, Himachal Pradesh, Kashmir, Uttar Pradesh, West Bengal : Darjiling Dist. : Darjiling, Debrepani, Lepchajagat, Rangirum, Rambhi, Sivakhola.

*Elsewhere* : China, Nepal.

*Hosts* : *Abies webbiana*, *Acacia decurrens*, *Cedrus deodara*, *Cornus macrophylla*, *Engelhardtia spicata*, *Litsaea elongate*, *Macaranga denticulate*, *Machilus odoratissima*, *Picea morinda*, *Prunus nepalensis*, *Quercus spp.*, *Symplocos theaeifolia*.

*Remarks* : *Scolytoplatypus raja* Blandford is fairly well distributed species in different countries of the south-east Asia, including India, being represented only in the Himalayan belt. It is a quite common species in the entire Darjiling hilly tracts. However, this species along with *S. himalayensis* Stebbing a species from the Western Himalaya, has been synonymised by Schedl (1975) under *Scolytoplatypus mikado* Blandford from Japan. Recently, in a personal communication, Prof. S.L. Wood, is of opinion of retaining the specific validity of *S. raja*. Since, we don't have opportunity to study the types of either of the species, the opinion of Prof. Wood has been followed in the present study. The species has been recorded so far from some thirteen species of host plants, belonging to the different families in the Himalayan mountain range in India (Beeson, 1941).

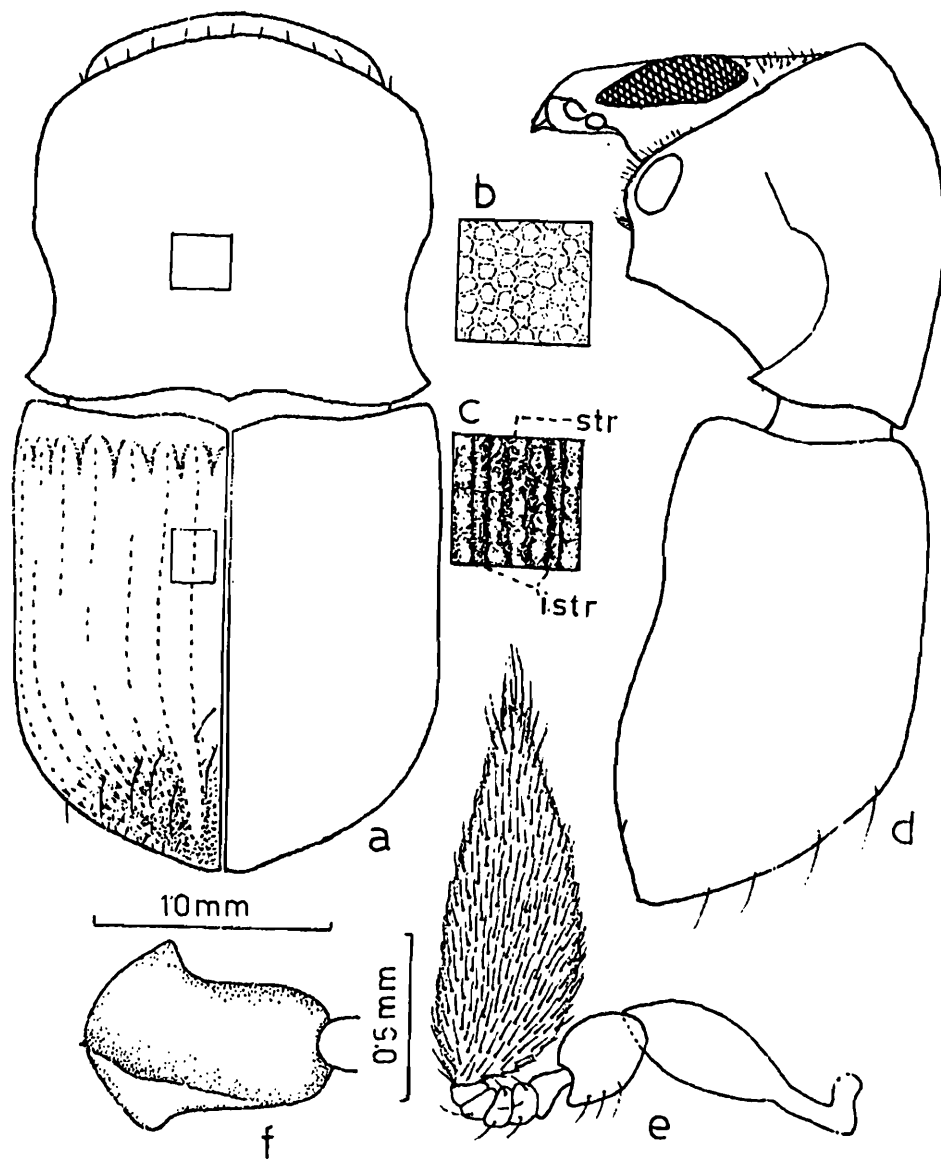
57. *Scolytoplatypus samsinghensis* sp. nov.

(Fig. 20)

1. *Scolytoplatypus siva* Beeson

1961. Beeson. *Ecology and Control of Forest Insect of India and neighbouring Countries*, 206 p. (nom. nud.)

*Material examined* : (i) 1 Female and 2 Males, Samsingh, Darjiling Dist., *Balwant Singh* coll., 28.ii.1934, C.F.C. Beeson coll., on 8.ii.1934, and Borers project coll., on 10.i. 1934, all ex. "*Amoora wallichii*" and (ii) 3 Females and 4 Males, Sivakhola, Darjiling Dist., C.F.C. Beeson coll., 22.vii.1935, ex. "*Engelhardtia spicata*"



**Fig. 20. a-f.** *Scolytoplatypus samsinghensis* sp. nov. Male : a, Pronotum and elytra in dorsal view; b, enlarged portion of pronotum; c, enlarged portion of elytral disc (str = stria and i.str = interstriae); Female : d, head, pronotum and elytra in lateral view; e, profemur; f, antenna.

*Description : Male :* Body short and stout; head, pronotum and elytra reddish brown to blackish brown. Body length 3.75-3.80 mm, 1.8 times as long as wide. Head subrostrate, dorso-ventrally flattened, frontal concavity extending upto vertex with a distinct incised line from vertex to the middle, surface finely reticulate, fine short sparse hairs towards vertex and a few towards epistomal margin. Eyes elongate and feebly convex, placed along lateral margin. Antennal scape long, swollen apically; funicle with 6 segments; club lanceolate in shape, entirely pubescent and with long hairs towards tip:

Pronotum either as long as wide or slightly wider, basal margin strongly bisinuate and carinate; lateral sides with very distinct basal emargination and ridged much beyond the middle; anterior margin somewhat outcurved; postero-lateral corners of pronotum rather acute; foveae large and suboval, almost twice as long as wide, not touching the anterior margin of pronotum; surface opaque, rugosely punctuate with close large punctures of irregular shape and size; a few minute hairs along anterior margin.

Scutellum submerged.

Elytra 1.2 times longer than and distinctly wider than pronotum, slightly longer than its own width; basal margin weakly bisinuate and carinate; lateral sides subparallel on basal two-thirds; postero-lateral margins with feeble carinae to interstria 9 being crenulated near its junction; basal margin with a transverse narrow stripe devoid of any interstitial ridge and sculptured somewhat like that of pronotum; discal striae impressed marked by distinct punctures, becoming confluent towards declivity and on either side marked by longitudinal ridges; all interstitial ridges running parallel upto commencement of declivity and becoming obsolete in declivity terminated with some small spine-like structures particularly lateral ones; interstriae 2 and 4 very short between striae ridges. Declivital face weakly convex, strongly granulate and lower half slightly raised; striae 1, 2, 5 and 6 marked upto lower half of declivity, 3 and 4 obsolete on upper half, marked with confluent punctures as on disc; little elevation at the interstriae 1 and 3 and on or near that elevation with fairly large granules; declivital face with fairly dense micro-hairs as well as with a few sparse long erect hairs towards the terminal end of the interstitial ridges.

*Female :* Females are fairly similar to the males in their morphological characters, but also differ from them as follows : Frons convex, surface finely reticulate with fine punctures and hairs along with a median incised line; feebly impressed just above epistomal margin. Pronotum with rounded mycetangium, placed just below the anterior one-third; interstitial ridges on elytral disc very weak; elytral declivity devoid of any distinct hair; protibiae more dilated with more distinct tubercles on posterior face.

*Type-locality :* Samsing (540 m), Darjiling Dist., West Bengal, India.

*Type-specimen :* *Holotype* Male and *Allotype* Female from the "Material" under (i) as above, deposited in F.R.I., Dehra Dun; *Paratypes :* Males and Females from the

“Material” as above, deposited as follows (a) 2 Males from “Material” under (ii) in F.R.I., Dehra Dun; (b) 2 Males and 1 Female from “Material” under (ii) in Z.S.I., Calcutta and (c) 1 Male and 1 Female from “Material” under (ii) with Prof. S.L. Wood, Utah (U.S.A.).

**Comparison** : The species *Scolytoplatypus samsinghensis* sp. nov. is very close to *Scolytoplatypus eutomoides* Blandford, but differs from it on the basis of the following characters of the males : (i) Striae 1 and 2 marked upto the lower half of declivity, little elevation at interstriae 1 and 3, on or near the elevation with fairly large granules (vs. striae 1 and 2 marked upto upper half of declivity and lower half with smaller granules in *S. eutomoides*); (ii) Punctures on pronotum rather deep (punctures on pronotum, rather shallow); (iii) Strial groove marked by elongate and confluent punctures (vs. strial groove devoid of any distinct punctures); and (iv) Frontal hairs restrict only towards vertex (vs. upper half of frons with hairs).

**Remarks** : Beeson recognized the species *Scolytoplatypus siva* based on the material from Sivakhola and Samsingh, north Bengal and referred to the same in his book (1961) without providing any description and illustration. Subsequently, the species is synonymised under *Scolytoplatypus eutomoides* by Schedl (1975). But, the comparison of the material of *S. eutomoides*, shows some distinct differences referred to above. However, *S. siva* is described here as a new species.

## 58. *Scolytoplatypus siomio* Blandford

### 1. *Scolytoplatypus siomio* Blandford

1893. Blandford, *Trans. Ent. Soc. Lond.*, 1893, p. 436. *Syntypes* Male and Female in BMNH., London. *Type-locality* : Sendai, Nikko, Japan.
1954. Murayama, *Yamaguti Univ. Facult. Agric. Bull.*, 5 : 187.
1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 406-407.

### 2. *Scolytoplatypus kunala* Strohmeier

1908. Strohmeier, *Ent. Wochenbl.*, 25 : 161. (reprint p.1). *Holotype* Female in IPKE, Eberswalde. *Type-locality* : Kashmir, India.
1989. Wood, *Gt. Basin Nat.*, 49 : 175 (syn.).

**Description** : *Male* : Body of medium size, brownish yellow in colour, head darker, body length 2.88; frons weakly concave, rugose, dull with fine granules all through. Postero-lateral margin with tuft of long hairs, tips touching each other; epistomal margin strongly chitinized, almost straight; eyes entire and not emarginate. Pronotum broader than long, convex, devoid of any distinct summit and asperities, dorsal surface somewhat smooth with sparse minute pilosity. Elytra with anterior portion yellowish in colour and posterior one chestnut brown; striae & interstriae hardly distinguishable but with minute granules; interstriae at the commencement of declivity with

longitudinal ridges marked with fine granules; declivity commencing on posterior fourth, surface convex; striae 1 and 2 somewhat visible, rest confused; interstriae sutural and adjoining to well marked, lined with few granules; elytral apex with distinct carina.

*Female* : Very similar to male except the following characters : Frons strongly convex with a feeble longitudinal median groove, either side of which minutely punctate with sparse minute hairs; commencement of declivity of elytra devoid of any distinct longitudinal ridges and striae and interstria not well marked but with few minute, scattered granules.

*Distribution* : INDIA : Himachal Pradesh, Kashmir, Punjab, Uttar Pradesh, West Bengal.

*Elsewhere* : Bhutan, Nepal, Japan.

*Hosts* : *Abies pindrow*, *Acer caesium*, *Cedrus deodar*, *Hedera helix*, *Parrottia jacquemontiana*, *Picea morinda*, *Prunus padus*, *Pyrus lanata*, *Quercus* spp., *Taxus baccata*.

*Remarks* : The species is very close to *Scolytoplatypus pubescens* Hegedorn.

### Tribe **Ipini** Bedel

#### Key to the genera under the tribe **Ipini**

1. Prosternal process short and broad, not extending between coxae; elytral declivity narrowly excavate along the elytral suture; eyes not emarginate; anterior face of antennal club with ..... *Pityogenes* Bedel
- Prosternal process long and acute; elytral declivity broadly excavated; obliquely sloping and raised apically; eyes emarginated on anterior margin; anterior face of antennal club with bisinuate suture ..... *Ips* De Gear

#### Genus *Ips* De Geer

##### 1. *Ips* De Geer

1775. De Geer, *Memoires pour l'histoire des insectes*, 5(Scolytidae, p. 190-197). L.L. Grefing, Stockholm, p. 290.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 484.

##### 2. *Cumatotomicus* Ferrari

1867. Ferrari, *Coleopterol.*, 2 : 44.

##### 3. *Cyrtotomicus* Ferrari

1867. Ferrari, *Coleopterol.*, 2 : 44.

*Types of Genus* : *Dermestes typographus* Linnaeus; *Cumatotomicus* : *Bostrichus stenographus* Duftschmidt (= *Dermestes sexdentatus* Boerner) and *Cyrtotomicus* : *Bostrichus acuminatus* Gyllenhal.

The genus was established by De Geer (1775) with its *Dermestes typographus* Linnaeus. The genus continued to remain valid uptill now although two more genera *Cumatotomicus* Ferrari and *Cyrtotomicus* Ferrari was synonymised under it. However, quite a number of species is known to-day under the genus, of which only two species are so far known from India.

### Key to the species of *Ips* De Geer

1. Frons in male roughened with strong granules, pronotum deep black, pronotum towards antero-median area with small tubercle-like asperities; entire lateral margins of body with fairly dense strong hairs, body stout, body-length 5.30-5.42 mm ..... *I. stebbingi* (Strohmeyer)
- Frons in male feebly roughened with small granules, pronotum pale black, pronotum towards antero-median area with scale-like asperities; entire lateral margins of the body with dense long erect hairs; body-length 5.00-5.10 mm ..  
..... *I. longifolia* (Stebbing)

#### 59. *Ips longifolia* (Stebbing)

##### 1. *Tomicus longifolia* Stebbing

1909. Stebbing, *Indian For. Memo., For. Zool. Sr.*, 1(2) : 26. Syntypes 3 Males in F.R.I., Dehra Dun, *Type-locality* : Kumaun, Uttarakhand, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 511.

*Description* : *Male* : Body broad and stout, chestnut brown, head slightly darker and more hairy than throughout body except lateral sides, lateral sides of head, thorax and elytra with dense rows of erect hairs. Body length 5.30 mm and almost double the width.

Head narrowed anteriorly; frontal surface roughened with small irregular granules with a small swelling or blunt tubercle placed at the middle of vertex; frons plano-convex with minute granules and fine erect hairs; epistomal margin feebly concave fringed with uniform short hairs with a distinct tuft of hairs placed medially.

Pronotum uniformly convex, 1.2 times as long as wide; anterior margin convex devoid of any carina but fringed with varied types of irregular asperities; lateral margins feebly outcurved with hairs, more prominent anteriorly; indistinct summit almost at the middle; anterior declivous portion with asperities in crescentric rows becoming smaller and indistinct postero-laterally; posterior discal half shiny with small punctures; posterior margin outcurved and devoid of any carina..

Scutellum depressed and tongue-shaped.

Elytra almost one and a half times as long as broad; elytra 1.48 times as long as broad, elytra surface distinctly convex; basal margin fairly concave, margin devoid of any carina, but faintly carinate near the scutelar areas; lateral sides subparallel upto posterior fourth, thence converging posteriorly and entire margins with dense erect long hairs; striae distinct with distinct shallow punctures devoid of any micro hairs; interstriae 3-4 times wider than striae, surface shiny with a few small puncture at the middle line of interstriae; all the striae and interstriae running almost to the commencement of declivity. Declivity commencing almost on the middle of elytra; declivital margin is 4 to 5 tubercles largest at the middle pointing downwards; terminal margin distinctly carinate, but devoid of any larger tubercles; each elytral apex with single tubercle of medium size. Declivital surface deeply concave with distinctly marked sutural striae; entire surface somewhat shiny with minute punctures throughout.

*Distribution* : INDIA : Himachal Pradesh, Punjab and Uttarakhand.

*Host* : *Pinus roxburghii*.

#### 60. *Ips stebbingi* Strohmeyer

##### 1. *Ips stebbingi* Strohmeyer

1908. *Office of the Superintendent of Govt. Printing, Calcutta*, 14 : 69. Syntypes Male, in IPKE, Eberswalde, *Type-locality* Kulu, Himachal Pradesh (Himalaya).
1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 526.

##### 2. *Tomicus ribbentropi* Stebbing

1909. Stebbing, *Indian For. Memo., For. Zool. Sr.*, 1(2) : 25. Syntypes, sex ? in FRI, Dehra Dun. *Type-locality* : Jaunsar, Tehri Garwal, Simla and Bashahr and Chamba States in North-West Himalaya Forests, India.
1922. Beeson, *Indian Forester*, 48 : 496(syn.)

##### 3. *Tomicus blandfordi* Stebbing

1909. Stebbing, *Indian For. Memo., For. Zool. Sr.*, 1(2) : 27. Syntypes 3 Females in FRI, Dehra Dun. *Type-locality* : Shinghar, Chilgaza Forest, North Zhob, Baluchistan, Pakistan.
1988. Wood, *Gt. Basin Nat.*, 48 : 189(syn.)

##### 4. *Ips schmutzenhoferi* Holzschuh

1988. Holzschuh, *Ent. Basiliensia*, 12 : 481, *Holotype* Male in NHMW, Wien. *Type-locality* : Chamgang, West Bhutan (3000 m).
1992. Wood, *Gt. Basin Nat.*, 52 : 83 (syn.)

*Description* : *Male* : Body blackish brown, head and pronotum deep black; head

and pronotum sparsely and finely hairy and elytra comparatively more densely hairy. Body length 5.40 mm; 2.4 times as long as wide.

Frons roughened with rugosity intermingled with a few scattered prominent but small tubercles and with some distinct hairs; median line absent; epistomal margin fringed with hairs.

Pronotum 1.1 times longer than wide, anterior margin outcurved with very weakly carinate set with some small granules; lateral sides converging anteriorly terminating into a rounded apex; more than anterior one-third declivous, surface roughened with asperities gradually increasing in size from submit arranging in crescentic lines with scattered hairs around, marginal hairs larger; summit indistinct; basal portion shining with distinct but small punctures with some very sparse short hairs; basal margin outcurved medially.

Scutellum tongue-shaped with longitudinal depressed area, placed much below the level of elytra.

Elytra only slightly longer than pronotum and 1.2 times longer than wide; basal margin outcurved medially in each elytron and provided with some tubercles of smaller size along with some erect sparse hairs; lateral margins subparallel and only converging posteriorly from the commencement of the declivity; posterior margin convex, elytral disc convex, shiny; interstriae feebly convex; interstriae 1 and 2 slightly raised than other; all other more or less distinctly marked upto the declivity with some minute hairs; interstria distinctly marked by deep and distinct puncture, especially in interstriae 1. Declivity commencing from posterior one-third, declivity margin raised and marked with larger tubercles becoming gradually smaller towards the apices of elytra to the size of granules even; tubercles at the level of 1<sup>st</sup> interstriae smaller in size; declivity face concave and with some confused striae punctures giving somewhat irregular interstitial feature; sutural line well marked and more chitinized with some irregular granules and scattered hairs; posterior margin with irregular granules and scattered hairs.

*Distribution* : INDIA : Himachal Pradesh (Kulu valley), Kashmir, Punjab, Uttarakhand.

*Elsewhere* : Bhutan, China (Tibet), Nepal, Pakistan.

*Hosts* : *Pinus excelsa*, *P. gerardiana*, *P. griffithi*, rare in *Abies webbiana*, *Cedrus deodara*, *Picea morinda*.

## Genus *Pityogenes* Bedel

### 1. *Pityogenes* Bedel

1888. Bedel, *Ann. Soc. Ent. Paris*, (Horse Series), p. 397.

1992. Wood and Bright, *Gt. Basin Nat. memo.*, No. 13(Vol. A) : 438.

## 2. *Eggersia* Lebedev

1926. Lebedev, *Ent. Blatt.*, **22** : 121.

1986. Wood, *Gt. Basin Nat. Memo.*, **10** : 68 (syn.)

## 3. *Pityoceragenes* Balachowsky

1947. Balachowsky, *Bull. Soc. Ent. France*, **52**(3) : 44.

*Types of the genera* : *Pityogenes* : *Dermestes Chalcographus* Linnaeus; *Eggersia* : *Bostrichus bidentatus* Herbst; *Pityoceragenes* : *Bostrichus qualidridens* Hartig.

The genus *Pityogenus* was established by Bedel in 1888 with its original designation of type *Dermestes chalcographus*, a very old species of Linnaeus known from different countries of the world. The genus is worldwide in distribution containing less than two dozens of species of which only two species occur in India.

### Key to species of *Pityogenes*

1. Elytral declivity on either margin with three almost equal size tubercles and declivity less broad in males. Frons with three cavities, larger one on vertex, other two smaller ones below the vertex on lateral sides and posterior sides devoid of any granules forming on margin in females ..... *P. scitus* Blandford
- Elytral declivity on either margin with three tubercles of unequal size, middle one larger than other and declivity much broad in males. Frons with single cavity with a central round operature and posterior sides lined by small granules forming a distinct margin in females. .... *P. spessiutsevi* Lebedev

### 61. *Pityogenes scitus* Blandford

#### 1. *Pityogenes scitus* Blandford

1893. Blandford, *Indian Mus. Notes*, **3** : 63. *Syntypes* 2 Males and 2 Females; in FRI, Dehra Dun. *Type-locality* : Published as East India, labeled Sibsagar, Assam, India.

1992. Wood and bright, *Gt. Basin Nat. Memo.*, No. **13**(Vol. A) : 457.

## 2. *Pityophthorus coniferae* Stebbing

1909. Stebbing, *Indian For. Memo., For. Zool. Sr.*, **1**(2) : 30. *Holotype* Female in FRI, Dehra Dun. *Type-locality* : Chilzoga, Shingbai, Zhob, Baluchistan, Pakistan.

1922. Beeson, *Indian Forester*, : 496 (syn.).

*Description* : Female ? : Body elongate, almost cylindrical; head and pronotum blackish brown, elytra light brown; body sparsely hairy; margins of head pronotum and elytra more hairy. Body length 2.15-2.30 mm, 2.10-2.15 times longer than wide.

Head small and globose, lateral sides convex; epistomal margin convex with rows of minute hairs; frons broadly convex, surface shining, punctures rather small, somewhat dense, feebly granulate and with fine sparse hairs.

Pronotum as long as wide or slightly longer than wide; anterior margin uniformly round with weak carina having some small asperities in row, median asperities slightly bigger than the others; lateral sides feebly convex; posterior margin outcurved with indistinct carina; summit indistinct, placed almost at the middle; declivous portion with crescentric asperities gradually becoming feeble towards postero-lateral directions; weak constriction below the summit; a distinct shining median line running from summit to posterior margin; disc reticulately punctuate.

Elytra elongate, 1.7 times as long as wide and 1.6 times as long as pronotum, anterior margin substraight, lateral sides subparallel, weakly converging posteriorly terminating into a convex posterior margin; elytral disc convex, somewhat smooth and shining, striae feebly marked with small, shallow punctures in rows, sutural striae depressed distinctly marked upto posterior margin, other striae running upto declivity, interstriae flat with scattered punctures. Declivity commencing on postaeior fourth and its margins with 3-4 distinct tubercles with broad base; declivity interstriae with a few small tubercles and fine hairs.

Female : Females are very similar to male except three deep cavities in triangular position, bigger one at central vertex and small two at either side at lower level, elytral declivity less broadly impressed, lateral tubercles almost of equal size and smaller.

*Distribution* : INDIA : Assam, Himachal Pradesh, Kashmir, Punjab, Uttarakhand.

*Elsewhere* : China (Yunnan), Nepal, Pakistan.

*Hosts* : *Cedrus deodara*, *Pinus excelsa*, *P. gerardiana*, *P. roxburghii*.

## 62. *Pityogenes spessivtsevi* Lebedev

### 1. *Pityogenes spessivtsevi* Lebedev

1926. Lebedev, *Ent. Blatt.*, **22** : 120. *Holotype* Male ? in Lebedev coll. *Type-locality* : Talas-Aaltan, Syr-Darja-Gebiet, Turkestan.

1962. Schedl, *Central. Gesam. Forstw.*, **79**(3) : 146.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. **13**(Vol. A.) : 458.

*Description* : *Male* : Body chestnut brown. Head densely, pronotum sparsely and elytra less hairy.

Head globose, weakly outbulge laterally. Head dorsum reticulately granulate with microhairs, more dense towards epistome; frons flat, somewhat shiny at the middle with scattered minute granules and small hairs; vertex more densely granulate and with microhairs. Eyes entire, feebly emarginate on anterior margins.

Pronotum as long as broad, anterior margin with distinct carina provided with few distinct asperities especially at the middle; lateral sides feebly outcurved gradually narrowing into a rounded anterior margin; summit distinct, placed almost at the middle, anterior declivous portion with 6-7 crescent rings, each with a row of asperities, asperities gradually becoming larger towards anterior margin; portion below the provided with fine granules and punctures, a glabrous and shining median ridge running from the summit to posterior margin, either sides of which with one bulging spot, posterior margin subround, devoid of any ridge.

Scutellum tongue-shaped, glabrous, lying slightly below the elytral level.

Elytra 1.6 times as long as broad and one and a half times longer than pronotum, discal surface shining, somewhat glabrous with minute punctures and hairs, hairs more prominent towards lateral and posterior margins; basal margin substraight and devoid of carina; sutural line depressed; striae marked with fine shallow punctures, more prominent in the declivity; interstriae much wider than striae and flat with scattered fine punctures with some hairs specially on lateral sides. Declivity commencing on posterior third; each declivital margin with 3 setiferous prominent tubercles, 1<sup>st</sup> tubercle at the level of 2<sup>nd</sup> interstria, smallest in size, almost straight; 2<sup>nd</sup> one biggest, hooked inward, placed at the level of 3<sup>rd</sup> and 4<sup>th</sup> interstriae; 3<sup>rd</sup> one medium in size and placed at the postero-lateral margin of elytra; posterior margin thickly chitinised; declivital face somewhat smooth, sutural line prominent and sutural stria demarked with indistinct minute punctures.

*Distribution* : INDIA : Kashmir, Uttarakhand.

*Elsewhere* : China (Xinjiang) and USSR.

*Hosts* : *Picea schrenkiana*, *P. morinda*, *Pinus excelsa*, *P. gerardiana*, *P. roxburghii*.

### Tribe **Dryocoetini** Lindemann

The tribe is represented by eight genera in India, of which three genera, namely *Taphrorychus* Eichhoff, *Triotemnus* Wollaston and *Xylocleptes* Ferrari could not be incorporated in key, but had been dealt with the species of respective genus.

#### Key to the genera under the tribe **Dryocoeteni**

1. Protibiae with 5 socketed teeth ..... 2
- Protibiae with 3 to 4 socketed teeth ..... 3
2. Antennal club obliquely truncate, suture 1 recurved, basal corneous portion of antennal club reaching beyond the middle; anterior portion of pronotum declivous; declivity comparatively more abrupt; postero-lateral margin of elytra distinct  
..... *Dryocoetes* Eichhoff / *Dryocoetiops* Schedl

- Antennal club flattened without any basal corneus portion ..... ***Crytogeneus*** Strohmeier
- 3. Antennal club obliquely truncate; aciculation on frons (except some species) present; basal corneus portion of club more than half at least on posterior face; pronotum carinate near the base only ..... ***Coccotrypes*** Eichhoff
- Antennal club rather flattened with procurved basal corneus portion on both the faces; aciculation on frons absent; basal corneous portion of club less than half; pronotum carinate at least to the middle ..... ***Ozopemon*** Hagedorn

### Genus ***Coccotrypes*** Eichhoff

#### 1. ***Coccotrypes*** Eichhoff

- 1878(1879). Eichhoff, *Mem. Soc. Roy. Sci. Lisee*, **8**(2) : 57, 308.
1960. Wood, *Insects of Micronesia*, **18**(1) : 46.
1966. Schedl, *Entom. Abh. Mus. Tierk. Dresden*, **35** : 33.
1978. Wood, *Annl. Soc. Ent. Fr. (N.S.)*, **14**(1) : 113.
1982. Wood, *Gt. Basin Nat. Memo.* No. **6** : 731.
1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. **13**(Vol. A) : 591.

#### 2. ***Poecilips*** Schaufuss

1897. Schaufuss, *Berl. Ent. Z.*, **42** : 110.
1973. Wood, *Gt. Basin Nat.*, **33** : 171(syn.).

#### 3. ***Cryphaloides*** Formanek

1908. Formanek, *Ent. Blatt.*, **4** : 91.
1962. Schedl, *Mitt. Munch. Ent. Ges.*, **52** : 95 (syn.).

#### 4. ***Thamnurgides*** Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rep.*, **99** : 45.
1938. Schedl, *Ent. Berl.*, **10** : 9(syn.).

#### 5. ***Spermatoplex*** Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rep.*, **99** : 48.
1952. Schedl, *Ent. Blatt.*, **47-48** : 160 (syn.)

#### 6. ***Dendurgus*** Eggers

1923. Eggers, *Zool. Meded.*, **7** : 144-145.

1927. Eggers, *Treubia*, 9 : 390 (syn.)

*Types of the genera : Coccotrypes : Bostrichus dectyliparda* Fabricius, subsequent designation by Hopkins, 1914. *U.S. nat. Mus.*, 48 : 118.

(*Poecilips : P. sannii* Schaufuss, monobasic. *Cryphaloides : C. donisthorpei* Formanck = *Bostrichus carpophagus* Hornung, monobasic. *Thamnurgides : T. persicae* Hopkins = *Coccotrypes advena* Blandford, Original designaion *Spermatoplex : S. rhizophorae* Hopkins. *Dendurgus : D. rhizophorae* Eggers = *Spermatoplex rhizophorae* Hopkins.

This large and diverse genus, *Coccotrypes* was established by Eichhoff (1878[1879]) to accommodate some six species from Africa and Asia, without designating any type-species. Late on, *Bostrichus dectyliparda* Fabricius had been designated by Hopkins (1914) as the type-species of the genus. Afterwards, some genera, namely *Poecilips* Schaufuss, *Cryphaloides* Formenek, *Thamnurgides* Hopkins, *Spermatoplex* Hopkins and *Dendurgus* Eggers, were synonymised under it. The inclusion of all these genera have certainly enlarged the ranges of its character diversity and *Distribution*. Thus, the genus as we conceive today contains a large assemblage of species to a total of 129 world species as recorded by Wood and Bright in the catalogue (1992). In India, about two dozen of species are known to occur.

The genus is predominantly found in the Asian countries with extended distribution of some species to African and American continents especially in its tropical areas.

The sexual dimorphism is less prominent in the species belonging to this genus. However, males are generally slightly smaller than the females, as also pointed out by some authors (Wood, 1960, and others). But, the sexual identity is hardly made in the material studies in the present context, except considering all as the females on which the key is also based.

#### Key to the species of *Coccotrypes* Eichhoff

1. Larger species, body-length 3.15-3.90 mm ..... 2
- Smaller species, body length not exceeding 2.00 mm ..... 4
2. Elytral apices strongly acuminate body length, 3.15-3.25 mm .....  
..... *C. fallax* (Eggers)
- Elytral apices not atall acuminate ..... 3
3. Frons with a blunt distinct tubercle; sutural striae at the elytral face not so depressed; body length, 3.20-3.90 mm ..... *C. monoceros* (Beeson)
- Frons without any distinct of tubercle; sutural striae at the Elytral face distinctly depressed; body length, 3.70-3.85 mm ..... *C. barbatus* (Scheld)
4. Body-length generally not more than 2.00 (1.00-2.00) ..... 5
- Body-length generally more than 2.00 ..... 8

5. Strial punctures with microhairs, particularly on declivity, body-length 1.90 ...  
..... *C. vulgaris* (Eggers)
6. Pronotal surface devoid of any distinct asperities, rather with weak imbricate punctures antero-laterally, rest of posterior surface with punctures; body-length 1.40-1.80 ..... *C. advena* Blandford
- Pronotal surface with distinct asperities antero-laterally, rather becoming elongated towards the middle, only postero-median portion with punctures ..... 7
7. Larger species, body-length, 1.80-1.95; elytral surface with striae moderately impressed; punctures large and coarse, and placed at a distance of their own diameter; frontal surface with sparse granules and with a few punctures towards vertex ..... *C. nubilus* (Blandford)
- Smaller species, body length, 1.75-1.90; elytral striae not so impressed, punctures small and placed at a distance of more than their diameter; frontal surface with large shallow punctures ..... *C. longior* (Eggers)
8. Pronotal surface devoid of distinct asperities, but with punctures ..... 9
- Pronotal surface with distinct asperities or granulate asperities, punctures either present or absent, if at all present, present only on posterior third ..... 10
9. Frons convex, with distinct median line; scutellum subrectangular; pronotum slightly longer than wide ..... *C. nigronitens* (Schedl)
- Frons plano-convex with feebly elevated median line, lower third with some distinct crenulae; scutellum subround; pronotum as wide as long .....  
..... *C. papuanus* (Eggers)
10. Pronotum more strongly, narrowly convex both longitudinally and transversely, its anterior margin more narrowly rounded and with distinct asperities ..... 11
- Pronotum usually much more broadly convex both longitudinally and transversely, its anterior margin more broadly rounded and devoid of asperities ..... 12
11. Smaller species, body length 2.04-2.15; strial puncture very slightly smaller and shallow; interstitial granules on disc averaging smaller, more widely spaced; interstitial setae on declivity shorter, each only slightly longer than distance between rows, mature colour, dark brown to almost black .....  
..... *C. carpophagus* (Hornung)
- Larger species, body length 2.50-2.70; strial punctures slightly larger, very slightly deeper; interstitial granules averaging slightly larger, closer; interstitial setae on declivity longer, each almost twice as long as distance between rows .....  
..... *C. dectyliperda* (Fabricius)
12. Body narrow and elongate, 1st stria on declivity not depressed ..... 13
- Body slightly broader and shorter, 1st stria on declivity depressed ..... 15

13. Frons with a distinct elevated median line ..... *C. salakensis* (Scheld)  
 – Frons without any distinct median line ..... 14
14. Elytral apices narrowly rounded; scutellum somewhat triangular; declivital hairs more larger than on the disc ..... *C. variabilis* (Beeson)  
 – Elytral apices not so narrowly rounded; scutellum rounded; hairs on both elytra and disc of same size ..... *C. cypou*
15. Scutellum tongue shaped; elytra more elongate and much longer than pronotum, elytra apices somewhat narrowly rounded ..... *C. litoralis* (Beeson)  
 – Scutellum round; elytra not so elongate, not larger than pronotum, apices broadly rounded ..... *C. cardamomi* Schaufuss

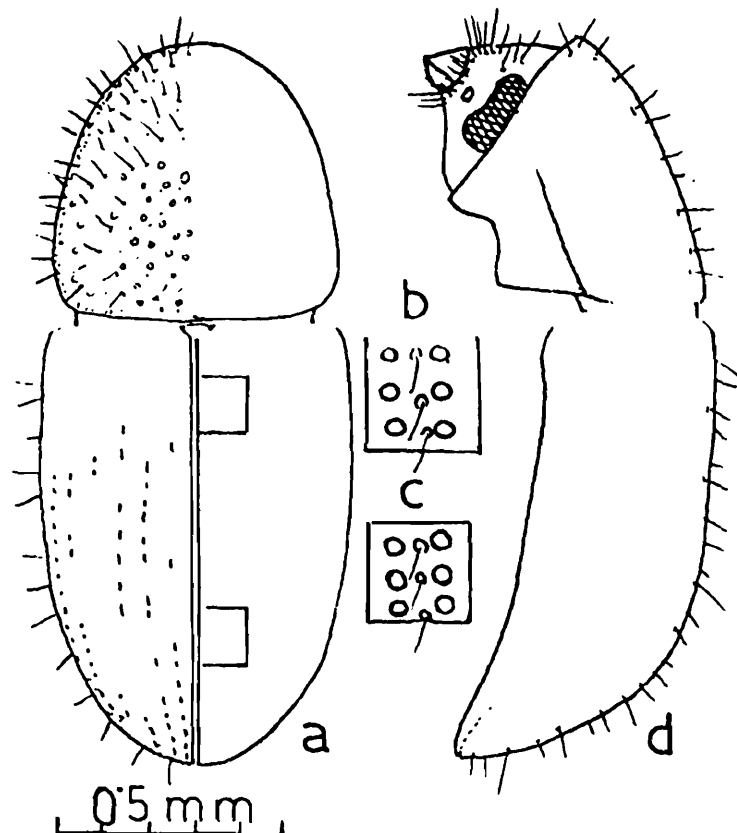
63. *Coccotryphes advena* Blandford

(Fig. 21)

1. *Coccotryphes advena* Blandford

1894. Blandford, *Trans. Ent. Soc. Lond.*, p. 100. *Holotype* Female in BMNH., London. *Type-locality* : Nagasaki, Japan.

1982. *Wood.Gt. Basin Nat. Memo.*, No. 6, p. 733.



**Fig. 21. a-d.** *Coccotryphes advena* (Blandford), Female : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc; c, enlarged portion of elytral declivity; d, head, pronotum and elytra in lateral view.

1992. Wood and Bright, *Gt. Basin Nat Memo.*, No. 13(Vol. A).

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 798.

### 2. *Poecilips sannio* Schaufuss

1897. Schaufuss, *Berl. Ent.* 2., 42 : 110. *Holotype* Female *Type-locality* : West Africa

1970. Browne, *J. nat. Hist.*, 4 : 566 (syn.)

### 3. *Thamnurgides persicae* Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rep.*, 99 : 45. *Holotype* Female in USNM, Washington., *Type-locality* : Honolulu, Hawaii.

1961. Schedl, *Rev. Ent. Moc.*, 4(2) : 728 (synonymised under *C. sannio* Schaufuss)

1973. Wood, *Gt. Basin Nat.*, 33(3) : 174 (syn.)

### 4. *Dendrurgus philippinensis* Eggers

1923. Eggers, *Zool. Meded.*, 7 : 145. *Lectotype* Female in USNM, Washington. *Type-locality* : Mt. Makiling, Insel Luzon, Philippine.

1989. Wood, *Gt. Basin Nat.*, 49 : 170 (syn.)

### 5. *Dendrurgus ternatensis* Eggers

1923. Eggers, *Zool. Meded.*, 7 : 146. *Syntype* Female in Eggers Coll., NHMW, Wien. *Type-locality* : Genova.

1989. Wood, *Gt. Basin Nat.*, 49 : 170 (Syn.)

### 6. *Dendrurgus minor* Eggers

1923. Eggers, *Zool. Meded.*, 7 : 150. *Lectotype* Female in USNM., Washington, *Type-locality* : Buitenzorg, Botanical Garden, Java, Indonesia.

1989. Wood, *Gt. Basin Nat.*, 49 : 170 (syn.)

### 7. *Thamnurgides setosus* Beeson

1929. Beeson, *Inst. Of Samoa, Coleopt.*, 4 : 228. *Holotype* Female in BMNH, London. *Type-locality* : Fagasa, Tutuilo, Samoa.

1961. Schedl, *Rev. Ent. Moc.*, 4 : 728 (syn.).

### 8. *Thamnurgides tutuilensis* Beeson

1929. Beeson, *Insl. Of Samoa, Coleopt.*, 4 : 228. *Holotype* Female in BMNH, London, *Type-locality* : Fagasa, Tutuilo, Samoa.

### 9. *Thamnurgides cubanus* Eggers

1934. Eggers, *Ent. Blatt.*, **30** : 79. *Holotype* Female in USNM, Washington. *Type-locality* : Cuyajabas, Sierra, Rosario, Cuba.
1960. Wood, *Insects of Micronesia*, **18**(1) : 48(syn.).

### 10. *Poecilips nuciferus* Schedl

1938. Schedl, *Ent. Berl.*, **10** : 10. *Lectotype* Female in Schedl's Coll., NHMW, Wien.

### 11. *Thamnurgides vicarius* Beeson

1939. Beeson, *Indian Forest Rec., Ent. (N.S.)*, **5**(3) : 285. *Holotype* Female in F.R.I., Dehra Dun. *Type-localities* : Samsingh, West Bengal and Assam, India.
1961. Schedl, *Rev. Ent. Moc.*, **4** : 728(syn.)

### 12. *Poecilips niger* Schedl

1939. Schedl, *J. Fed. Malay St. Mus.*, **18**(3) : 345. *Syntype* Female in BMNH, London and Schedl's coll. In NHMW, Wien.
1960. Wood, *Insects of Micronesia*, **18**(1) : 48 (syn.)

### 13. *Poecilips subnitidus* Schedl

1954. Schedl, *Philipp. J. Sci.*, **83** : 147 *Holotype* Female in Schedl's in NHMW, Wien. *Type-locality* : Buitenzorg, Java, Indonesia.
1961. Schedl, *Rev. Ent. Moc.*, **4** : 728(syn.)

*Description : Female* : Body long and cylindrical; head, pronotum and elytra reddish brown. Body length 1.40-1.80 mm, 2.4-2.5 times as long as wide.

Head globose; frons flatly convex, with a distinct median line, fine carinulae diverging from middle to epistoma and a few punctures towards vertex, vestiture of fine short hairs and a few long erect hairs. Eyes elongately oval, feebly emarginate. Antennal scape short and stout; funicle with 5 segments; club obliquely truncate, basal corneous portion on anterior face reduced with substraight apical margin with two more sutures marked by hairs above it and posterior face with one suture.

