

# FAUNA OF ORISSA

PART—IV

ZOOLOGICAL SURVEY OF INDIA  
1993



STATE FAUNA SERIES 1

# FAUNA OF ORISSA

Part 4

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



ZOOLOGICAL SURVEY OF INDIA  
1993

© Copyright, 1993 Government of India

Published : June, 1993

Project Co-ordinator :  
O. B. Chhotani, Joint Director, ZSI

Price  
Indian : Rs. 220.00  
Foreign : \$ 15.00 £ 10.00

Published by  
The Director, Zoological Survey of India, Calcutta

Printed by Pooram Press, Calcutta

## FOREWORD

The State of Orissa was selected as one of the first States to be surveyed intensively by the Zoological Survey of India to assess the faunal resources within its varied ecological conditions. The scientists of this Survey carried out 55 field trips between 1970-83, collected materials and subsequently identified and analysed the data, results of which are incorporated in 4 volumes of the documents entitled "**FAUNA OF ORISSA**". It may be added that the Zoological Survey of India since its inception in 1916 had carried out a number of field work in the State of Orissa and the collections made from those field trips have also been studied and identified and presented in these volumes. A total of 45 research papers are presented in these 4 volumes which deals with such diverse groups of animals as protozoa, insects, molluscs, fishes to mammals. The documents amply bear the fact that the State of Orissa is enormously endowed with rich living animal resources and form part of potential areas for further biodiversity — studies.

It would not be out of place to mention that a separate document on the largest lagoon — Chilka in Orissa, is being published by the Zoological Survey of India which is expected to provide a comparative data on the resource base of Chilka between 1914-21 and again between 1983-1988. The Survey with its Estuarine Biological Station located at Berhampur (Ganjam) will continue to be involved in further faunistic exploration of the State of Orissa to render services towards proper conservation management plan of living natural resources of this State.

I would like to put on record my sincere thanks to all scientists who participated in the faunistic survey of the State and also to those who have undertaken the studies of the extensive collections in the laboratory. I would also like to thank Dr. O.B. Chhotani, Joint Director (since retired) and Project Coordinator for the Orissa programme for his assistance in editing of these volumes and to Dr. J.R.B. Alfred, Joint Director & In-charge of Publication Division, Mr. G. Sivagurunathan, Publication Production Officer and other staff of the Publication Division for their contribution for bringing out the volumes in the present form.

21st June, 1993  
Calcutta

A.K. GHOSH  
Director  
Zoological Survey of India

# FAUNA OF ORISSA

## PART 4

### C O N T E N T S

FRESHWATER FISHES <i>A. K. Dutta, D. K. Kunda and A. K. Karmakar</i>	1
AMPHIBIA <i>A. K. Sarkar</i>	39
REPTILIA <i>D. P. Sanyal</i>	51
BIRDS <i>M. Mazumdar and J. M. Dasgupta</i>	75
MAMMALIA <i>P. K. Das, J. P. Lal and V. C. Agrawal</i>	143
INSECTA : LEPIDOPTERA : SATYRIDAE <i>D. N. Nandi</i>	181
INSECTA : COLEOPTERA : CERAMBYCIDAE <i>P. K. Basak and S. Biswas</i>	185

## FRESHWATER FISHES

A. K. DUTTA, D. K. KUNDU AND A. K. KARMAKAR  
*Zoological Survey of India, M-Block, New Alipore,  
Calcutta-700053*

### INTRODUCTION

Day (1878) in *Fishes of India* has recorded 89 species from the State of Orissa. Hora (1938, 1940) added 7 species, Misra (1938, 1940, 1954) added 15 species and Chauhan (1947) reported another 8 from the State. Thus in all 119 species were so far known from the State. The present study based on the fish collections made by the ZSI field survey parties during the years 1970-1979 has brought to light another 24 species. As such in all 143 species are now known from Orissa. The collections available for the study comprise of more than 1000 specimens belonging to 99 species and were made from a number of rivers and streams by several scientists from the Survey including one of the authors (D. K. K.).