Pronotum nearly as long as wide; basal margin substraight; lateral sides feebly outcurved and weakly ridged beyond the middle, thence converging on anterior half, broadly rounded anteriorly; surface plano-convex, smooth and shining with sparse punctures and interspersed with granulate punctures; vestiture of small erect hairs and those on laterally comparatively longer.

Scutellum subtriangular.

Elytra 1.6-1.7 times as long as pronotum, basal margin substraight, lateral sides subparallel on basal two-thirds, rather narrowly rounded behind; discal striae marked by large close punctures, devoid of any microhair; interstriae slightly wider than striae with sparse fine punctures and with fine erect hairs. Declivity commencing behind the middle, face convex, rather steep; striae not impressed, marked by comparatively shallow, large and close punctures; interstriae as on disc.

*Male* : Not distinguishable in the material studied.

*Distribution* : INDIA : Assam, Karnataka, Uttarakhand, West Bengal (Darjiling Dist. : Bagdogra, Samsingh and Tista Valley).

*Elsewhere* : Sri Lanka, Malaysia, Vietnam, Japan, Fiji, Indonesia (Borneo, Java, Sumatra), Micronesia, New Guinea, Australia, Cuba, the Philippine Islands, Samoan Islands, North America, South America.

*Host* : Fruits of *Eugenia formosa*.

*Remarks* : This species is a variable one and apparently native to Indonesia. It can easily be identified by its smaller size and sparsely punctate pronotal surface. Due to its variable morphological characters, many species belonging to different genera have been synonymised under it. The species is known as a fruit borer as well as borer of some unidentified trees in India (Beeson, 1939).

#### 64. *Coccotrypes aspericollis* (Beeson)

##### 1. *Thamnurgides aspericollis* Beeson

1939. Beeson, *Indian For. Rec., Ent., N.S.*, 5 : 295. *Holotype* Female in FRI., Dehra Dun; *Type-locality* : Naga Hills (3000 ft.), Nagaland, India.

##### 2. *Coccotrypes aspericollis* (Beeson)

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 593.

*Description* : (After, Beeson, 1939) : Head and prothorax black, elytra dark chestnut. Front subconvex, dull, ground shagreened with sparse granulate piliferous punctures, more densely granulate behind epistome; median line elevated, subnitid.

Pronotum almost flat from behind apical margin to base, plano convex from side to side, just longer than wide; basal angles broadly round, sides scarcely arcuate, narrowed to the curved, subtransverse, apical margin; asperities small, somewhat flattened, uniformly distributed, almost imbricate, without punctures, ground shagreened; median line indicated by slight elevation; vestiture of abundant short, recumbent and longer erect hairs.

Elytra about 1.6 times as long as pronotum and 1.6 times as long as wide, sides parallel, ovately narrowed to apex from about two-thirds; striae small, close, shallow, not impressed; interspaces broad, weakly rugose with aciculate

punctures, less numerous than striae punctures, bearing long erect hairs. Declivity steeply convex, not flattened, striae as on dorsum, interspace with minute piliferous granules. Foretibia with 5 teeth in addition to apical spur. Body length 2.15-2.66 mm.

*Distribution* : INDIA : Nagaland, Naga Hills (3,000 ft.) (Holotype).

*Elsewhere* : Tonkin; Hoabinh (Paratypes).

*Host* : Not known

*Remarks* : "The species is possibly allied to *Thamnurgides rugicollis* Eggers which (according to the description) has longer elytra and pronotum" (Beeson, 1939, p. 296).

### 65. *Coccotrypes barbatus* (Schedl)

#### 1. *Thamnurgides barbatus* Schedl

1934. Schedl, *Ent. Bericht.*, **9** : 90. *Lectotype* Female in Schedl's coll.; NHMW., Wien, designated by Schedl (1979)

1979. Schedl, *Entomologie*, **3**(2) : 34.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. **13**(Vol-A) : 593.

#### 2. *Thamnurgides ater* Eggers

1936. Eggers, *Tijdsch. Entomol.*, **79** : 84. *Holotype* Female in Strohmeier collection, Eberswalde. *Type-locality* Sumatra (Brastagi). Indonesia

1989. Wood, *Gt. Basin Nat.*, **49** : 170 (syn.).

#### 3. *Thamnurgides dipterocarpi* Beeson

1939. Beeson, *Indian Forest Rec., Ent. (N.S.)*, **5**(3) : 288. *Syntypes* Female in FRI., Dehra Dun. *Type-locality* : Dihing reserve, Lakhimpur division, Assam, India

1989. Wood, *Gt. Basin Nat.*, **49** : 170 (syn.)

#### 4. *Thamnurgides bambusae* Beeson

1939. Beeson, *Indian Forest Rec., Ent. (N.S.)*, **5**(3) : 289. *Syntypes* Female in FRI., Dehra Dun. *Type-locality* : Yanaungmyin reserve, Pyin mana division, Myanmar

1989. Wood, *Gt. Basin Nat.*, **49** : 170 (syn.)

*Description* : (After, Beeson, 1939) : "Chestnut brown to black, legs dark brown. Front broadly subconvex, ground subnitid on shagreened, median line carinate, lower half more acutely; the entire front with abundant, sharp, piliferous granules which become aciculate punctures towards vertex and just behind epistome.

Pronotum just wider than long, broadly subconvex, sides very broadly rounded, narrowing in the anterior quarter into the broadly ruved apical margin; almost entire and fairly abundantly furnished with aciculate punctures interspersed with small

granules, piliferons, obsolete near apical margin and largely replaced by shallow non-aciculate punctures in the basal area; tyrases of a median impunctate line in basal thrid.

Elytra 1.5 times as long as pronotum, 1.35 times as long as wide, cylindrical, slightly flattened above, sides nearly paralel, curved at middle at first gradually and then more strongly to the apex so that the apical margin is ovately produced; stria punctures large, close, sharply circular without visible microhairs, the 1st stria slightly impressed; interspaces very rugose, irregularly biseriate-granulate, except the narrow 1st which is uniseriate; interspatial hairs long, erect, abundant. Declivity begins at about 2/3rd length, steeply convex, oblique, impressed upto the 4th stria, brilliant; 1st stria impressed its punctures smaller towards apex, 1st and 2nd interspaces with granules at summit passing into minute punctures below and tending to become uniseriate on 2nd, the 2nd and 3rd striae evenly punctate throughout, 3rd interspace uniseriate-granulate weakly convex. Length : 3.70-3.85 mm.

*Distribution* : INDIA : Assam.

*Elsewhere* : Malaya, Indonesia (Java, Sumatra) and Myanmar.

*Host* : *Dipterocarpus pilosus* (fallen fruits).

## 66. *Coccotrypes cardamomi* Schaufuss

### 1. *Coccotrypes cardamomi* Schaufuss

1905. Schaufuss. *Insektenborse*, 12 : 1 p. *Holotype* Female in Hamburg Mus., (lost). *Type locality* : Warendorf, Sri Lanka.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 594.

*Description* : *Female* : Body elongated, not so cylindrical. Head, pronotum and elytra yellowish brown. Body length 2.11 mm-2.54 mm, 2.1 to 2.2 times as long as wide. Head globose, front flat without any median line, sometimes finely marked; fine granule with fairly dense microhairs. Eyes elongately oval, feebly emarginate at the middle. Antennal scape short and stout, funicles with 5 segments, club obliquely truncate, basal corneous portion on anterior face with feebly concave anterior margin and with two more sutures marked by fine hairs above it and posterior face with one suture only.

Pronotum as long as wide or slightly wider than long; basal margin substraight, lateral sides distinctly outcurved, apical margin convex; dorsal surface distinctly convex, summit feebly marked, placed almost at the middle, declivous portion with minute granule like asperities with fairly dense hairs and arranged somewhat crescentically becoming feeble toward postero-lateral areas; disc almost smooth with minute punctures and hairs.

Scutellum small, deep brown in colour, somewhat tongue shaped with narrower anterior tip.

Elytra 1.45 to 1.55 mm long and 1.22 times broader than long, elytral disc fairly pilose and declivity densely show; declivity commencing on anterior 2/3<sup>rd</sup> and covered with dense hairs. Elytral base straight devoid of any carina; striae marked by shallow minute punctures; interstriae much wider than striae and with minute hairs. Declivital striae distinctly marked with comparatively depunctures running almost to the tip; interstriae 1,2,3 reaching upto the apical margin and rest terminating on the margin of declivity; posterior margin broadly rounded but devoid of any carina.

*Distribution* : INDIA : Karnataka (Coorg), Kerala.

*Elsewhere* : Myanmar, China, Japan, Malaysia, Nepal, Sri Lanka, Taiwan, Vietnam, Indonesia (Borneo, Sumatra).

*Hosts* : Fruits of *Canarium strictum*, *Cullenia excelsa*, *Elaeocarpa tuberculatus*, *Ellettaria major*, *Hardwickia pinnata*, *Vateria indica*.

67 *Coccotrypes carpophagus* (Hornung)  
(Fig. 22)

1. *Bostrichus carpophagus* Hornung

1842. Hornung, *Stettin. Ent. Ztg.*, **3** : 116. Syntypes Females in MNB, Berlin. *Type-locality* : Eastern India.

2. *Coccotrypes pygmaeus* Eichhoff

1878. (1879). Eichhoff. *Mem. Soc. Roy. Sci. Liege*, **8**(2058 and 310). *Type locality* : Madagascar.  
1959. Schedl, *Trans. Roy ent. Soc. Lond.*, **111** : 486 (syn.)

3. *Coccotrypes integer* Eichhoff

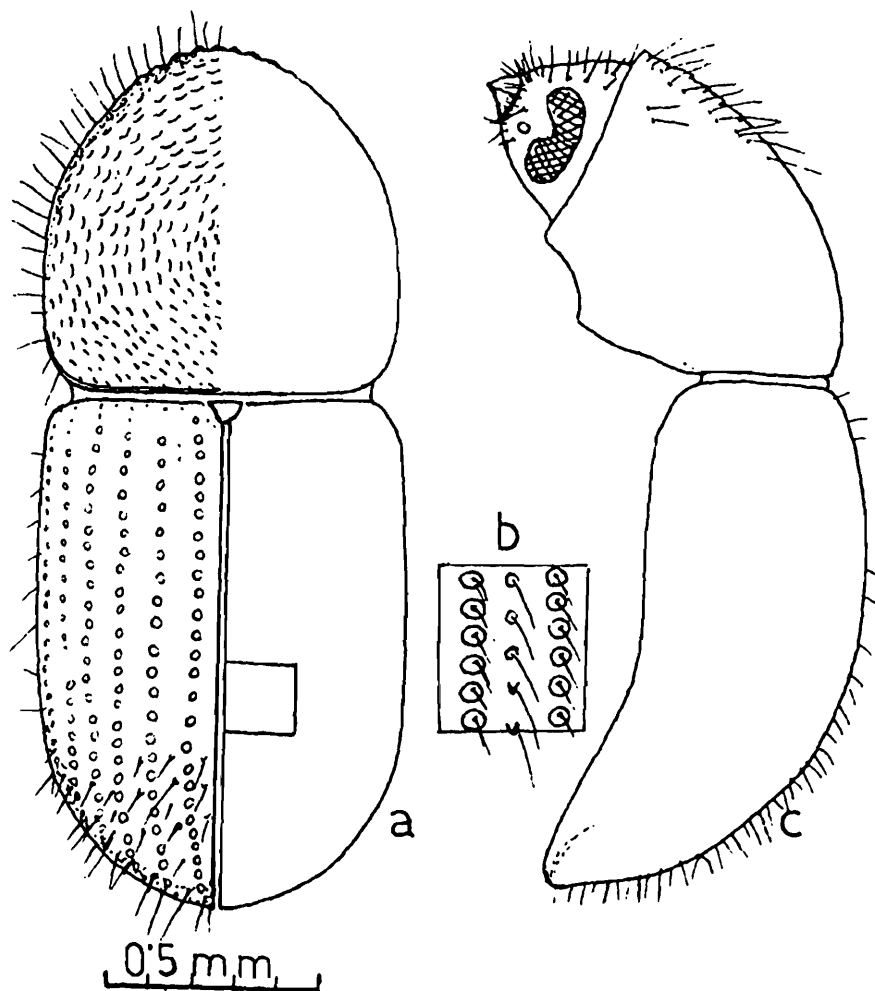
1878. Eichhoff, *Mem. Soc. Roy Sci. Liege*, **8**(2) : 58 and 311. Syntypes Female in USNM, Washington, others lost with Hamburg Mus. *Type-locality* : Thailand.  
1929. Eggers, *Wiener Ent. Zeit.*, **46** : 52 (syn.)

4. *Cryphalus donisthorpei* Formanek

1908. Formanek, *Ent. Blatt.*, **4** : 91, Syntypes Female in BMNH; London. *Type-locality* : Kew Garden, London  
1962. Schedl, *Mitt. Munch. Ent. Ges.*, **52** : 95 (syn.).

5. *Coccotrypes thrinacis* Hopkins

1915. Hopkins, *U.S. ept. Agric. Rep.*, **99** : 46. Holotype Female in U.S.N.M., Washington *Type-locality* : Isle of Pines, Cuba.  
1964. Schedl, *Reichenbachia*, **2** : 216 (SYN.)



**Fig. 22.a-c.** *Coccotrypes carpophagus* (Hornung), Female : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytra; c, head, pronotum and elytra in lateral view.

### 6. *Coccotrypes bekeri* Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rep.*, **99** : 46 *Holotype* Female in USNM, Washington. *Type-locality* : Havana, Cuba.
1964. Schedl, *Reichenbachia*, **2** : 216 (syn.)

### 7. *Coccotrypes anonae* Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rep.*, **99** : 46. *Holotype* Female in USNM., Washington. *Type-locality* : Cuba.
1950. Schedl, *Dusenja*, **1** : 145 (syn.)

### 8. *Coccotrypes hubbardi* Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rep.*, **99** : 46, *Holotype* Female in USNM, Washington. *Type-locality* : Monserrat, West Indies.

1950. Schedl, *Dusenina*, **1** : 145 (syn.)

### 9. *Coccotrypes liberiensis* Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rept.*, **99** : 47. *Holotype* Female in USNM, Washington. *Type-locality* : Mount Coffee, Liberia.

1975. Wood, *Gt. Basin Nat.*, **35** : 392 (syn.)

### 10. *Coccotrypes rollinae* Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rept.*, **99** : 47 : *Holotype* Female in USNM, Washington. *Type-locality* : Para, Brazil.

1950. Schedl, *Dusenina*, **1** : 145 (syn.)

### 11. *Coccotrypes namus* Eggers

1920. Eggers, *Ent. Blatt.*, **16** : 33. *Lectotype* Female in USNM, Washington *Type-locality* : Kamarun.

1949. Schedl, *Tijdschr. Ent.*, **91** : 114 (syn.)

### 12. *Coccotrypes punctulatus* Eggers

1951. Eggers, *Ent. Blatt.*, **45-46** : 51. *Holotype* Female in Eggers Coll. NHMW. *Type-locality* : Insel St. Thomas, Virgin Islands.

1975. Wood. Wood, *Gt. Basin Nat.*, **35** : 392(syn.)

### 13. *Coccotrypes phoenicola* Beeson

1939. Beeson, *Indian For. Rec. Ent.* (N.S.), **5** : 281. *Holotype* Female in FRI, Dehra Dun. *Type-locality*. Dehra Dun, Uttarakhand, India.

1989. Wood, *Gt. Basin Nat.*, **49** : 170 (syn.)

### 14. *Coccotrypes trevori* Beeson

1939. Beeson, *Indian For. Rec., Ent.* (NS.), **5** : 282. *Holotype* Female in FRI, Dehra Dun. *Type locality* : Kondul, Nicobars, India.

1989. Wood, *Gt. Basin Nat.*, **49** : 170 (syn.)

### 15. *Coccotrypes carpophagus* (Hornung)

1927. Eggers, *Wien. Ent. Ztg.*, **46** : 52.

1939. Beeson, *Indian Forest Rec. Ent.* (N.S.), **5(3)** : 301

1941. Beeson, *Ecology and Control of Forest Insects of India and Neighbouring Countries*, p. 286.

1960. Wood, *Insects of Micronesia*, 18(1) : 46-47.

1978. Beaver and Browne, *Oriental Ins.*, 12(4) : 583.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 594.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) :

*Description* : *Female* : Body short and stout; head, pronotum and elytra reddish brown. Body length 2.04-2.15 mm, 2.2 times as long as wide. Head globose, frons convex, surface convergently aciculate except on broad median smooth area and with vestiture of sparse long erect hairs. Eyes elongately oval, nearly half of its width emarginated. Antennal scape small and clubed apically; funicle with 5 segments; club obliquely truncate, basal corneous portion with substraight apical margin on its anterior face, truncated face with one distinct suture; posterior face with one suture apically.

Pronotum nearly as long as wide, basal and usually lateral margins feebly outcurved and with fine raised lines, widest just behind the middle, anterior margin narrowly rounded, accommodating 6-8 contiguous weak asperities; surface strongly convex; anterior slope with close asperities, asperities irregular in shape and size, somewhat rounded and becoming elongate laterally and around the middle; asperities on basal third rather granulate.

Scutellum somewhat triangular.

Elytra 1.50-1.55 times as long as pronotum and 1.2 times as long as its width; basal margin substraight; lateral sides substraight, converging posteriorly into a rounded apex; striae on disc and declivity not at all impressed, but with close shallow punctures and each with a microhair; discal interstriae flat with uniseriate small punctures replaced by small granules towards apices, each with a long erect hair. Declivital face convex and smooth; striae punctures comparatively large and each with a microhair; interstriae smooth but granulate with erect hairs.

*Male* : Male not recognised in the collection studied.

*Distribution* : INDIA : Karnataka, Nicobar Island, Tamil Nadu, Uttarakhand, West Bengal (Darjiling Dist. : Jaldhaka range and Samsingh; Kolkata).

*Elsewhere* : Throughout the tropical and subtropical regions of the world.

*Hosts* : Fruits of *Areca catechu*, *Borassus flabellifer*, *Diospyros* spp., *Polyaethia simiarum* (Beeson, 1941).

*Remarks* : The species is very distinct from all other representatives of the genus in having a few contiguous asperities on anterior margin of pronotum. It was probably originated from Africa and originally named from betelnut (Wood, 1977). However, it has been recorded from wide varieties of nuts and other large seeds virtually from all the tropical and subtropical countries of the world. In West Bengal, it occurs in the sub-Himalayan tracts infesting *Poliaalthia simiarum*. In India, it is recorded from the

seeds of some four species of palm and one species of each of the families of Annonaceae, Ebenaceae, Leguminosae, Myrtaceae and Sapotaceae (Beeson, 1941). In Malaysia, it is recorded from number of other hosts (Browne, 1961).

68. *Coccotrypes cyperi* (Beeson)  
(Fig. 23)

1. *Thamnurgides cyperi* Beeson

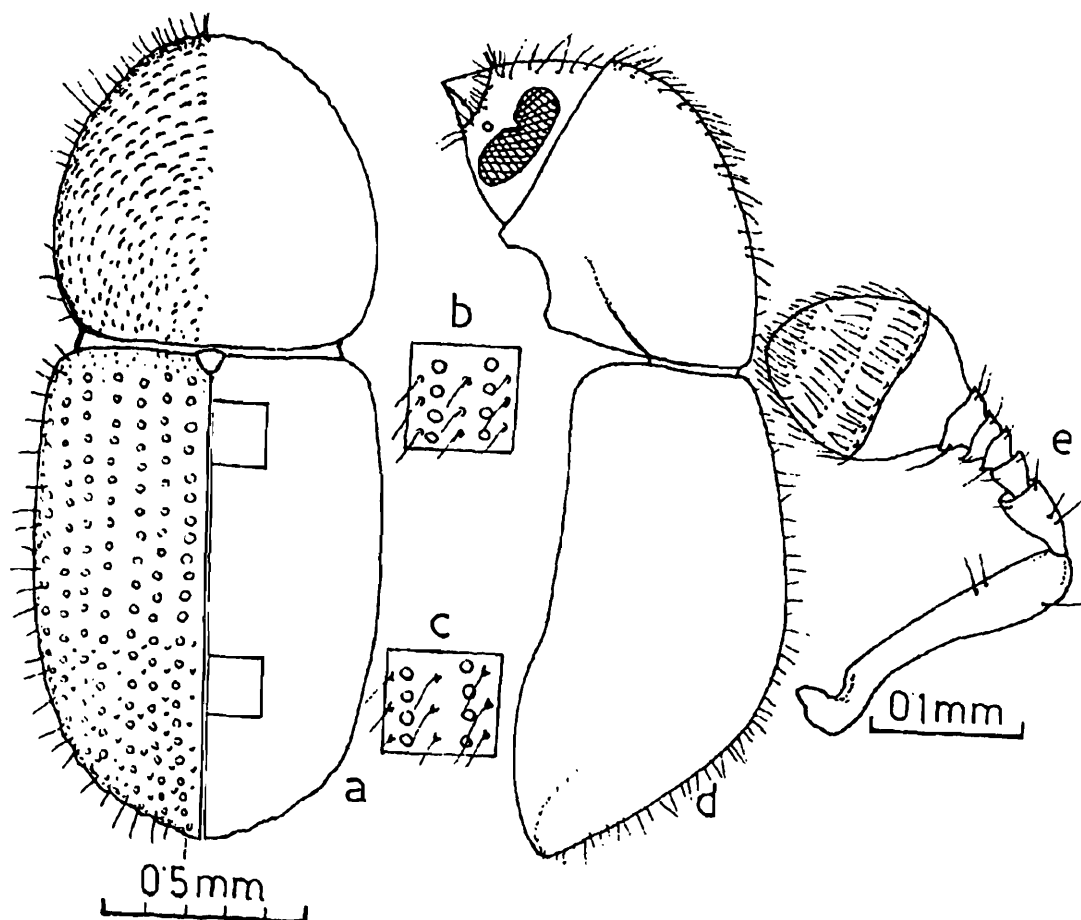
1929. Beeson, *Insects of Samoa*, Part 4, *Coleopt.*, 4 : 230. *Holotype* Female in BMNH, London.  
*Type-locality* : Upolu, Apia, Samoan Islands.

1978. Wood, *Gt. Basin Nat.*, 38(4) : 397.

2. *Coccotrypes cyperi* (Beeson)

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 598.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6(B) : 797, 799



**Fig. 23.a-e.** *Coccotrypes cyperi* (Beeson), Female : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc; c, enlarged portion of elytral declivity; d, head, pronotum and elytra in lateral view; e, antenna.

3. *Thamnurgides indicus* Eggers

1936. Eggers, *Ann-Mag. nat. Hist.*, (10)17 : 631. *Holotype* Female in BMNH, London. *Type-locality* : Sakalaspur, Mysore, India

4. *Xyleborus conspeiciens* Schedl

1936. Schedl, *Archi Inst. Biol. Veget.*, 3(1) : 110.

5. *Dryocoetes subdepressus* Eggers

1940. Eggers, *Arb. Morph. Taxon. Ent.*, 7(2) : 127.

6. *Dryocoetes insularis* Eggers

1940. Eggers, *Arb. Morph. Taxon. Ent.*, 7(2) : 127.

7. *Coccotrypes insularis* Eggers

1940. Eggers, *Arb. Morph. Taxon. Ent.*, 7(2) : 129.

8. *Dryocoetes subimpressus* Eggers

1940. Eggers, *Arb. Morph. Taxon. Ent.*, 7(2) : 127.

9. *Poecilips subaplanatus* Schedl

1942. Schedl, *Tijd voor Entom.*, 85 : 23.

10. *Poecilips caraibicus* Schedl

1952. Schedl, *Dusenias*, 3(5) : 345.

11. *Poecilips eggersi* Schedl

1952. Schedl, *Dusenias*, 3(5) : 347.

12. *Poecilips pilifrons* Browne

1970. Browne, *J. Nat. Hist.*, 4 : 568.

*Description : Female* : Head, pronotum and elytra reddish brown to blackish brown; antennae and legs rather slightly paler. Body length 2.00-2.12 mm and 2.5 times as long as wide.

Head globose; frons flatly convex; median area smooth and shiny, broadening towards vertex; a few longitudinal distinct carnulae converging towards epistoma; surface with a few scattered long hairs and deep punctures. Eyes elongately oval with weak angular emargination. Antennal scape elongate; funicle with 5 segments, club suboval and obliquely truncate, on anterior face, basal corneous portion with weakly

procurved apical margin; truncated face with two inconspicuous sutures; posterior face with one distinct procurved suture.

Pronotum as long as broad or slightly broader; basal margin substraight; lateral sides outcurved and with a feeble raised line beyond basal half; basal angles obtuse and distinctly ridged; anterior margin broadly rounded; in profile, dorsal margin uniformly and weakly curved; anterior half with close, small and flattened asperities becoming elongate postero-laterally and granulate posteriorly; entire surface with long erect hairs more dense towards margins and also with small recumbent hairs.

Scutellum triangular.

Elytra 1.50-1.58 times as long as pronotum and 1.30-1.50 times as long as its width; basal margin subtruncate; lateral sides subparallel nearly upto basal two-thirds, apex subacuminate; discal striae not impressed, but marked by small and shallow punctures, devoid of microhair and each placed at a distance of more than its own diameter; interstriae flat with uniseriate punctures towards base and setaeferous granules towards declivity. Declivity steep with convex face; striae and interstriae as on disc. Procoxae subcontiguous, protibiae with 4 and meso- and meta-tibiae each with 5 teeth.

*Male* : Male not recognisable in the material studied.

*Distribution* : India (Andaman Isl., Assam, Kerala, Sikkim, Tamil Nadu and West Bengal : Darjiling Dist. : Bagdogra Range and Samsingh; Jalpaiguri Dist. : Gazalduba (Beeson, 1939).

*Elsewhere* : Myanmar, Indonesia (Java), Samoa, Indochina, Brazil, North America, West Indies, Hawaii and Tahiti Isls.

*Host* : *Aesculus panduana*, *Amoora wallichii*, *Eugenia formosa*, *Macaranga denticulata*, *Swintonia floribunda*, *Terminalia myriocarpa*, *Xylia dolabriformis*.

*Remarks* : Since the description of the species from Samoa (Beeson, 1929), number of species belonging to different genera has been synonymised under it. Recently, Wood (1982) has transferred the species to the genus *Coccotrypes*. As such, it is a widely distributed in different parts of the world. In West Bengal, the species is confined to the sub-Himalayan tracts of north Bengal (Saha and Maiti, 1996).

The biological information is only limited to the records of some eight host-plants in India and neighbouring countries (Beeson, 1939 and 1961). The species is well known as a bark and fruit-borer of *Eugenia formosa* in the place of its occurrence. Emergence generally occurs in May-July and October-February.

## 69. *Coccotrypes daectyliperda* (Fabricius)

### 1. *Bostrichus dactyliperda* Fabricius

1801. Fabricius, *Kiliae, Bibliopol. Acad.*, 1 : 387. Syntypes 2. Female in UZMC., Copenhagen.  
1972. Bright, *Bull., Inst. Of Jamaica, Sci. Ser.*, 21 : 59.

## 2. *Bostrichus palmicola* Hornung

1842. Hornung, *Stett. Ent. Ziet.*, **3** : 116. Syntypes Female in MNB, Berlin  
 1949. Balachowsky, *Fauna de France*, **50** : 182 (syn.)

## 3. *Coccotrypes tropicus* Eichhoff

1878. Eichhoff, *Memo. Soc. Ent. De Liege*, (2)**8** : 312. Holotype Female in Hamburg Mus. (lost).  
*Type-locality* : America meridionalis, Peru.  
 1992. Wood, *Gt. Basin Nat.*, **52** : 82(syn.)

## 4. *Coccotrypes eggersi* Hagedorn

1904. Hagedorn, *Allgem-Zeits. Ent.*, **9** : 449. Syntypes Female in Hamburg Mus (lost); 1 syntype in USNM, Washington.  
 1948. Schedl, *Tijds. Voor Ent.*, **91** : 113 (syn.)

## 5. *Coccotrypes borassi* Beeson

1939. Beeson, *Indian For. Rec., Ent.*, (N.S.), **5** : 283. Holotype Female in F.R.I., Dehra Dun.  
*Type-locality* : Bhagamandala, Coorg, Karnataka, India.  
 1989. Wood, *Gt. Basin Nat.*, **49** : 171 (syn.)

## 6. *Coccotrypes elaeocarpi* Beeson

1939. Beeson, *Indin For. Rec., Ent.* (N.S.), **5** : 284. Syntypes Female in F.R.I., Dehra Dun.  
*Type-locality* : Bhagamandala (3,500 ft.), Coorg, Karnataka, India.  
 1989. Wood, *Gt. Basin Nat.*, **49** : 171 (syn.)

## 7. *Coccotrypes dactyliperda* (Fabricius)

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. **13**(Vol. A) : 599-602.

*Description* (After, Beeson, 1939) : "Female Ferruginous to nearly black. Front. Plano-convex, slightly depressed in lower half; carinulae fairly close, fine, broken; median line fine, not conspicuous.

Pronotum 1.1 times as wide as long, apical margin broadly curved into sides, marginal teeth regularly contiguous in a row, anterior slope with dense small and large sharp asperities, becoming more alongatge and in regular rows at the sides concentric about a point slightly postmedian; basal border rugose-asperte and margined.

Elytra, 1.5 times as long as pronotum, 1.3 times as long as wide; strial punctures close, large; interspace granulate, the granules as numerous as strial punctures; interspatial hairs long, fine, erect, strial hairs short, recumbent, conspicuous. Declivity plano-convex, very slightly flattened transversely; striae not impressed, punctures

ocellate, larger than on dorsum; interspatial granules very close, smaller than on dorsum; vestiture as on dorsum. Length 2.50-2.70 mm.

*Distribution* : INDIA : Karnataka, Maharastra, Uttar Pradesh.

*Elsewhere* : Widely distributed in Oriental Region to Japan; Pacific islands to Hawaii; tropical Africa and North America. Intercepted in tropical seeds throughout the world (Wood and Bright, 1992, detail distribution).

*Hosts* : Reported from large number of hosts (Wood and Bright 1992).

## 70. *Coccotrypes elongatulus* (Schedl)

### 1. *Poecilips elongatulus* Schedl

1975. Schedl, *Rev. Suisse Zool.*, **82**(3) : 455. *Holotype* Female in MHNG, Geneva. *Type-Locality* : Valara Fall, a 46 km on sud-ouest de Munnar, 450-500. Cardamon Hills, Kerala.

1979. Schedl, *Entomologie*, **3**(2) : 89.

### 2. *Coccotrypes elongatulus* (Schedl)

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 602.

*Description* (Schedl, 1975) : Dark brown, 1.6 mm long, 2.6 times as long as wide. A new species somewhat similar to *Poecilips corticis* Beeson, but much more slender and the sculpture finer.

Frons convex, shining, minutely punctate, remotely and moderate finely punctured, in the lower part with some downwards directed long hairs.

Pronotum longer than wide (15 : 14), widest near the base, postero-lateral angles about rectangular and distinctly rounded, sides somewhat obliquely narrowed on little more than basal half, apex moderate broadly rounded, without distinct subapical constriction; uniformly convex from apex to base, densely granulate-punctate, near base the asperities obscure, interstices between the punctures or asperities minutely punctate, with sparse erect pubescence near apex and on the sides. Scutellum small, shining.

Elytra slightly wider (15 : 14) and 1.5 times as long as the pronotum, sides parallel on basal half, apex broadly rounded, declivity commencing after basal half of elytra, obliquely convex; disc rather shining, with fairly regular rows of medium sized punctures, the interstices wide, minutely punctulate and each with a median row of smaller punctures bearing (as far as not abraded) short erect hairs, on the declivity the punctuation finer the punctures of the interstices replaced by minute pointed granules, the setae regular in arrangement and semierect.

*Distribution* : INDIA : Kerala, Cardamom Hills.

*Remarks* : Nothing is known about its biology.

71. *Coccotrypes fallax* (Eggers)  
(Fig. 24)

1. *Poecilips fallax* Eggers

1929. Eggers, *Treubia*, 9 : 899, *Lectotype* : Female in U.S. Nat. Mus. (designated by Anderson & Anderson, 1971 : 13). *Type-locality* : Java.

1960. Wood, *Insects of Micronesia*, 18(1) : 49-50.

1961. Browne, *Malay. Forest Rec.*, No. 22 : 93-94.

2. *Coccotrypes fallax* (Eggers)

1986. Maiti and Saha, *Rec. zool. Surv. India. Occ. Paper No. 86* : 19, 40-41.

1992. Wood and Brigh, *Gt. Basin. Nat. Memo.*, No. 13(Vol. A) : 603.

*Description* : *Female* : Body fairly long and cylindrical, slightly tapering towards elytral apex; head, pronotum and elytra pale brown to dark brown, legs and antennae much paler. Body length 3.15-3.25 mm, 2.6 times as long as wide.

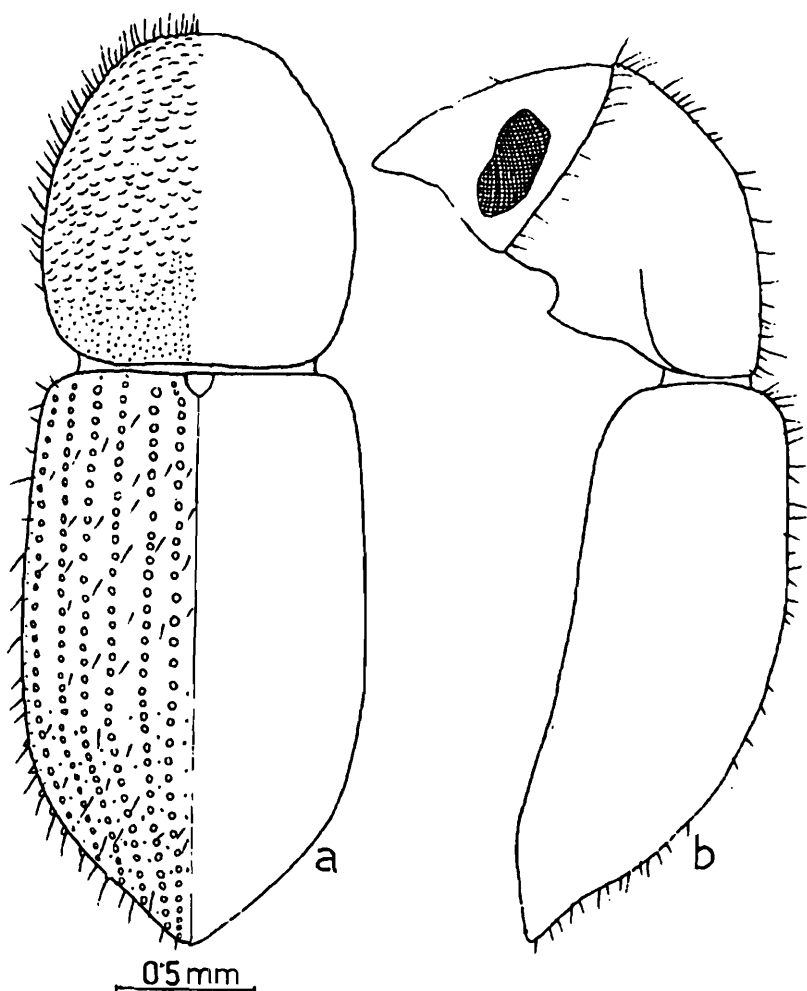


Fig. 24. a-b. *Coccotrypes fallax* (Eggers), a, Pronotum and elytra in dorsal view; b, head, pronotum and elytra in lateral view.

Head globose, frons moderately convex, surface rugosely reticulate, obscurely punctate and with both semirecumbent and erect hairs, median area slightly elevated, epistomal margin with fringe of hairs. Eyes suboval with shallow emargination. Antennal scape moderately elongate, funicle with 5 segments, club somewhat globose and obliquely truncate, segment 1 corneous; on anterior face, basal corneous portion with weakly procurved apical margin; truncate face with two distinct sutural lines marked by hairs; posterior face with one procurved suture.

Pronotum almost as long as wide; basal margin substraight, basal half somewhat margined laterally, sides moderately outcurved, widest a little behind the middle whence weakly narrowing anteriorly with a broadly rounded anterior margin, anterior declivous portion with small and close asperities, basal half with sparse and granulate asperities, overall surface dull and coarsely reticulate particularly in between asperities and granules and with sparse erect hairs throughout, specially on anterior half.

Scutellum broadly tongue-shaped.

Elytra 1.9 times as long as wide and as wide as pronotum at base and 1.70-1.77 times as long as its width, basal margin substraight, lateral margins subparallel up to slightly more than basal half whence covering posteriorly, terminating into an acuminate apex, striae weakly impressed, marked by distinct punctures, each placed a distance of its own diameter, interstriae flat and reticulate with uniseriate row of minute punctures. Elytral declivity steep with convex face and commencing before the apical one-third, declivital striae more impressed, striae 1, 2 and 3 weakly outcurved and again incurved towards apex; interstitial punctures with long erect hairs. Porcoxae moderately separated from each other, protibiae with 4, meso- and meta-tibiae each with 5 teeth.

*Distribution* : INDIA : Andaman and Nicobar Islands : Andaman Isl. and Little Nicobar.

*Elsewhere* : Indonesia (Java), Malaysia, Micronesia (Marshall Islands), Philippine Islands and Vietnam.

*Hosts* : *Carapa oborata*, *Ceriops candolleana*, *Rhizophora conjugata*, *R. mucronata*.

*Remarks* : The species, *Coccotrypes fallax* (Eggers), can easily be distinguished from all other species of the genus occurring in the islands of Andaman and Nicobar by its characteristic acuminate elytral apex. However, the material studied from these islands is slightly bigger and with more flat elytral declivity as compared to those from Micronesia studied by Wood (1961).

Beeson (1961) reported the species to bore the fruits and green seedlings of Rhizophoraceae in Mangrove swamps from Bengal to Java. In the present study, the species has been recorded from the fruits of *Bruguiera gymnorhiza* in the Nicobar Island.

72. *Coccotrypes litoralis* (Beeson)

(Fig. 25)

1. *Thamnurgides litoralis* Beeson

1939. *Indian Forest Rec. (N.S.) Ent.*, 5(3) : 291. *Holotype* : Female in F.R.I., Dehra Dun. *Type-locality* : Khulna, Sunderban Division, Bangladesh and North Andaman, India.

2. *Poecilips litoralis* (Beeson)

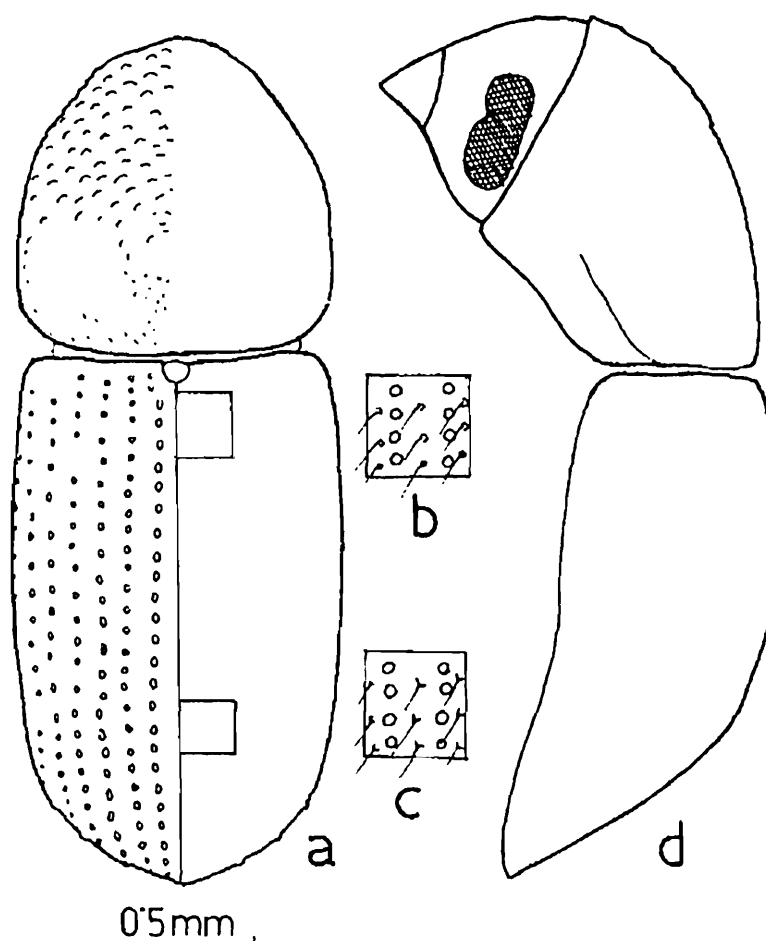
1975. Schedl, *Oriental Ins.*, 9(4) : 52.

3. *Coccotrypes litoralis* (Beeson)

1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper*, No. 86 : 42.

1992. Wood and Bright, *Gt. Basin nat. Memo.*, No. 13(Vol. A) : 605.

*Description : Female* : Body short and stout, head, pronotum legs and elytra reddish brown. Body length 2.60 mm (2.70-3.10 mm, in some cases).



**Fig. 25. a-d.** *Coccotrypes litoralis* (Beeson), a, pronotum and elytra in dorsal view; b, enlarged portion of elytral disc; c, enlarged portion of elytral declivity; d, head, pronotum and elytra in lateral view.

Head globose, frons almost flat, with some coarse longitudinal carinulae converging towards emarginate epistomal margin; median line distinct and expanded shortly above epistoma into an elongate triangular smooth area; frons with a few fine hairs and fringe of hairs at the middle of epistomal margin. Eyes elongately oval with a feeble emargination. Antennal scape slender, funicle with 5 segments, club obliquely truncate; segment 1 corneous, on anterior face, basal corneous portion with substraight apical margin; truncate face with two sutural lines marked by hairs; posterior face with one procurved suture.

Pronotum as long as broad or slightly broader, basal margin substraight; lateral sides outcurved, widest almost at middle; anterior margin broadly rounded; lateral margins somewhat subcarinate up to slightly more than half; surface plano-convex; anterior slope with moderately large, close, subtriangular asperities becoming flattened and imbricate postero-laterally; basal portion with punctures on somewhat rugose surface, posterior half with a smooth median line, entire surface with long erect and short recumbent hairs.

Scutellum distinct and subround.