Here in this contribution information in respect of the species occurring in different rivers and streams in the State, their broad distribution in India and other countries and also some remarks on ecology, etc. are provided for all the 99 species.

A complete list of the 143 species so far reported is also given.

*Abbreviation used:* A. P., Andhra Pradesh; A. K. M., A. K. Mandal; Coll., Collected by; D. P. S., D. P. Sanyal; H. P., Himachal Pradesh; J. K. S., J. K. Sen; K. V. S. R., K. V. S. Rao; M. H., M. Hafeezullah; M. P., Madhya Pradesh; P. K. M., P. K. Maiti; R. K. K., R. K. Kacker; S. B., S. Biswas; S. K., S. Khera; S. K. G., S. K. Gupta; S. K. M., S. K. Mitra; T. K. S., T. K. Sen; U. P., Uttar Pradesh; V. C. A., V. C. Agarwal; W. B., West Bengal; Y. C., Y. Chaturvedi.

### LIST OF FRESHWATER FISHES KNOWN FROM ORISSA

The classification adopted here is that of Green Wood et al. 1966. The species recorded for the first time are marked with asterisk (\*) and those not available in the collection for study are marked with the sign (+).

#### Order CLUPEIFORMES

##### Suborder Clupeoidei

##### Family CLUPEIDAE

1. *Gadusia chapra* (Hamilton)
2. *Gonialosa manminna* (Hamilton)

##### Family ENGRAULIDAE

- +3. *Setipinna phasa* (Hamilton)
- +4. *Setipinna taty* (Velenciennes)

## Order OSTEOGLOSSIFORMES

## Suborder Notopteroidei

## Family NOTOPTERIDAE

5. *Notopterus Chitala* (Hamilton)
6. *Notopterus notopterus* (Pallas)

## Order CYPRINIFORMES

## Suborder Cyprinoidei

## Family CYPRINIDAE

## Subfamily ABRAMIDINAE

- + 7. *Chela (Chela) cachius* (Hamilton)
8. *Chela (Chela) laubuca* (Hamilton)
9. *Salmostoma bacaila* (Hamilton)
- + 10. *Salmostoma boopis* Day
11. *Salmostoma clupeoides* (Bloch)
12. *Salmostoma phulo phulo* (Hamilton)
- + 13. *Salmostoma untrahi* (Day)
14. *Securicula gora* (Hamilton)

## Subfamily RASBORINAE

- + 15. *Barilius barila* (Hamilton)
16. *Barilius barna* (Hamilton)
17. *Barilius bendelisis bendelisis* (Hamilton)
- + 18. *Barilius bola* (Hamilton)
- \* 19. *Barilius shacra* (Hamilton)
20. *Barilius vagra vagra* (Hamilton)
21. *Danio (Danio) aequipinnatus* (McClelland)
- \* 22. *Danio (Danio) dangila* (Hamilton)
23. *Danio (Danio) devario* (Hamilton)
24. *Danio (Brachydanio) rerio* (Hamilton)
25. *Esomus danricus* (Hamilton)
26. *Rasbora daniconius daniconius* (Hamilton)
- \*+27. *Rasbora elanga* (Hamilton)
- + 28. *Rasbora rasbora* (Hamilton)

## Subfamily CYPRININAE

29. *Amblypharyngodon mola* (Hamilton)
- + 30. *Amblypharyngodon microlepis* (Bleeker)

31. *Aspidoparia morar* (Hamilton)
32. *Catla catla* (Hamilton)
- +33. *Chagunius chagunio* (Hamilton)
- +34. *Cirrhinus mrigala* (Hamilton)
- +35. *Cirrhinus fulungee* (Sykes)
36. *Cirrhinus reba* (Hamilton)
37. *Crossocheilus latius latius* (Hamilton)
- \*38. *Cyprinus carpio* Linnaeus
- \*39. *Garra gotyla gotyla* (Gray)
- +40. *Garra lamta* (Hamilton)
- +41. *Garra mullya* (Sykes)
- +42. *Labeo ariza* (Hamilton)
43. *Labeo bata* (Hamilton)
44. *Labeo boga* (Hamilton)
45. *Labeo boggut* (Sykes)
46. *Labeo calbasu* (Hamilton)
47. *Labeo dero* (Hamilton)
- \*48. *Labeo dyocheilus dyocheilus* McClelland
- +49. *Labeo fimbriatus* (Bloch)
- +50. *Labeo gonius* (Hamilton)
- \*51. *Labeo pangusia* (Hamilton)
52. *Labeo rohita* (Hamilton)
- +53. *Oreochthys cosuatis* (Hamilton)
54. *Osteobrama cotio cotio* (Hamilton)
55. *Osteobrama vigorsii* (Sykes)
- \*56. *Osteocheilus (Osteochilichthys) nashii* (Day)
57. *Puntius amphibius* (Valenciennes)
- \*58. *Puntius carnaticus* (Jerdon)
59. *Puntius chola* (Hamilton)
60. *Puntius conchoni* (Hamilton)
- +61. *Puntius dorsalis* (Jerdon)
- +62. *Puntius filamentosus* (Valenciennes)
- +63. *Puntius gelius* (Hamilton)
- +64. *Puntius guganio* (Hamilton)
- \* 65. *Puntius jerdoni* (Day)

- \*66. *Puntius malabaricus* Jerdon
- +67. *Puntius melanampyx melanampyx* (Day)
- +68. *Puntius phutunio* (Hamilton)
- 69. *Puntius sarana sarana* (Hamilton)
- 70. *Puntius sophore* (Hamilton)
- +71. *Puntius subnasutus* (Valenciennes)
- +72. *Puntius terio* (Hamilton)
- 73. *Puntius ticto ticto* (Hamilton)
- +74. *Puntius vittatus* Day
- 75. *Tor khudree* (Sykes).
- \*76. *Tor mussullah* (Sykes)
- \*77. *Tor putitora* (Hamilton)
- \*78. *Tor tor* (Hamilton)

#### Family COBITIDAE

- 79. *Lepidocephalus (Lepidocephalichthys) guntea* (Hamilton)
- \*80. *Lepidocephalus (Lepidocephalichthys) thermalis* (Valenciennes)
- 81. *Noemacheilus beavani* Gunther
- 82. *Noemacheilus botia botia* (Hamilton)
- + 83. *Noemacheilus dayi* (Hora)
- 84. *Noemacheilus denisonii* Day
- \*85. *Noemacheilus rupecola rupecola* (McClelland)
- +86. *Noemacheilus striatus* Day
- +87. *Noemacheilus zonatus* (McClelland)
- +88. *Oreonectes (Oreonectes) evezardi* (Day)

#### Order SILURIFORMES

##### Family BAGRIDAE

- 89. *Aorichthys aor* (Hamilton)
- 90. *Aorichthys seenghala* (Sykes)
- 91. *Mystus bleekeri* (Day)
- 92. *Mystus cavasius* (Hamilton)
- 93. *Mystus gulio* (Hamilton)
- 94. *Mystus menoda menoda* (Hamilton)
- 95. *Mystus vittatus* (Bloch)

- +96. *Rita chrysea* (Day)
- \*97. *Rita kuturnee* (Sykes)
- \*98. *Rita rita* (Hamilton)

## Family SILURIDAE

- 99. *Ompok bimaculatus* (Bloch)
- +100. *Ompok pabda* (Hamilton)
- 101. *Wallago attu* (Schneider)

## Family ARIIDAE

- 102. *Tachysurus caelatus* (Valenciennes)
- \*103. *Tachysurus sagor* (Hamilton)

## Family SCHILBEIDAE

- 104. *Ailia coila* (Hamilton)
- 105. *Clupisoma garua* (Hamilton)
- +106. *Eutropiichthys vacha* (Hamilton)
- +107. *Eutropiichthys murius* (Hamilton)
- +108. *Pseudeutropius atherinoides* (Bloch)

## Family PANGASIIDAE

- +109. *Pangasius pangasius pangasius* (Hamilton)

## Family AMBLYCIPITIDAE

- 110. *Amblyceps mangois* (Hamilton)