Elytra 1.60 times as long as and slightly wider than pronotum. 1.40 times as long as wide, basal margin substraight, lateral sides subparallel up to two-thirds, then converging posteriorly into narrowly rounded apex; striae not impressed, punctures rather small, close and without any microhair, interstriae rugose with a series of granules bearing long erect hairs. Declivity steeply convex, flattened transversely upto the stria 3, stria punctures much larger than dorsally, stria 1 depressed, interstria 1 scarcely widened, inclined towards stria 1, interstriae 2 and 3 subequal in width, 4 weakly convex, all with minute granules throughout bearing usually long erect hairs. Procoxae contiguous, pro-, meso- and meta-tibiae each with 4, 5 and 6 teeth respectively.

*Male* : Male is not recognized in the material at hand.

*Distribution* : INDIA : Andaman Islands : North Andaman. Kerala : Anamalai Hills.

*Elsewhere* : Bangladesh.

*Hosts* : *Heritiera fomes*, *H. minor*, *Rhizophora mucronata*.

*Remarks* : The species was originally described as *Thamnurgides litoralis* Beeson, which was later on transferred to the genus *Poecilips* Schaufuss by Schedl (1975). But both these genera *Thamnurgides* and *Poecilips* are now a days considered as *Coccotrypes* Eichhoff. Hence, we are considering the species here as *Coccotrypes litoralis* (Beeson).

Since its first record in 1939 from North Andaman, the species is still now not available to any collector from anywhere in these islands. The species is so far known to be a borer of fruits and radicles of germinating seedlings of some mangrove plants (Beeson, 1939 and 1961, Malhur, Singh and Lal, 1958). It has been recorded only once

at an altitude of 1100 m of the Anamalai Hills in the mainland of southern India (Schedl, 1975).

Beeson (1939) referred to the material from Khulna, Bangladesh as *Holotype* and *Paratypes*, but one specimen from North Andaman also was designated as *Paratype* as seen in F.R.I. collection, Dehra Dun.

73. *Coccotrypes longior* (Eggers)  
(Fig. 26)

1. *Poecilips longior* Eggers

1927. Eggers, *Philipp. J. Sci.*, 33 : 83-84. *Holotype* Female in U.S.N.M, Washington. *Type-locality* Balbalon Provinz Mountain, Luzon, Philippine.

1972. Schedl, *Ent Arbeit Mus. G. Fray*, 23 : 151.

1979. Schedl, *Entomologie*, 3(2) : 141.

2. *Coccotrypes longior* (Eggers)

1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No. 86* : 44-46.

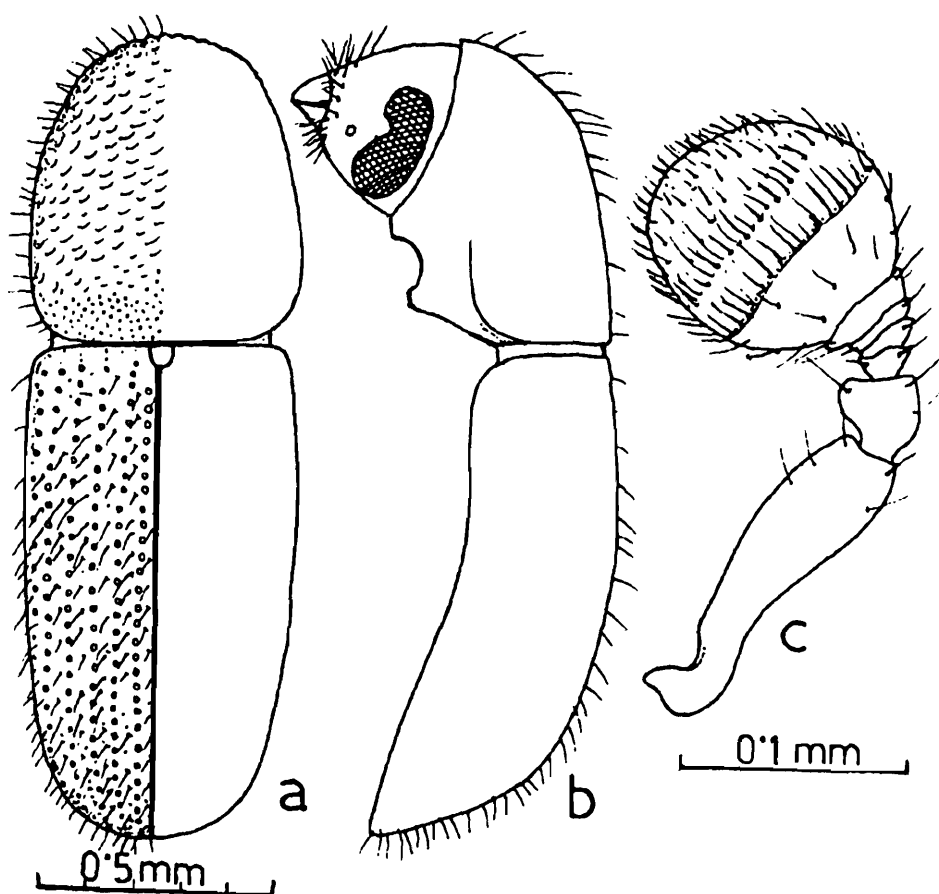


Fig. 26. a-c. *Coccotrypes longior* (Eggers), Female : a, Pronotum and elytra in dorsal view; b, head, pronotum and elytra in lateral view; c, antenna.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 605.

1996. Saha and Maiti; *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 799.

### 3. *Poecilips apicalis* Schedl

1971. Schedl, *Oriental Ins.*, 5(3) : 372. *Holotype* Female in Schedl's Coll., in NHMW, Wien. *Type-locality* : Samsingh, West Bengal, India.

1989. Wood, *Gt. Basin Nat.*, 49 : 171 (syn.)

### 4. *Poecilips oblongus* Eggers

1927. Eggers, *Philipp. J. Sci.*, 33 : 83. *Lectotype* Female in USNM, Washington. *Type-locality* : Mount Polis, Luzon, Philippine. Type designated by Anderson and Anderson 1972.

1989. Wood, *Gt. Basin Nat.*, 49 : 171 (syn.)

### 5. *Poecilips linearis* Eggers.

1941. Eggers *Ent. Blatt.*, 37 : 222. *Syntypes* Female in Alexander Konig Mus., Bonn. *Type-locality* : Kwangtseh, Fuken.

1972. Schedl, *Ent. Arbeit. Mus. G. Fray*, 23 : 150 (syn.)

### 6. *Poecilips nitidipennis* Schedl

1950. Schedl. *Rev. Zool. Bot. Africaines.*, 43(3) : 896. *Holotype* Female in Schedl's Coll., NHMW., Wien *Type-locality* : W. Tjampea (600 m), Java, Indonesia.

1989. Wood, *Gt. Basin Na.*, 49 : 171 (syn.).

*Description : Female* : Body long and cylindrical; colour yellowish to deep black, antennae and legs paler. Body length 1.75-1.90 mm and 2.7 times as long as wide.

Head globose; frons flatly convex with smooth and distinct median line from epistomal margin to vertex; surface finely reticulate with large distinct punctures, somewhat granulate towards epistomal margin; surface with sparse erect hairs. Eyes elongately oval, nearly one-third of its width emarginated. Antennal scape slender; funicle with 5 segments; club obliquely truncate, on anterior face, basal corneous portion with weakly procurved apical margin, truncated face with two sutures; posterior face marked by one strongly procurved suture.

Pronotum slightly longer or 1.1 times as long as wide; both posterior and lateral margins weakly outcurved and anterior margin broadly rounded; postero-lateral angles feebly ridged; anterior slop with small, close and subtriangular asperities becoming elongate postero-laterally; entire surface finely reticulate; posterior one-third with large punctures; surface with erect hairs, those at anterior and lateral area becoming longer; posterior hair with a short and smooth median line.

Scutellum somewhat tongue shaped.

Elytra 1.64 times as long as pronotum and 1.7 times as long as its width; basal margin substraight; lateral sides subparallel upto basal two-thirds whence gradually converging posteriorly; posterior margin broadly rounded; discal striae not so impressed but marked by large and distinct punctures, devoid of microhair; interstriae slightly wider than striae, smooth and shiny with indistinct minute punctures and short erect hairs. Declivity steep with weakly convex face; striae 1, 2 and 3 feebly impressed than others; intersriae with distinct punctures and hairs. Procoxae contiguous; protibiae with 4, meso- and meta-tibiae each with 5 teeth.

*Male* : Not recognizable in the material studied.

*Distribution* : INDIA : West Bengal : (Darjiling Dist. : Samsingh), Little Andaman and Nicobar Isls.

*Elsewhere* : Indonesia, Malaysia, Philippines, Thailand, Sri Lanka and Vietnam.

*Remarks* : The species *Coccotrypes longior* was originally described by Eggers (1927) from the Philippines and subsequently been recorded from different countries of the Orient. These species, *Poecilips apicatus*, an undescribed species of Beeson and subsequently described by Schedl (1971), has been synonymised under it in the present study. Schedl (1971) first recorded the species from the Islands of Nicobar and subsequently, Maiti and Saha (1986) reported it further north from the islands of Little Andaman. It was unknown in the mainland of India until it is recorded from the sub-Himalayan West Bengal, infesting the hosts of *Aesculus punduana* and *Acrocarpus fraxinifolius* (Saha and Maiti, 1996).

#### 74. *Coccotrypes monoceros* (Beeson)

##### 1. *Thamnurgides monoceros* Beeson

1939. Beeson, *Indian Forest Rec.* (N.S.), Ent., 5(3) : 291. Syntypes Female in FRI, Dehra Dun.  
*Type-locality* : Dihing reserve, Lakhimpur division, Assam, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 606.

*Description* : (Based on Beeson, 1939) : 'Ferruginous testaceous, to dark chestnut. Front flattened, epistome emarginate and depressed in a semi-circle in middle third, immediately behind the emargination in a large, polished subcircular, longitudinally compressed projection, above which the upper part of the front is weakly transversely impressed; surface in lower half of front covered closely with coarse short rugae and granules, surface above level of projection becoming smoother with sparse tubercles.

Pronotum convex-globose, 1.05-1.10 times as wide as long, sides very broadly rounded from obtuse basal angles to anterior third thence narrowed into the broadly curved apical margin; lateral margin carinate in posterior half; anterior slope with dense, large, subtriangular asperities which become flatter and imbricate, posterior above and sides, passing into rugose punctures along the base (which is not margined); in posterior half traces of a smooth median line bordered by punctures.

Elytra, subcylindrical, about 1.47 times as long as pronotum, 1.33 times as long as wide, sides parallel, broadly rounded at apex; striae not impressed, striae punctures large, sharply incised, close, without microhairs; interspaces flat, rugose, with a series of granules nearly as numerous as striae punctures, bearing long erect hairs.

Declivity beginning indefinitely in broad curve, continuing the sutural dorsal curve but becoming much steeper apically, appreciably flattened to the 3rd interspace on the slope, 1st stria weakly impressed, its punctures very large, 1st interspace broad, 2nd and 3rd interspaces of equal width narrower than the 1st, all interspaces granulate throughout, length 3.20-3.90 mm.

*Distribution* : INDIA; Assam : Lakhimpur Div., and Arunachal Pradesh.

*Host* : *Dipterocarpus pilosus*, *Mesua ferrea* and

*Remarks* : The specimens are labelled by W. Sampson as *Coccotrypes grandiceps* Eichh., Female var. and "monoceros m." These are distinct from *C. gedeanus* Eggers by its frontal characters, (Beeson, 1939).

### 75. *Coccotrypes nigronitens* (Schedl)

#### 1. *Poecilips nigronitens* Schedl

1975. Schedl, *Oriental Ins.*, 9(4) : 455. *Holotype* Female in Eggers Collection in NHMW, Wien.  
*Type-locality* : Strait Island, Andaman Isl., India.

1977. Schedl, *Entomologie*, 3(2) : 168.

#### 2. *Coccotrypes nigronitens* (Schedl)

1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No. 86* : 47

1992. Wood and Bright, *Gt. Basin Nat. Memo. No. 13*(Vol. A) : 607.

*Description* : Based on original description by Schedl (1975). Body pitch-black, brightly shining, without noteworthy pubescence. Body length 2.50 mm, 2.5 times as long as wide.

Frons convex with very fine, rather dense punctation, median line distinct. Pronotum slightly longer than wide, trapezoid in outline, widest near the base; sides subparallel on the basal third, whence narrowing anteriorly into a broadly rounded apex, with a subapical feeble constriction; disc brightly shining; entire surface slightly convex with scattered extreme fine punctures.

Scutellum moderate in size, subrectangular and impunctate.

Elytra slightly wider and 1.8 times as long as pronotum; sides parallel on basal half, gradually converging posteriorly and terminating into an angularly rounded apex; disc brightly shining, with rows of medium sized remoted placed punctures, the entire punctures becoming somewhat finer, but more densely placed on the declivity;

declivity commencing below the basal half on the elytra, declivital face obliquely convex.

*Host* : No record.

*Distribution* : INDIA : Andaman Islands (Shedl, 1975; Maiti and Saha, 1986).

### 76. *Coccotrypes nubilus* (Blandford)

(Fig. 27)

#### 1. *Dryocoetes nubilus* Blandford

1894. Blandford, *Trans. Ent. Soc. Lond.*, 1894, p. 95. *Syntypes* 10 Females in BMNH., London.  
*Type-locality* : Kiga, Suyama, Japan.

1966. Nobuchi, *Bull. Japan Govt. For Expt. Stn.*, 185, pl. 3(Fig.)

#### 2. *Coccotrypes nubilus* (Blandford).

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 607.

#### 3. *Thamnurgides parvus* Beeson

1939. Beeson, *Indian For. Rec., Ent* (N.S.), 5 : 297. *Holotype* Female, in FRI., Dehra Dun.  
*Type-locality* : Lachiwala (2000 ft.), Dehra Dun Div., Uttarakhand.

1989. Wood, *Gt. Basin. Nat.*, 49 : 17 (syn.).

#### 4. *Thamnurgides himalayensis* Beeson

1939. Beeson, *Indian For. Rec., Ent*. (N.S.), 5 : 299. *Holotype* Female in FRI., Dehra Dun.  
*Type-locality* : Rangirum, Darjeeling Div., West Bengal, India.

1989. Wood, *Gt. Basin Nat.*, 49 : 171 (syn.).

#### 5. *Thamnurgides corticus* Beeson

1939. Beeson, *Indian For. Rec., Ent*. (N.S.), 5 : 298. *Holotype* Female in FRI., Dehra Dun.  
*Type-locality* : Jhahjra, Dehra Dun Div., Uttarakhand, India.

1989. Wood, *Gt. Basin Nat.*, 49 : 171 (syn.).

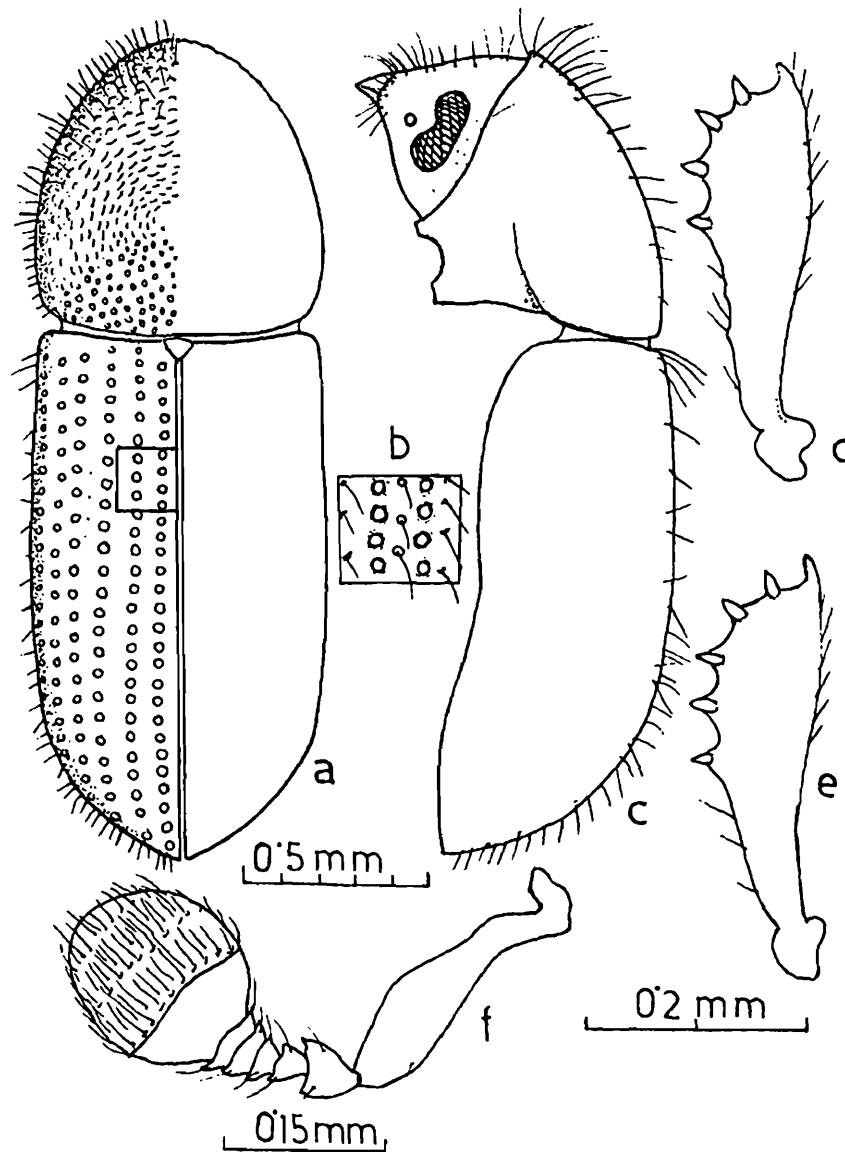
#### 6. *Thamnurgides brevipilosus* Beeson

1939. Beeson, *Indian For. Rec.* (N.S.), *Ent.*, 5(3) : 298-299. *Holotype* Female in FRI. Dehra Dun. *Type-localities* : Rangirum and Senchal range, Darjiling Dist., West Bengal.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 608 (syn.)

#### 7. *Poecilips brevipilosus* (Beeson)

1980. Schedl, *Nat. Mus. Wien. Ent.*, 3(2) : 46.



**Fig. 27. a-f.** *Coccotrypes nubilus* (Blandford) Female : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc; c, head, pronotum and elytra in lateral view; d, protibia; e, mesotibia; f, antenna.

### 8. *Poecilips mauritanus* Browne

1970. Browne, *J. nat. Hist.*, 4 : 569. *Holotype* Female in BMNH, London. *Type-locality* : Curipipe, Mauritius.

1972. Schedl, *Ent. Arb. Mus. Frey*, 23 : 257(syn.).

1989. Wood, *Gt. Basin Nat.* 49 : 171.

*Description* : *Female* : Body small and cylindrical; head, pronotum and elytra yellowish brown to blackish brown, elytra sometimes lighter, antennae and legs paler. Body length 1.80-1.95 mm, 2.6-2.7 times as long as wide.

Head globose; frons plano-convex, median line feebly elevated, shiny and widening towards vertex; surface with longitudinal carinulae converging towards epistomal

margin, rest of frons sparsely punctate; entire surface with vestiture of fine erect hairs. Eyes elongately oval, nearly one-third of its width emarginate. Antennal scape elongate; funicle with 5 segments; club obliquely truncate, on anterior face, basal corneous portion with substraight apical margin, truncated face with two recurved sutures, posterior face with one suture just above middle.

Pronotum about as long as or 1.1 times as long as wide; basal margin broadly outcurved; lateral sides also weakly outcurved, narrowing towards anterior one-third and ridged on basal half; anterior margin broadly rounded; surface plano-convex; anterior third with granulately asperities, becoming more elongate and imbricate medially and postero-laterally; posterior third with aciculate punctures; postero-median line impunctate; surface with long recumbent hairs anteriorly and laterally, and with a few small one posteriorly.

Scutellum subtriangular.

Elytra 1.6 times as long as pronotum and 1.5-1.6 times as long as its width; basal margin substraight; basal half subparallel than gradually narrowing posteriorly, apex somewhat narrowly rounded; discal striae feebly impressed with distinct and close punctures, devoid of any microhair; interstrial surface weakly rugose with minute punctures and erect hairs. Declivity abrupt with fairly convex face; striae impressed, particularly 1 and 2 marked by distinct punctures; interstriae 1,2 and 3 subconvex with close series of minute piliferous granules; hairs as on disc.

*Male* : Male not recognised in the material under study.

*Distribution* : INDIA : West Bengal; Darjiling Dist. : Samsingh), Madhya Pradesh, Tamil Nadu and Uttar Pradesh.

*Elsewhere* : Myanmar and Australia.

*Remarks* : It is a bark borer known from a number of hosts, from different parts of India as well as Burma. In West Bengal it is fairly represented on the Northern Himalayan Region.

The species is close to *Coccotrypes cyperi* but can be differentiated by its punctures towards basal third of pronotum and clytral striae comparatively impressed. The species also resembles to *Coccotrypes salakensis* (Schedl), but differs from it in having less asperate and more ovate pronotum, and elytral strial puncture devoid of any microhair.

### 77. *Coccotrypes papuanus* (Eggers)

(Fig. 28)

#### 1. *Dendrurgus papuanus* Eggers

1923. Eggers, *Zool. Meded.*, 7 : 148. Lectotype Female in Eggers coll., NHMW, Wien, designated by Schedl (1979). *Type-locality* : Andai, New Guinea.

1979. Schedl, *Entomologie*, 3(2) : 183.

## 2. *Thamnurgides glandis* Beeson

1939. *Indian Forest Rec. (N.S.), Ent.*, 5(3) : 287-288, *Holotype* Female in FRI., Dehra Dun.  
*Type-locality* : Samsingh, Kalimpong Division, West Bengal, India.

1960. Schedl, *Ent. Blatt.*, 56 : 105(syn.)

## 3. *Thamnurgides rubidus* Beeson

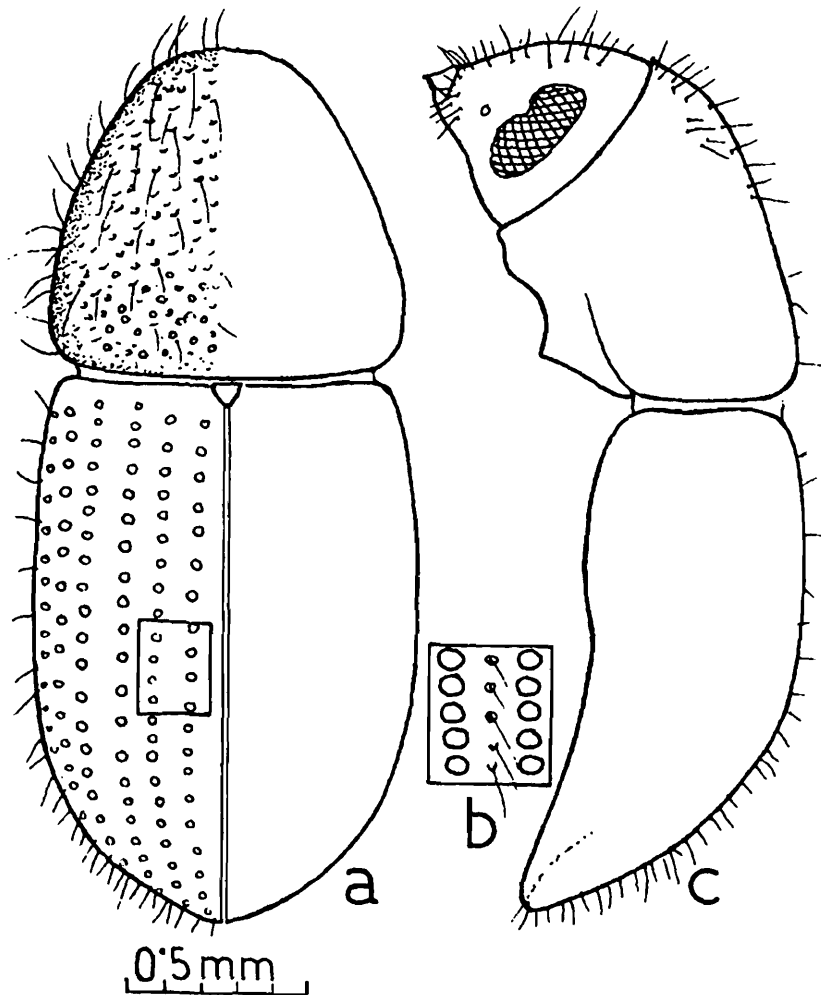
1939. Beeson, *Indian Forest Rec. (N.S.), Ent.*, 5(3) : 290. *Holotype* Female in FRI., Dehra Dun.  
*Type-locality* : Samsing, Kalimpong Division, West Bengal.

1974. Schedl, *Ent. Arbeit. Mus. Fray*, 25 : 334(syn.).

## 4. *Poecilips decipiens* Browne

1972. Browne, *Oriental Ins.*, 6(1) : 21. *Holotype* Female in BMNH, London. *Type-locality* :  
 Kepong Forest Research Institute, Malaya.

1974. Schedl, *Ent. Arbeit. Mus. Fray.*, 25 : 334 (syn.).



**Fig. 28. a-c.** *Coccotrypes papuanus* (Eggers), Female : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytra; c, head, pronotum and elytra in lateral view.

### 5. *Coccotrypes papuanus* (Eggers)

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 608.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 801.

*Description : Female* : Body stout and cylindrical; head, pronotum and elytra reddish brown to pitchy black; antennae and legs paler. Body length 2.10-2.65 mm and 2.3-2.4 times as long as wide.

Head globose; frons plano-convex, median line elevated and extending upto vertex; lower third with distinct carinulae, medially granulate and sparsely punctate above; upper half with microhairs and lower half with long erect hairs. Eyes elongate and feebly emarginate. Antennal scape long and slender; funicle with 5 segments; club obliquely truncate, on anterior, face, basal corneous portion reduced, with weakly procurved apical margin, truncate face with two sutures marked by hairs; posterior face with one suture just above middle.

Pronotum as long as wide or slightly wider; basal and lateral sides weakly outcurved, widest at basal third and ridged beyond the middle; anterior margin broadly rounded; surface plano-convex, smooth and shiny with small aciculate punctures and occasional granules, except postero-median line; surface with vestiture of long erect and short recumbent hairs.

Scutellum subround.

Elytra 1.5-1.6 times as long as and slightly wider than pronotum, 1.4-1.5 times as long as its width; basal margin substraight; lateral sides subparallel upto basal half, ovately rounded at apex; striae marked by large, shallow punctures, devoid of any microhair; interstriae nearly as wide as or slightly wider than striae, marked by shallow small punctures, granules towards declivity, each with a long erect hair. Declivity commencing slightly below the middle; face convex, but only flattened in the area upto stria 3, impressed along stria 1; striae punctures as on disc; interstriae with minute granules and fine erect hairs. Protibiae with 4 and meso- and meta-tibiae with 5 teeth.

Male : Male not recognised in the material under study.

*Distribution* : INDIA : Assam (Lakhimpur division, Dihing reserve : Sadiya division, Pasighat range), Punjab, Uttarakhand West Bengal (Darjiling Dist. : Bagdogra and Samsingh).

*Elsewhere* : Malaysia, Vietnam, Indonesia (Borneo, Sumatra), New Guinea, Philippine Islands.

*Hosts* : *Dipterocarpus pilosus*, *Cugenia formosa*, *Mesua ferrea*, *Quercus picata*, *Terminalia myriocarpa*.

*Remarks* : *Coccotrypes papuanus* (Eggers), originally described as *Dendurgus papuanus* from New Guinea, is now a well established species in the south-east Asia,

to which some three species have been synonymised. For examples, *Thamnurgides glandis* and *T. rubidus*, both described by Beeson (1939) from West Bengal, were synonymised under it, the former as cited by Browne (1961) and latter in the present study. Another species *Poecilips decipiens* was also marged with *T. rubidus* as also cited by Beaver and Browne (1978). However, Beeson (1939) established *T. rubidus* on the basis of pronotal size as well as its granulate asperities which are not sound enough to isolate it from *C. papuanus*, as revealed in the present study. Hence, *T. rubidus* has been synonymised with *C. papuanus* which has also been indicated in the world catalogue (Wood and Bright, 1992).

The species, as such, occurs in both eastern and southern India, infesting the bark and fruit of some six *Host*-plants (Beeson, 1941). Biology of the species is known to the extent of *Host* records only in Malaya (Browne, 1961).

**78. *Coccotrypes salakensis* (Schedl)**  
(Fig. 29)

**1. *Poecilips salakensis* Schedl**

1939. Schedl, *Tijdsch. Ent.*, **82** : 38. *Lectotype* Female in Schedl's coll., NHMW, Wien, designated by Schedl (1979) *Type-locality* : Mount Salak, Java, India.
1979. Schedl, *Entomologie*, **3(2)** : 218.

**2. *Poecilips punctatus* Eggers**

1927. Eggers, *Treubia*, **9(4)** : 85. *Syntype* Female in Eggers Coll., NHMW, Wien, *Type-locality* : Subtan, Mindano, Philippine

**3. *Thamnurgus opaciforms* Beeson**

1939. Beeson, *Indian Forest Rec. (NS.)*, *Ent.*, **5(3)** : 294-295 and 305 *Holotype* Female in FRI, Dun Dun. *Type-locality* : Buxa division, West Bengal, India
1989. Wood, *Gt. Basin Nat.*, **49** : 171 (syn.) 1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, **3(Part 6B)** : 803.

**4. *Poecilips acuminatus* Schedl**

1966. Schedl, *Ent. Abhand. Mus. Tierk. Dresd.*, **35(1)** : 34. *Syntypes* Female in Eggers coll., NHMW, Wien.
1989. Wood, *Gt. Basin Nat.*, **49** : 171 (syn.).

**5. *Coccotrypes salakensis* (Schedl)**

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. **13(Vol. A)** : 611.

*Description* : Female : Body long and cylindrical; head, pronotum and elytra deep reddish brown; legs and antennae slightly paler. Body length 1.90-2.20 mm and 2.8 times as long as wide.

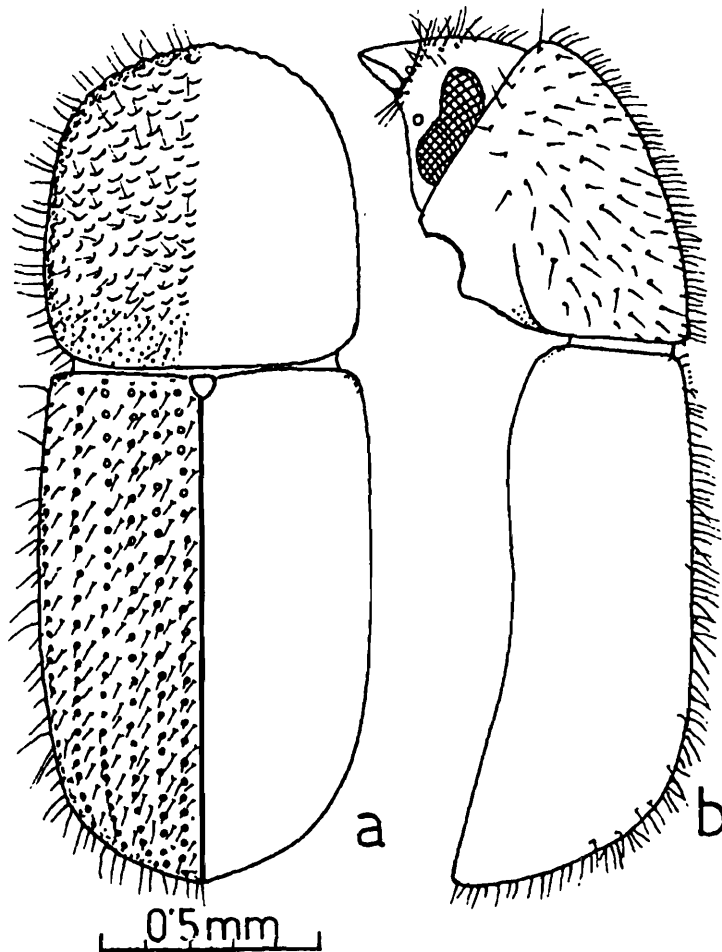


Fig. 29. a-e. *Coccotrypes salakensis* Schedl, Female; a, Pronotum and elytra in dorsal view; b, head, pronotum and elytra in lateral view.

Head globose, moderately narrowing anteriorly; frons plano-convex and dull, with a few longitudinal carinulae becoming more dense near epistoma, vertex granulate, median line elevated, smooth and shiny; frons with sparse long hairs. Eyes elongate and less than one-third of its width emarginated. Antennal scape short; funicle with 5 segments; club globose, obliquely truncate; on anterior face, basal corneous portion with weakly procurved apical margin; truncated face with two sutural lines marked by setae; posterior face with one procurved suture.

Pronotum nearly as long as or slightly longer than wide; basal margin substraight; lateral sides subparallel upto basal two-thirds and feebly ridged on basal half; anterior margin broadly rounded; surface plano-convex, anterior half with small dense asperities; asperities on posterior half becoming more elongate, imbricate and contiguous in lines; median line absent; entire surface intermixed with short bent and long erect hairs.

Scutellum shiny and tongue shaped.

Elytra 1.6-1.7 times as long as and as wide as pronotum, 1.65 times as long as its width; basal margin substraight; lateral sides subparallel upto basal two-thirds, thence

converging posteriorly with broadly rounded apex; discal striae not impressed but marked by shallow close punctures, each with a microhair; interstriae flat with uniseriate minute punctures and long erect hairs. Declivity abrupt with convex face; striae 1 and 2 feebly impressed, striae punctures with microhairs; interstriae with sparse uniseriate minute granules and long erect hairs. Procoxae subcontiguous, portibiae with 4 and meso- and meta-tibiae each with 5 teeth.

*Male* : Male not recognised in the material studied.

*Hosts* : *Amoora wallichii*, *Artocarpus chaplasha*, *Gmelina arborea*, *Heritiera fomes*, *Myristica dactyloides*, *Terminalia bialata*.

*Distribution* : INDIA : West Bengal; Darjiling Dist. : Samsingh and Tista valley; Jalpaiguri Dist. : Buxa; Sundarbans (Beeson, 1939). Andaman Isls. and Assam.

*Elsewhere* : None.

*Remarks* : The species is fairly common from the southern gangatic plane to the sub-Himalayan altitude of North Bengal, in addition to its distribution to the Andaman and Assam. The frontal carina in different specimens is either indistinct or distinct. In his original description of *C. opacifrons* (Beeson), Beeson (1939) refers the presence of striae microhairs only on declivity, which also extend upto disc as indicated in the present study. It is a fairly well known bark borer in India, infesting some seven host-plants to which one more host, *Sapium eugineafolium* is added here.

### 79. *Coccotrypes vateriae* (Beeson)

#### 1. *Thamnurgides vateriae* Beeson

1939. Beeson, *Indian For. Rec., Ent.* (N.S.), **5** : 293. Holotype Female in F.R.I., Dehra Dun.  
*Type-locality* : Wynaad Division, Chandanathode (3,800 ft.), Madras.

1957. Murayama, *Yamaguti Univ., Faculty of Agric, Bull.*, **8** : 630.

#### 2. *Coccotrypes vateriae* (Beeson)

1992. Wood and Brigh, *Gt. Basin Nat. Memo.*, No. **13**(Vol) : 614.

*Description* : (After Beeson, 1939) : "Female : Testaceous or piceous brown, thorax and elytra concolorous, legs light brown.

Front plano-convex, subopaque, finely densely but irregularly strigose interspersed with piliferous punctures; median line elevated, shining from behind epistome and widening near vertex.

Pronotum 1.06 times as wide as long, sides marginate, widest at about 3/4th thence narrowed in a gentle curve to the short apical margin; above plano-convex and sculptured as in *indicus-vulgaris* allies, apical margin entirely without asperities, behind margin the asperities are small subtriangular and not very close, but increase in size

and are closer and subimbricate towards and on disc, more elongate and in rows at sides, obsolete in mid-posterior area leaving a smooth space which extends forward as a median line appearing as a ridge with certain lighting; basal border confusedly rugose.

Elytra 1.7 times as long as pronotum, 1.45 times as long as wide, sides subparallel, widest near middle, gently curved to apex which appears slightly produced; striae not impressed, punctures close, small, shallow; interspaces flat, weakly rugulose, punctures about two-thirds as numerous as striae punctures, very small and aciculate; interspaces uniseriate, moderately long, erect, striae without visible microhairs. Declivity beginning in the middle third of elytra, convex flattened transversely, striae punctures somewhat smaller than dorsally, 1<sup>st</sup> stria very weakly impressed, interspaces punctures subgranulate.

Length : 1.75-1.87 mm

Host : *Vateria indica*.

Distribution : INDIA : Tamil Nadu : Wynaad Div., Chandanathode (3,800 ft.); Karnataka : Coorg, Bhagamandala (3,500 ft.).

Elsewhere : None.

Remarks : The species is distinct from *C. cyperi* (Beeson) (= *C. indicus* Eggers) in having its pronotum narrower in front and evidently with flattened declivity (Beeson, 1939).

## 80. *Coccotrypes vulgaris* (Eggers)

(Fig. 30)

### 1. *Dendrurgus vulgaris* Eggers

1923. Eggers, *Zool. Meded.*, 7 : 151. Syntypes Female in NHMW, Wien. Type-locality : Engano, Mentawie, Sumatra, Indonesia. [*Poecilus montanus* Eggers, nomen nudum, *P. notatus* Eggers, nomen nudum, synonymy]

### 2. *Coccotrypes vulgaris* (Eggers)

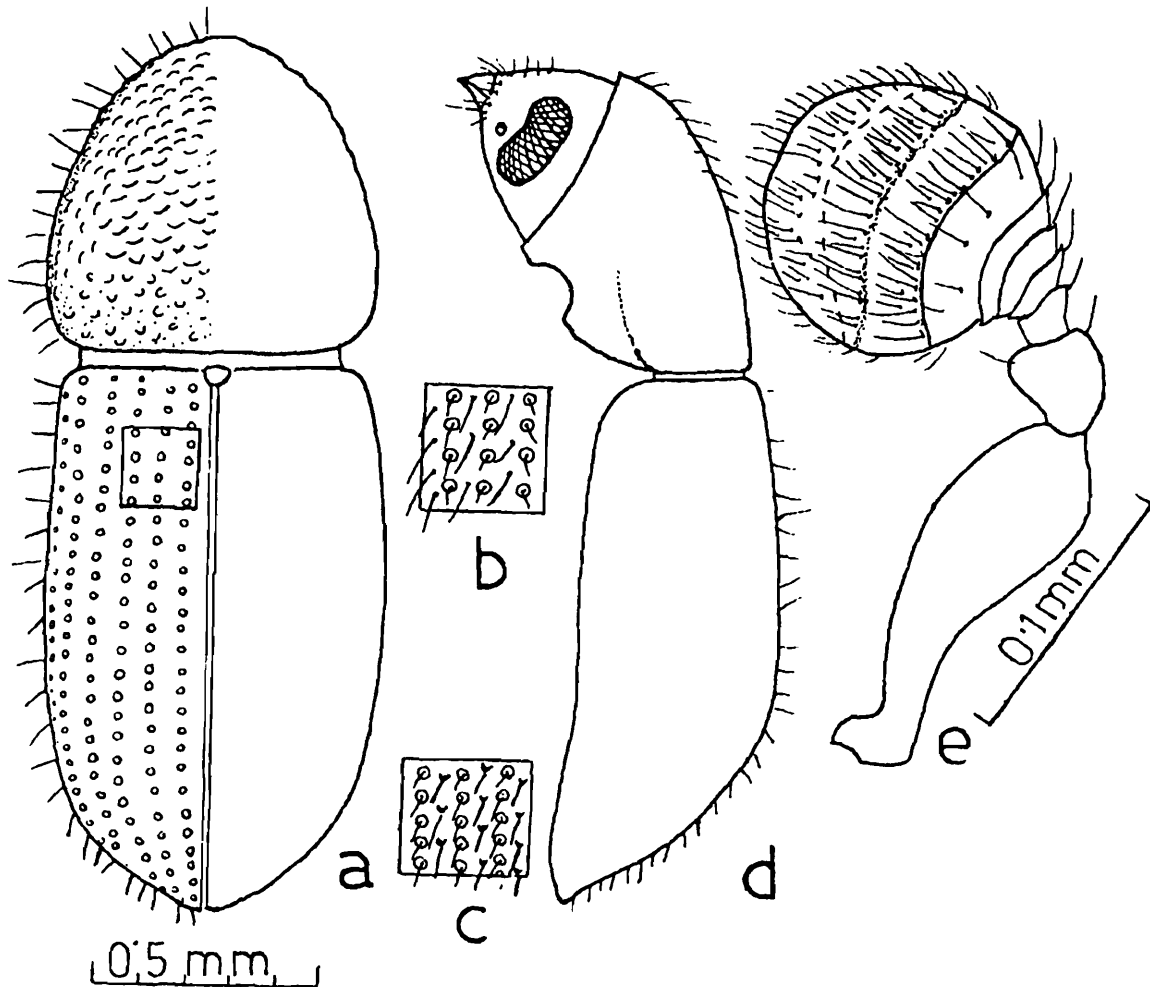
1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper*, No. 86 : 51-53.

1992. Wood and Bright, *Gt. Basin Nat. memo.* No. 13(Vol. A) : 614.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 614.

Description : Female : Body short; head, pronotum and elytra reddish brown; antennae and legs rather paler. Body length 1.90 mm and 2.55 times as long as wide.

Head globose; frons flatly convex, devoid of distinct median line; area just above epistomal margin with a few carinulae, rest of the surface with distinct large punctures and with scattered fine bent hairs. Eyes elongately oval and feebly emarginate.



**Fig. 30. a-e.** *Coccotrypes vulgaris* (Eggers) Female : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc; c, enlarged portion of elytral declivity; d, head, pronotum and elytra in lateral view; e, antenna.

Antennal scape slender; funicle with 5 segments; club subglobose and obliquely truncate, on anterior face, basal corneous portion reduced with procurved apical margin; truncated face with two indistinct sutural line marked by hairs; posterior face marked by one distinct strongly procurved suture.