## Family SISORIDAE

- 111. *Bagarius bagarius* (Hamilton)
- +112. *Gagata cenia* (Hamilton)
- 113. *Glyptothorax lonah* (Sykes)
- +114. *Hara hara* (Hamilton)
- \*+115. *Nangra viridescens* (Hamilton)

## Family CLARIIDAE

- 116. *Clarias batrachus* (Linnaeus)

## Family HETEROPNEUSTIDAE

- 117. *Heteropneustes fossilis* (Bloch)

Order **ATHERINIFORMES**  
 Suborder **Cyprinodontoidei**  
 Family **CYPRINODONTIDAE**

118. *Aplocheilus lineatus* (Valenciennes)  
 +119. *Aplocheilus panchax* (Hamilton)  
 +120. *Oryzias melanostigma* (McClelland)

Suborder **Exocoetoidei**  
 Family **BELONIDAE**

121. *Xenentodon cancila* (Hamilton)  
 122. *Strongylura strongylura* (Van Hasselt)

Order **CHANNIFORMES**  
 Family **CHANNIDAE**

- +123. *Channa marulius* Hamilton  
 124. *Channa orientalis* (Schneider)  
 125. *Channa punctatus* (Bloch)  
 126. *Channa striatus* (Bloch)

Order **SYMBRANCHIFORMES**  
 Family **SYMBRANCHIDAE**

127. *Monopterus cuchia* (Hamilton)  
 \*128. *Ophisternon bengalensis* McClelland

Order **PERCIFORMES**  
 Suborder **Percoidei**  
 Family **CENTROPOMIDAE**

129. *Chanda baculis* Hamilton  
 130. *Chanda nama* Hamilton  
 131. *Chanda ranga* Hamilton  
 \*132. *Chanda thomasi* (Day)

Family **NANDIDAE**

133. *Badis badis* (Hamilton)  
 134. *Nandus nandus* (Hamilton)

Suborder **Mugiloidei**  
 Family **MUGILIDAE**

- \*135. *Liza parsia* (Hamilton)  
 136. *Rhinomugil corsula* (Hamilton)

Suborder **Gobioidei**Family **GOBIIDAE**

- 137.
- Glossogobius giuris*
- (Hamilton)

Suborder **Anabantoidei**Family **ANABANTIDAE**

- 138.
- Anabas testudineus*
- (Bloch)
- 
- \*139.
- Colisa fasciata*
- (Schneider)

Order **MASTACEMBELIFORMES**Family **MASTACEMBELIDAE**

- 140.
- Macrornathus aculeatus*
- (Bloch)
- 
- 141.
- Mastacembelus armatus*
- (Lacepede)
- 
- 142.
- Mastacembelus pancalus*
- (Hamilton)

Order **TETRAODONTIFORMES**Family **TETRAODONTIDAE**

- 143.
- Tetraodon cutcutia*
- Hamilton

## SYSTEMATIC ACCOUNT

Family I **CLUPEIDAE**1. *Gudusia chapra* (Hamilton)1822. *Clupanodon chapra* Hamilton, *Fish. Ganges*, : 248, 383 (type locality : Upper parts of the Ganges).1962. *Gudusia chapra*: Misra, *Rec. Indian Mus.*, 57: 119, fig. 41.1876. *Gagusia chapra*: Misra, *Fauna of India, Pisces 2* (ed. 2): 611981. *Gudusia chapra*: Jayaram, *Handbk. Freshwater Fishes India*: 40*Material examined* : (i) 2 exs., Gobra Road, Dist. Cuttack coll. S. B., 17. i. 1974. (ii) 8 exs., Mahanadi River Barabazar area, Sambalpur, coll. T. K. S., 26. iv. 1973.*Measurements* : 110-115 mm (10 exs.)*Distribution* : Throughout Northern India. (Orissa : Gobra Road, Sambalpur. Mahanadi R.)*Remarks* : Occurs in the main Mahanadi drainage, not found in its tributaries.2. *Gonialosa manmina* (Hamilton)1822. *Clupanodon manmina* Hamilton, *Fish. Ganges* : 247 (type-locality : Most of the freshwater branches of the Ganges).1962. *Gonialosa manmina*. Misra, *Rec. Indian Mus.* 57 : 124, pl. 48.1976. *Gonialosa manmina* : Misra, *Fauna of India, Pisces 2* (ed. 2) : 961981. *Gonialosa manmina* : Jayaram, *Handbk. Freshwater Fishes India* : 42*Material examined* : 10 exs., Rourkella Market (Mahanadi R.) coll. T. K. S., 23. iii. 1973.*Measurements* : 60-92 mm (10 exs.)