Pronotum almost as long as broad; basal margin substraight; lateral sides weakly outcurved and ridged beyond the middle; broadly rounded anteriorly; in profile, dorsal margin feebly convex; anterior slope with small, close and subtriangular asperities becoming gradually elongate laterally and imbricate centrally; posterior surface with large, deep and close punctures and space between punctures rather smooth and shiny; presence of long recumbent hairs anteriorly and laterally.

Scutellum subtriangular, with subround apex.

Elytra 1.6 times as long as pronotum and 1.6 times as long as its width; basal margin substraight; lateral sides subparallel upto basal two-thirds, whence narrowing posteriorly terminating into a narrowly rounded apex; discal striae not impressed

marked by shallow and close punctures; interstriae as wide as or slightly wider than striae with sparse shallow punctures bearing thin hairs. Declivity gradually sloping with weakly convex face, striae 1, 2 and 3 complete and comparatively impressed with more close punctures, each with a microhair; interstriae with indistinct granules and setae comparatively stouter than on disc. Procoxae contiguous; protibiae with 5 and mesotibiae each with 5 teeth.

*Male* : Male not distinguishable in the material studied.

*Distribution* : INDIA : West Bengal : Darjiling Dist. : Samsingh (Beeson, 1939); Assam and Andaman Isls.

*Elsewhere* : Myanmer, Indonesia (Borneo, Celebes, Java and Sumatra), Sri Lanka and New Guinea.

*Hosts* : *Aewculus punduana*, *Amoora rohituka*, *Antocarpus fraxinifolius*, *Canarium euphyllum*, *ficus religiosa*, *Phoebe heinesiana*, *Swintonia floribunda*, *Terminalia myriocarpa*.

*Remarks* : The species was originally described under the genus *Dendurgus* Eggers, but Eggers (1925) transferred it to the genus *Thamnurgides* Hopkins and later on Schedl (1942) to the genus *Peocilips* Schaufuss. However, recently Maiti and Saha (1986) transferred the species to the genus *Coccotrypes*.

### 81. *Coccotrypes variabilis* (Beeson)

#### 1. *Thamnurgides variabilis* Beeson

1939. Beeson, *Indian Forest Rec.* (N.S.), *Ent.*, 5(3) : 286. Holotype Female in F.R.I., Dehra Dun. *Type-locality* : Karike (3,500 ft.), Bhagamandala, Coorg, Karnataka, India.

#### 2. *Coccotrypes variabilis* (Beeson)

1992. Wood and Bright, *Gt. Basin nat. Memo.*, No. 13(Vol. A) : 614.

*Description* (After, Beeson, 1939). Testaceous to black with the legs and antennae light brown; intermediates with prothorax black and elytra brown.

Front plano-convex, most shagreened, dull, densely granulate-aciculate behind epistoma, punctate, with sparse granules elsewhere; median line elevated and expanded into 2 smooth spots interrupted by a shallow transverse depression.

Pronotum as broad as long to 1.1 times as broad as long, plano-convex, basal angles obtuse, sides carinate and broadly curved and slightly divergent to behind middle, thence narrowed to the subtransverse apical margin; surface shagreened, subnitid to brilliant, fairly uniformly covered with minute, more or less aciculate punctures interspersed with occasional granules, rugose-punctate along basal border; vestiture of longer erect and shorter subrecumbent hairs.

Elytra 1.7 to 1.85 times as long as pronotum, 1.45-1.50 times as long as wide, sides subparallel for about 2/3rds and then broad, ovately rounded to apex; stria punctures small, close, sharply marked, striae usually not impressed, sometimes 1st stria distinctly impressed; interspaces rugulose with minute granules or granulate punctures about ½ to 2/3rds as numerous as those of striae, bearing erect hairs.

Declivity broadly convex, not or very slightly flattened, striae and interspaces as on dorsum, the punctures and granules closer, 1st and 2nd striae sometimes impressed.

Length : 1.65-2.30 mm

*Distribution* : INDIA : Karnataka, Coorg; Tamil Nadu : Wynaad, Chandanathode; Nilgiri Hills.

*Elsewhere* : Myanmar : North Taungo Div. Myhola Reserve.

*Host* : *Vateria indica*, *Cullenia excelsa* and *Tectona grandis*.

### Genus *Cyrtogenius* Strohmeier

#### 1. *Cyrtogenius* Strohmeryer

1910. Strohmeryer, *Ent. Blatt.*, **6** : 127.

1911. Strohmeryer, *Ent. Blatt.*, **7** : 116.

1966. Schedl, *Entom. Abh. Mus. Tierk. Dresden*, **35** : 30-31.

1980. Wood, *Gt. Basin Nat.*, **40**(1) : 92.

1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper*, No. **86** : 103.

1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. A) : 562.

#### 2. *Carposinus* Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rep.*, **99** : 47.

#### 3. *Orosiotes* Niishima

1917. Niishima, *Coll. Essays Ysushi Naea*, p. 1.

1951-52. Schedl, *Ent. Blatt.*, **47-48** : 162 (synonymised under *Carposinus* Hopkins)

#### 4. *Metahylastes* Eggers

1922. Eggers, *Ent. Blatt.*, **18** : 165.

#### 5. *Pelicerus* Eggers

1923. Eggers, *Zool. Meded.*, **7** : 216

1957. Schedl, *Ann. R. Mus. Belg. Congo., Sci. Zool.*, **56**(B) : 12.

6. *Eulepeops* Schedl1939. Schedl, *J. Fed. Malay. St. Mus.*, **18**(3) : 3447. *Ozodendron* Schedl1957a. Schedl, *Ann. Mus. Roy. Cong. Belg. Teres., Ser. 8, Sci. Zool.*, **56** : 13.8. *Mimidendrus* Schedl1957b. Schedl, *Ann. Mus. Roy. Cong. Belg. Tery. Ser. 8, Sci. Zool.*, **56** : 68.9. *Carpophloeus* Schedl1958. Schedl, *Tijdsch. Voor Ent.*, **101**(3-4) : 14310. *Artepityophthorus* Schedl1969. Schedl, *Opus. Zool. Budapest.*, **9**(1) : 157

*Types of the genera* : *Cyrtogenius* : *C. bicolor* Strohmeier; *Carposinus* : *C. pini* Hopkins (= *Dryocoetes luteus* Blandf.; *Orosiotes* : *O. kumatoensis* Niishima; *Metahylastes* : *M. africanus* Eggers; *Pelicerus* : *Lepiceus nitidus* Hagedorn; *Eulepiops* : *E. glaber* Schedl.; *Ozodendron* : *Pelicerus grandis* Beeson; *Mimidendrus* : *M. movaliae* Schedl; *Carpophloeus* : *C. rugipennis* Schedl; *Taphroborus* : *T. vaticae* Nunburg and *Artepityophthorus* : *A. aries* Schedl.

The genus *Cyrtogeneus* was recognized by Strohmeier (1910) and further established by him in 1911 with the type-species *C. bicolor* Strohmeier from Africa. Subsequently, a number of genera were synonymised under it by different authors. However, the genus is now a valid one represented by a number of species in the Oriental, Palaeartic, Oceania and Australian Regions. In India, two species are so far known.

82. *Cyrtogenius brevior* (Eggers)1. *Pelicerus brevior* Eggers1927. Eggers, *Philipp. J. Sci.*, **33** : 86. Types in U.S.N.M., Washington. *Type-locality* : Philippines.2. *Carposinus brevior* (Eggers)1951. Schedl, *B.P. Bishop Mus., Occ. Papers*, **20**(10).3. *Pelicerus phippinensis* Eggers1927. Eggers, *Philipp. J. Sci.*, **33** : 87. Types in *Type-locality* : Catanduanes, Philippines.4. *Cyrtogenius brevior* (Eggers)1966. Schedl, *Entom. Abh. Mus., Tierk. Dresden*, **35** : 31. Ryukyu Isl.

1975. Beaver and Browne, *Oriental Isl.*, 9(3) : 289, Nicobar Isl. and Thailand.

1986. Maiti and Saha, *Rec. Zool. Surv. India, Occ. Paper*, No. 86 : 563.

1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. 13(Vol. A) : 563.

*Description : Female* : Body cylindrical and shiny, brown in colour. Body length 1.70-2.40 mm; 2.70 times as long as broad.

Frons plano-convex, transversely impressed just above eipostoma; surface closely granulate-punctate; vestiture fairly abundant, becoming shorter towards centre. Eyes broadly emarginate. Antennal funicle with 4 segments.

Pronotum 1.20 times as long as wide; sides straight and subparallel on basal half; anterior margin broadly rounded; apical half finely and closely asperate; posterior half shiny with coarse, loose and deep punctures; summit indistinct; hair-like setae mostly on asperate surface as well as postero-laterally; lateral sides on basal two-thirds acutely margined.

Elytra shiny, 1.60 times as long as broad, 1.50 times as long as pronotum, sides straight and subparallel on basal three-fourths, gradually narrowing posteriorly and terminating into a rounded apex; discal striae indistinctly impressed; striae 1 and 2 strongly impressed near declivity marked by large and deep punctures; interstriae slightly wider than striae with close punctures of smaller size. Declivity very steep with convex face; striae 1, 2 and 3 sinuate; apically curving towards elytral sutural line; stria 1 more strongly impressed than on disc; interstriae 1, 2 and 3 wider than on disc, each bearing uniseriate row of widely spaced pointed granules, interstria 1 moderately elevated, 4 to 7 bearing granules, those on 7 rather large. Vestiture with fine hairs both on elytra and on declivity; disc devoid of any hairs.

*Male* : Similar to female in all morphological characters, except in having frons with fine punctures on smooth surface and with inconspicuous hairs.

*Distribution* : INDIA : Nicobar Isl.; Madhya Pradesh.

*Elsewhere* : Myanmar, Thailand, Malaysia, Indonesia (Java), Philippines, Micronesia, Bismark Isl., Caroline Is., Gilbert Is., Mariana Is., Samoa and New Guinea.

*Remarks* : The species is so far known from different parts of the Oriental, Papuan and Oceanian Regions. The credit for its biological information goes to Beeson (1961), Browne (1961) and others.

## Genus *Dryocoetes* Eichhoff

### 1. *Dryocoetes* Eichhoff

1864. Eichhoff, *Berliner Entomologische Zeitschrift*, 8 : 38.

## 2. *Anodius* Motschulsky

1860. Motschulsky, *Coleopteres de La Siberie orientale et en particulier des rivières de L'Amour* [Scolytidae, p. 155-156]. In Leopold von Schrenck, *Reisen and forschungen in amur-Lande in den Jahren 1854-1856*. 2 : 77-257, 6 Taf. 1 Karte. (ds tx).

## 3. *Dryocoetiops* Balachowsky

1949. Balachowsky, *Faune de France*, : 180  
 1958. Schedl, *Tijdschrift voor Entomologie*, 101(3-4) : 143.

Types of Genera : *Dryocoetes* Eichhoff : *Bostrichus autographus* Ratzeburg; *Anodius* : *Bostrichus autographus* Ratzeburg; *Dryocoetinus* : *Bostrichus villosus* Fabricius.

### 83. *Dryocoetes himalayensis* Strohmeyer

#### 1. *Dryocoetes himalayensis* Strohmeyer

1908. Strohmeyer, *Ent. Wochenbl.*, 25 : 161 (Reprint P.1), *Holotype* Male in Strohmeyer coll.,  
*Type-localities* : Kashmir and Uttar Pradesh, India.  
 1910. Hagedorn, *Genera Insect.* (Coleop : Ipidae) : 96.  
 1992. Wood and Bright, *Gt. Basin nat. Memo.*, No. 13(Vol. A) : 583.

*Description* : Body cylindrical and shiny, head, pronotum and elytra pale brown throughout, slightly darker towards elytral declivity. Body length, 3.20-2.25 mm.

Head globose, shiny, frons with minute punctures and scattered hairs; frons plano-concave specially transversely; epistomal margin with minute fringe of hairs. Frons rugose punctuate, dense towards epistomal margin. Eye entire and elongate with shallow emargination on antennal base.

Pronotum slightly longer than broad; sides subparallel on basal half, then gradually narrowing anteriorly, anterior margin broadly rounded, apical half finely and closely aspirate and extending laterally upto base; rest of the basal half finely densely punctured except basal longitudinal narrow strip hairs distinct on anteriorly and postero-laterally;

Elytra 1.6 times as long as broad; 1.5 times as long as pronotum; sides straight, three-fourth posterior portion converging to form almost rounded with weak and sharp carina, bearing some minute granules and some erect hairs; basal margin substraight without forming distinct carina; elytral disc shiny; striae distinct marked with fairly large, shallow punctures running almost to the elytral end; punctures devoid of any distinct hairs; interstriae shiny, with few scattered hairs, almost one and a half times broader than striae; striae 1 to 4 running upto posterior margin; Interstriae 1 to 3 also prominent upto the tip; interstriae 4, terminated at the commencement of declivity. Declivity commencing on posterior fourth; declivital face

stiff and with distinct hairs; striae 1 and 3 depressed within declivity; striae punctures more prominent; declivital margin not so demarcated but somewhat marked by slightly swollen interstriae 1 to 3.

*Hosts* : *Juglans regia*, *Pyrus lanata*.

*Distribution* : INDIA : Kashmir and Uttarakhand.

#### 84. *Dryocoetes indicus* Stebbing

##### 1. *Dryocoetes indicus* Stebbing

1914. Stebbing, *Indian For. Ins., Coleopt.*, Eyre and Spottiswoode, London, p. 549. *Syntypes* 5 sex? In FRI, Dehra Dun. *Type-locality* : Jaunsar, N.W. Himalaya.

1925. Eggers, *Ent. Oddel. Narod. Museo Musea Praze*, 3(21) : 157.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13 (Vol-A) : 583:

*Description* : (After, Stebbing, 1914) Oblong. Light to dark red or red-brown, with a rather long sparse pubescence. Head punctuate, with a bright yellow brush of pubescence on the front. Prothorax slightly more than one-fourth the total length of insect, disc convex behind, sides uniformly curved from base to apex; surface scaly and rugose, the scales large and prominent on convex portion of disk, less well defined and wider apart on anterior parts and replaced by rugose punctures on depressed area posteriorly; pubescence long and rather scattered. Scutellum large, heart-shaped, smooth, shining, dark brown to black. Elytra broader apically than prothorax, apex rather sharply declivous, rounded; disk shining and strongly punctuate, the punctures placed in rows, large, shallow, each having a small puncture at its bottom; the interspaces smaller, set with a row of very fine punctures; declivity shining, the sutural striae most strongly impressed in upper part, the punctures smaller, becoming very fine and scattered apically; pubescence long, spiny, denser on declivity. Under surface dark brown, punctuate. Legs red-brown, pubescent; finiculus and club of antenna yellow. Length, 3.8 mm to 4 mm.

*Hosts* : *Abies webbiana*, *Picea morinda*, *Pinus excelsa*.

*Distribution* : INDIA : Himachal Pradesh, Kashmir, Uttarakhand.

*Elsewhere* : Nepal.

#### Genus *Dryocoetiops* Schedl

##### 1. *Dryocoetiops* Schedl

1957. Schedl, *Annales du Musee Royale du Congo Belge Tervuren* (Belgique), Ser. 8, *Sciences Zoologiques*, 56 : 13.

*Type of genus* : *Dryocoetiops* : *Ozopemon laevis* Strohmeier.

85. *Dryocoetiops coffeae* (Eggers)

(Fig. 31)

1. *Dryocoetes coffeae* Eggers

1923. Eggers, *Zool. Meded.*, 7 : 161. *Holotype* Female in Hamburg Mus. (lost). *Type-locality* : Java, Indonesia.

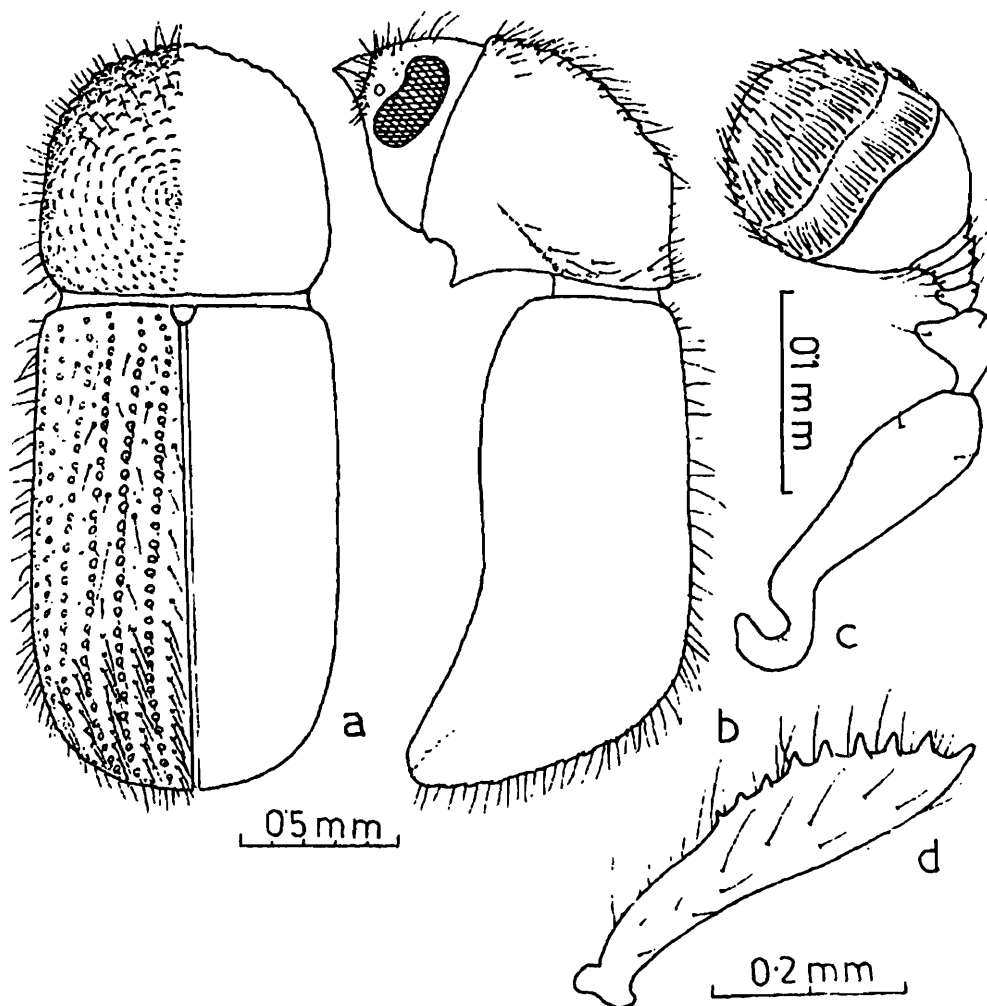
2. *Dryocoetes javanus* Eggers

1936. Eggers, *Tijdsc. Voor. Ent.*, 79 : 87. *Holotype* Female in RnH., Leiden. *Type-locality* : Java, Indonesia.

1962. Schedl, *Ann. Mag. Nat. Hist.*, (13)4 : 697 (syn.)

3. *Dryocoetiops coffeae* (Eggers)

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. 13(Vol. A) : 587.



**Fig. 31. a-d.** *Dryocoetiops coffeae* (Eggers), Female : a, Pronotum and elytra in dorsal view; b, head, pronotum and elytra in lateral view; c, antenna; d, metatibia.

*Description : Female :* Body long and cylindrical; head, pronotum and elytra deep reddish brown. Body length 2.40-2.55 mm, 2.5 times as long as wide.

Head globose; frons plano-convex, surface reticulate with weak carinulae converging towards epistomal margin intermixed with granules; median line indistinct; surface with long erect hairs. Eyes oval and shallowly emarginate. Antennal scape short; funicle with 5 segments; club obliquely truncate, on anterior face, basal corneous portion reduced with recurved apical margin; one more suture above the basal margin; posterior face with two sutures.

Pronotum slightly wider than long; basal margin substraight; lateral sides feebly outcurved; anterior margin broadly rounded distinct summit just at the middle below of which weakly depressed; anterior half with distinct asperities gradually smaller posteriorly and laterally, extending upto posterior margin in the form of granules; surface with vestiture of long erect hairs as well as small microhairs.

Scutellum smooth, stout and tongue shaped.

Elytra 1.8 times as long as pronotum, 1.5 times as long as its width and slightly wider than pronotum; basal margin substraight; lateral sides subparallel upto basal three-fourths, apical margin broadly rounded; discal striae feebly impressed marked by shallow distinct punctures, each with a microhair; interstriae 2-3 times wider than striae, having uniseriate punctures, usually smaller and sparser than those on striae and with long erect hairs. Declivity commencing at posterior fourth, face rather steep and convex, feebly impressed along stria 1; strial punctures more distinct; interstriae with granules; vestiture of strial microhairs and interstitial long erect hairs. Pro- and meta-tibiae with 5 and 6 teeth respectively.

*Male :* Male not recognised in the material studied.

*Distribution :* INDIA : West Bengal : Darjiling Dist. : Tista Valley.

*Elsewhere :* Indonesia (Borneo, Java and Timor) and Malaysia.

*Remarks :* The species is found from the sub-Himalayan West Bengal, India, eastwards upto Timor in the Orient. In India, it was known by the name *Dryocoetes coffeae* until 1964, when Schedl transferred the species to the genus *Dryocoetiops* Schedl. Recently, Wood (1980) transferred the species to another genus *Eulepiops* Schedl on the basis of some characters, such as, protibiae having only three socketed teeth on the lateral margins, antennal club with two sutures on posterior face and basal corneous portion with recurved apical margin. On the basis of these characters, *D. coffeae* can conveniently be assigned to the genus *Eulepiops*, except the protibiae with five socketed teeth in the material studied. Without studying long series of material, it is difficult to make any further comment, except putting the species under the genus *Eulepiops* as has been done by Wood (1980).

In India, biology of the species is known to the extent of host-record only (Beeson, 1941). However, Browne (1961) has studied the biology of the species in details in

Malaysia where it is well known as a shoot borer. The species is recorded here from an unknown creeper in the Tista Valley, although it was recorded earlier from West Bengal infesting *Albizzia procera*.

### Genus *Ozopemon* Hagedorn

#### 1. *Ozopemon* Hagedorn

1908. Hagedorn, *Dt. Ent. Zeit.*, **1908**(3) : 382.  
 1910. Hagedorn, *Dt. Ent. Zeit.*, p.1.  
 1910. Hagedorn, *Coleopt. Cat.*, **26**(4) : 69.  
 1961. Browne, *Malay. For. Rec.* No. **22**, p. 87.  
 1966. Schedl, *Ent. Mus. Tick. Dresden*, **35** : 40.  
 1986. Wood, *Gt. Basin Nat. Mem.* No. **10** : 126.  
 1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper.* No. **86** : 588.  
 1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. A) : 588.

#### *Type of the Genus* : *Ozopemon regius* Hagedorn

Hagedorn (1908) erected the monobasic genus *Ozopemon* to include his new species *Ozopemon regius* Hagedorn from Sumatra. On the basis of the unique characteristics of the pronotum in *Ozopemon laevis* Strohmeier, Schedl (1959) created a genus *Dryocoetiops* to accommodate this species. In a recent scrutiny, Wood (1980) is of the opinion that the species comes within the limit of variations of the genus *Ozopemon* which is placed in the synonym of this genus. The members of the genus usually occur in the Oriental, Papuan and Oceania Regions. *O. obanus* is the only species found in India (Islands of Nicobar).

### 86. *Ozopemon obanus* Hagedorn

(Fig. 32)

#### 1. *Ozopemon obanus* Hagedorn

1910. Hagedorn, *Dt. Ent. Zeit.*, p. 3, *Syntypes* (?) : Female MNB, Berlin. *Type-locality* : Si Oben, Mentawai, Indonesia.  
 1923. Eggers, *Zool. Meded.*, **7** : 153-154.  
 1958a. Schedl, *Malay. Forester*, **21**(2) : 100.  
 1958b. Schedl, *Tijds. Ent.*, **101**(3-4) : 154.  
 1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper* No. **86** : 19, 56-58.  
 1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. A) : 589. (detailed synonymy).

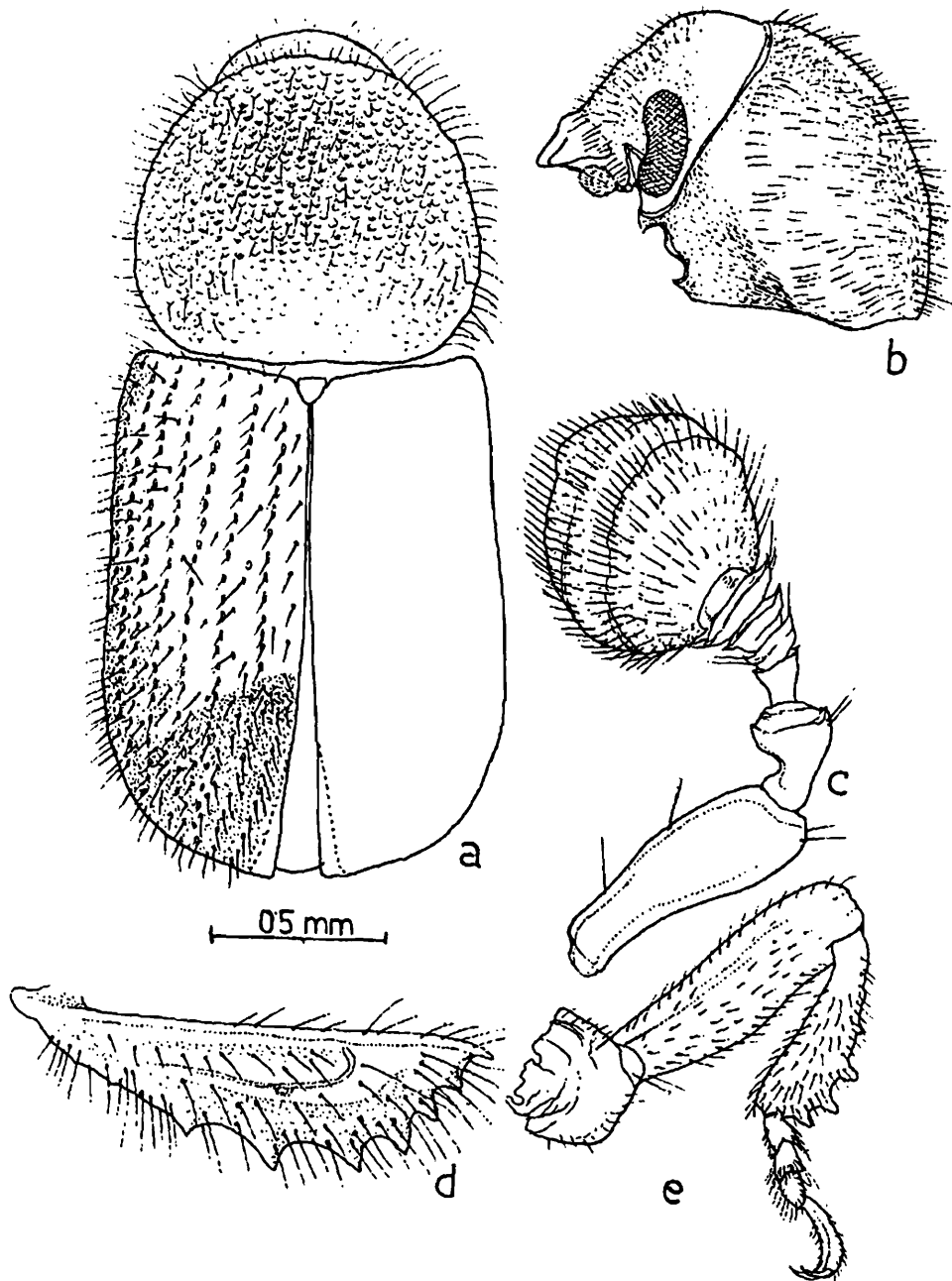
## 2. *Ozopemon cylindricus* Eggers

1923. Eggers, *Zool. Meded.*, 7 : 156. *Type-locality* : Sumatra.

1958. Schedl, *Tijdschr. Ent.*, 101(3-4) : 154 (synonymy).

*Description : Female* : Body large and stout, head, pronotum and elytra reddish brown to blackish brown; antennae and legs yellowish brown; entire body densely hairy. Body length 4.70-5.60 mm and nearly 2.18 times as long as wide.

Head globose; frons moderately convex; surface, densely pilose and reticulate with large irregular close punctures; median line prominent and terminating into a smooth



**Fig. 32. a-e.** *Ozopemon obanus* Hagedonn, Female : a, Pronotum and elytra in dorsal view; b, head and pronotum in lateral view; c, antenna; d, metatibia; e, fore leg.

weakly raised small area; epistomal margin with distinct fringe of hairs. Eyes large, elongate and shallowly emarginated. Antennal scape slender; funicle with 5 segments; club somewhat flattened, both the faces with two procurved sutures including substraight apical margin of basal corneous portion.

Pronotum globose, nearly as wide as long or slightly wider; basal margin weakly outcurved; lateral sides bulging out; anterior margin broadly rounded and unarmed; in profile, dorsal margin weakly convex with indistinct summit on basal third; entire surface with small asperities intermixed with small and long recumbent hairs.

Scutellum large shiny and tongue-shaped.

Elytra 1.51-1.55 times as long as and as wide as pronotum, 1.27 times as long as its own width, basal margin substraight, lateral sides subparallel on basal third whence gradually broadly rounded posteriorly, discal striae weakly impressed marked by large punctures with microhairs; interstriae nearly 3 times wider than striae, with irregular punctures of variable size and provided with long hairs. Declivity commencing on apical third, face opaque, steep and somewhat flattened, but distinctly impressed at the level of interstria 2, sutural margin weakly elevated; striae 1, 2 and 3 distinctly impressed and marked by large, deep and close punctures each puncture with a microhair; interstriae with minute punctures and erect hairs. Pro-coxae contiguous, pro-, meso- and meta-tibiae with 5, 6 and 7 spines respectively.

Male : Unknown.

*Hosts* : *Artocarpus elastica*, *A. lakocha*, *Mangifera indica*, *Canarium euphyllum*, *Myristica* sp., *Vatica* sp.

*Distribution* : INDIA : Nicobar Isl. : Great Nicobar : Campbell Bay and adjoining areas and Little Nicobar. Assam.

*Elsewhere* : Indonesia (Borneo, Java and Sumatra), Mentawai, Malaysia, Philippines and New Guinea.

*Remarks* : The species *Ozopemon obanus* is a widely distributed species in the Oriental Region and is recorded for the first time from the Nicobars (Maiti and Saha, 1986). The material studied from the Great Nicobar Island show some range of variations as regards their size, colour, median line, etc. The specimens vary from 4.70-5.60 mm in length. The larger specimens have more distinct frontal carinae and almost squarish pronotum. On the other hand, smaller specimens have indistinct carinae and wider pronotum. The colour varies from chestnut brown to blackish brown. These variations are, however, within the limit of specific variations of the species with wider range of geographical distribution (Maiti and Saha, 1986).

However, the species is well represented in the Great Nicobar Island infesting the different logs of *Mangifera indica*, *Canarium euphyllum*, *Myristica* sp., etc. Beeson (1961) reported *Ozopemon cylindricus*, a synonymy of *O. obanus*, to occur in Assam infesting *Artocarpus lakoocha*.

Genus *Taphrorychus* Eichhoff1. *Taphrorychus* Eichhoff

1878. Eichhoff, *Stett. Ent. Zeit.*, 49 and 204.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 556.

2. *Saliciphilus* Sokanovskii

1954. Sokanovskii, *Bull. Moskov. Obsheh. Ispyt.*, 59(5) : 17, 20.

3. *Pseudopoecilips* Murayama

1957. Murayama, *Bull. Yamaguti Univ. (Fac. Agric.)*, 8 : 614.

4. *Taphroterus* Schedl

1965. Schedl, *Ann. Pars zoologica*, 57 : 341

5. *Taphrocoetes* Pfeffer

1987. Pfeffer, p. 22

*Types of the genus* : *Taphrorychus* : *Bostrichus bicolor* Herbst; *Saliciphilus* : *Hypothenemus machnovskii* Sokanovskii; *Pseudopoecilips* : *P. mikuniyamensis* Murayama; *Taphroterus* : *Taphroterus primitus* Schedl; *Taphrocoetes* : *Taphrorychus hirtellus* Eichhoff.

The genus was erected by Eichhoff in 1878 and since then it remained as a valid genus. However, some genera have been synonymised under it. It contains some 20 species widely spread over many countries, of which single species occurs in the north western States of India.

87. *Taphrorychus hewetti* (Stebbing)1. *Dryocoetes hewetti* Stebbing

1908. Stebbing, *Indian For. Memo., For. Zool. Sr. 5*, 1(1) : 11. *Syntypes* 2 sex ? in FRI, Dehra Dun. *Type-locality* : Kumaun, Naini Tal, Uttarakhand, India.

2. *Taphrorychus hewetti* (Stebbing)

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. 13(Vol. A) : 559.

*Description* : Body cylindrical and shiny; dark brown in colour, frons with dense long hairs; body length 2.96 mm, 1.5 times longer than wide.

Frons plano-convex, rugose and finely roughened with fine granules and with long hairs at the level of eyes to the epistomal margin. Eyes slightly emarginated at the antennal base. Antennal funicle with 5 segments.

Pronotum almost as long as broad, summit distinct, placed slightly below the middle; basal margin substraight; lateral sides subparallel upto slightly more than half, thence gradually narrowing anteriorly with rounded margin; more than anterior half with adpsect asperities extending a few postero-laterally; posterior portion roughened with granules and small asperities; long sparse hairs on surface, especially anteriorly and laterally.

Scutellum rounded.

Elytra 1.6 times as long as its own width; basal margin substraight devoid of any carina, but antero-lateral callus distinct; lateral sides strictly parallel upto three fourth portion, thence gradually narrowing posteriorly to a rounded posterior margin; disc shiny, punctures on both striae and interstriae of equal size and depth, striae and interstriae hardly demarcated, except striae 1 and 2, being impressed. Declivity commencing on posterior fourth; declivital face somewhat steep, specially on lower half; declivital margin marked by long erect hairs as few minute granules in respective interstriae; interstriae 1, 3 and 4 with few minute setaeferous granules on upper half as well as towards posterior margin.

*Hosts* : *Quercus dentate*, *Q. lanuginose*, *Q. semicarpifolia*.

*Distribution* : INDIA : Himachal Pradesh and Uttar Pradesh.

### Genus *Triotemnus* Wollaston

#### 1. *Triotemnus* Wollaston

1864. Wollaston, *Cat. Coleop. Of Canaries in Brit. Mus.* (Scolytidae), p. 254-269) : 264.

1992. Wood and Bright, *Gt. Basin Nat. Memo*, No. 13(Vol. A) : 540.

#### 2. *Cladoctoporcus* Schedl

1975. Schedl, *Rev. Swiss Zool.*, **82**(3) : 454.

1984. Wood, *Gt. Basin Nat.*, **44**(2) : 229 (syn.)

Types of the genus : *Triotemnus* : *T. subretusus* Wollaston; *Cladoctoporcus* : *C. scrofa* Schedl.

The genus could be found in the literature since 1864 when Wollaston erected this genus to accommodate his new species *T. subretusus* Wollaston from Canary Islands as its type species. Subsequently, only some ten species had been described predominantly from Africa with two species from India. It's type species is also known from Spain in Europe. This predominantly African genus is represented by ten species only, of which two species are known from India. Although both species are kept in key, *T. pelicornis* could not be described due to non-availability of material.

### Key to the species of *Tritemnus* Wollaston

1. Frons concave from eye to eye, cavity shining with fine punctures; upper margin with a fringe of long incurved hairs; mandibles with a long slender tooth directed upward. .... *T. scrofa* (Schedl)
- Frons weakly transversely impressed, moderately punctuate, without spine on mandibles. .... *T. pelicornis* Wood

#### 88. *Triotemnus scrofa* (Schedl)

##### 1. *Cladoctoporcus scrofa* (Schedl)

1975. Schedl, *Rev. Suisse Zool.*, 82(3) : 454, *Holotype* male in MHNG, Geneva. *Type-locality* : Madras : Andippatti Hills, 9 km. a l'est d' Andippatti.

*Description* : *Male* : Ferruginous, 1.4-1.6 mm long, 2.5 times as long as wide.

Front convex, silky shining, minutely punctulate, also with some moderately fine punctures, epistomal margin slightly raised.

Pronotum longer than wide (30 : 25) widest short behind center, postero-lateral angles broadly rounded, sides subparallel on basal third, thence somewhat obliquely narrowed, apex rather broadly rounded, a subapical constriction difficult to distinguish; very slightly convex from apex to base, disc shining, minutely punctuate, except near apex covered with rather large punctures, erect rather long pubescence on the sides. Scutellum submerged.

Elytra little wider (28 : 25) and 1.2 times as long as the pronotum, sides parallel on basal three fifths, apex abruptly and very broadly rounded, declivity short, restricted to distal third of the elytra; disc shining, rather coarsely and densely punctured, the arrangement rather irregular, on the steeply convex declivity the punctuation somewhat finer, the interstrial punctures bearing (as far as not abraded) very short erect hairs more prominent on declivital convexity.

Female with the front concave from eye to eye, cavity shining, finely punctured, upper margin with a fringe of long incurved hairs. Mandibles with a long slender tooth directed upwards.

*Distribution* : INDIA : Karnataka, Maharashtra, Tamil Nadu and Uttarakhand.

*Elsewhere* : Sri Lanka.

*Hosts* : *Euphorbia antiquorum*, and other species of *Euphertia* rare in *Opuntia* sp.

#### Genus *Xylocleptes* Ferrari

##### 1. *Xylocleptes* Ferrari

1867. Ferrari, *Carl Gerold's Sohn*, Wien, p. 37.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 547.

## 2. *Xestips* Hagedorn

1912. Hagedorn, *Rev. Zool. Africaine*, 1(3) : 353.

1950. Schedl, *Rev. Zool. Bot. Africaine*, 43(3) : 204 (syn.).

## 3. *Hylonius* Nunberg

1973. Nunberg, *Explo. Pare Nation. Verunga*, (2)23 : 16.

1986. Wood, *Gt. Basin Nat.*, 46(2) : 267 (syn.).

*Types of genus* : *Xylocleptes* : *Bostrichus bispinus* Duftschmidt; *Hylonius* : *H. brunneus* Nunberg; *Xestips* : *X. marginatus* Hagedorn.

Ferrari (1867) established this genus based on the species *Bastrichus bispinus* Duftschmidt which is the only widely distributed species under the genus. However, the genus includes more than two dozens of species predominantly found in Africa. Only single species had been described by Schedl (1971) from Maharashtra in the western India.

## 89. *Xylocleptes indicus* Schedl

### 1. *Xylocleptes indicus* Schedl.

1971. Schedl, *Oriental Ins.*, 5(3) : 374. *Holotype* Female ? and *Paratype* (damaged female ?) in Schedl's collection, NHMW, Wien. *Type-locality* :

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 549.

*Description* : (Based on Schedl, 1971) *Female* (?) : Front convex, densely granulate-punctate, with but few short setae and indications of a longitudinal carina.

Pronotum feebly longer than wide (23 : 21), widest at the commencement of the basal two-fifths, postero-lateral angles little more than 90 degrees, the sides finely marginate and somewhat divergent on the basal two-fifth, thence obliquely narrowed, apex broadly rounded; disc feebly convex, a little more so on the anterior fifth, covered with rather coarse punctures, some smaller ones on the anterior convexity, pubescence inconspicuous. Scutellum minute and shining.

Elytra but feebly wider (22 : 21) and 1.7 times as long as pronotum, the sides parallel on basal three-fifths, apex very broadly rounded, declivity restricted to distal half and rather strongly convex; disc shining, transversely reticulate, with not quite regular rows of medium sized punctures, the interstices rather narrow and each with a medium row of minute punctures bearing (as far as not abraded) minute, semi-erect setae; declivity with the striae strongly impressed, the striae punctures coarser than on the disc and more closely placed, the interstices with some of the punctures replaced by minute setose granules.

*Host* : Not known.

*Distribution* : INDIA :

*Remarks* : Ferruginous shining, 2.1 mm long, 2.8 times as long as wide. More closely allied to *Xylocleptes normandi* Eggers, but larger, the pronotum less densely punctured, the elytra with the punctuation smaller and not as dense, the elytral declivity uniformly convex and coarsely striate-punctate (Schedl 1971).

Tribe **Crypturgini** Leconte

Genus **Crypturgus** Erichson

1. **Crypturgus** Erichson

1836. Erichson, *Archiv. Naturgesch.*, 2(1) : 60

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 620.

Type of the genus : *Bostrichus pusillus* Gyllenhal.

It is a well established genus and remained valid since its inception in 1836 by Erichson. Many authors have dealt with the genus in various corners of the world. It is a very small genus, only containing 10 species known so far, of which two species are found in India.

90. **Crypturgus pusillus** (Gyllenhal)

1. **Bostrichus pusillus** Gyllenhal

1813. *Insecta Svecica descripta*, Coleopt, 1(3) : 371. (Syntypes?; presumably Sweden; presumably at Univ. Uppsala)

2. **Bostrichus aphodiodes** Villa

1883. *Col. Eur. Suppl.*, p. 36;

1910. Hagedorn, *Coleopt. Cat.*, 4 : 36. Synonymy

3. **Crypturgus atomus** Leconte

1868. *Trans. Amer. Ent. Soc.*, 2 : 152

1973. Wood, *Great Basin Nat.* 33 : 175. Synonymy

4. **Crypturgus parallelocollis** Eichoff

1878. *Mem. Soc. Roy. Sci. Liege* (2)8 : 73.

1946. Schedl, *Zbl. Ges. Ent.* 1 : 7. Synonymy

### 5. *Crypturgus gaunersdorferi* Reitter

1885. Reitter *Deutsch. Ent. Zeitchr.*, **29** : 389

### 6. *Crypturgus cribrellus* Reitter

1894. *Naturf. Vereines Berlin*, **33** : 64.

1946. Schedl, *Zbl. Ges. Ent.* **1** : 7 (Synonymy)

### 7. *Crypturgus maulei* Roubal

1910. *Rev. Russ. D'Ent.* **10** : 203

1946. Schedl, *Zbl. Ges. Ent.* **1** : 7 (Synonymy)

### 8. *Crypturgus danicus* Eggers

1932. *Ent. Medd.* **18** : 80

1946. Schedl, *Zbl. Ges. Ent.* **1** : 7 (Synonymy)

### 9. *Crypturgus cylindricollis* Eggers

1940. *Centribl. Ges. Forstw.* **66** : 37

*Description* : *Male* (Based on Wood, 1982) : length 1.1-1.2 mm, 2.8 times as long as wide; color dark brown.

Frons convex; surface reticulate, punctures fine, obscure; vestiture inconspicuous.

Pronotum 1.2 times as long as wide; widest near middle, sides moderately arcuate, converging equally anteriorly and posteriorly, anterior and posterior margins equally, rather narrowly rounded; surface reticulate at margins, subreticulate and shining towards disc, punctures moderately coarse, deep, not close. Vestiture hairlike, restricted to peripheral areas.

Elytra 1.8 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on more than basal two-thirds, rather, narrowly rounded behind; striae 1 feebly, others not impressed, punctures rather small, deep; interstriae wider than striae, smooth, shining, interstitial punctures minute to obsolete. Declivity convex, moderately steep; striae punctures smaller than on declivity. Vestiture almost obsolete on disc, consisting of rows of minute striae and slightly longer interstitial hair; longest setae on declivity equal to less than half distance between rows.

*Female* : Similar to male.

*Distribution* : INDIA : Himachal Pradesh, Kashmir, Punjab, Uttar Pradesh.

*Elsewhere* : North America, North Africa, Europe and northern Asia.

*Hosts* : *Abies* spp., *Pinus* spp., *Picea* spp., *Cedrus deodara*, *C. libani*

Genus *Aphanarthrum* Wollaston1. *Aphanarthrum* Wollaston

1854. Wollaston, *Insecta Maderensia* (Scolytidae, pp. 288-306), Van Voorst, London, p. 292.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 616.

*Type of the genus* : *Aphanarthrum euphorbiae* Wollaston

The genus was erected by Wollaston (1854) as a monobasic one with its type species *A. euphorbiae* from Madeira island, Africa infesting *Euphorbia mellifera*. Subsequently, about two dozens of species are described under the genus, all being recorded from Africa. The genus was unknown to India, unless Wood (1988) described three new species from *Euphorbia* hosts in the Central India.

**Key to the species of *Aphanarthrum* (based on male)**

1. Anterior margin of pronotum with broadly elevated strong costa; elytral declivity impressed, strial and interstitial punctures comparatively large and deep; body length, 2.0 mm. .... *A. indicum* Wood
2. Pronotal and elytral surface dull and pseudoreticulate; elytral punctures rather small and confused; anterior margin of pronotum narrowly rounded; body length, 1.7 mm. .... *A. reticulatum* Wood
- Pronotal and elytral surface shining; strial and interstitial punctures distinct on elytral surface; anterior margin of pronotum comparatively broadly rounded; body length 1.7 mm. .... *A. royaleanum* Wood

91. *Aphanarthrum indicum* Wood1. *Aphanarthrum indicum* Wood

1988. Wood, *Gt. Basin Nat.*, 48(2) : 190. *Holotype* Male, *Allotype* Female and *Paratype* (one) in the same pin in F.R.I., Dehra Dun, 12 *Paratypes* in Wood's Collection, U.S.A. *Type-locality* : Chikalda, Melghat, Central province, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol-A) : 541.

*Description* : (After Wood, 1988) : *Male* : "Length 2.0 mm (paratypes 1.50-2.10 mm), 2.4 times as long as wide; colour light brown with variable, yellowish brown markings on elytra, vestiture pale.

Frons transversely convex, longitudinally almost flat from epistoma to upper level of eyes; surface apparently smooth, shining, and closely, rather coarsely punctured; vestiture of fine, rather short, inconspicuous hair.

Pronotum 1.2 times as long as wide; widest behind middle, sides rather weakly arcuate on posterior half, strongly converging to narrowly rounded anterior margin; median part of anterior margin acutely costate; summit indefinite behind middle;

surface on posterior four-fifths smooth, shining, uniformly very closely, rather coarsely punctured, interspaces equal to less than diameter of a puncture, anterior fifth reticulate and with punctures replaced by very small granules; vestiture of fine, short, abundant hair.

Elytra 1.3 times as long as wide, 1.2 times as long as wide, 1.2 times as long as pronotum; sides almost straight and parallel on more than basal half, very broadly rounded behind; striae not impressed, punctures distinct, rather small, not deep, indefinite rows; interstriae smooth, shining, punctures in rows, only slightly smaller and spaced similar to those of striae. Declivity steep, subconcavely impressed between interstria 3; sculpture similar to that on disc. Vestiture of rather abundant, moderately short, fine, strial and interstitial hair uniformly distributed, except reduced on lower declivity.

*Female* : Similar to male except costa on anterior margin of pronotum reduced and largely replaced by a single, median serration; impression on declivity greatly reduced, very weak.

*Distribution* : INDIA : Madhya Pradesh, Melghat, Chikalda.

*Remarks* : "The species *A. indicum* Wood is distinguished from the other two by the impressed elytral declivity, by the larger, deeper striae and interstitial punctures, and by the more strongly, broadly elevated costa on the anterior margin of the pronotum (Wood, 1988)"

## 92. *Aphanarthrum reticulatum* Wood

### 1. *Aphanarthrum reticulatum* Wood

1988. Wood, *Gt. Basin Nat.*, 48(2) : 191. *Holotype* Male, *Allotype* Female and *Paratypes* in F.R.I., Dehra Dun; 9 *Paratype* in Wood's collection, U.S.A. *Type-locality* : Hunsur, Mysore, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. 13(Vol. A) : 542.

*Description* (Based on Wood, 1988) : *Male* : Length 1.7 mm (Paratypes 1.6-1.9 mm), 2.4 times as long as wide; colour pale yellowish brown, darker brown spots at middle of pronotum, at humeral angles (2), at middle of elytra (4), and on lower declivity (2), vestiture pale.

Frons about as in *A. royaleanum* Wood.

Pronotum as in *royaleanum* except anteromedian costa obsolete, replaced by one median, strongly serration; surface reticulate throughout; colour primarily yellowish brown with a dark, transverse mark near middle.

Elytra similar to *A. royaleanum* except surface uniformly reticulate, punctures confused, not in rows.

*Female* : Similar to male except anterior margin of pronotum more narrowly produced into a slightly larger median denticle.

*Hosts* : *Euphorbia royaleana* and other *Euphorbia* spp.

*Distribution* : INDIA : Mysore, Hunsur; Uttarakhand : Mussoorie.

*Remarks* : 'This species is distinguished from *A. royaleanum* by the dull, pseudoreticulate pronotal and elytral surfaces by the smaller, confused, elytral punctures, and by the subangulate anterior margin of the pronotum (Wood, 1988).'

### 93. *Aphanarthrum royaleanum* Wood

#### 1. *Aphanarthrum royaleanum* Wood

1988. Wood, *Gt. Basin Nat.*, **48**(2) : 191. *Holotype* (lower most), *Allotype* (middle) and 1 *Paratype* (upper most) all in same pin in F.R.I. Dehra Dun; 9 *Paratypes* in Wood's collection, U.S.A. *Type-locality* : Chikalda, Mulghat, C.P., India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. **13**(Vol. A) : 542-543.

*Description* (Based on Wood, 1988) : *Male* : "Length 1.7 mm (paratypes 1.5-1.7 mm), 2.4 times as long as wide; colour light brown except elytra pale yellowish brown with darker markings on costal margin, declivity and near middle of disc, vestiture pale.

Frons resembling *indicum* except surface subreticulate, punctures small to obsolete, vestiture inconspicuous.

Pronotum 1.2 times as long as wide; as in *indicum* except granules on anterior slope larger, more numerous; punctures on posterior half very small, each with a rounded granule on its lateral or posterior margin; reticulate in anterior and lateral areas.

Elytra 1.3 times as long as wide; as in *indicum* except outline more narrowly rounded behind, elytral punctures slightly smaller, in more definite rows, declivity convex (without any impression).

*Female* : As in male except sexual differences on pronotum as in *indicum*.

*Host* : *Euphorbia royaleana*.

*Distribution* : INDIA : Central Province, Malghat, Chkalda; Uttarakhand : Dehra Dun, Sulphur Spring.

*Remarks* : "The species is distinguished from *reticulatum* by the shining pronotal and elytral surfaces, by the strial and interstitial rows of punctures, and by the more broadly rounded anterior margin of the pronotum (Wood, 1988)"

Tribe **Xyloterini** LindemannGenus ***Indocryphalus*** Eggers1. ***Indocryphalus*** Eggers

1939. *Ark. Zool.*, **31** A(4) : 67.

2. ***Dendrotrypum*** Schedl

1951. *Mitt. Forstl. Bundes-Vers. Anst. Mariabrunn*, **47** : 76.

*Type of genera : Indocryphalus : Indocryphalus malaisei* Eggers, *Xyloterus intermedius* Sampson. *Dendrotrypum : Xyloterus aceris* Niisima.

The genus *Indocryphalus* was established by Eggers (1939) as a monotypic genus to accommodate his own species *Indocryphalus malaisei* Eggers from Myanmar. Later on, schedl (1951) designated another genus *Dendrotrypum* based on a number of species of *Trypodendron* and *Eyloterus*, all from far east of Palaearctic region. However, the genus remained valid until Browne (1970) proposed the congeneric status of *Indocryphalus* and *Dendrotrypum*. He assigned seven species under it of which *I. intermedius* Sampson is represented from the area. However, another species, *I. machili*, a designated species of Beeson from the sub-Himalayan West Bengal, is being described as new to science by Prof. S.L. Wood (pers. comm.).

94. ***Indocryphalus intermedius*** (Sampson)

(Fig. 33)

1. ***Xyloterus intermedius*** (Sampson)

1913. Sampson, *Ann. Mag. Nat. Hist.* (8) **10** : 445. Synotypes, Sex ? in BMNH London. *Type-locality* : Bashar State, N.W. Himalaya, India;

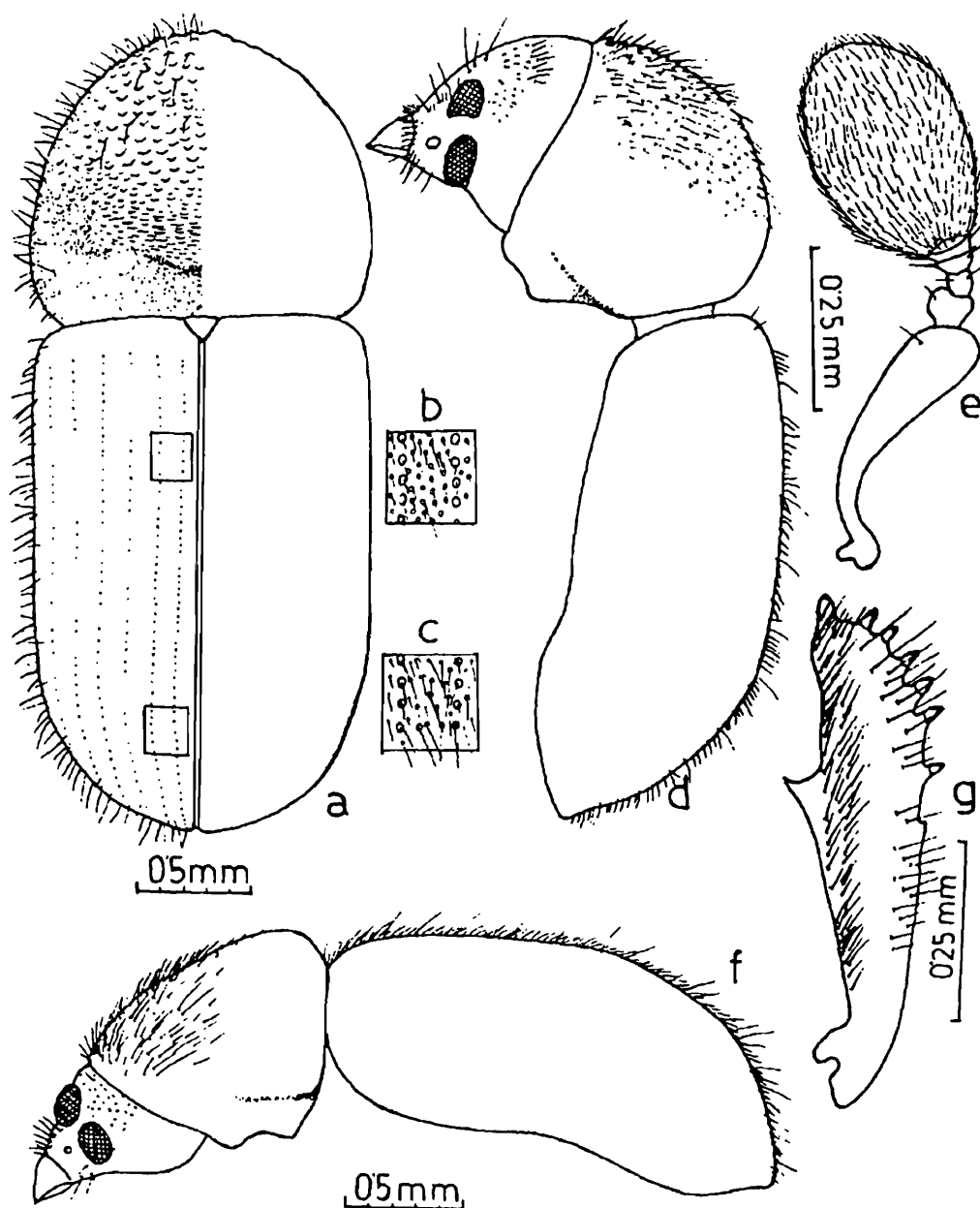
2. ***Indocryphalus malaisei*** Eggers

1939. Eggers, *Ariv. Zool.*, **31A**(4) : 7, Holotype, Sex ? in NHR stockholm. *Type-locality* : Myanmar (Nordosh-Birma, Kambaiti, 7000 ft.)

1970. Browne, *J. nat. Hist.*, **4** : 562 (synonymy).

*Description : Female* : Body stout and cylindrical; head pale brown; pronotum light brown, sometimes with blackish tinge on anterior slop; elytra pale brown to deep brown, darker towards apex. Body length 3.50-3.65 mm, 2.2 times as long as wide.

Head somewhat globose; frons finely punctate and densely pilose with a ridged median line, either side weakly sloping laterally; vertex rather convex with comparatively deep punctures and sparse hairs. Eyes divided into two unequal parts. Antennal scape long and slender; funicle with 4 segments; club large and flattened, with pubescence on either side, a narrow strip-like subcorneous basal area with broadly procurved apical margin and smaller than antennal funicle 4.



**Fig. 33. a-g.** *Indocryphalus intermedius* (Sampson), Female : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc; c, enlarged portion of elytral declivity; d, head, pronotum and elytra in lateral view; e, antenna. Male: f, head, pronotum and elytra in lateral view; g, protibia.

Pronotum subglobose, 1.28 times as wide as long, with basal margin substraight and carinate; anterior margin with 6-8 asperities, gradually becoming smaller laterally; in profile, convex and devoid of distinct summit; anterior slope with distinct asperities gradually becoming smaller posteriorly postero-lateral sides with dense punctures; basal third feebly granulate; surface with vestiture of fine small hairs, those on anteriorly comparatively long.

Scutellum comparatively large, nearly as long as wide.

Elytra 1.9 times as long as pronotum, 1.5 times as long as its width; basal margin substraight; lateral sides subparallel on basal two-thirds, broadly rounded posteriorly; discal striae marked by small, but distinct punctures; interstriae much wider than striae, with dense minute punctures; both strial and interstitial punctures with microhairs and a few long ones on interstriae. Declivital face convex; striae somewhat distinct on upper half and obsolete on lower half; interstriae with dense minute punctures, hairs as on disc. Procoxae contiguous, pro-, Meso- and meta-tibiae with 7, 9 and 6 teeth respectively, metatibial teeth rather weak.

*Male* (Fig. 33f) : Males are similar to females except the following characters : Body smaller, length 3.20-3.30 mm; frons rather flat with a distinct median carina, weakly impressed above epistomal margin; surface smooth and shiny with minute punctures, larger towards vertex and with long fine dense hairs; each half of eyes comparatively bulging out. Pronotum comparatively weakly convex, anterior margin narrowly rounded with weak asperities; entire surface with weak asperities and with dense fine long and short hairs. Elytra as in females. Posterior margin of meta-tibiae one distinct spine in addition to apical teeth.

*Distribution* : INDIA : West Bengal : Darjiling dist. Darjiling' Debrepani, Lava, Rambh and Rangirum. Punjab.

*Elsewhere* : Bhutan, Nepal and Myanmar.

*Hosts* : *Castanopsis hystrix*, *Quercus lamellose*, *Symplocos theaefolia*.

*Remarks* : The species is so far known from the Indian subregion particularly on and near the Himalayan belt. In West Bengal, it occurs in the high altitude of Darjiling (2143 m) and Lava (2153 m). Beeson (1961) reported it from three host plants, namely, *Machilus edulis*, *Quercus lamellose* and *Symplocos theaefolia*. One more host *Castanopsis hystrix* is recorded here for the first time.

### Tribe *Xyloctonini* Eichhoff

#### Genus *Scolytomimus* Blandford

##### 1. *Scolytomimus* Blandford

1895. Blandford, *Ann. Mag. Nat. Hist.*, 4(6) : 319-320.  
1910. Hagedorn, *Coleopt. Cat.*, 26(4) : 81.  
1914. Hopkins, *Proc. U.S. nat. Mus.*, 5 : 129.  
1957. Browne, *Sarawak Mus. J.*, 8 : 487.  
1961. Browne, *Malay. Forest Rec.*, No. 22 : 80.  
1966. Schedl, *Entom. Abh. Mus. Tierk. Dresden*, 35 : 15.  
1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No.* 86 : 154.  
1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. A) : 838.

## 2. *Neoxyloctonus* Eggers

1923. Eggers, *Zool. Meded.*, **7** : 143.

1978. Wood, *Annl. Soc. Ent., Fr.* (N.S.), **14**(1) : 114 (synonymy).

## 3. *Scolytocleptes* Schedl

1962. Schedl, *Beitr. Z. Ent.*, **12** : 490-491.

1978. Wood, *Annl. Soc. Ent. Fr.* (N.S.), **14**(1) : 114 (synonymy).

Types of the Genus : *Scolytomimus* : *S. dilutus* Blandford; *Neoxyloctonus* : *N. philippinensis* Eggers and *Scolytocleptes* : *Scolytomimus maculatus* Beeson.

Blandford (1895) erected the monobasis genus *Scolytomimus* to accommodate his species *S. dilutus* from Sri Lanka. This is a small, but good genus, mostly distributed in southeast Asia and extending up to Samoan Isl. The genera *Neoxyloctonus* Eggers and *Scolytocleptes* Schedl have recently been submerged under it by Wood (1978) Only four species are represented in India of which two occur in the Andaman Islands and one in Assam. However, *G. andamanensis* Wood from Andaman is not included here.

### Key to the species of *Scolytomimus* based on female

1. Pronotal asperities very much prominent and more roughened towards apex; frons rugose and vertex slightly raised; body stout, body length 2.45-2.50 .....  
..... *S. assamensis* Schedl
- Pronotal asperities not so prominent and not at all roughened towards apex, but with single rows of asperities on the middle spreading from vertex to almost anterior margin; body cylindrically elongate, body length 2.30-2.35 mm ..... 2
2. Antennal club with single oblique septum; antennal funicle with 7 segments; eyes elongate and deeply emarginate; entire declivous portion of pronotum with distinct asperities; interstriae 3, 4, 6, 7 obsolete between other interstriae towards elytral apex; comparatively small species, body length 1.45-1.55 mm .....  
..... *S. pusillus* (Eggers)
- Antennal club with two oblique septa; antennal funicle with 6 segments; eyes completely divided into parts; median declivous portion of pronotum with a few distinct asperities; every alternate interstria obsolete towards elytral apex; comparatively large species, body length 2.50-2.60 mm. ....  
..... *S. philippinensis* (Eggers)

### 95. *Scolytomimus assamensis* Schedl

#### 1. *Scolytomimus assamensis* Schedl

1951. Schedl, *Tijdschr. Ent.*, **93** : 54, Holotype, sex? In Nat. Hist. Mus. Wien. *Type-locality* : Assam, Lushai Hills, India.

*Description : Female* : Body very small, pale brown in colour throughout, head comparatively darker, sparse minute hairs throughout; body length 2.15 mm, width (across thorax) 1.15 mm.

Frons flat, surface rugose with fine sparse hairs, epistomal margin substraight; disc slightly raised.

Pronotum 1.20 times smaller than elytra, surface strongly convex, lateral sides outcurved, posterior margin feebly outcurved, anterior margin somewhat tapering; summit indistinct but very raised, whence asperities increasing in structure towards apex terminating with two distinct bigger asperities, asperities gradually becoming smaller towards base where turning into roughen surface only.

Scutellum knob-like, very small, shiny.

Elytra almost as long as broad, anterior margin feebly concave and devoid of any carinae; lateral margins feebly outcurved and gradually converging posteriorly and terminating into narrowly and uniformly round margin; elytral striae marked by shallow punctures, all the striae almost running to the tip of elytra except 3 to 5; interstriae almost double the striae, slightly convex with roughen and dull surface; sutural interstriae united at the tip with interstriae 7. Declivity not so prominent, striae and interstriae within declivity as like that of elytral disc; posterior margin of elytra at the terminal and carinate eith slight projection at the tip on either side of the suture.

*Hosts* : *Bassia latifolia*, *B. butyraces*, *Bauhinia tomentosa*, *Camellia sinensis*, *Dichopsis polyantha*, *Isonandra polyantha*, *Palaquium pseudorostratum*.

*Distribution* : INDIA : Assam and Bihar.

*Elsewhere* : Bangladesh, Sri Lanka, Indonesia (Sarawak in Borneo).

96. *Scolytomimus philippinensis* (Eggers)  
(Fig. 34)

1. *Neoxyloctonus philippinensis* Eggers

1923. Eggers, *Zool. Meded.*, **7** : 143-144, *Type-locality* : Mindanao, Philippines.

1927. Eggers, *Treubia*, **9** : 406.

1969. Schedl, *Kontyu*, **35**(2) : 125, Australia.

2. *Xyloctonus andamanus* Beeson

1961. Beeson, *Ecology and Control of Forest Insects of India and Neighbouring Countries*, 310 p (nom. nud.).

1957. Browne, *Sarawak Mus. J.*, **8** : 491 (synonymy).

3. *Scolytominus phillippinensis* (Eggers)

1966. Schedl, *Entom. Abh. Mus. Tierk. Dresden*, **35** : 15-16. Philippines, Andamans and New Guinea.

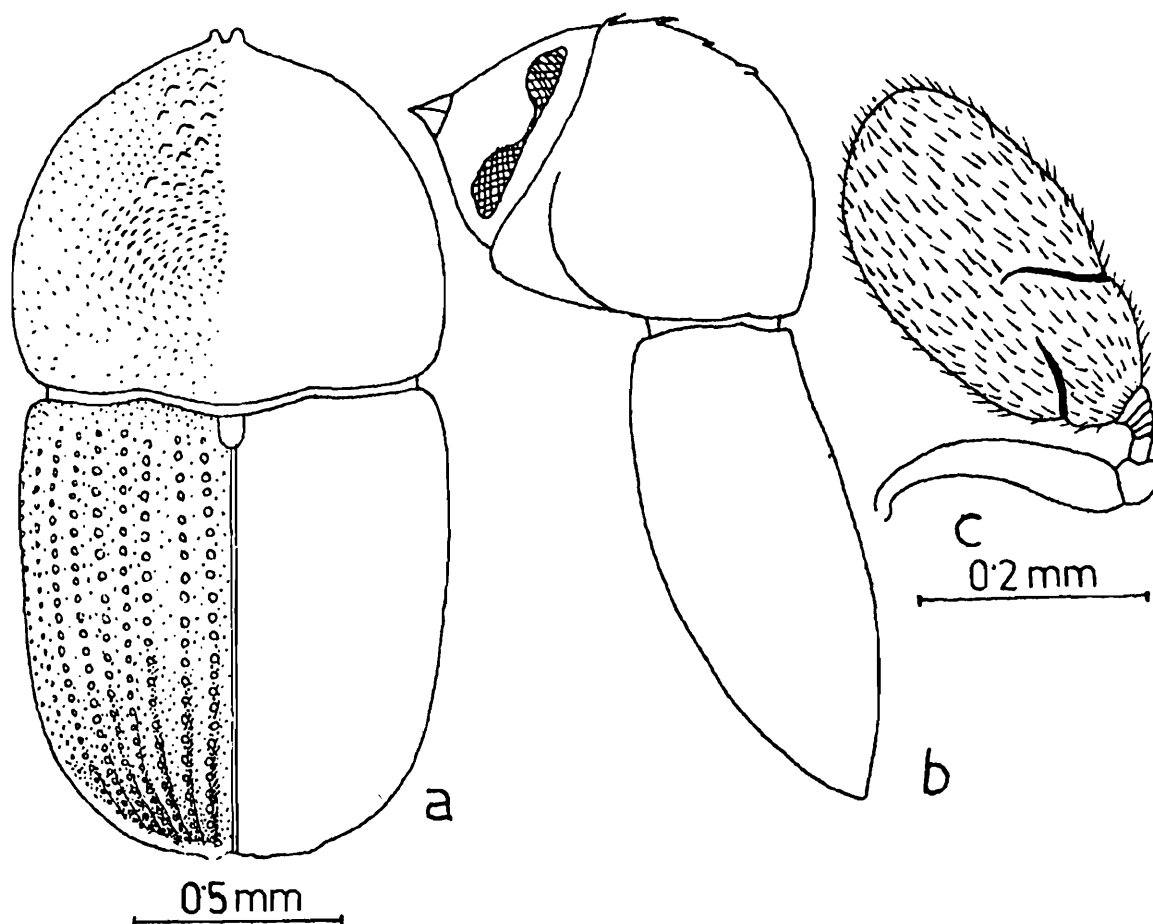


Fig. 34. A-c. *Scolytomimus philippinensis* (Eggers), Female : a, Pronotum and elytra in dorsal view; b, head, pronotum and elytra in lateral view; c, antenna.

*Description* : Body short and stout; head reddish brown, pronotum straw yellow, elytra paler; antennae and legs straw yellow. Body length 2.50-2.60 mm, nearly 2.2 times as long as wide.

Head globose, frons flatly convex, slightly depressed above the epistomal margin; surface reticulately arranged, distinct granules with dense coat of microhairs; fringe of hairs at epistomal margin rather sparse. Eyes completely divided into two parts. Antennal scape long and slender, funicle with 6 segments, club very large, strongly flattened, with two oblique septa.

Scutellum comparatively small, surface somewhat coarse, broadly tongue-shaped.

Pronotum subglobular, 1.1 times as wide as long, basal margin bisinuate, lateral margins outcurved, with anterior margin broadly rounded, two closely set large asperities slightly above anterior margin, in profile, pronotum strongly convex with indistinct summit; 7-8 distinct asperities on anterior slope, other asperities very minute and abundant, surface rugose reticulate, laterally and posteriorly with close shallow punctures, abundant short fine hairs on surface.

Elytra 1.17 times as long as and slightly narrower than pronotum, 1.10 times as long as its width; basal margin feebly outcurved, lateral margin gradually narrowing posteriorly, hemoral callous very well developed; striae impressed, punctures rather shallow and distinct without any microhair, interstriae as wide as or slightly narrower than striae with distinct granules only. Elytral apex ascending, without any distinct declivity, alternate (2,4,6,8) interstriae obsolete towards apex. Procoxae subcontiguous, protibia with 5 marginal teeth and its inflated posterior surface bearing granules; meso- and meta-tibiae with tarsal groove and without any marginal teeth; metatarsus compressed.

*Hosts* : *Palnetia pinnata*.

*Distribution* : INDIA : Andaman Isl.

*Elsewhere* : Philippine Islands, New Guinea and Australia.

*Remarks* : An undescribed species of Beeson, *Xyloctonus andamanus* from the Andaman, cited in literature (Beeson, 1961) has been synonymised with *Scolytomimus philippinensis* by Schedl (1966). However, *S. philippinensis* is reported from some widely separated territories of Andamans, Philippines, New Guinea and Australia. *Dipterocarpus turbinatus* and *Sideroxylon longipetiolatus* are the two hosts from which the species is recorded in the Andamans. Biologically, the species is extremely poorly known in any area of its occurrence.

**97. *Scolytomimus pusillus* (Eggers)**  
(Fig. 35)

**1. *Neoxyloctonus pusillus* Eggers**

1927. Eggers, *Philippin. J. Sci.*, **33**(1) : 88. Lectotype sex? In USNM, Washington, designated by Anderson and Anderson, 1971 : 27. *Type-locality* : Kolambugan, Prov. Lanao, Mindanao, Philippine.

**2. *Scolytomimus kalshoveni* Eggers**

1940. Eggers, *Tijds. V. Entomol.*, **83** : 132. *Holotype*, sex ? in Kalshoven Collection. *Type-locality* : Java, Indonesia.

1989. Wood, *Gt. Basin Nat.*, **49** : 175 (syn.).

**3. *Scolytomimus brunigi* Browne**

1958. Browne, *Sarawak Mus. J.*, **8** : 488. *Holotype*, Sex ? in BMNH, London, *Type-locality* : Bako National Park, Sarawak.

1962. Schedl, *Ent. Blatt.*, **58** : 203 (syn.).

**4. *Scolytomimus menoni* Browne**

1958. Browne, *Sarawak Mus. J.*, **8** : 487. *Holotype*, sex ? in BMNH, London. *Type-locality* : Kepong, Selangor, Malaysia.

1962. Schedl, *Ent. Blatt.*, **58** : 203 (syn.)

5. *Scolytocleptes insularis* Schedl

1962. Schedl, *Beitr. Ent.*, **12**(3-4) : 491. *Holotype*, sex ? in Schedl's collection, *Type-locality* : Andaman Island, India.

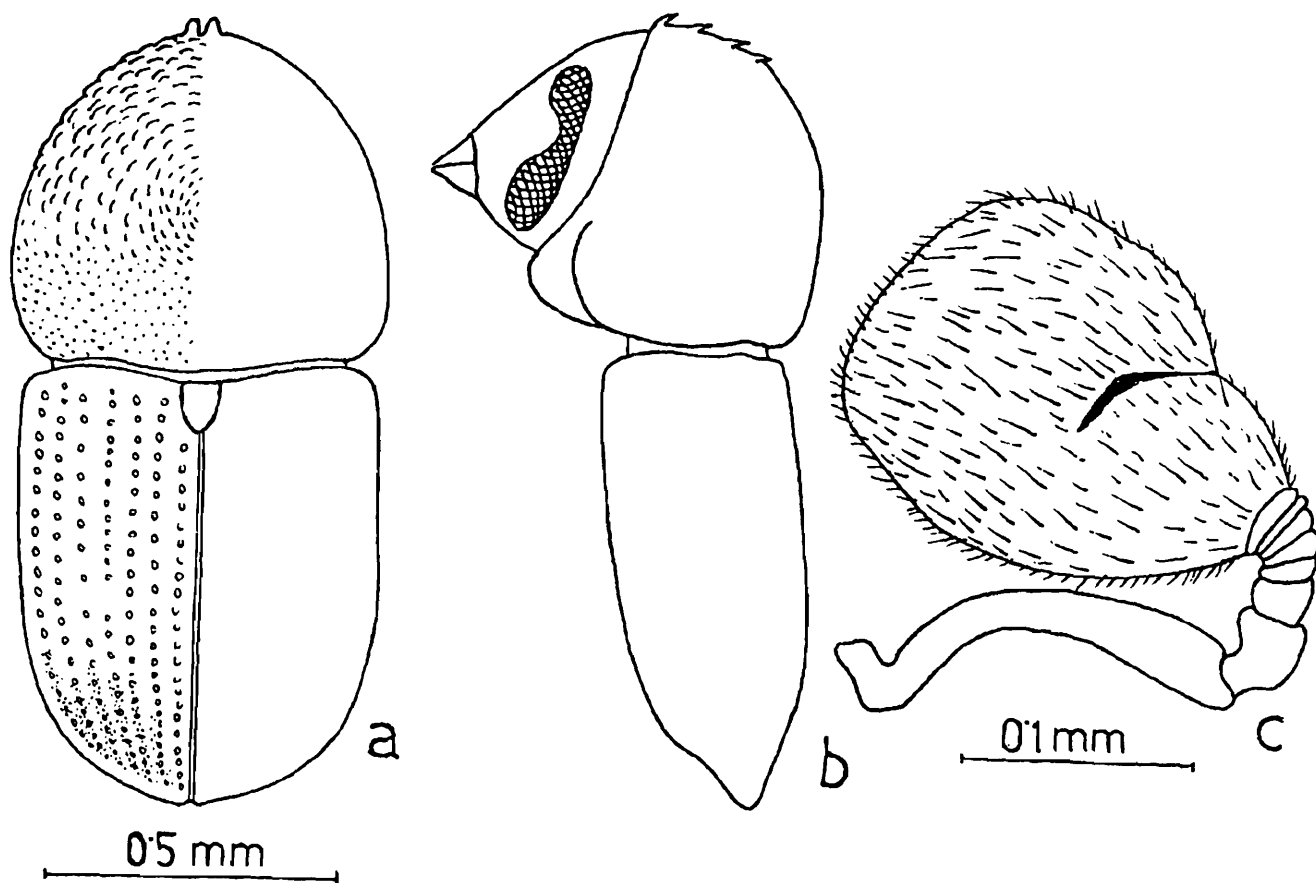
1989. Wood, *Gt. Basin Nat.*, **49** : 175 (syn.).

6. *Scolytomimus pusillus* (Eggers)

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. **13**(Vol. B) : 839.

*Description* : Body very short but stout; head and pronotum blackish brown; elytra pale yellow; antennae and legs yellowish white; body length 1.45-1.55 mm; nearly 2 times as long as wide.

Head globose, frons flatly convex, surface rugosely reticulate throughout with indistinct median line; fringe of hairs at epistomal margin; surface with short fine numerous hairs. Eyes elongate, broadly emarginated, but not completely divided. Antennal scape short, funicle with 7 segments, club large and oval, entirely pubescent with one oblique septum from lateral side.



**Fig. 35. a-c.** *Scolytomimus pusillus* Eggers, Female : a, Pronotum and elytra in dorsal view; b, head pronotum and elytra in lateral view; c, antenna.

Pronotum subglobose, 1.1 times as wide as long, basal margin bisinuate, lateral sides outcurved with broadly rounded anterior margin, accommodating two distinct large asperities; in profile, pronotum strongly convex, with indistinct summit slightly below middle; anterior declivious protion with distinct asperities in concentric rows and becoming granulately elongate postero-laterally, granules also forming some concentric rings around the summit; posterior half coarsely granulate with indistinct hairs.

Scutellum comparatively large, almost as long as broad, not smooth, but rather somewhat coarse, broadly tongue shaped.

Elytra subrectangular, nearly 1.17 times as long as pronotum as well as its own width and slightly narrower than pronotum; basal margin very feebly incurved in whole outline; lateral margins weakly outcurved, postero-lateral margins somewhat angulars and distinctly margined, posterior margin weakly emarginated; striae impressed and marked by shallow indistinct punctures without any hairs; interstriae ridged, weakly granulate but without any distinct hair; intestriae 3, 4, 6 and 7 not reaching to apex. Elytra apex ascending without any distinct declivity. Procoxae contiguous.

*Hosts* : *Achras sapota*, *Mimusops littoralis*, *Pataquium maingayi*, *P. stellatum*.

*Distribution* : INDIA : Andaman Islands.

*Elsewhere* : Malayasia, Indonesia (Borneo, Java), New Guinea, Philippine Islands (Mindanao).

*Remarks* : *Scolytomimus insularis* (Schedl) is a very rare species occurring only in Andamans, recorded so far from a single host *Mimusops litoralis* as well as in Boudin Isl., Indochina. Originally the species was recognized by Beeson (1961) as *Scolytomimus insularis* from Andamans and remained undescribed until 1962, while Schedl described it under the genus *Scolytocleptes*. However, *Scolytocleptes* is no more a valid genus and is considered as a synonym of the genus *Scolytomimus* by Wood (1978).

The species can easily be distinguished from other members of the genus, *S. philippinensis* (Eggers) in the Andamans by its distinctly smaller size and deeply emarginated eyes. Interestingly enough, antennal funicle with 7 segments is a peculiar character of the species, as opposed to funicle with 6 segments in all other members of the genus. This needs further study.

### Tribe **Cryphalini** Lindemann

#### Key to the genera under the tribe **Cryphalini**\*

1. Antennal club devoid of any septum or sutural line; rather with pubescence on entire surface. .... 2

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\* Two genera, *Coriacephilus* represented by *C. proximus* (Eggers) from Mysore and *Eidophelus* by *E. imitans* Eichhoff from Uttar Pradesh have not been included due to non-availability of material at hand for study.

- Antennal club either only with septum or sutural line marked by setae. .... 3
- 2. Antennal funicle with 2 segments; anterior margin of pronotum with 10-16 asperities of equal sizes; pronotal summit indistinct; posterior portion of pronotum with distinct granules in rows; female frons nearly impressed; body more slender, 2.5 times as long as wide ..... **Cosmoderes** Eichhoff
- Antennal funicle with 4 segments; anterior margin of pronotum with 4-6 asperites, gradually decreasing in size laterally; pronotal summit prominent; posterior portion of pronotum with somewhat small confused granules; frons convex in both sexes; body less slender, 2 times as long as broad ..... **Ptilopodius** Hopkins
- 3. Antennal club without any septum, but only with sutural line marked by setae on surface. .... 4
- Antennal club either only with septum or both septum and sutural line on surface ..... 6
- 4. Eyes entire; antennal funicle with 3-segments; lateral margins of pronotum rounded; antennal club with weakly procurved suture. .... **Ernocladius** Wood
- Eyes emarginated; antennal funicle either with 4 or with 5 segments; lateral margins of pronotum carinate ..... 5
- 5. Antennal funicle with 5 segments; antennal club with procurved suture; tarsal segment 3, cylindrical ..... **Hypocryphalus** Hopkins
- Antennal funicle with 4 segments; antennal club with recurved sutures; tarsal segment 3 broad and emarginated ..... **Cryphalus** Erichson
- 6. Antennal club with only oblique septum from the base ..... **Scolytogenes** Eichhoff
- Antennal club with both septum and sutural line ..... 7
- 7. Antennal club with sutural line 1 partly septate and sutural lines 1 and 2 weakly procurved, septum marked by setae ..... **Hypothenemus** Westwood
- Antennal club with strongly procurved to obsolete sutural line; pronotal asperities arranged in concentric rows by closely set asperities. .... **Ernoporus** Thomson

Genus **Cosmoderes** Eichhoff.

1. **Cosmoderes** Eichhoff

1878 (1879). Eichhoff, *Mem. Soc. Roy. Sci. Liege*, 8(2) : 496.

1894. Blandford, *Trans. Ent. Soc. Lond.* P. 85-86.

1910. Hagedorn, *Coleopt. Cat.*, 26(4) : 46.

1914. Hopkins, *Proc. U.S. nat. Mus.*, **48** : 119.  
 1959. Schedl, *Trans. R. ent. Soc. Lond.*, **111** : 476.  
 1971. Nobuchi, *Bull. Govt. For. Exp. Sta.* no. **238** : 151 & 158.  
 1980. Wood, *Gt. Basin Nat.*, **40**(1) : 91.

## 2. *Erioschidias* Schedl

1938. Schedl, *Trans. Roy. Soc. S. Australia*, **62** : 42.  
 1980. Wood, *Gt. Basin Nat.*, **40**(1) : 91 (Synonymy).

## 3. *Dendriops* Schedl

1953. Schedl, *Rev. Franc d'Entomologie*, **20** : 125.  
 1986. Wood, *Gt. Basin Nat. Memoirs*, **91** :

## 4. *Pseudocosmoderes* Nobuchi

1981. Nobuchi, *Kontyu*, **49**(1) : 16.  
 1992. Wood, *Gt. Basin Nat.*, **49** : 80-81.

## 5. *Vitaderes* Beeson

1941. Beeson, *Ecology and Control of Forest Insect of India and Neighbouring countries*, pp.301.

*Types of genus : Cosmoderes* Eichhoff : *C. monilicollis* Eichhoff; *Erioschidias* : *Cryphalus setistriatus* Lea; *Dendriops* : *D. granulicollis* Schedl; *Pseudocosmoderes* : *P. attenuatus* Nobuchi probably = *C. monilicollis*; *Vitaderes* : *V. luffae* nomen nudum = *Cosmoderes monilicollis* Eichhoff.

The genus *Cosmoderes* was established by Eichhoff (1978) to accommodate *C. monilicollis*, a species described by him from India. In F.R.I. Collection, there are three species identified by Beeson as *C. monilicollis* Eichhoff, *C. luffae* Beeson (Ms) and *C. granulicollis* Beeson (ms), of which the latter two (in part) are now considered as the synonymies of the former two (Wood, 1980). However, there is some doubt as regards the number of funicular segments in *C. monilicollis*. The species present in FRI, Dehra Dun, identified by Beeson has 3 segmented funicle as we have studied, in contrast to that of 2 in Eichhoff's material deposited in Humburg Museum, as reported by Blandford (1894). There is some doubt whether Blandford has examined the types or not, which had been destroyed during World War II. However, 2 segmented funicles are not uncommon in other members of the genus, as reported by Nobuchi (1971) also in *Cosmoderes consobrinus* Blandford.

Another genus *Erioschidias*, described by Schedl (1938) is represented by the species having funicles with 3 segments and antennal club overlapping the last funicle laterally. On the basis of the funicular segment, these two genera seem to be distinct, but recently Wood (1980) has considered the congeneric status of both *Erischidias* and *Cosmoderes*. Representatives of the genus are mainly found in the Oriental Region, with some species extending to Japan, Australia and Micronesia. Single species, *C. monillicollis* is so far represented in India, collected so far only from the sub-Himalayan West Bengal.

### 98. *Cosmoderes monillicollis* Eichhoff.

(Fig. 36)

#### 1. *Cosmoderes monillicollis* Eichhoff.

1878. Eichhoff, *Mem. Soc. Roy. Sci. Liege*, 8(2) : 496 and 497. *Holotype*, sex ? Hindostan, in Hamburg Museum, lost. *Type-locality* : India (Hindustan).
1894. Blandford, *Trans. Ent. Soc. Lond.*, pp. 85 and 86.
1910. Hagedorn, *Coleopt. Cat.*, 26(4) : 46.
1959. Schedl, *Trans. Ent. Soc. Lond.*, 111 : 476.
1982. Wood, *Gt. Basin Nat.*, 40(1) : 91.
1992. Wood and Bright. *Gt. Basin Nat. Mem.*, No. 13(Vol. B) : 901.
1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 803.

#### 2. *Dendriops granulicollis* Schedl

1953. Schedl, *Rev. Francaise d'Entomologie*, 20 : 125. Lectotype, Sex ? in NHMW, Wien, *Type-locality* : Indo-China : Saigon.
1963. Schedl, *Koleopterologische Rundschau*, 40/41 : 60.

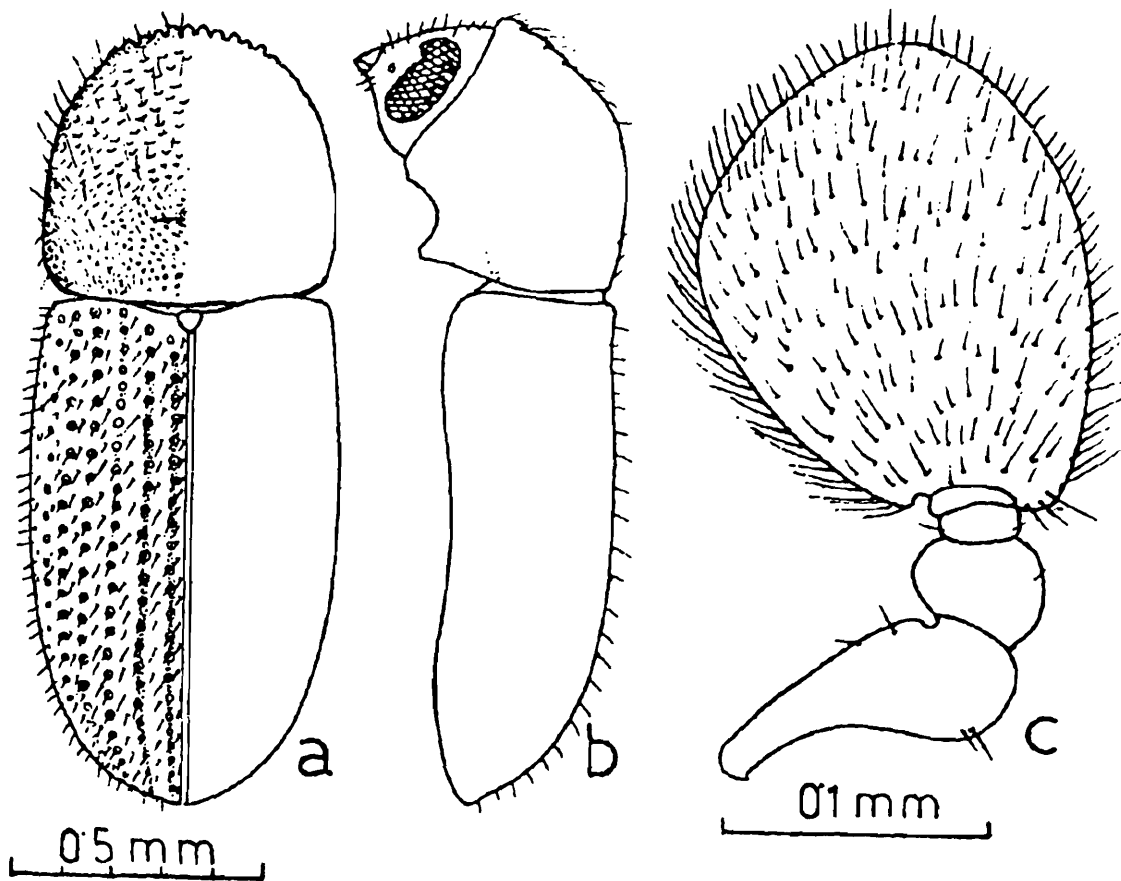
#### 3. *Erioschidias coriaceus* Schedl

1959. Schedl, *Roy. Ent. Soc. Of London*, 111(15) : 474, Syntypes, Sex ? in NHMW, Wien, *Type-locality* : Ceylon : Sabargamuva, Millawitiya Estate.
1963. Schedl, *Koleopterologische Rundschau* 40/41 : 60.

#### 4. *Pseudocosmoderes attenuatus* Nobuchi

1981. Nobuchi, *Kontyu*, 49(1) : 17, *Holotype*, Sex? From Nobuchi Collection, Ibaraki. *Type-locality* : Shimizucho, Wakayama, Japan.
1992. Wood, *Gt. Basin Naturalist*, 52 : 81.

*Description* : Body small and cylindrical; head and pronotum blackish brown; elytra dark yellowish brown. Body length 1.35-1.55 mm, 2.3-2.6 times as long as wide.



**Fig. 36. a-c.** *Cosmoderes monillicollis* Eichhoff, Female : a, Pronotum and elytra in dorsal view; b, head, pronotum and elytra in lateral view; c, antenna.

Head globose; frons weakly convex with a smooth median elevation towards vertex; surface finely reticulate, sparsely but distinctly granulate and marked by fine aciculation converging anteriorly, with fine sparse hairs. Eyes oval, feebly emarginated. Antennal scape short; funicle with 3 segments; club overlapping last funicle laterally, surface entirely pubescent.

Pronotum nearly as long as wide or slightly wider; basal margin feebly outcurved medially and margined; lateral sides widest at basal third, then gradually converging anteriorly, anterior margin broadly rounded bearing 10-13 asperities almost of equal size; distinct summit just below the middle; surface dull, anterior half with densely granulate asperities, decreasing in size towards posterior half upto basal margin; vestiture of fine dense hairs, those on posterior half comparatively smaller.

Scutellum triangular and surface roughened.

Elytra slightly wider and 1.7-2.0 times as long as pronotum; basal margin substraight; lateral sides subparallel on basal half; gradually incurved posteriorly, posterior margin broadly rounded; discal striae well marked with comparatively large punctures, each with a microhair; striae as wide as or slightly wider than interstriae, interstitial surface uneven with close erect uniseriate blunt setae. Declivity commencing

much below the middle, face convex; striae and interstriae as on disc, but interstitial setae becoming dense and more thick.

*Male* : Male not distinguishable in the material under study.

*Distribution* : INDIA : West Bengal : (Darjiling dist. : Samsingh and Jalpaiguri dist. : Gazalduba).

*Elsewhere* : Guizhou in China, Myanmar, Indonesia (Sumatra), Vietnam and Sri Lanka.

*Hosts* : *Actinidia polygama*, *Akebia trifoliata*, *Lagenaria vulgaris*, *Luffa aegyptiaca*, *Stauntonia hexaphylla*, *Tinospora cordifolia*.

### Genus *Cryphalus* Erichson

#### 1. *Cryphalus* Erichson

1836. Erichson, *Arach. Naturgesch.*, **2** : 61.  
 1910. Hagedorn, *Coleopt. Cat.*, **26**(4) : 40.  
 1954. Wood, *Univ. Kansas Sci. Bull.*, **36** : 990.  
 1967. Wood, *Bull. Zool. Nomencl.*, **24**(2) : 121-123.  
 1972. Wood, *Gt. Basin Nat.*, **32**(1) : 40-41.  
 1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. **13**(Vol. B) : 542.

#### 2. *Pseudocryphalus* Ferrari

1868. Ferrari, *Berliner Entomologische Zeitschrift*, **12** : 252.  
 1986. Wood, *Gt. Basin. Nat. Memoirs*, pp. 91.

#### 3. *Taenioglyptes* Bedel

1888. Bedel, *Annl. Soc. Ent. Fr.*, **6** : 398.  
 1967. Wood, *Bull. Zool. Nomencl.*, **24**(2) : 122.

#### 4. *Cryptarthrum* Blandford

1896. Blandford, *Trans. Ent. Soc. Lond.*, p. 200.  
 1978. Wood, *Annl. Soc. Ent. Fr. (N.S.)*, **14**(1) : 114 (synonymy).

#### 5. *Allarthrum* Hagedorn

1912. Hagedorn, *Deutsche Entomologische Zeitschrift*, p. 355.  
 1986. Wood, *Gt. Basin Nat. Memoirs*, p. 91.

### 6. *Ericryphalus* Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rep.*, **99** : 38.  
 1978. Wood, *Ann. Soc. Ent. Fr. (N.S.)*, **14**(1) : 114 (synonymy).

### 7. *Piperius* Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rep.*, **99** : 39.  
 1978. Wood, *Ann. Soc. Ent. Fr. (N.S.)*, **14**(1) : 114 (Synonymy).

### 8. *Ernocryphalus* Murayama

1958. Murayama, *Faculty of Agriculture, Bulletin.*, **9** : 934.  
 1963. Schedl, *Koleopterologische rundschaue* **40/41** : 62.

### 9. *Acryphalus* Tsai and Li

1963. Tsai and Li, *Acta Entomologica sinica*, p. 604, 622.  
 1984. Wood, *Gt. Basin Naturalist*, **44**(2) : 224.

### 10. *Jugocryphalus* Tsai and Li

1963. Tsai and Li, *Acta Entomologica Sinica*, p. 602, 622.  
 1984. Wood, *Gt. Basin Naturalist*, **44**(2) : 224.

*Type of Genera* : *Cryphalus* : *Bostrichus asperatus* Gyllenhal; *Pseudocryphalus* : *P. sidneyanus* Ferrari; *Taenioglyptes* : *Bostrichus albetis* Ratzeburg; *Cryptarthrum* : *C. walkeri* Blandford; *Allarthrum* : *A. kolbei* Hagedorn; *Ericryphalus* : *E. henshawi* Hopkins; *Piperius* : *P. pini* Hopkins; *Ernocryphalus* : *E. birosimensis* Murayama; *Acryphalus* : *Cryphalus lipigensis* Tsai and Li; *Jugocryphalus* : *Cryphalus piceus* Eggers.

The genus *Cryphalus* was erected by Erichson (1836), based on three different species. Thompson (1859) designated Gyllendal as its type-species. Wood (1954) critically discussed the status of the genus and subsequently the same author (1978) synonymised a number of genera as mentioned above. The genus is represented by about 200 species being distributed in the Holarctic, Ethiopian, Oriental and Polynesian regions, of which about a dozen of species is known from India.

### Key to the species of *Cryphalus* Erichson

1. Pronotal summit distinctly raised, placed on basal forth and with distinctly crescentic asperities gradually spreading anteriorly ..... 2
- Pronotal summit not so raised, placed below the middle and with smaller asperities, gradually not so spreading anteriorly ..... 3

2. Larger species, body length 1.80-2.20 mm ..... *C. fulmineus* Wood
  - Smaller species, body length 1.60 mm ..... *C. major* Stebbing
3. Larger species, body-length 2.38 mm; pronotal summit highly raised with small transverse asperities ..... *C. strohmeyeri* Stebbing
  - Smaller species, body length 1.35-2.00 mm ..... 4
4. Absence of a transverse carina in male, body-length 1.35-1.40 mm ..... *C. neglectus* Schedl
  - Presence of a transverse carina in male ..... 5
5. Body moderately slender, 2.4 times as long as wide, body-length 1.60-1.80 ..... *C. dipterocarpi* Wood
  - Body somewhat stout, 2.1 times as long as wide; declivital ground hairs more abundant; body-length 1.90-2.00 mm ..... *C. felis* Wood

### 99. *Cryphalus dipterocarpi* Wood

#### 1. *Cryphalus dipterocarpi* Wood

1989. Wood, *Gt. Basin Nat.*, **49**(2) : 179-180, *Holotype*, Male and Female Allotype, and 9 *Paratypes* in F.R.I., Dehra Dun; and 2 *Paratypes* in Wood's collection, U.S.A. *Type-locality* : Lakhimpur, Assam : India.

*Description* : (Based on Wood, 1989) : *Male* : Length 1.6 mm (paratypes 1.6-1.8 mm), 2.4 times as long as wide; colour pale yellowish brown.

Frons broadly convex, sometimes with a weak median granule on epistoma; surface finely punctured and almost smooth and shining below upper level of eyes, almost punctuate above eyes, a subacute, conspicuous, transverse carina on vertex occupying more than median two-thirds. Vestiture fine, hair like, restricted to area below carina, short except moderately long on epistoma. Antennal club rather small, sutures straight to very weakly procurved.

Pronotum 1.04 times as long as wide; sides subparallel and feebly arcuate on basal half, anterior margin moderately rounded and armed by six rather coarse serrations; summit slightly below the middle, asperities rather coarse, moderately abundant; posterior areas smooth, shining, finely, closely punctured. Ground vestiture not evident, erect hair sparse, moderately long on or near margins.

Elytra 1.3 times as long as wide; sides almost straight and parallel on basal two thirds, rather broadly rounded behind; striae evident on basal half of disc, obsolete behind, punctures distinctly impressed at base, fading in size and depth behind; interstriae at base three to four times as wide as striae, surface smooth and shining. Declivity rather steep, convex; sculpture as on posterior disc. Vestiture of abundant ground cover of short, rather slender hairs, becoming stouter toward declivity base,

shorter and as pointed scales on declivity; interstriae with fine, erect, hair like setae, each seta on disc slightly longer than distance between rows or spacing within a row, on declivity some setae almost twice as long.

*Female* : Similar to male except absent of carina from vertex, frons more uniformly convex and more coarsely punctured; erect setae on elytra apparently slightly shorter.

*Distribution* : INDIA : Assam : Lakhimpur, Margherita Factory.

*Host* : *Dipterocarpus pilosus*

*Remarks* : This species was designated as *Hypocryphalus dipterocarpi* Beeson 1941, as nomen nudum and has been cited under that name, although it has never been validated. It is distinguished from other Indian species by the transverse carina on the male vertex, almost hair like ground setae on the basal half of the elytral disc, moderately slender body, distinctive, long elytral vestiture, and other characters. It is somewhat allied to *Cryphalus strohmeieri* Stebbing, although it is not closely related.

#### 100. *Cryphalus felis* Wood

##### 1. *Cryphalus felis* Wood

1989. Wood, *Gt. Basin Nat.*, 49(2) :180, *Holotype*, male and *Allotype*, Female and 3 Paratypes in FRI., Dehradun; and Paratypes in Wood's Collection, USA. *Type-locality* : Massoorie, Uttarakhand (U.P.), India

*Description* : (Based on Wood, 1989); *Male* : Length 2.0 mm (Paratypes 1.9–2.0 mm), 2.1 times as long as wide; colour rather light brown.

Frons very broadly convex, surface finely rugose-reticulate to well above eyes; punctures fine, obscure; vertex with a weak, shining, poorly developed, transverse carina on median third, reticulate above carina. Vestiture inconspicuous, of sparse, fine, short and long hair-like setae.

Pronotum 0.83 times as long as wide; widest on basal fourth, outline obscurely triangular; anterior margin somewhat narrowly rounded and armed by six to eight small asperities; summit on basal fourth, asperities rather numerous, moderately large; posterior and lateral areas somewhat rugose, obscurely reticulate, punctures fine, rather obscure. Vestiture of fine, rather long hair.

Elytra 1.4 times as long as wide; outline almost as in *C. dipterocarpi*; striae weakly indicated as basal third, minute punctures obscurely indicated almost to declivity; interstriae many times wider than striae, surface smooth, shining punctures very small, confused. Declivity moderately steep, convex. Vestiture of fine, abundant, long hair, ground setae more abundant and half as long as erect setae; long setae in obscure rows toward declivity, some of them three or more times as long as distance between rows.

*Female* : Similar to male except carina not evident on vertex, pronotal asperities slightly larger.

*Distribution* : INDIA : Uttarakhand (U.P) : Mussoorie.

*Host* : *Vitis* sp.

*Remarks* : "This species is allied to *C. dipterocarpi* Wood although not closely related. It is distinguished from that species by the larger size, stouter body form, much more abundant ground erect hairs, and by other characters described above. This belongs to *Cryphalus felus* Beeson, nomen nudum, that has been cited in the literature.

### 101. *Cryphalus fulmineus* Wood

#### 1. *Cryphalus fulmineus* Wood

1989. Wood, *Gt. Basin Nat.*, 49(2) : 180-181. *Holotype* Male *Allotype* Female (both mounted in one pin) in F.R.I., Dehra Dun; and *Paratypes* in Wood's Collection, U.S.A. *Type-localities* : Tharali, Garwal, Uttarakhand (U.P.) and Jubal, Simla, Himachal Pradesh, India.

1992. Wood, *Gt. Basin Nat. Memo.*, No. 13(Vol. B) : 880.

*Description* : (Based on Wood, 1989) : *Male* : Length 1.8 mm (Paratype 1.80-2.2 mm), 2.1 times as long as wide; colour light brown. Frons very broadly convex, a slight, almost flat impression in median area just above epistoma; vertex without a transverse carina; surface rather strongly reticulate, some reticulation near epistoma in middle area usually organized into feeble aciculation; punctures moderately coarse, indistinct. Antennal club rather broad, segment 1 very short, suture distinctly procurved.

Pronotum 0.86 times as long as wide, general outline and asperities much as in *C. dipterocarpi*; anterior margin marked by six serrations, median pair usually much longer; posterior areas finely, closely granular, a few fine, obscure punctures in lateral areas. Vestiture hair like, erect, not abundant, longer near lateral and anterior margins.

Elytra 1.4 times as long as wide; sides almost straight and parallel on more than basal two-thirds, rather broadly rounded behind; striae not impressed, punctures very fine, shallow, distinct, not close; interstriae almost smooth and shining with numerous, very fine, confused punctures. Declivity steep, convex. Vestiture consisting of a ground cover of abundant, short scales, each scale slightly longer than wide and apically truncate; rows of erect setae extend almost to base, each moderately slender and spaced within between rows by distances greater (1 : 1.25) than length of a seta.

*Female* : Similar to male except averaging slightly larger, pronotal asperities slightly larger.

*Distribution* : INDIA : Uttarakhand, Garhwal, Tharali; and Jubal (6000 ft), Simla, Himachal Pradesh.

*Host* : *Alnus nitida*.

*Remarks* : The species is allied to *C. dorsalis* (Motschulsky) (= *indicus* Eichhoff), but it differs in more slender body form, absence of a transverse carina on the male vertex, very different epistomal area, host, and by other characters as described by (Wood, 1989). This is Beeson's *C. fulmeneus* as *nomen nudum*.

## 102. *Cryphalus major* Stebbing

### 1. *Cryphalus major* Stebbing

1903. Stebbing, *Office of the Superintendent of Govt. Printing, Calcutta*, 2 : 270. Holotype Female, in F.R.I., Dehra Dun. *Type-locality* Tono Valley, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol.B) : 884.

### 2. *Cryphalus morinda* Stebbing

1903. Stebbing, *Office of the Superintendent of Govt. Printing, Calcutta*, 2 : 265. Syntype 2, Sex ? in F.R.I., Dehra Dun. *Type-locality*; Sakahar, Bashar, Punjab, India.

1989. Wood, *Gt. Basin Nat.*, 49 : 171 (syn.).

*Description* (Based, Stebbing, 1914) : General colour black or brown; surface densely clothed with light yellow hairs. The club of antenna is oval, narrower above and with four articulations. Funiculus is five-jointed. Thorax slightly broader than long. The males and females are, I think, of different colours. Male yellowish brown in colour. Thorax with prominent spiky spines on its upper two-thirds. The lower third and elytra pitted. Insect covered with whitish hairs.

Female black, shiny, upper two thirds of prothorax with a dense pitted mass of yellow hairs and with a few spiky spines. Lower third of prothorax and the elytra pitted and clothed with dense, short yellow hairs and a few light-coloured longer ones. Long 1/10" In the specimens obtained the female appears to be somewhat larger than the male.

*Distribution* : INDIA : Himachal Pradesh, Punjab, Uttarakhand.

*Hosts* : *Picea morinda*, *Pinus excelsa*, *P. roxburghii*.

## 103. *Cryphalus neglectus* Schedl

### 1. *Cryphalus neglectus* Schedl

1962. Schedl, *Mittlg. Munch. Ent. Ges.*, 52 : 106. Holotype, sex ? in Schedl's Collection in NHMW, Wien. *Type-locality* : Sundarbans, West Bengal, India.

1979. Schedl, *Entomologie*, 3(2) : 164.

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. 13(Vol. B) : 885.

*Description* : *Female*; Body short and stout; colour straw yellow to brownish yellow, head slightly darker. Body length 1.35-1.40 mm, twice or more as long as wide.

Frons flatly convex, with a short median line above epistoma, terminating posteriorly into a shallow slightly elevated portion; surface finely reticulate, granulate laterally. Eyes oval, feebly emarginate. Antennal scape short, club subcircular, with 3 substraight sutures; indicated by row of hairs.

Pronotum 1.23-1.33 times wider than long; basal margin substraight and carinate, carina extending laterally upto basal third, then strongly narrowing anteriorly; anterior margin narrowly rounded accommodating 8-9 asperities, placed nearly at equal distance; indistinct summit at posterior third; surface finely reticulate; anterior declivous area with asperities in transverse rows, intermixed with granules, denser towards summit, basal third and postero-lateral corners granulate; vestiture of dense pubescence and also with comparatively sparse long erect hair like setae.

Scutellum triangular, wider than long.

Elytra 1.7-1.8 times as long as pronotum; 1.3 times as long as its width; basal margin substraight, lateral sides subparallel upto more than half, then weakly narrowing posteriorly with broadly rounded apex; disc somewhat convex, striae marked by minute punctures; interstriae much wider than striae, somewhat granulate, covered with dense pubescence of hairs and single row of hair like setae. Declivity rather steep, face convex, striae weakly marked; interstriae with dense coat of minute hairs as well as with comparatively longer hair like setae.

Male : Not available in the material studied.

*Distribution* : INDIA : West Bengal : Sundarbans.

*Elsewhere* : None.

*Remarks* : While studying scolytids of India and the neighbouring countries, Beeson (1941) designated a species, *Ericryphalus neglectus*, which remained undescribed until Schedl (1962) described it as a new species belonging to the genus *Cryphalus*.

The species is close to *Cryphalus discretus* Eichhoff, but can easily be differentiated by its smaller body form, and long and fine interstitial hairs.

#### 104. *Cryphalus strohmeyeri* Stebbing (Fig. 37)

##### 1. *Cryphalus strohmeyeri* Stebbing

1914. Stebbing, *Indian Forest Insects of economic importance, Coleopt.*, Eyre and Spottis woode, London, p. 538. *Syntype* 2 sex ? in F.R.I., Dehra Dun. *Type-locality* : Jaunsar, NW Himalaya, Chakrata, Uttarakhand, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. B) : 895.

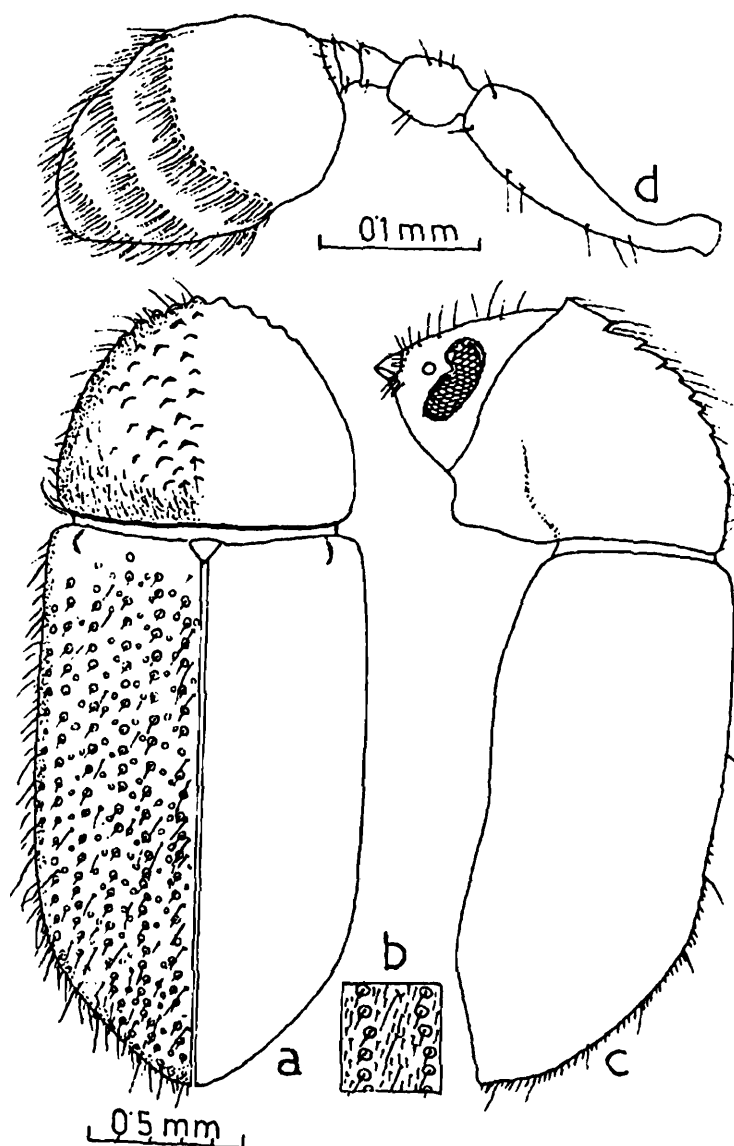
##### 1. *Cryphalus indicus* Stebbing

1902. Stebbing, *Office of the Superintendent of Govt. Printing, Calcutta*, 1 : 403. *Syntype* 2, sex

? in F.R.I., Dehra Dun, preoccupied by Eichhoff 1878. *Type-locality* : Jaunsar, NW Himalaya, Chakrata, Uttarakhand, India.

*Description : Female* : Body elongate; head and pronotum reddish brown to blackish brown; elytra, legs and antennae rather paler. Body length 2.38 mm, 2.3 times as long as its width.

Frons plano-convex; surface finely reticulate with a short median carina just above epistoma, on either side feebly impressed with fine small granules extending upto vertex and with long fine hairs; epistomal margin with fringe of hairs at middle. Eyes elongately oval, one and half times as long as broad, less than one-third of its width emarginated. Antennal scape long and slender; funicle with 4 segments; club flattened with weakly procurved three sutures marked by hairs on either side.



**Fig. 37. a-d.** *Cryphalus strohmeyeri* Stebbing, Female : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral declivity; c, head, pronotum and elytra in lateral view; d, antenna on posterior face.

Pronotum 1.3 times as wide as long; basal margin substraight, widest slightly above base; lateral sides narrowing anteriorly, carinate on basal half; anterior margin narrowly rounded bearing a few inconspicuous and contiguous asperities; summit below the middle; anterior slope with 45-50 distinct asperities; surface below summit and posterolaterally reticulate with fine granules; entire surface with recumbent short and fine hairs, and anteriorly and laterally with long hairs.

Scutellum triangular.

Elytra 2.2 to 2.3 times as long as pronotum and 1.6 times as long as its width; surface smooth and shiny; basal margin substraight; lateral sides subparallel nearly upto basal two-thirds, thence narrowing posteriorly with somewhat narrowly rounded apex; disc flat with irregular uniseriate row of distinct punctures, each with a microhair; interstriae with fine small punctures and admixture of microhairs, and with uniseriate row of semirecumbent fine long hairs. Declivity steep, face convex and uneven; striae irregular with punctures of irregular shape, each puncture with a microhair; interstriae relatively of variable width with irregular small punctures; hairs as on disc.

*Male* : Male not recognizable in the material studied.

*Distribution* : INDIA : Kashmir, Uttarakhand, West Bengal (Darjiling Dist. : Sandhakphu).

*Elsewhere* : Sichuan, Yunnan in China, Xizang (Tibet).

*Hosts* : *Abies donsa*, *A. pindrow*, *A. webbiana* and *Pinus excelsa*.

*Remarks* : The species *Cryphalus strohemeyeri* was originally described by Stebbing in the name of *Cryphalus indicus* which was homonymous with the species of Eichhoff (1878). Since the name was preoccupied, for which Stebbing (1914) proposed a new name for it as *Cryphalus strohmeyeri* Stebbing. This is a fairly large species with blackish colour. The pronotal summit is very distinct and placed more towards base with contiguous distinct asperities anteriorly. *Abies donsa* is a new host recorded here for the first time in addition to others as mentioned above.

### Genus *Hypocryphalus* Hopkins

#### 105. *Hypocryphalus mangiferae* (Stebbing)

##### 1. *Cryphalus mangiferae* Stebbing

1914. Stebbing, *Indian For. Ins. Econ. Imp., coleopt.*, p. 542, *Lectotype* Female in BMNH, London, designated by Wood (1982 : 871, name conserved by plenary powers). *Type-locality* : Eastern Dun, Uttarakhand, India.

1942. Schedl, *Kolonial. Mitteil.*, 5(2) : 176.

##### 2. *Cryphalus inops* Eichhoff

1872. Eichhoff, *Berliner Ent. Zeitsch.*, 15 : 131. *Holotype* : Female in IRSNB, Brussels, name suppressed by plenary powers.

1982. Wood, *Gt. Basin Nat. Memo.*, **6** : 871 (syn.)

### 3. *Hypothenemus griseus* Blackburn

1885. Blackburn, *Trans. Roy. Dublin Soc.*, (2)**3** : 131. *Holotype* Female in BMNH, London.  
*Type-locality* : Oahu, plains Honolulu, Hawaiian Island.

1982. Wood, *Gt. Basin Nat. Memo.*, **6** : 871(syn.)

### 4. *Cryphalus mangiferae* Eggers

1928. Eggers, *Archiv. Inst. Biol. Def. Agric. Animal*, **I** : 85. *Lectotype* Male in USNM, Washington, designated by Anderson and Anderson, 1971.

1931. Eggers, *Ent. Blatt.*, **27** : 185? (syn.).

### 5. *Cryphalus subcylindricus* Schedl

1942. Schedl, *Tijd. Ent.*, **85** : 16. *Lectotype* female in Schedl's collection in NHMW, Wien, designated by Schedl 1979 : 240.

1958. Schedl, *Tijd. Ent.*, **101**(3-4) : 153 (syn.)

### 6. *Cryphalus minicus* Schedl

1942. Schedl, *Tijd. Ent.*, **85** : 17. *Lectotype*, Sex? In Schedl's collection in NHMW, Wien.

1958. Kalshoven, *Ent. Berich.*, **18**(8) : 164 (syn.).

### 7. *Eidophelus opacus* Schedl

1942. Schedl, *Tijd. Ent.*, **85** : 20. *Lectotype*, Sex? In Schedl's collection in NHMW, Wien designated by Schedl 1979, 179.

1958. Kalshoven, *Ent. Berich.*, **18**(8) : 164 (syn.)

### 8. *Hypocryphalus mangiferae* (Stebbing)

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. **13**(Vol. B) : 869-870.

*Description* : Body colour blackish brown, elytra somewhat dull, length 1.5 mm, 2.1 times as long as broad; body covered with close and fine punctures.

Frons flatly convex with inconspicuous punctures.

Pronotum slightly broader than long (35 : 30), comparatively narrowed at base, narrower than elytra, basal angles obtuse, lateral sides narrowed anteriorly with broadly rounded anterior margin, accommodating four large and almost closely placed similar asperities; summit beyond the middle, strongly declivous anteriorly, with broad and large asperities; basal portion granulate-punctate, hairs inconspicuous.

Scutellum small and triangular.

Elytra slightly broader, about 1.7 times as long as pronotum; sides parallel up to middle, posteriorly very broadly rounded. Declivity commencing behind the middle, face obliquely convex; entire elytral surface with minute thick punctures and with dark small hairs; striae marked with somewhat deep punctures on the declivity; discal interstriae slightly arched and shining, declivital interstriae comparatively narrower and somewhat strongly arched.

*Distribution* : INDIA : Nicobar Island (Pulo Milu).

*Elsewhere* : Myanmar, Sri Lanka, Malaysia, Thailand, Indonesia (Java), Hawaii, Micronesia, Africa, Australia, Madagascar, North America & South America.

*Hosts* : *Mangifera indica* and *M. odorata*.

*Remarks* : Many species have been synonymised under this species, thereby *H. mangiferae* has been recorded from different countries of southern Hemisphere. However, the species is yet unknown from the mainland of India.

### Genus *Ernocladius* Wood

#### 1. *Ernocladius* Wood

1980. Wood, *Gt. Basin Nat.*, 40 : 93.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. B) : 857.

*Type of genus* : *Ernocladius* : *Cryphalus corpulentus* Sampson.

Since its description by Wood (1980) the genus remains a valid one with its original designation of type genus as referred above. It is very small genus containing two species only-one from India and the another (*E. guiboutiae*) from Africa.

#### 106. *Ernocladius corpulentus* (Sampson)

##### 1. *Cryphalus corpulentus* Sampson

1919. Sampson, *Ann. Mag. Nat. Hist.*, (9)4 : 113. *Holotype*, Male in BMNH, London. *Type-locality* : Nilgiri Hills, Tamil Nadu, India.

##### 2. *Margadillius corpulentus sundri* Schedl

1969. Schedl, *Oriental Ins.*, 3(1) : 48. *Holotype*, Sex? In FRI, Dehra Dun (not present). *Type-locality* : Sundarbans, West Bengal, India.

1989. Wood, *Gt. Basin Nat.*, 49 : 172(syn.)

##### 3. *Ernocladius corpulentus* (Sampson)

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. B) : 857.

*Description and Remarks* : (Based on Schedl, 1969) : Two specimens in Dehra Dun (F.R.I.) collection, originating from Bengal Sunderbans, 18.viii.1915, out of 'Sundri'

Log (*Heritiera fomes*) C.F.C. Beeson” have been determined by Win Sampson as *Cyphalus corpulentus* var. They show the same general appearance as *Margadillius (Cryphalus) corpulentus* Samps., but are very much smaller, being only 0.85 mm long, the anterior margin of the pronotum is more evenly rounded and not extended medially as this is the case in the male of *M. corpulentus*; the summit is less high, anterior asperities very much smaller, and the elytral declivity somewhat more obliquely convex. As such large differences in size are rather unusual in the Cryphalini, it might be reasonable to separate these two specimens from the typical *Margadillius corpulentus* Samps as a new subspecies *sundri*.

*Holotype* and *Paratypes* : INDIA : Sundarbans (Bengal), 18.viii.1915, coll. C.F.C. Beeson. *Holotype* in the collection of F.R.I., Dehra Dun; one *Paratype* in collection of Schedl”

*Distribution* : INDIA : Tamil Nadu (Nilgiri Hills), West Bengal (Sundarbans).

*Elsewhere* : Malaysia and Indonesia (Java).

*Hosts* : *Hibiscus microphyllus*, *Kydia calycina*, *Thespesia populnea*, rare in *Ficus religiosa*.

### Genus *Hypothenemus* Westwood

#### 1. *Hypothenemus* Westwood

1834. Westwood, *Trans. Ent. Soc. Lond.*, 1(1) : 34.

1915. Hopkins, *U.S. Dept. Agric. Rep.*, 99 : 12.

1954. Wood, *Univ. Kansas Sci. Bull.*, 36 : 1050.

1992. Wood and Bright, *Gt. Basin nat. Mem.*, No. 13(Vol. B) : 904.

#### 2. *Stephanoderes* Eichhoff

1871. Eichhoff, *Berl. Ent. Z.*, 15 : 132.

#### 3. *Cryphalus* (Hagedorn)

1910. Hagedorn, *Coleopt. Cat.*, 26(4) : 40.

#### 4. *Homoeocryphalus* Lindemann

1876. Lindemann, *Bull. Soc. Imp. Nat. Moscou*, 51 : 168.

#### 5. *Adiaeretus* Hagedorn

1909. Hagedorn, *Dt. Ent. Z.*, p. 774.

#### 6. *Stylotentus* Schedl

1939. Schedl, *Rev. Zool. Bot. Africaines*, 32(43) : 380.

7. *Triarmocerus* Eichhoff

1878. Eichhoff, *Soc. Ent. Lieg. Mem.*, (2)8 : 42 and 119.

8. *Chondronoderes* Schedl

1940. Schedl, *Mit. Mus. Ent. Gesellsch.*, 30(2) : 589.

9. *Archeophalus* Schedl

1941. Schedl, *Rev. Zool. Bot. Africaines*, 34(3-4) : 392.

10. *Pachynoderes* Schedl

1941. Schedl, *Rev. Zool. Bot. Africaines*, 34(3-4) : 393.

11. *Lepiceroides* Schedl

1957. Schedl, *Sci. zool.*, 56 : 59.

12. *Ernophloeus* Nunberg

1958. Nunberg, *Acta. Zool. Cracoviensia*, 2(21) : 484.

13. *Epsips* Beeson

1941. Beeson, *Ecology and control of Forest Insects of India*, Dehra Dun, p. 287 (1961).

14. *Macrocryphalus* Nobuchi

1981. Nobuchi, *Forestry and Forest Products Res. Inst. Bull.*, 314 : 14.

*Types of the genus* : *Hypothenemus* : *H. eruditus* Westwood; *Stephanoderes* : *S. chapuis* Eichhoff; *Homoeocryphalus* : *Stephanoderes ehlersii* Eichhoff; *Adiaeretus* : *A. spinosus* Hagedorn; *Stylotentus* : *Hypothenemus concolor* Hagedorn; *Triarmocerus* : *T. cryphaloides* Eichhoff; *Chondronoderes* : *Stephanoderes magnus* Eggers; *Archeophalus* : *A. natalensis* Schedl; *Pachynoderes* : *P. deprecator* Schedl; *Lepiceroides* : *L. aterrimus* Schedl; *Ernophloeus* : *E. costalimai* Nunburg; *Epsips* : *E. sylvorum* (nom. nud.); and *Macrocryphalus* : *M. oblongus* Nobuchi.

The monobasis genus *Hypothenemus* was erected by Westwood (1834) for his species *H. eruditus* and proposed a three-segmented antennal funicle as the distinguishing feature of the genus. Eichhoff (1879) did not agree with its generic status and placed it in the synonymy of his genus *Stephanoderes*. Subsequent workers, such as Reitter (1894) and Hagedorn (1910) recognized both *Hypothenemus* and *Stephanoderes* as distinct genera, but considered both as subgenera of *Cryphalus*. Later on, Hopkins (1915) gave both *Hypothenemus* and *Stephanoderes* full generic status. Another genus

*Adiaeretus* Hagedorn was also placed in synonymy of this genus by Schedl (1939). However, this is now a widely accepted genus occurring in tropical and subtropical regions of the world. Out of eight species so far known from India, only *H. fuscicollis* Eichhoff from Punjab, has not been incorporated.

### Key to the species of *Hypothenemus* Westwood

1. Frons with a weak transverse carina at the upper level of eyes, weakly concave or flattened below the carina; small species, not more than 1.60 mm ..... 2
- Frons uniformly convex without any transverse carina; large species, more than 1.90 mm in length..... 3
2. Anterior margin of pronotum with 4 distinct asperities; asperities on anterior slope of pronotum large in size and not more than 25; transverse carina on frons prominent; body 2.2 times as long as wide; body length ....*H. javanus* (Eggers)
- Anterior margin of pronotum with 6 asperities; asperities on anterior slope of pronotum small in size and not more than 40; transverse carina on frons not so prominent; body 2.5 times as long as wide ..... *H. areccae* (Hornung)
3. Smaller species, body length 1.42-1.46 mm ..... *H. crudiae* (Panzer)
- Larger species ..... 4
4. Anterior margin of pronotum with 4 asperities, only median pair comparatively large; declivital interstriae not elevated; posterior portion of pronotum and elytral interstriae with scale-like setae; body length 1.90 mm .....  
..... *H. birmanus* (Eichhoff)
- Anterior margin of pronotum with 4 asperities, all nearly of equal size; declivital interstriae 1,3,5,7 and 9 strongly elevated; pronotum and elytral interstriae devoid of any scale-like setae; body length 2.10 mm .....*H. glabripennis* (Hopkins)

#### 107. *Hypothenemus areccae* (Hornung) (Fig. 38)

##### 1. *Bostrichus areccae* Hornung

1842. Hornung, *Stettin ent. Ztg.*, 3 : 117, *Lectotype* (Female) in MNB, Berlin, designated by Wood (1974); East Indies intercepted in Germany.

##### 2. *Bostrichus boieldieue* Perroud

1864. Perroud, *Ann. Soc. Linn. Lyon.*, p. 188

##### 3. *Stephanoderes funigicola* Eggers

1908. Eggers, *Ent. Blatt.*, 4 : 216. *Type-locality* : Java, Indonesia.

4. *Hypothenemus basjoo* Niisima

1910. Niisima, *Sapporo Nat. Hist. Soc. Trans.*, 3 : 9.

5. *Cryphalus areccae* (Hornung)

1910. Hagedorn, *Coleopt. Cat.*, 26(4) : 40.

6. *Stephanoderes areccae* (Hornung)

1922. Eggers, *Ent. Ber.*, 6 : 86.

7. *Stephanoderes hispidus* Eggers

1925. Eggers, *Ent. Odd. Nar. Mus. Praze*, 3 : 156.

8. *Hypothenemus capitalis* Beeson

1935. Beeson, *B. P. Bishop Mus. Bull.*, 142 : 102. *Type-locality* : Uapou and Wahuka.

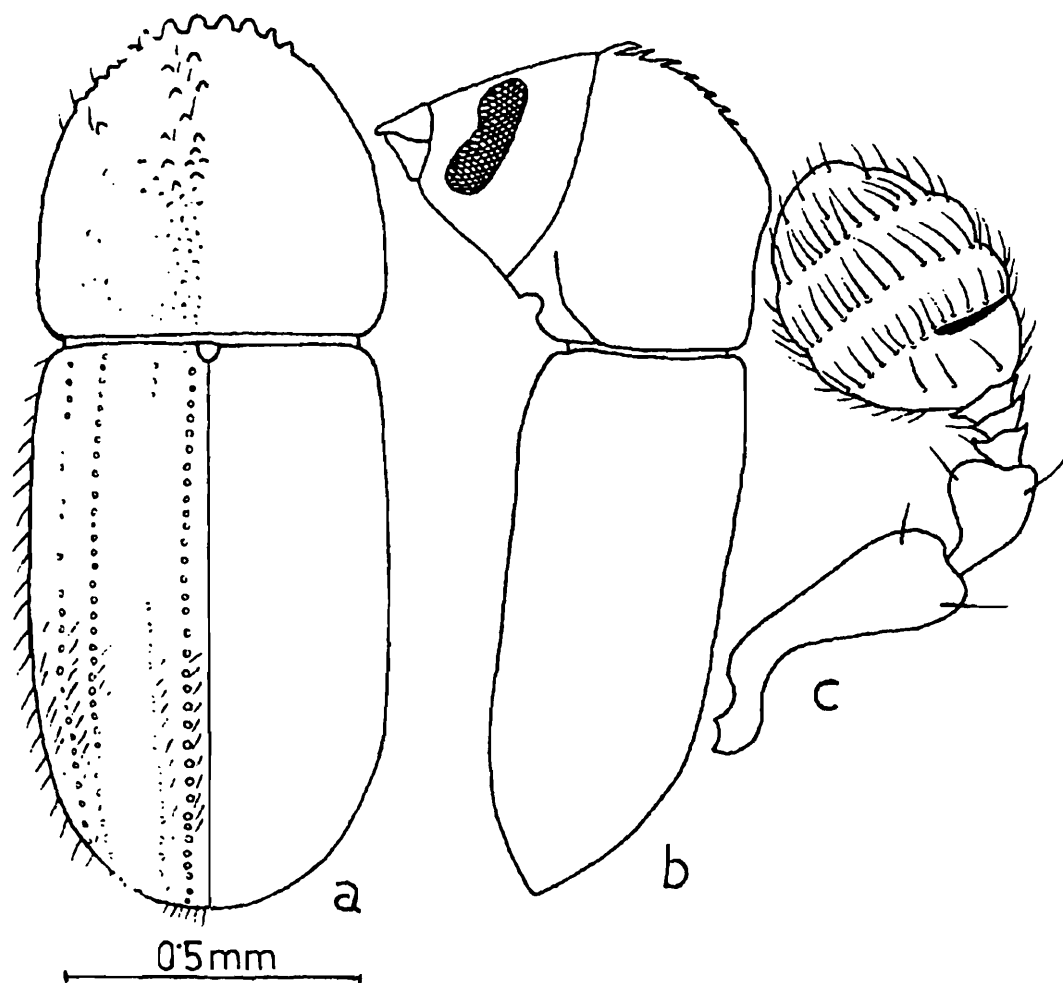


Fig. 38. a-c. *Hypothenemus areccae* (Hornung), Female : a, Pronotum and elytra in dorsal view; b, head, pronotum and elytra in lateral view; c, antenna.

**9. *Hypothenemus eupolyphagus* Beeson**

1940. Beeson, *B.P. Bishop Mus. Bull.*, **15**(18) : 193, *Type-locality* : Dehra Dun, India.

**10. *Hypothenemus oahuensis* Schedl**

1941. Schedl, *Hawaiian Ent. Soc. Proc.*, **11**(1) : 110, *Type-locality* : Hawaii.

**11. *Hypothenemus areccae* (Hornung)**

1915. Hopkins, *U.S. Dept. agric. Rep.*, **99** : 14.

1941. Beeson, *Ecol. And Cont. Fores. Ins. India*, 288 p.

1974. Wood, *Gt. Basin Nat.*, **34**(4) : 282 (Lectotype designation).

1986. Maiti and Saha, *Rec. zool. Surv. India, Misc. Publ., Occ. Paper*, No. **86** : 159.

1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. B) : 906.

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, **3**(Part 6B) : 804.

*Description* : *Female* : Body small and cylindrical fairly tapering towards apex; head and pronotum dark brown; elytra deep brown. Body length 1.50-1.55 mm, 2.50 times as long as broad.

Head globose, strongly narrowing anteriorly; frons distinctly depressed, somewhat smooth and densely hairy upto upper level of eyes marked by a transverse elevated concave margin; antero-lateral sides with a few weak aciculations; area above the elevated margin coarse with dense punctures, but devoid of distinct hair. Eyes large and suboval with weak emargination.

Antennal scape elongate; funicle with 4 segments; club somewhat flattened; on anterior face, basal corneous portion running upto basal third with weakly procurved anterior margin with an incomplete septum, 2 more sutures above this margin; posterior face with 1 suture.

Pronotum as long as broad; basal margin substraight with a feeble ridge-like margin; sides feebly outcurved and rather broadly rounded anterior margin, armed with six distinct long asperities, lateral ones comparatively smaller; distinct summit almost at the middle; anterior declivous portion with numerous (40-42) distinct asperities and erect hairs; posterior half reticulate, rather finely punctuate laterally, becoming granulate behind the summit; vestiture hair like, intermixed on posterior area with slightly longer scale-like setae.

Scutellum small and somewhat rounded; rather indistinctly visible.

Elytra 1.60 times as long as wide and 1.60 times as long as pronotum; basal margin substraight; lateral sides straight and subparallel upto basal two-thirds, thence strongly narrowing posteriorly with a broadly rounded apex; discal striae indistinctly impressed, punctures distinct, each with a microhair. Declivity commencing on apical

third with gradual sloping and convex face; striae punctures comparative smaller; interstriae with scale-like setae as well as with long erect hairs.

*Distribution* : INDIA : Andaman Islands (North and South andamans), West Bengal (24-Paraganas Dist., Harinbari, Calcutta and Jalpaiguri).

*Elsewhere* : Throughout Tropical and subtropical territories of the world (details, Wood and Bright, 1992).

*Hosts* : Numerous species of herbs, shrubs and trees.

*Remarks* : The species of *Hypothenemus arecae* (Hornung) can easily be separated from most of the representatives of the genus by its comparatively small and slender body form and by the presence of a short transverse carina at the upper level of eyes with weakly impressed surface below the carina. The species is widely distributed in all the tropical and subtropical parts of the world. A number of species have been synonymised under it. *Hypothenemus eupolyphaga*, a Beeson's species based on the material from the Orient including in the Andamans, has been synonymised under it by Wood (1960). In the Andamans, it occurs in different hosts from non-woody to woody plants as evidenced through Beeson's record in 1940. It has been recorded from cucurbitaceous climber, *Tamarindus indica* and from some unknown wood. The species is reported from the bark of a small branch of *Balanocarpus heimii* and an unknown tree in Malaya (Borwne, 1961); and from number of *Hosts* in Java (Kalshoven, 1958). However, it is also known to breed in seeds, dry fruits, twigs and in a wide variety of other material in different countries (Wood, 1977).

Recently, it has been collected from *Excaecaria agallocha* from the southern Bengal in addition to its record from north Bengal (Maiti and Saha 1986; Saha and Maiti (1996)

### 108. *Hypotenemus birmanus* (Eichhoff)

(Fig. 39)

#### 1. *Triarmocerus birmanus* Eichhoff

1878. (1879) Eichhoff, *Mem. Soc. Roy. Sci. Liege*, 8(2) : 486. *Holotype* (Female) in Dohrn Collection at Stettin Mus., now in Schedl Collection in NHMW, Wien. *Type-locality* : Myanmar.

#### 2. *Hypothenemus birmanus* (Eichhoff)

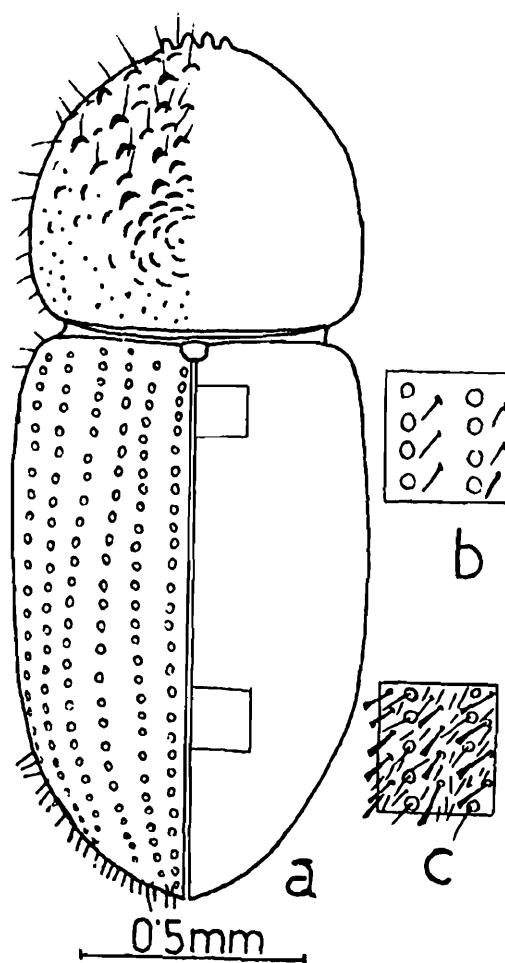
1970. Browne, *J. nat. Hist.*, 4 : 556.

1972. Wood, *Gt. Basin nat.*, 32 : 43.

1977. Beaver and Browne, *Oriental Ins.*, 12(4) : 589.

1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No. 86* : 162.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. B) : 909.



**Fig. 39. a-c.** *Hypothenemus birmanus* (Eichhoff), Female : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc; c, enlarged portion of elytral declivity.

*Description : Female* : Body long and cylindrical; head, pronotum and elytra blackish brown; antennae and legs yellowish brown. Body length 1.70-2.00 mm, 2.30 times as long as wide.

Head globose; frons moderately convex, feebly impressed above epistoma and median longitudinal strip smooth and shiny, laterally finely aciculate; punctures small and sparse becoming coarse towards epistoma; surface with fine small hairs; epistomal margin slightly elevated with a few erect hairs. Eyes oval and feebly emarginated. Antennal scape long and slender, funicle with 4 segments, club flattened, suture 1 partly separate; other two sutures above it rather procurved.

Pronotum 1.17 times wider than long; basal margin substraight; lateral sides weakly outcurved, widest at basal one-fourth; anterior margin broadly rounded accommodating four asperities; median two comparatively large; in profile, dorsal margin with distinct summit at middle; anterior slope with large distinct 18-23 asperities, a few transverse ones above summit; posterior half rugosely granulate and punctuate; entire pronotal surface with small recumbent hairs and few long erect hairs along with sparse scale-like setae on posterior half.

Scutellum fairly large, triangular and much wider than long.

Elytra 1.90 times as long as pronotum and 1.30 times as long as its width; basal margin substraight, weakly margined; lateral sides subparallel up to basal two-thirds, gradually narrowing posteriorly with broadly rounded apex; disc flat, striae lines feebly impressed, with shallow minute punctures; each interstria nearly two and half times as wide as striae with irregular 2-3 rows of minute punctures with inconspicuous microhairs, and uniseriate sparse setae. Declivital slope gradual, commencing behind middle, face convex; striae punctures rather distinct, entire declivital surface with abundant microhairs as in striae punctures and single row of irregular scales denser than on disc.

*Male* : No male is available in the material under study.

*Distribution* : INDIA : Andaman Islands (Middle Andaman; Long Islands), Madhya Pradesh and Uttarakhand.

*Elsewhere* : South east Asia, Australia, Micronesia, Hawaii, Africa and Central and North America.

*Remarks* : *Hypothenemus birmanus*, a widely distributed species around the tropical world, was known by a number of names in different territories. In the major part of the Orient, including India, the species was known by the name of *Stephanoderes alter* Eggers, until 1960, when it was placed under the synonymy of *H. birmanus* by Wood. However, the species is recorded for the first time from an unknown wood in the Middle Andaman. Biological information is very meager on the Indian population except that of Beeson (1941) referring to some host-plants only. However, in Malaysia, the species known to attack pods of different species of *Leguminosae* including a number of other host-plants (Browne, 1961).

### 109. *Hypothenemus crudiae* (Panzer)

(Fig. 40)

#### 1. *Bostrichus crudiae* Panzer

1791. Panzer, *Naturf.*, **25** : 35. Syntype : sex ? *Type-locality* : India.

#### 2. *Cyphalus mucronifer* Wollaston

1867. Wollaston, ? syntypes, sex?, in BMNH, London. *Type-locality* : S. Antao, S. Vicente, S. lago, et Fogo, Cape Verde Islands.

1989. Wood, *Gt. Basin Nat.*, **49** : 174 (syn.)

#### 3. *Stephanoderes uniseriatus* Eggers

1924. Eggers, *Ent. Blatt.*, **20** : 103. *Lectotype*, Female in U.S.N.M., Washington, designed by Anderson and Anderson (1971). *Type-locality* : Congostaat (Luebo)

1972. Wood, *Gt. Basin Nat.*, **32**(1) : 44 (syn.).

[Schedl (1963) named a species *Stepharoderes notalus* as nom. nud., which had been identified as *S. uniseriatus* Eggers.

#### 4. *Hypothenemus uniseriatus* (Eggers)

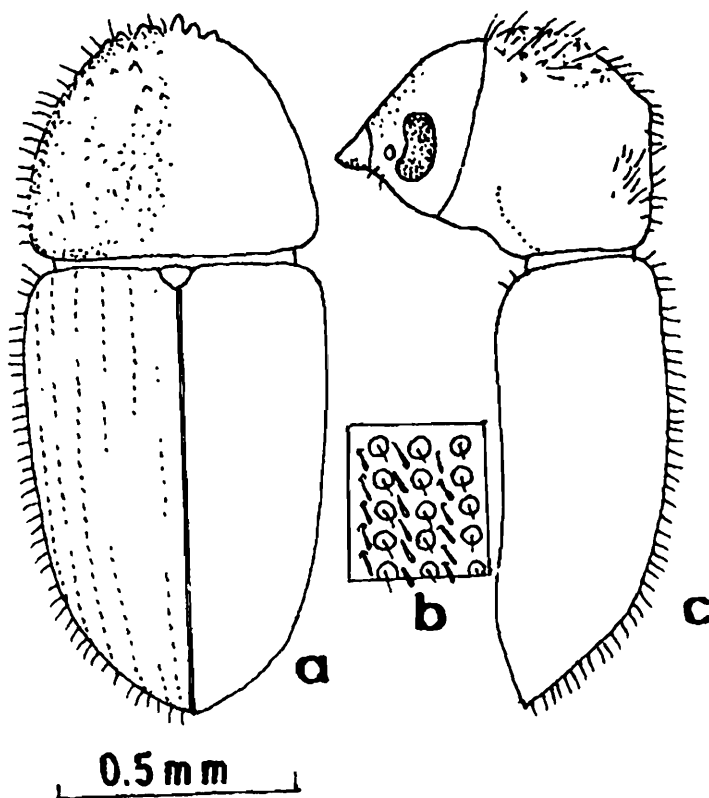
1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. **13**(Vol. B), p. 914

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, **3**(Part 6B) : 793, Fig. a-c.

*Description : Female* : Body small and cylindrical; colour yellowish brown to reddish brown. Body length 1.42-1.46 mm, 2.5 times as long as wide.

Head globose; frons moderately convex, median line smooth and shiny longitudinally depressed posteriorly; surface coarsely reticulate with shallow punctures and fine hairs laterally. Eyes oval and vey shallowly emarginate. Antennae as in *H. eruditus*.

Pronotum 1.1 times as wide as long, basal margin substraight, with a feeble ridge like margin; sides feebly outcurved; anterior margin broadly rounded, accommodating 6-8 asperities, nearly of equal size, separated from each other by a distance at least as the width of each asperities at basely, summit nearly at the middle; anterior slop with 45 to 50 distinct asperities with short, erect and blunt hairs; posterior half and laterally finely reticulate with rather coarsely granulately punctate behind summit and with blunt setae as well as a few micohairs.



**Fig. 40. a-c.** *Hypothenemus crudiae* (Panzer), a, Pronotum and elytra in dorsal view; b, enlarged prtion of elytral disc; c, head, pronotum and elytra in lateral view.

Scutellum tongue shaped.

Elytra 1.9-2.0 times as long as pronotum and 1.6 times as long as wide; basal margin substraight; lateral sides subparallel to basal two-thirds, then gradually narrowing posteriorly to somewhat narrowly rounded apex; discal striae impressed marked by large distinct punctures coarsely reticulate inside and each with a microhair; interstriae nearly as wide as or sometimes narrower than striae with minute punctures, granulate towards declivity and with long blunt setae placed wider apically. Declivital slope uniformly convex; strial puncture comparatively large, each with a microhair; interstriae with minute uniseriate granules and scales.

*Male* : Males are not distinguishable in the material studied.

*Distribution* : INDIA : West Bengal (Darjiling Dist. : Tista Valley; Jalpaiguri Dist. : Gazalduba).

*Elsewhere* : Malaysia, South Vietnam and Africa, South, Central and North Americas.

*Hosts* : The species has been recorded from numerous hosts around the world (Wood and Bright, 1992).

*Remarks* : The species *Hypothenemus crudiae* is allied to *Hypothenemus eruditus*, but can easily be distinguished by its striae marked by large punctures and declivital interstriae with only short stout setae, but devoid of any microhair. It is recorded from some unknown creepers, although it is known from south India also (Saha and Maiti, 1996).

## 110. *Hypothenemus eruditus* Westwood

(Fig. 41 )

### 1. *Hypothenemus eruditus* Westwood

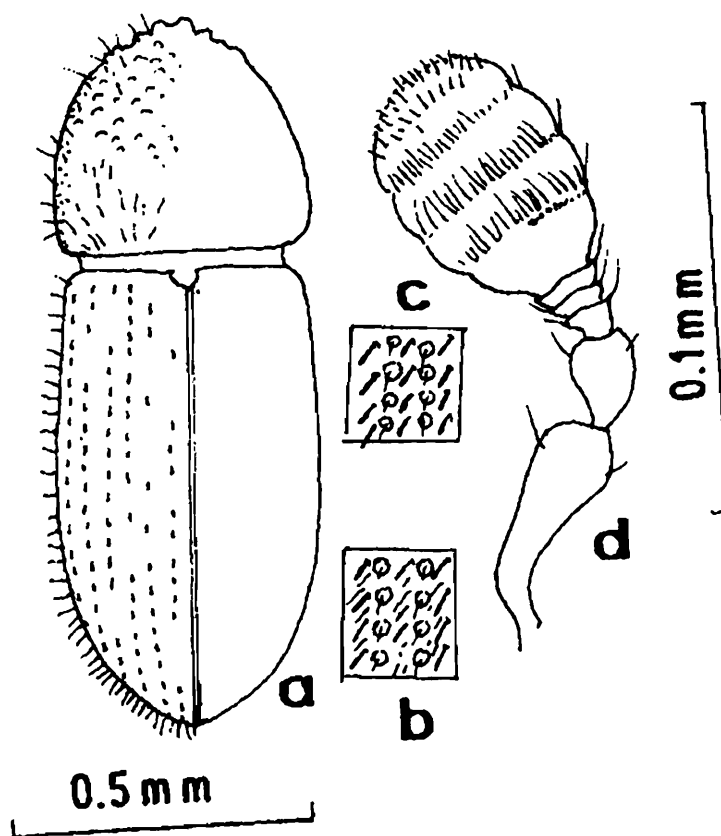
1836. Westwood, *Trans. Ent. Soc. Lond.*, 1 : 34. Syntype Female : England ?; some in BNMH, London. *Type-locality* : North America.

1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. 13(Vol. A) : 919-925 (detailed synonymies).

1996. Saha and Maiti, *Fauna of West Bengal, State Fauna Series*, 3(Part 6B) : 804.

*Description* : *Female* : Body small and cylindrical; colour light to dark brown. Body length 1.10-1.20 mm, 2.6 times as long as wide.

Head globose; frons convex above, a transverse depressed area above epistomal margin, surface finely reticulate except a smooth median portion at the level of eyes; stout blunt hairs of medium length, becoming dense at apistomal margin. Eyes oval and entire to feebly emarginate. Antennal scape long and slender, funicle with 4 segments; club dorso-ventrally flattened with three sutural lines marked by hairs and suture 1 partly seplate and constricted laterally.



**Fig. 41. a-d.** *Hypothenemus eruditus* Westwood, Female : a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc; c, enlarged portion of elytral declivity; d, antenna.

Pronotum 1.1 times as wide as long, basal margin substraight with a feeble ridge-like margin, sides feebly out curved, anterior margin broadly rounded accommodating 4-5 large asperities of either equal size or smaller laterally, separated from each other by a distance at least as great as the basal width of individual asperities, sometimes middle pair contiguous; summit just above the middle; anterior slope with 30-35 distinct asperities, more or less in concentric rows and with erect short blunt setae; posterior half and lateral sides reticulate and granulate punctate, and with erect short blunt setae, intermixed with microhairs.

Scutellum small and subround.

Elytra 2.1-2.2 times as long as pronotum and 1.7 times as long as its width; basal margin substraight; lateral sides subparallel upto two-thirds, thence gradually narrowing posteriorly with broadly rounded posterior margin; discal striae feebly impressed with distinct punctures and each with a microhair; interstriae slightly wider than striae, surface reticulate with uniseriate row of minute punctures and row of short blunt setae (as on posterior portion of pronotum) upto apex. Declivital slope continuous and commencing on posterior third, face convex; strial puncture as on disc; interstriae with uniseriate granules and short blunt setae as well as microhairs.

*Male* : Male not distinguishable in the material studied.

*Distribution* : INDIA : Andaman Islands, Assam, Punjab, Karnataka, Kerala, Orissa, Tamil Nadu and Uttar Pradesh.

*Elsewhere* : Tropical and Subtropical areas of the world.

111. *Hypothenemus glabripennis* (Hopkins)  
(Fig. 42)

1. *Stephanoderes glabripennis* Hopkins

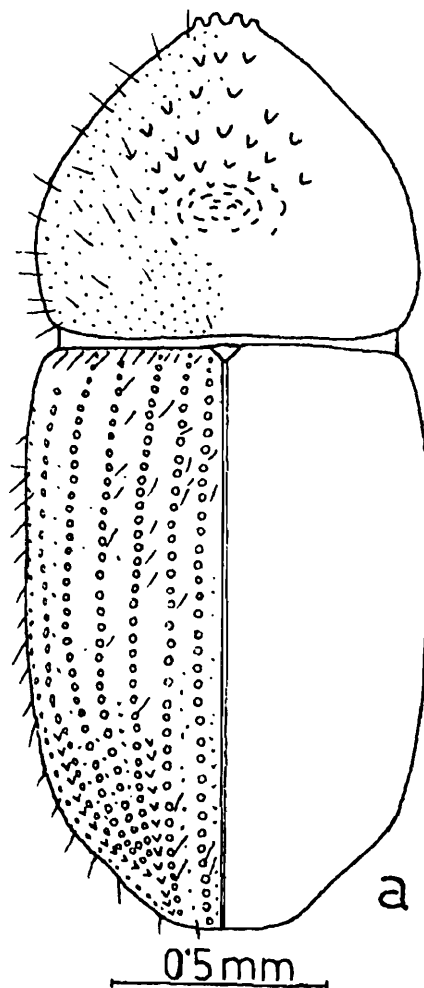
1915. Hopkins, *U.S. Dept. Agric. Rep.*, **99** : 32. *Holotype* (Female) in U.S.N.M., Washington;  
*Type-locality* : Bulagan, Angat, Philippines.

1970. Browne, *J. nat. Hist.*, **4** : 555.

2. *Hypothenemus glabripennis* (Hopkins)

1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper*, No. **86** : 164-166, Fig. 48-a.

1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. B.), p. 926.



**Fig. 42.a** *Hypothenemus glabripennis* (Hopkins), Female : a, Pronotum and elytra in dorsal view.

*Description : Female* : Body short and stout; head chestnut brown, pronotum and elytra pale brown; antennae and legs still paler. Body length 2.14 mm, 2.30 times as long as wide.

Head globose; frons faintly convex, feebly impressed above epistomal magin; surface reticulately rugose with sparse scattered punctures and fine hairs except on the area medially above epistoma; epistomal margin with fringe of hairs. Eyes elongately oval, nearly one-third of width divided by emargination. Antennal scape elongate; funicle with 5 segments; club flattened; "first suture 1 partly septate; other 2 above it almost straight and marked by hairs.

Pronotum 1.20 times as wide as long; basal margin substraight with feeble ridged margin; widest at base; lateral sides weakly outcurved; anterior margin broadly rounded with 4 somewhat pointed asperities, of which middle two comparatively large; distinct summit almost at the middle, anterior declivious portion with at least 25 large distinct asperities and a few transverse contiguous ones around summit, posterior half coarsely reticulate with granules, intermixed with small and large hairs; scale-like setae absent.

Scutellum small and triangular.

Elytra nearly twice as long as pronotum and 1.50 times as long as its width; basal margin substraight; lateral sides straight and subparallel on basal two-thirds, whence narrowing posterioy, with somewhat narrowly rounded apex; discal striae impressed marked by large, close punctures; stria 1 more impressed; interstriae distinctly convex, slightly wider than striae with some small confused punctures and with some sparse erect hairs laterally. Declivity commencing on apical third, gradually sloping with convex face; declivital striae prominent; interstriae 1, 3, 5, 7 and 9 strongly elevated; declivital interstriae uniseriately granulate with fine hairs.

*Male* : Unknown.

*Distribution* : INDIA : Andaman (Beeson, 1941).

*Elsewhere* : Malaya, Philippines, Indonesia (Java, Sumatra) and Thailand.

*Remarks* : The species *Hypothenemus glabripennis* is one of the largest species of the genus. The species can readily be separated in having large size and by the characteristic elytral declivity with strong elevation on every alternate interstria. It is a very uncommon species in the Andamans, only once reported from a single host of *Tamarindus indicus*. However, the species is fairly represented in Indonesia, Malaysia, Philippines and Thailand. It is mostly reported from dead and dry twigs, climbers, etc. in different territories. Leguminous plants seem to be most favoured by the species. Biological features with regard to the host-records, gallery pattern, emergence of adults, etc. have been studied in different territories, such as, in Andaman by Beeson (1941), in Malaysia by Browne (1961), in Thailand by Beaver and Browne (1976) and Beaver and Browne (1978) and in Java, Indonesia by Kalshoven (1958).

112. *Hypothenemus hampei* (Ferrari)1. *Cryphalus hampei* Ferrari

1867. Ferrari, *Die Forst.-und Baumzuchtscha-dlichen Borckenka" fer*, p. 11, 12, Syntypes, female 'Gallia', in coffee beans, in Vienna Mus.)

2. *Hypothenemus hampei* (Ferrari)

1982. Wood, *Gt. Basin Nat. Mem*, No. 6 : 888-889

1992. Wood and Bright, *Gt. Basin Nat. Mem*, No. 13(Vol. A) : 927-930.

*Description* : (Wood, 1982) : *Female* : Length 1.4-1.7 mm, 2.3 times as long as wide; mature color black.

Frons and pronotum as in *H. obscurus* except pronotal disc not reticulate, more nearly shining. Elytra as in *obscurus* except interstriae smooth, brightly shining (centers of striae punctures usually reticulate as in *H. obscurus*); interstitial bristles slender, each at least eight times as long as wide, spaced between rows by length of a bristle, spaced within a row by a slightly smaller distance.

*Male* : Dwarfed as in male *H. obscurus* but otherwise similar to female.

*Distribution* : Widely distributed in the Oriental Region including India to Japan; Pacific islands to Hawaii; tropical Africa to North America (Wood and Bright, 1992, detail distribution).

113. *Hypothenemus javanus* (Eggers)

(Fig. 43)

1. *Stephanoderes javanus* Eggers

1908. Eggers, *Ent. Blatt.*, 4 : 215. *Lectotype* (Female) designated by Anderson and Anderson (1971), USNM, Washington; *Type-locality* : Java, Indonesia.

1941. Beeson, *Ecol. And Cont. For. Ins. India*, p. 299. Bengal and Sri Lanka.

1959. Schedl, *Trans. R. ent. Soc. Lond.*, 111 : 485.

2. *Hypothenemus javanus* (Eggers)

1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No. 86* : 167-169, Fig. 49, a-c.

1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. 13(Vol. B), p. 932.

3. *Stephanoderes obesus* Hopkins

1915. Hopkins, *U.S. Dept. Agric., Rept.*, 99 : 30. *Holotype* : (Female) in USNM, Washington; *Type-locality* : Cayamas, Cuba.

1957. Wood, *Canad. Ent.*, **89** : 402 (synonymy).

**4. *Stephanoderes philippinensis* Hopkins**

1915. Hopkins, *U.S. Dept. Agric., Rept.* **99** : 31. *Holotype* (Female) in USNM, Washington;  
*Type-locality* : Angat, Philippine Islands,

**5. *Stephanoderes bananensis* Eggers**

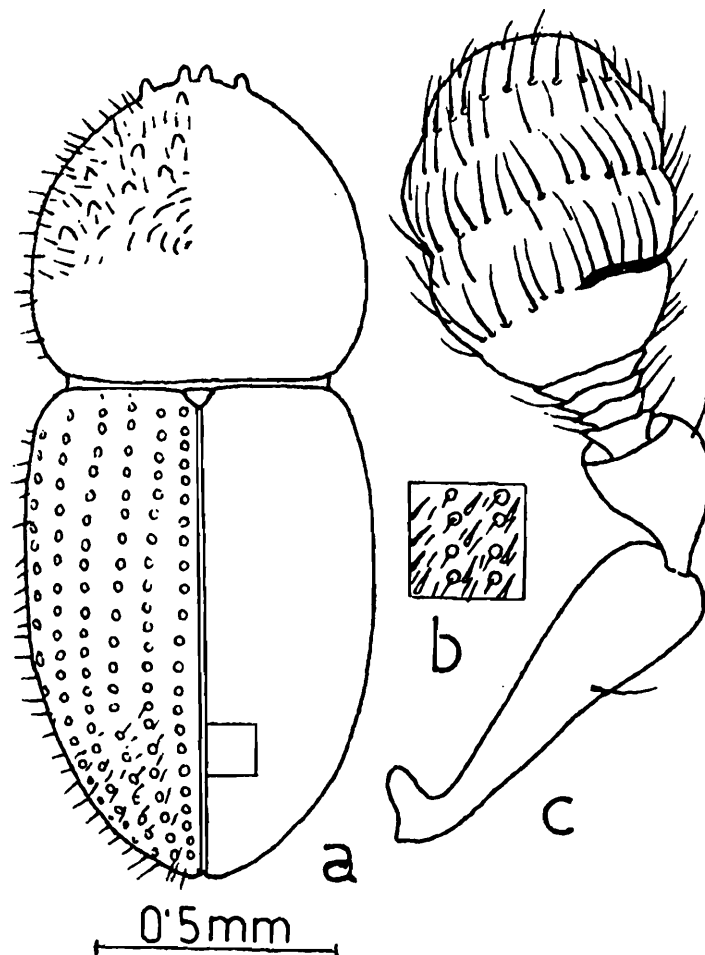
1922. Eggers, *Ent. Blatt.*, **18** : 167. Syntype (Sex ?) in Eggers Coll. (USNM, Washington or NHMW, Wien?); *Type-locality* : Banana, Congo.

1972. Wood, *Gt. Basin nat.*, **32**(1) : 51 (synonymy).

**6. *Stephanoderes kalshoveni* Schedl**

1939. Schedl, *Tijdsch. Ent.*, **82** : 35, *Lectotype* (sex ?), Schedl Coll. In NHMW, Wien designated by Schedl (1979), *Type-locality* : Pasoeroean, Java, Indonesia.

1972. Wood, *Gt. Basin Nat.*, **32**(1) : 51 (synonymy).



**Fig. 43. a-c. *Hypothenemus javanus* (Eggers), Female :** a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral declivity; c, antenna.

### 7. *Stephanoderes subagnatus* Eggers

1940. Eggers, *Rev. Zool. Bot. Africaines*, **33** : 101, *Holotype* (Female) in MRCB, Tervuren; *Type-locality* : Eala, Congo.
1972. Wood, *Gt. Basin Nat.*, **32**(1) : 51 (synonymy).

### 8. *Stephanoderes pistora* Schedl

1951. Schedl, *Dusenía*, **2** : 102, *Syntypes* 2 (sex ?), Schedl coll in NHMW, Wien, *Type-locality* : Havana, Cuba.
1976. Wood, *Gt. Basin Nat.*, **36** : 348(synonymy).

### 9. *Stephanoderes prosper* Schedl

1951. Schedl, *Dusenía*, (2)**2** : 103, *Holotype* (Female) Schedl coll. In NHMW, Wien. *Type-locality* : Guadeloupe.
1976. Wood, *Gt. Basin Nat.*, **36** : 348 (synonymy)

*Description* : Body short, colour yellowish brown to reddish brown, legs and antennae paler. Body length 1.60-1.70 mm, 2.2 times as long as wide.

Head globose; frons with strong elevation at upper level of eyes, moderately impressed up to epistomal margin; surface smooth and shiny with minute punctures and dense coat of stout hairs of moderate size; epistomal margin with two tufts of long hairs on either side. Eyes oval and very shallowly emarginate. Antennal scape long and slender; funicle with 4 segments; club flattened with 3 procurved sutures indicated by hairs, suture 1 partly septate.

Pronotum 1.2 times as wide as long, basal margin substraight and laterally weakly carinate extending a little; lateral sides weakly outcurved; anterior margin broadly rounded with 4 distinct asperities, all nearly of equal size, median two rather close; in profile, dorsal margin with distinct summit slightly behind middle; anterior slope with 18-22 large distinct asperities, some transverse contiguous asperities around summit; posterior third and laterally reticulate with indistinct granules; surface with semirecumbent stout hairs intermingled with scales.

Scutellum somewhat triangular and much wider than long.

Elytra 1.8 times as long as pronotum and 1.4 times as long as its width; basal margin substraight; lateral sides subparallel up to basal two-thirds, gradually narrowing posteriorly with broadly rounded apex; discal striae impressed, punctures large but shallow with microhairs; interstriae nearly one and half times wider than striae and punctures hardly visible with only scale like sparse setae. Declivital slope gradual, commencing at posterior third, with convex face; striae as on disc; interstriae with both scale-like setae as well as with a few microhairs.

*Distribution* : INDIA : Andaman Is. : Middle and South andamans; Nicobar Isl.; Car Nicobar.

*Elsewhere* : Sri Lanka, Malaya, Java, Borneo, Philippine Isl., Formosa and East Africa; Guadeloupe, Martinique, Cuba, Florida and Brazil.

*Hosts* : *Dipterocarpus zeylanicus*, *Dryobalanops aromatica*, *Dyera costutata*, *Mangifera indica*, *Sterculia macrophylla* and others (Beeson, 1941).

*Remarks* : *Hypothenemus javanus*, primarily a shoot- and twig- borer, is a widely distributed species in the Orient. It was originally discovered in a Laboratory in Italy in the fructification of fungus from Java. The species, *Stephanoderes javanus* was placed in synonymy of *S. setosus* Eichhoff by Schedl (1962), whose specific status was subsequently revived by Wood (1975) and had transferred the species to the genus *Hypothenemus*. Wood (1976) also synonymised two more species, namely, *S. pistor* Schedl from Cuba and *S. prosper* Schedl from Guadeloupe under *H. javanus*. Thus, its distribution limits are much enlarged. However, the species is recorded from India in the islands of Andaman and Nicobar from *Tamarindus indica* along with some unknown logs. In the mainland of India and in the neighbouring countries, the species is known to be associated with seven host-plants, including the host mentioned above (Beeson, 1941). In Malaysia, it has been found in dead or cut twigs of many plants (Borwne, 1961) and in Java in fungi, canes and twigs of a number of plants (Kalshoven, 1958; Maiti and Saha, 1986).

### Genus *Ptilopodius* Hopkins

#### 1. *Ptilopodius* Hopkins

1915. Hopkins, *U.S. Dept. Agric. Rep.*, **99** : 11.  
 1953. Schedl, *Ann. Mag. Nat. Hist.*, (12)**6** : 294.  
 1959. Schedl, *Trans. R. ent. Soc. Lond.*, **111** : 475.  
 1960. Wood, *Insects of Micronesia*, **18**(1) : 18.  
 1961. Browne, *Malay Forest Rec.*, No. **22** : 79.  
 1966. Schedl, *Entom. Abh. Mus. Tierk. Dresden*, **35** : 18.  
 1971. Schedl, *Entomologica scand. (Suppl.)*, **1** : 274-285.  
 1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No.* **86** : 170.  
 1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. B) : 899.

*Type of genus* : *Ptilopodius stephegynis* Hopkins.

The genus *Ptilopodius* has remained valid since its establishment by Hopkins (1915), until Schedl (1971) considered it as a synonym of the genus *Cryphalops* Reitter. But recently, Wood (1978) revived its generic status and considered *Cryphalops* as a synonym of the genus *Ernoporus* Thompson. It is a small genus containing about 16 species, mostly found in the Oriental Region with a few species extending up to Hawaii in the east and to Madagascar in the west including Micronesia. However, the

species *P. ramosus* Beeson is the only species represented in the Nicobars and Sundarbans in India.

#### 114. *Ptilopodius ramosus* Beeson

(Fig. 44)

##### 1. *Ptilopodius ramosus* Beeson

1922. Beeson, *Indian Forester*, **48** : 498 (nom. nud.).

1935. Beeson, *B.P. Bishop Mus. Bull.*, **142** : 115.

*Type-localities* : Fautaua Valley, Tahiti, Society Island and India (West Bengal : Sundarbans, Car Nicobar and Little Nicobar).

Types in F.R.I., Dehra Dun, Uttarakhand, India.

1938. Beeson, *J.fed. Malay State Mus.*, **18** : 290.

1960. Wood, *Insects of Micronesia*, **18**(1) : 20-21.

1986. Maiti and Saha, *Rec. zool. Surv. India, Occ. Paper No.* **86** : 169-171, Fig. 50, a-c.

1992. Wood and Bright, *Gt. Basin Nat. Mem.*, No. **13**(Vol. A) : 900.

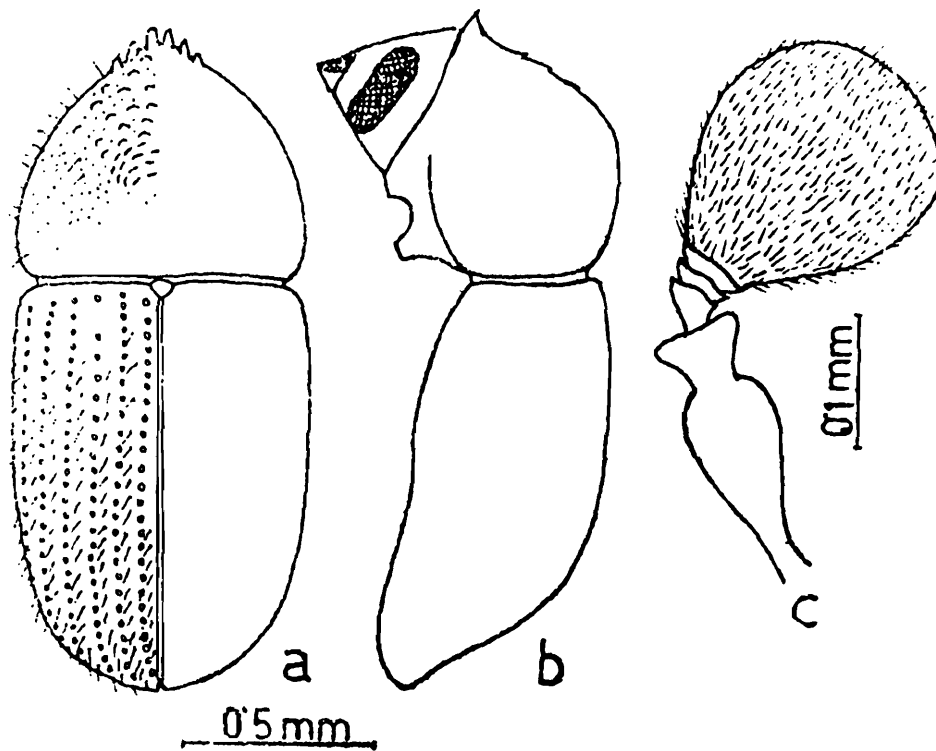
*Description* : *Female* : Body short and stout; body colour yellowish brown to reddish brown. Body length 1.35-1.50 mm and 2.1 times as long as wide.

Head globose, strongly narrowing interiorly; frons flatly convex, moderately impressed above epistoma, median line absent; surface feebly rugosely reticulate, finely and sparsely punctuate with sparse short hairs; epistomal margin elevated and with fringe of hairs. Eyes elongately oval and entire. Antennal scape long and thin; funicle with 4 segments; club devoid of any septum or suture, entirely pubescent.

Pronotum nearly as long as broad; basal margin substraight and weakly emarginated on either side of the middle; entire basal margin with weak carine, extending laterally up to basal half; widest at basal third; lateral sides converging anteriorly; anterior margin narrowly rounded and produced, accommodating about 6 teeth, of which median pair larger; in profile, dorsal margin moderately convex, summit just below the middle; anterior slope with a few transverse rows of distinct asperities, asperities concentrically arranged around summit; posterior and lateral areas finely reticulate with fine punctures, rather sub granulate below the summit; short sparse hairs on entire surface.

Scutellum smooth, shining and subround.

Elytra 1.40 times as long as pronotum and 1.40 times as long as broad; basal margin substraight; lateral sides rather feebly outcurved on basal half, thence gradually narrowing posteriorly with broadly rounded apex; surface weakly convex and shiny; discal striae not impressed, but marked by very small and shallow punctures with microhairs; interstriae much wider than striae with uniseriate row of punctures, granules and short hairs, more prominent posteriorly. Declivity commencing on apical



**Fig. 44. a-c.** *Ptilopodius ramosus* Beeson, Female: a, Pronotum and elytra in dorsal view; b, head, pronotum and elytra in lateral view; c, antenna.

half, gradually sloping posteriorly with regular convex face; declivital striae comparatively wider and marked by distinct shallow and close punctures; interstriae narrower than those on disc, granulate and punctuate with uniseriate row of scale-like hairs; tarsi of foreleg with long plumose setae and stem not laminate, but with about 10-12 branches on single side apically; procoxae contiguous.

*Male* : Similar to female.

*Distribution* : INDIA : Nicobar Island : Car Nicobar and Little Nicobar (Beeson, 1935).

*Elsewhere* : India (West Bengal : Sundarbans), Mangarava, Society Island, Caroline Island and Micronesia.

*Remarks* : This species is recorded from Car Nicobar occurring under the bark of 'taukk' and from Little Nicobar under the bark of 'Inpaum'. The elaborate plumose tarsal hairs keep the species distinct from all other scolytid beetles of the islands of Andaman and Nicobar. Beeson (1941) reported the species from the bark of *Hibiscus tiliaceus* from the Sundarban coast of India to the Pacific Islands.

### Genus *Scolytogenes* Eichhoff

#### 1. *Scolytogenes* Eichhoff

1878. Eichhoff, *Soc. Ent. De liegew*, (2)8 : 475, 497.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. B) : 858.

## 2. *Lepicerus* Eichhoff

1878. Eichhof, *Soc. Ent. De Liege*, (2)8 : 476, 501.

1980. Wood, *Gt. Basin Nat.*, 40 : 95.

## 3. *Cryphalomorphus* Schaufuss

1891. Schaufuss, *Tijdschrift voor Entomologie*, 34 : 12

1940. Schedl, *Mitt. Munchener Entomologischen Gesellschaft*, 30(2) : 587.

## 4. *Letznerella* Reitter

1913. Reitter, *Wiener Entomologische Zeitung*, 32 : 68.

1940. Schedl, *Mitteilungen Munchener Entomologischen Gesellschaft*, 30(2) : 587.

## 5. *Hypothenoids* Hopkins

1915. Hopkins, *U.S. Dept. Agric., Report*, 99 : 7, 11.

1954. Schedl, *Phillipp. Jr. Science*, 83(2) : 138.

## 6. *Ernoporides* Hopkins

1915. Hopkins. *U. S. Dept. Agric., Report*, 99 : 8, 34.

1940. Schedl, *Mitt. Munch. Ent. Gesellschaft*, 30(2) : 587.

## 7. *Neocryphalus* Eggers

1922. Eggers, *Ent. Blatt.*, 18 : 169.

1940. Schedl, *Mit. Munch. Gesell.*, 30(2) : 587.

## 8. *Negritus* Eggers

1923. Eggers, *Zoologische Mededeelingen*, 7 : 141.

1957. Schedl, *Ann. Mag. Hist.*, (12)10 : 152.

## 9. *Cylindrotomicus* Eggers

1936. Eggers, *Ann. Mag. Nat. Hist.*, (10)17 : 633.

1957. Schedl, *Ann. Mag. Nat. Hist.*, (12)10 : 152.

## 10. *Lepicerinus* Hinton

1936. Hinton, *Ann. Mag. Nat. Hist.*, 17(10) : 473.

1982. Wood, *Gt. Basin Nat.*, pp. 861.

### 11. *Xylocryptus* Schedl

1975. Schedl, *Nat. Mus. Wien, Ann.*, **79** : 352.

### 12. *Cryphalophilus* Schedl

1970. Schedl, *Kontyu*, **38** : 358.

1984. Wood, *Gt. Basin Nat.*, **44**(2) : 228.

1992. Wood, *Gt. Basin Nat.*, **52** : 81.

*Types of genus* : *Scolytogenes* : *S. darwini* Eichhoff; *Lepicerus* : *L. aspericollis* Eichhoff; *Cryphalomorphus* : *C. communis* Schaufuss; *Letznerella* : *Bostrichus jalapae* Letzner; *Hypothenoides* : *H. parvus* Hopkins; *Ernoporides* : *E. floridensis* Hopkins; *Neocryphalus* : *N. usagaricus* Egger; *Negritus* : *N. ater* Eggers; *Cylindrotomicus* : *C. squamulosus* Eggers; *Lepicerinus* : *Lepicerus aspericollis* Eichhoff; *Xylocryptus* : *X. papuanus* Schedl and *Cryphalophilus* : *C. after* Schedl.

The monobasic genus *Scolytogenes* was described by Eichhoff (1878) to accommodate *S. darwini* from Hindusthan (Myanmar), which was designated as the type species of the genus. Another allied genus *Cryphalomorphus* described by Schaufuss (1891) remained valid until 1980, when Wood synonymised it under *scolytogenes*. Prior to that, a number of genera, mentioned above, was considered as synonymy of the genus *Cryphalomorphus* mainly by Schedl (1940, '52 and '59) and Wood (1954). However, the members of the genus are known from most of the tropical and subtropical areas of the world. Out of seven species so known from India, five species could be incorporated in the key.

### Key to the species of *Scolytogenes* Eichhoff

1. Scutellum tubercle-like ..... 2
- Scutellum not tubercle-like or very much submerged ..... 3
2. Larger species, body length; posterior margin of pronotum distinctly carinate; sutural interstriae markedly impressed especially on declivity .....  
..... *S. darwinensis* Eichhoff
- Smaller species, body-length ; posterior margin of pronotum not distinctly carinate; sutural interstriae not so impressed in the declivity ..... *S. indicus* Wood
3. Scutellum very much submerged, almost invisible; pronotal summit placed almost at the middle ..... *S. pumilionoides* (Schedl)
- Scutellum not submerged, rather distinctly visible ..... 4
4. Scutellum triangular, opaque and comparatively large; pronotal summit above

the middle; eletral discal striae with shallow in distinct punctures .....  
 ..... *S. aspericollis* (Eichhoff)

Scutellum small and shining, pronotal summit in the middle; eletral discal  
 striae gradually depressed towards declivity ..... *S. ceylonicus* (Schedl)

### 115. *Scolytogenes aspericollis* (Eichhoff)

(Fig. 45)

#### 1. *Lepicerus aspericollis* Eichhoff

1878. Eichhoff, *Soc. Ent. Leige Memo.*, 2(8) : 501. Holotype, Sex? in Hamburg Mus. (Lost).  
 Type-locality : India (Burma).

#### 2. *Cryphalus sitierline* Eggers

1911. Eggers, *Ent. Blatt.*, 7 : 121. Lectotype sex? in USNM, Washington.

1929. Eggers, *Wien Ent. Zeit.*, 46 : 53(syn.)

#### 3. *Scolytogenes aspericollis* (Eichhoff)

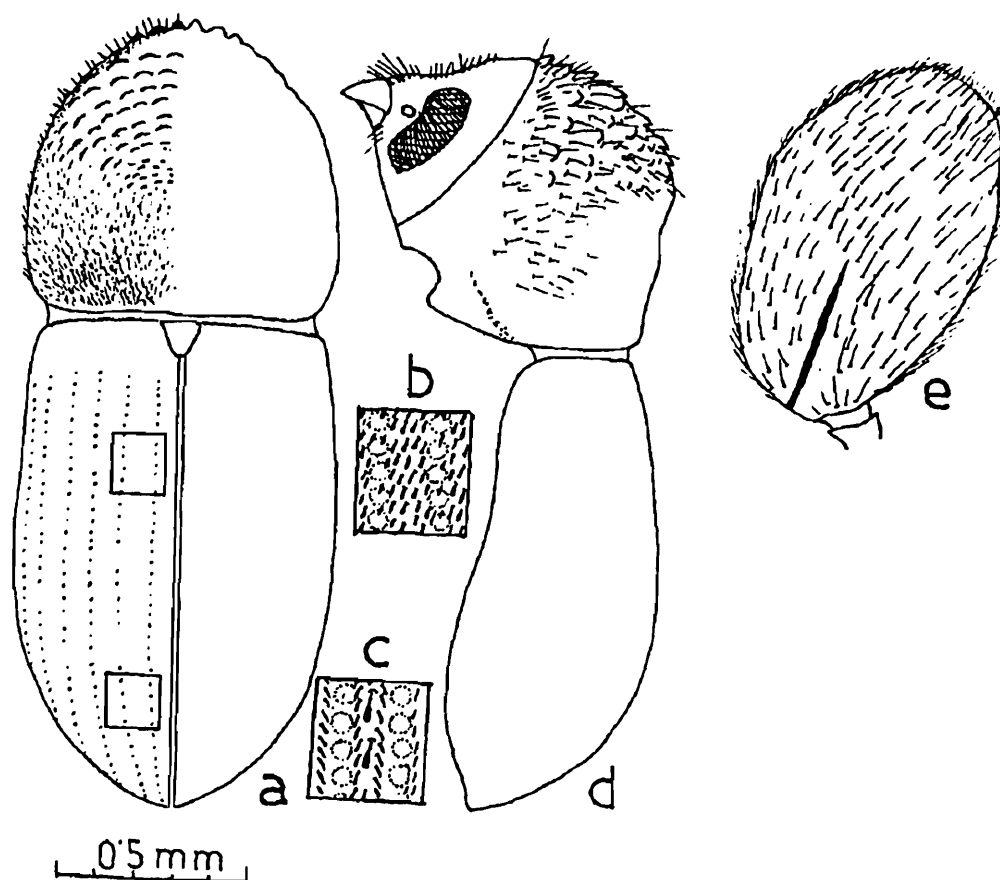
1922. Wood and Bright, *Gt. Basin Nat. Memo.* No. 13(Vol. B) : 859.

*Description : Female* : Body small and cylindrical; head, pronotum and elytra reddish brown. Body length 2.10-2.15 mm. Head globose, frons moderately impressed, smooth and shiny medially above epistomal margin, epistomal margin emarginate above the shiny area, surface roughened with weak asperities like scale and fairly densely pilose. Eyes elongately oval, without distinct emargination. Antennal scape small and slender; funicle with 5 segments; club dorso-ventrally flattened with one incomplete oblique septum from base, surface entirely pubescent, twice as long as scape.

Pronotum nearly as long as wide; basal margin substraight with feeble ridge, extending laterally upto basal third; lateral sides feebly outcurved at basal half, anterior margin broadly rounded accommodating 5-6 distinct asperities gradually smaller laterally; distinct transverse summit just above middle; anterior declivious area with distinct transverse asperities, somewhat in crescentric rows, becoming gradually small and granulate at summit; posterior half granulate; surface with small dense hairs, those on anteriorly comparatively longer.

Scutellum triangular, opaque and comparatively large.

Elytra 1.6 times as long as pronotum; basal margin substraight, lateral sides subparallel on basal two-thirds; posterior margin somewhat narrowly rounded, discal striae with shallow indistinct punctures; interstriae narly twice as wide as striae with irregular indistinct punctures, granulate towards declivity; entire surface with dense coat of small thick setae. Declivity commencing on posteior third, face steep and plano-convex, striae distinctly impressed, interstriae narrowed towards apex with uniseriate close granules and uniseriate stout setae along with short setae.



**Fig. 45. a-e.** *Scolytogenes aspericollis* Eichhoff, Female: a, Pronotum and elytra in dorsal view; b, enlarged portion of elytral disc; c, enlarged portion of elytral declivity; d, head, pronotum and elytra in lateral view; e, antennae club.

*Male* : Unknown.

*Distribution* : INDIA : Kerala; Tamil Nadu and West Bengal : Darjiling Dist., Darjiling and Samsingh.

*Elsewhere* : Myanmar, Malasia, Indonesia (Sumba), imported to Japan from Sri Lanka. Africa (Ethiopia / South Africa) and Europe (intercepted in Italy).

*Host* : *Ipomoea turpethum*

*Remarks* : *Scolytogenes aspericollis* is a little known species in the Indo-Malayan subregion and occurs mostly in the hilly territories of the eastern and southern India. It has been collected from creeper of *Rhododendron* in South India and "Ranguni lahara" from the Darjiling Himalayas.

## 116. *Scolytogenes ceylonicus* (Schedl)

### 1. *Cryphalomorphus ceylonicus* Schedl

1959. Schedl, *Trans. R. Ent. Soc. Lond.*, 111 : 477-478, Holotype : Sex? In *Nat. Hist. Mus.*, Wien. Type-locality : Sabargamuva, Millawitiya Estate, Sri Lanka.

## 2. *Scolytogenes ceylonicus* (Schedl)

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. B) : 860.

*Description : Female* (Based on Schedl, 1959) : Pitchy black, 1.0 mm long, 2.3 times as long as wide.

Frons convex, densely and very finely punctate in lower half, each puncture with minute short yellow hair.

Pronotum as wide as long, widest in basal two-fifths where sides are subparallel, postero-lateral angles closely attached to elytra, apex moderately broadly rounded, subapical constriction indicated, apical margin with several minute and closely placed asperities visible only under high magnification; summit in middle, transversely depressed behind, anterior area obliquely convex, densely and irregularly covered with minute asperities, basal area densely and roughly punctured, pubescence inconspicuous.

Scutellum small and shining.

Elytra as wide and 1.3 times as long as pronotum, sides parallel in basal two-fifths, apex moderately and broadly rounded, declivity commencing in middle, somewhat obliquely convex; disc striae-punctate, striae hardly at all impressed near base, gradually deepening towards declivity, striae punctures increasing in size from base towards declivity, pubescence abraded in basal two-fifths of elytra; declivity with striae rather deep, striae punctures distinct, interstriae (indistinctly punctured near base) densely and minutely granulate-punctate, each with a row of very short erect slender scales.

*Distribution* : INDIA : Andaman Isl., Uttarakhand and West Bengal.

*Elsewhere* : Sri Lanka.

*Hosts* : *Lindara pulcherrima*

*Remarks* : The species is distinguished from *S. indicus* (Wood) by comparatively smaller size, pronotum with its anterior margin more narrowly rounded, distinctly depressed behind the summit, and sculpture of elytra more clearly defined (Schedl, 1959). The material of type series have been collected by E. Judenka during January, 1957.

## 117. *Scolytogenes darwini* Eichhoff

### 1. *Scolytogenes darwini* Eichhoff

1878. Eichhoff, *Soc. Ent. Liege Memo.*, (2)8 : 497. Holotype, sex? In Dohrn collection, now in Schedl's coll., NHMW, Wien. Type-locality : Hindostan (Myanmar).

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. 13(Vol. B) : 860.

## 2. *Nigritus similes* Eggers

1923. Eggers, *Zool. Mededl.*, **7** : 142. Lectotype, sex in USNM, Washington, designated Anderson and Anderson 1971, p. 30. *Type-locality* : Java, Indonesia.
1985. Wood, *Gt. Basin Nat.*, **45**(2) : 269(syn)

## 3. *Nigritus major* Eggers

1927. Eggers, *Philipp. J. Sci.*, **33**(1) : 69. Lectotype, sex? In USNM, Washington. *Type-locality* : Provinz Surigao, Mindanao, Philippine.
1985. Wood, *Gt. Basin Nat.*, **45**(2) : 269 (syn.)

## 4. *Scolytogenes cryptolepis* Schedl

1951. Schedl, *Tijdt. Ent.*, **93** : 55, Holotype, Sex? In Schedl's coll., NHMW, Wien. *Type-locality* : Nakrona, Dehra Dun, Uttarakhand, India.
1985. Wood, *Gt. Basin Nat.*, **45**(2) : 269(syn.).

*Description* : Body stout and short; head, pronotum and elytra deep brown, head and pronotum dark brown. Body length 2.40-2.50; width 1.34 mm.

Head globose, frons substraight, apical margin somewhat convex, surface granulate with minute hairs. Basal margin with distinct outcurved ridge with a median emargination, posterior margin somewhat densely granulate.

Pronotum strongly globose, anterior margin with feeble carina with median emargination, lateral margin convex; surface dense with minute granules; asperities short tubercle like, less in number anteriorly and dense in the summit, summit not so distinct with crecentric asperities, gradually becoming feeble posteriorly, posterior margin somewhat bisinuate.

Scutellum minute, tubercle-like.

Elytra 1.5 times as long as pronotum; basal margin carinate angularly incurved at scutellar point; lateral sides subparallel on basal third, then converging posteriorly, terminating into somewhat substraight posterior margin; posterior margin with fringe of hairs; postero-lateral margin with distinct carina; discal striae with shallow minute punctures; sutural striae well marked upto end of elytra; rest of the striae running upto apex, except 1 and 2; interstriae much wider than striae, with granulate punctuate surface with dense coat of small thick scale like setae. Declivity feebly marked on posterior fourth; surface plano-convex.

*Distribution* : INDIA : Uttarakhand : Dehra Dun.

*Elsewhere* : Myanmar, Indonesia(Java) Yunnan in China, Vietnam, Sri Lanka, Philippine Isl. and New Guinea.

*Hosts* : *Cryptolepis buchani*.

118. *Scolytogenes indicus* Wood1. *Scolytogenes indicus* Wood

1989. Wood, *Gt. Basin Nat.*, 49(2) : 184. *Holotype Male* and *Allotype Female* in F.R.I., Dehra Dun; *Paratypes* in Wood's Collection, U.S.A. *Type-localities*; India : Madhya Pradesh, Rewah State; and Myanmar.

1992. Wodd and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. B) : 862.

*Description* : Male : Length 1.2 mm (Paratypes 1.5-1.9 mm), 2.3 times as long as wide; color very drk brown, pronotum almost black, vestiture pale.

Frons broadly convex, median line above eyes forming a transversely etched, indefinite summit; surface finely rugose-reticulate on upper areas, smooth and roughly, not sharply punctured below a transverse pair of widely spaced granules near middle; vestiture of fine, rather inconspicuous hair of moderate length.

Pronotum 1.0 times as long as wide; widest on basal third, sides moderately arcuate, anterior margin rather broadly rounded; summit near middle, asperities on anterior slope rather coarse; rather finely, closely punctured behind, posterior margins of punctures toward summit slightly elevated to granulate, posterolateral punctures close, only slightly distorted by subgranulation. Vestiture of rather short, recumbent hair.

Elytra 1.2 times as long as wide, 1.3 times as long as pronotum; striae not impressed, except weakly near declivity, punctures rather small, deep, in definite rows except confused on less than basal fourth of disc; interstriae almost twice as wide as striae, punctures near base resembling those of striae (and usually confused with them), their anterior margins elevated toward declivity to form rows of subvulcanate granules (one row on each interstriae). Declivity steep, broadly convex; sculpture about as on disc except interstriae 1 more distinctly impressed, granules on all interstriae larger in diameter but not higher than on disc. Vestiture consisting of very minute striae hair and rows of erect, pointed bristles; each bristle as long as distances between rows, spacing within a row of distinctly less, setae stout but not scalelike; apical third of each tapered to a sharp point; a few short supplemental setae on declivity almost scale like.

*Female* : Similar to male except area behind pronotal summit apparently more granulate; small, scale like setae on elytral declivity more numerous.

*Distribution* : INDIA : Madhya Pradesh, Rewah State, Amarkantak and Mandvi, W. Thana, Bombay.

*Elsewhere* : Myanmar.

*Host* : *Wrightia tinctoria*, *Hedera helix* and *Moringa pterygosperma*.

*Remarks* : According to Wood (1989), the Schedl's collection in the Wien Museum contained a Schedl's note that indicated he had confused with the identity of

*Cryphalomorphus indicus* Beeson, nomen nudum, with his *S. varius* from New Guinea. However, these species are quite unrelated. This species is smaller, more slender, more finely sculptured, and has stouter setae than *S. varius* (Schedl). (= *Cryphalomorphus varius*)

### 119. *Scolytogenes pumilionides* (Schedl)

#### 1. *Cryphalomorphus pumilionides* Schedl

1977. Schedl, *Oriental Ins.*, **11**(4) : 500. *Holotype*. Sex ? in Schedl Collection in NHMW, Wien. Type-locality; Kerala, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. **13**(Vol-B) : 865.

*Description* : (Based on Schedl, 1977)- a Piceus, 0.8 mm long, 2.1 times as long as wide. Front convex, densely punctured and somewhat shining. Pronotum wider than long (19 : 16), posterolateral angles rectangular and closely attached to the elytra, sides parallel on the basal fourth, apex moderate broadly rounded, the sub apical constriction difficult to recognize; summit in the centre, anterior area obliquely convex, densely and finely asperate, basal area subshining, densely punctured. Scutellum not visible. Elytra as wide and 1.5 times as long as wide, sides parallel on basal half, apex broadly rounded, declivity commencing a little??? Before the centre, obliquely convex; disc shining, with rows of medium sized punctures in sub impressed lines, interstices as far as not abraded each with a row of stout, semi erect pale not very closely placed scales, these towards and on the declivity somewhat larger, more prominent.

#### Tribe **Corthylini** Le Conte

#### Subtribe **Pityophthorina**

#### Genus **Mimiocurus** Schedl

##### 1. **Mimiocurus** Schedl

1957. Schedl, *Ann. Mus. Royale Cong. Belg. Terv. (Belgique)*, Ser. 8, *Sci. Zool.*, **56** : 72.

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. **13**(Vol. B) : 949.

##### 2. **Micracidendron** Schedl

1957. Schedl, *Ann. Mus. Royale Cong. Belg. Terv. (Belg.)*, Ser. 8, *Sci. Zool.*, **56** : 71.

1984. Wood, *Gt. Basin Nat.*, **44**(2) : 226 (syn.)

##### 3. **Mimiophthorus** Schedl

1957. Schedl., *Ann. Mus. Royale Cong. Belg. Terv. (Belg.)* Ser. 8, *Sci. Zool.*, **56** : 77.

1984. Wood, *Gt. Basin nat.*, **44**(2) : 226 (syn.)

*Types of the genus* : *Mimiocurus* : *M. acuminatus* Schedl; *Micracidendron* : *M. montanum* Schedl; *Mimiophthorus* : *Brachydendrulus montanus* Schedl.

The genus, since its inception, remains a valid one upto now, with a synonymy of two genera as referred to above by Wood (1984) in same publication. As many as 14 species are reported under the genus, which occur in the Indo-African countries including a single species from New Zealand. However, one species *M. beelsoni* Wood has been described by Wood (1989) from Chennai (Madras), India.

## 120. *Mimiocurus beelsoni* Wood

### 1. *Mimiocurus beelsoni* Wood

1989. Wood, *Gt. Basin Nat.*, 49(2) : 182. *Holotype*, Male (upper part), *Allotype* Female (middle) and one *Paratype* in F.R.I., Dehra Dun (all in one pin); none *Paratypes* in Wood's collection, U.S.A. *Type-locality* : Amarampalam R., Nilambur, Madras, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo*, No. 13(Vol. B) : 949.

*Description* : (based on Wood, 1989), *Male* : Length 1.4 mm (*Paratypes* 1.2-1.4 mm), 3.0 times as long as wide; color yellowish brown.

*Frons* narrow above, half as wide as width of eye, shallowly concave, surface minutely rugose, impunctate, granular; a strongly elevated, subacute, transverse carina at upper level of eyes. Antennal club large, oral, distinctly longer than wide, devoid of sutures, minutely pubescent to base. Eyes very large, coarsely faceted.

*Pronotum* 0.94 times as long as wide; widest on basal third, sides arcuately converging to narrowly rounded anterior margin; anterior margin armed by two subcontiguous, slender serrations; submargin at middle; asperities coarse, moderately abundant; posterior areas smooth, shining, punctures very minute, sparse. Vestiture of very sparse, fine, short hair.

*Elytra* 2.0 times as long as wide, 2.0 times as long as pronotum; sides almost straight and parallel on basal three-fourths, rather broadly rounded behind; striae not evident on disc, punctures minute, moderately abundant, strongly confused. Declivity moderately steep, shallowly sulcate; sculpture as on disc; sulcus about one third, elytral width, moderately shallow, lateral margins rounded, unarmed. Vestiture of ground cover of very short, rather stout hair, and erect scales; scales in three interstitial rows on declivity, rows 1 and 2 extend forward to middle of disc, a few supplemental scales in lateral areas near apex, each scale about four times as long as wide.

*Female* : Similar to male; except frons wider, broadly convex, carina absent.

*Distribution* : INDIA : Chennai (Madras), Nilambur, Amarampalam R.

*Host* : *Tiliacora acuminata*.

*Remarks* : The species is recorded first time as the second member of genus *Mimiocurus*, so far known from Africa and New Guinea represented by 13 species.

However, it is distinguished from other known species by the smaller size, by the unique male frons as described above, and almost scale-like elytral setae.

Genus *Pityophthorus* Eichhoff1. *Pityophthorus* Eichhoff

1864. Eichhoff, *Berlin. Ent. Zeit.*, 8 : 39.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. B) : 976.

2. *Trigonogenius* Hagedorn

1912. Hagedorn, *Deuts. Ent. Zeits.*, 1912 : 354.

3. *Hagedornus* Lucas

1920. Lucas, *Cat. Alp. Gener. Subgener. Coleop. Orbis terr. Totius. Nicolaischer*, Berlin, p. 683.

4. *Myeloborus* Blackman

1928. Blackman, *Tech. Publ.*, 25 : 16.

5. *Gnathophorus* Schedl

1935. Schedl, *Rev. Ent.*, 5 : 342.

6. *Conophthocranulus* Schedl

1935. Schedl, *Rev. Ent.*, 5 : 343.

7. *Breviophthorus* Schedl

1938. Schedl, *Arch. Natur.*, 176

8. *Pityophthorosides* Blackman

1942. Blackman, *Proc. U.S. Nat. Mus.*, 92(3147) : 199.

9. *Cladoborus* Swamoto

1942. Sawamoto, *Ins. Matsumurana*, 16(3-4) : 165

10. *Neomips* Schedl

1954. Schedl, *Beitr. Dusenica*, 5(1) : 37.

11. *Ctenyophthorus* Schedl

1955. Schedl, *Beitr. Zeitch. Angew. Ent.*, 38(1) : 26.

12. *Gnathophthorus* Wood

1962. Wood, *Gt. Basin Nature.*, 22 : 76.

### 13. *Hypopityophthorus* Bright

1981. Bright, *Ent. Soc. Canada, Memo.*, 118 : 14.

*Types of the genus : Pityophthorus : Bostrichus lichtensteini* Ratzebwg; *Trigonogenius : T. fallax* Hagedorn; *Hagedornus* Lucas; *T. fallax* Hagedorn; *Myeloborus : Pityophthorus ramiperda* Swaine; *Ganthophorus : G. sparsepilosus* Schedl; *Conophthocranulus : C. Blackman* Schedl; *Breviophthorus : B. brasiliensis* Schedl; *Pityophthorus : P. pudens* Blackman; *Cladoborus : C. arakii* Sawamoto; *Neomips brasiliensis* Schedl = *Pityophthorus dimorphus*; *Ctenyophthorus : C. glabratus* Schedl; *Ganthophthorus : G. sparsepilosus* Schedl; *Hypopityophthorus : Pityophthorusinops* Wood.

It is a well established world-wide genus described by Eichhoff (1864). About 377 species had been catalogued by Wood and Bright (1992), of which only five species had been recognized from India. As many as 12 genera described by different authors from different countries of the world had been placed under the genus as synonymy as referred in the world catalogue (Wood and Bright, 1992). As such, they had widened the range of distribution of the genus as well as that of taxonomic variations.

#### Key to the species genus *Pityophthorus* Eichhoff

1. Larger species, body length 1.80 mm; elytral declivity strongly impressed .....  
..... *P. glutae* Wood
- Smaller species, body-length 1.40-1.70 mm; elytral declivity moderately impressed.  
..... 2
2. Pronotal asperities not in crecentrically arranged above the summit, frons with median carina in both sexes; body- length 1.40-1.70 mm. .... *P. cedri* Wood
- Pronotal asperities not in crecentrically arranged above the summit; rather irregularly arranged and smaller in size; frons in females with long tuft of pubescence. .... 3
3. Absence of distinct carina in female frons; frons with long pubescence and long hair body-length 1.40-1.45 mm. .... *P. chilgoza* Wood
- Presence of distinct carina in female frons; frons with pubescence arranged uniformly around frons tips of which united together but devoid of any long hairs; body length 1.70 mm. .... *P. deodara* (Stebbing)

#### 121. *Pityophthorus cedri* Wood

##### 1. *Pityophthorus cedri* Wood

1989. Wood, *Gt. Basin Nat.*, 49(2) : 182-183. *Holotype Female* and *Allotype male* in FRI. Dehra Dun; and *Paratypes* in Wood's collection, U.S.A.

1992. Wood and Bright, *Gt. Basin Nat. Memo.*, No. 13(Vol. B) : 987.

*Description* : (Based on Wood, 1989), *Female* : "Length 1.7 mm. (Paratypes 1.4-1.7 mm), 2.6 times as long as wide; color dark reddish brown.

Frons convex, shining, coarsely and closely punctured subglabrous, with a conspicuous, acute median carina.

Pronotum and elytral disc as in *P. deodara* (Stebbing) except pronotal asperities in less definite concentric rows; pronotal disc more closely, deeply punctured.

Elytral declivity distinctly shallowly sulcate from slightly elevated suture to interstriae 3, 3 armed by three small granules, between summits on 3 smooth, shining, impunctate. Vestiture of fine, sparse hair, limited to sides and declivity, setae on interstriae 3 rather long.

*Male* : Similar to female except serrations on anterior margin of pronotum and granules on elytral declivity distinctly larger.

*Distribution* : INDIA : Kashmir, Jhelum Valley, Buniyar (5000 ft.), Punjab, U. Bashahr Div., Kilba (7000 ft.).

*Host* : *Cedrus deodara* and *Pinus gerardiana*.

*Remarks* : Three manuscript names given by Beeson, namely, *P. cedri* Beeson, *P. kashmerensis* Beeson and *P. gerardianus* Beeson have been included under this species. Among Indian species, it is distinguished by moderately impressed elytral declivity, by the occurrence of a conspicuous median carina on the frons of both sexes, and by the more nearly concentric pronotal asperities. As in most other Indian representatives of the genus, the discal interstriae are impunctate (Wood, 1989).

## 122. *Pityophthorus chilgoza* Wood

### 2. *Pityophthorus chilgoza* Wood

1989. Wood, *Gt. Basin Nat.*, 49(2) : 183. *Holotype Female* and *Allotype Male* in F.R.I., Dehra Dun; and Paratypes in Wood's collection, U.S.A. *Type-locality* : Kilba (7000 ft.), U. Bashahr Div., Punjab, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. 13(Vol. B) : 988.

*Description* : (Based on Wood, 1989) : *Female* : Length 1.4 mm (allotype 1.45 mm), 2.8 times as long as wide; color yellowish brown.

Frons flat from eye to eye, finely, rather closely punctured near margins, ornamented by a marginal fringe of long hair, longest setae equal to about half width of frons, setae in central area sparse to obsolete and much shorter.

Pronotum 1.1 times as long wide; sides on basal half almost straight and parallel, rather narrowly rounded in front, anterior margin armed by four serrations, median pair much longer; asperities smaller and more strongly confused than in other Indian species; posterior areas smooth, shining, rather finely, not closely punctured. Glabrous except for sparse setae near margins.

Elytra 1.8 times as long as wide; sides almost straight and parallel on basal two-thirds, rather narrowly rounded behind; striae not impressed, punctures moderately large, deep; interstriae less than twice as wide as striae, smooth shining, impunctate. Declivity rather steep, weakly bisulcate; striae punctures minute, interstriae 2 widened, smooth, shining, impunctate, 3 unarmed, a few small punctures evident. Vestiture of minute strial hair and on declivity, a few short, erect, interstitial setae.

*Male* : Similar to female except frons somewhat convex; its surface irregularly punctate-rugose, shining, with a short, acute, median carina, vestiture inconspicuous, fine, short."

*Distribution* : INDIA : Punjab, U. Bashahr Div., Kilba (7000 ft.).

*Host* : *Pinus gerardiana*.

*Remarks* : "Part of *P. chilgoza* Beeson, *nomen needum*, is species, part of *P. diodara* (Stebbing). This species superficially resembles *P. deodara*, but it is not closely related. It is distinguished by the long pubescence on the female frons, by the absence of carina on the female frons, by the less strongly (shallowly) impressed declivital sulcus, and by much more confused arrangement of smaller pronotal asperities" (Wood, 1989).

### 123. *Pityophthorus deodara* (Stebbing)

#### 1. *Cryphalus deodara* Stebbing

1903. Stebbing, *Office of the Superintendent of Govt. Printing, Calcutta*, 2 : 274. Syntypes Female in FRI., Dehra Dun. *Type-locality* : Konain, Jaunsar Div., Nagkela Forest, Bashahr Div., N.W. Himalaya, India.

#### 2. *Cryphalus himalayensis* Stebbing

1914. Stebbing, *Indian Forest insects of economic importance, Coleopt.*, Eyre and Spottiswoode, London, p. 540. Syntypes, sex ? in FRI, Dehra Dun. *Type-locality* : Jaunsar, Simla Forests, N.W. Himalaya, India.

1989. Wood, *Gt. Basin Nat.*, 49 : 175.

#### 3. *Cryphalus sampsoni* Stebbing

1914. Stebbing, *Indian Forest insects of economic importance, Coleopt.*, Eyre and Spottiswoode, London, p. 551. Syntypes, sex ? in FRI, Dehra Dun. *Type-locality* : Jaunsar, N.W. Himalaya, India.

1989. Wood, *Gt. Basin Nat.*, 49 : 175.

#### 4. *Pityophthorus deodara* (Stebbing)

1992. Wood and Bright, *Gt. Basin Nat. Memo. No. 13*(Vol. B) : 994-995.

*Description* : (Based on Stebbing, 1914) Elongate oblong. Very dark piceous brown. Head finely punctuate and reticulate. Prothorax with base finely margined, truncate,

sides behind very slightly oblique, rounded in front and sinuate below apex, latter obtusely rounded and scarcely crenate; the surface in the anterior half with a number of asperations arranged transvesely, most prominent anteriorly; the posterior half rugose punctate. Elytra slightly narrower at base than prothorax, wider apically, fully twice as long as prothorax; sides straight to apical fourth, thence constricted, apex obtusely rounded; the basal area with transverse striae; rest glabrous, punctate, the punctures in rows, interrupted by small transverse striae and rugosities; the suture raised and glabrous; declivity nearly vertical, moderately shining, punctate, with a few weak tubercles, the outer margin raised. Under surface almost black, punctate, and strongly pubescent. Length, 1.7 mm.

*Distribution* : INDIA : Himachal Pradesh, Kashmir, Uttarakhand.

*Hosts* : *Abies pindrow*, *A. webbiiana*, *Cedrus deodara*, *Pinus excelsa*, *P. roxburghii*.

#### 124. *Pityophthorus glutae* Wood

##### 1. *Pityophthorus glutae* Wood

1989. Wood, *Gt. Basin Na.*, 49(2) : 183-184. *Holotype* Female and *Allotype* Male in F.R.I., Dehra Dun; and paratypes in Wood's collection, U.S.A. *Type-locality* : Tinnevely, S. Madras, India.

1992. Wood and Bright, *Gt. Basin Nat. Memo.* No. 13(Vol. B) : 1001.

*Description* : (Based on Wood, 1989) : *Female* : Length 1.8 mm. (Paratypes 1.8-2.1 mm), 3.0 times as long as wide; color yellowish brown.

Frons narrower than usual, flattened to feebly concave from epistoma to vertex from eye to eye, its shining surface closely, rather coarsely punctured, an acute median carina beginning just above epistomal margin and ending near vertex, its greatest height on upper half; vestiture of rather abundant, fine hair of moderate length on impressed area, median third of vertex giving rise to a pencil tuft of very long hair that tends to extend two-thirds of distance towards epistoma and conceal carina.

Pronotum 1.2 times as long as wide; sides almost straight and parallel on more than basal half, broadly rounded in front; anterior margin armed by eight or more low, basally confluent serrations; asperities rather small, numerous, confused; basal areas smooth, shining, with many impressed point and rather sparse, small punctures. Almost glabrous.

Elytra 1.7 times as long as wide; sides almost straight and parallel on more than basal two thirds, rather narrowly rounded behind; striae not impressed, punctures rather coarse, deep; interstriae only slightly wider than striae, smooth, shining, impunctate. Declivity steep, strongly sulcate; striae 1 and 2 clearly punctured; interstriae 1 distinctly elevated, flat, gradually increasing in width toward apex, with a row of minute punctures and one subapical granule; 2 smooth, shining, impunctate,

widest just below middle, 3 strongly elevated and armed by three widely spaced, pointed denticles. Vestiture hairlike, very sparse, on or near declivity.

*Male* : Similar to female except frons broadly convex, without a carina, punctures less abundant, vestiture short, sparse, inconspicuous; serrations on anterior margin of pronotum larger; declivital impression slightly deeper, with two upper tubercles on each side larger, lower one reduced or obsolete.

*Distribution* : INDIA : Chennai (Madras) : Tinnevely.

*Hosts* : *Gluta travancorica*.

*Remarks* : This is the most unique representative of the genus in India. It is distinguished by the larger size, by the strongly impressed elytral declivity, and by the unique female frons as described above (Wood, 1989).

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## TAXONOMIC INDEX

The names of the higher taxa (in capital letters) including the genera are primarily arranged alphabetic order and then the species under each genera are arranged so. The names of the genera mentioned against the species name indicate its previous status. The names of the synonyms of genera and species are written in italics, while the valid ones are given in regular type.

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## APPENDIX-I

List of Species Published In "Fauna of India and the adjacent countries" Scolytidae : Coleoptera, Vol-I (Part-I), Introduction and Tribe Xyleborini, pp, i-xii + 1-268, Z.S.I., Publication

## Family SCOLYTIDAE

## Tribe Xyleborini

Genus *Amasa* Lea

1. *A. euginae* (Eggers)
2. *A. resecans* (Eggers)
3. *A. schlichii* (Stebbing)
4. *A. versicolor* Hopkins

Genus *Ambrosiodmus* Hopkins

5. *A. apicalis* (Blandford)
6. *A. asperatus* (Blandford)
7. *A. consimilis* (Eggers)
8. *A. dihingensis* (Eggers)
9. *A. funereus* (Lea)
10. *A. lantanae* (Eggers)
11. *A. lewesi* (Blandford)
12. *A. minor* (Stebbing)
13. *A. sundaensis* (Eggers)

Genus *Arixyleborus* Hopkins

14. *A. malayansis* (Schedl)
15. *A. mediosectus* (Eggers)
16. *A. medius* (Eggers)
17. *A. moestus* (Eggers)

Genus *Cnestus* Sampson

18. *C. cruralis* (Schedl)
19. *C. protensus* (Eggers)
20. *C. suturalis* (Eggers)

Genus *Coptodryas* Hopkins

21. *C. alpha* (Sampson)

22. *C. chrysophylli* (Eggers)
23. *C. concinnus* (Beeson)
24. *C. elegans* (Sampson)
25. *C. mus* (Eggers)
26. *C. perparvus* (Sampson)
27. *C. recidens* (Sampson)
28. *C. undulatus* (Sampson)

Genus *Cryptoxyleborus* Schedl

29. *C. turbineus* (Sampson)

Genus *Cyclorhipidion* Hagedorn

30. *C. distinguendus* (Eggers)
31. *C. eggersi* (Beeson)
32. *C. hirtum* (Hagedorn)
33. *C. improbus* (Sampson)
34. *C. inarmatus* (Eggers)
35. *C. lineatus* (Eggers)
36. *C. longidens* (Eggers)
37. *C. mussooriensis* (Eggers)
38. *C. sulcatus* (Eggers)

Genus *Eccoptopterus* Motschulsky

39. *E. spinosus* (Olivier)

Genus *Euwallacea* Hopkins

40. *E. andamanensis* (Blandford)
41. *E. bicolor* (Blandford)
42. *E. destruens* (Blandford)
43. *E. fornicatus* (Eichhoff)
44. *E. interjectus* (Blandford)
45. *E. malloti* (Eggers)
46. *E. piceus* (Motschulsky)
47. *E. sibsagaricus* (Eggers)
48. *E. tristis* (Eggers)
49. *E. valatus* (Sampson)

50. *E. wallacei* (Blandford)

51. *E. xanthopus* (Eichhoff)

Genus *Hadrodemius* Wood

52. *H. globus* (Blandford)

53. *H. metacomans* (Eggers)

54. *H. pseudocomans* (Eggers)

Genus *Leptoxyleborus* Wood

55. *L. concisus* (Blandford)

Genus *Webbia* Hopkins

56. *W. pabo* Sampson

57. *W. trigintispinatus* Sampson

58. *W. turbinatus* Maiti and Saha

Genus *Xyleborinus* Reitter

59. *X. andrewesi* (Blandford)

60. *X. artestriatus* (Eichhoff)

61. *X. exiguus* (Blandford)

62. *X. saxeseni* (Ratzeburg)

63. *X. speciosus* (Schedl)

64. *X. spinipennis* (Eggers)

65. *X. subgranulatus* (Eggers)

Genus *Xyleborus* (Eichhoff)

66. *X. affinis* Eichhoff

67. *X. bidentatus* (Motschulsky)

68. *X. cognatus* Blandford

69. *X. conditus* Schedl

70. *X. corpulentus* Eggers

71. *X. dispar* (Fabricius)

72. *X. emarginatus* Eichhoff

73. *X. fallax* Eichhoff

74. *X. ferrugineus* (Fabricius)

75. *X. glabratus* Eichhoff

76. *X. haberkorni* Eggers

77. *X. major* (Stebbing)

78. *X. mucronatulus* Eggers
79. *X. perforans* (Wollaston)
80. *X. pumilus* Eggers
81. *X. shiva* Maiti and Saha
82. *X. shorea* (Stebbing)
83. *X. similes* Ferrari

Genus *Xylosandrus* Reitter

84. *X. beelsoni* Saha, Maiti and Chakraborti
85. *X. butamali* (Eggers)
86. *X. crassiusculus* (Motschulsky)
87. *X. difficilis* (Eggers)
88. *X. discolor* (Blandford)
89. *X. gravidus* (Blandford)
90. *X. jaintianus* (Eggers)
91. *X. mancus* (Blandford)
92. *X. mesuae* (Eggers)
93. *X. morigerus* (Blandford)
94. *X. mutilatus* (Blandford)
95. *X. subsimilis* (Eggers)
96. *X. terminatus* (Eggers)
97. *X. ursulus* (Eggers)



Dr. Prabodh K. Maiti, Ph.D., F.Z.S., has been engaged in research on termites and their protozoan symbionts; insect wood-borers, especially scolytid-beetles; Ethnozoology, etc. for over 40 years at the Zoological Survey of India, Kolkata. He retired from the same Institute as a Scientist-SF (Joint Director) in 1996, subsequently carried out further research as an Emeritus Scientist and completed the Scolytid-fauna, so far taxonomically least known in India. Further, he has got some other contributions on phylogeny, biogeography, ecology, biodiversity, ethozoology, etc. in his credit.

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