*Distribution* : Widely distributed in north India including the estuarine region of Ganga (Orissa : Mahanadi R.). Also Bangladesh and Pakistan.

#### Family II NOTOPTERIDAE

##### 3. *Notopteras chitala* (Hamilton)

1822. *Mystus chitala* Hamilton, *Fish. Ganges* : 236, 282 (type-locality : larger freshwater rivers of Bengal).

1889. *Notopterus chitala*, Day, *Fauna Brit. India Fish.* 7 : 407.

1981. *Notopterus chitala* : Jayaram, *Handbk. Freshwater Fishes India* : 53

*Material examined* : (i) 1 ex., Biological Park, Nandan Kanan, Puri, coll. R. K. K., 27. iii. 1974.

*Measurements* : 180 mm (1 ex)

*Distribution* : India : (Orissa : Nandankanan, Puri) Throughout the states of U. P., Bihar, W. B., Assam. Also Pakistan, Burma, Thailand, Malaysia.

*Remarks* : An excellent food fish with commercial value. Found in the deeper waters of the river, not found in the shallow waters. It could be distinguished from *N. notopterus* by its distinct humped back with almost straight ventral profile.

##### 4. *Notopterus notopterus* (Pallas)

1769. *Gymnotus notopterus* Pallas, *Spicil. zool.*, 7, pl. 6, fig. 2. (type-locality : Indian Ocean).

1962. *Notopterus notopterus* : Misra, *Rec. Indian Mus.*, 57 : 136, fig. 61.

1981. *Notopterus notopterus* : Jayaram, *Handbk. Freshwater Fishes India* : 53

*Material examined* : (i) 1 ex., Nandankanan, Barang, Dist. Cuttack, coll. S. B., 29. 1. 1974. (ii) 13 exs., Bhasmati river near Talpatia village, Sundergarh, coll. T. K. S., 27. iii. 73. (iii) 4 exs., Shaluk R. Phulbani, coll. T. K. S., 3. xii. 1974.

*Measurements* : 121-152 mm (18 exs.)

*Distribution* : Throughout the states of Punjab, U. P., W. B., Assam, Orissa (as above and Narsingpur), Tamil Nadu, Maharashtra in India. Also Pakistan, Bangladesh, Burma, Malaysia and Thailand.

*Remarks* : An esteemed food fish of fair commercial value.

#### Family III CYPRINIDAE

##### Subfamily ABRAMIDINAE

##### 5. *Chela (Chela) laubuca* (Hamilton)

1822. *Cyprinus laubuca* Hamilton, *Fish. Ganges* : 260, 380 (type-locality : Ponds of the northern parts of Bengal).

1962. *Chela laubuca* : Misra, *Rec. Indian Mus.*, 57 : 139-40, fig. 65.

1981. *Chela laubuca* : Jayaram, *Handbk. Freshwater Fishes India* : 72

*Material examined* : 3 exs., Nandankanan, Dist. Cuttack. coll. D. P. S., 1, ix. 1971.

*Measurements* : 50-54 mm (3 exs.)

*Distribution* : India : Throughout the states of Assam, W. B., Orissa (Cuttack, Mahanadi R.), M. P. Also Bangladesh, Burma, Sri Lanka, Sumatra, Thailand.

*Remarks* : Mouth opening inclined upwards, found in the shallow waters, side ditches in tanks and canals.

### 6. *Salmostoma bacaila* (Hamilton)

1822. *Cyprinus bacaila* Hamilton, *Fish. Ganges* : 265, 284, pl. 8, fig. 76

1962. *Oxygaster bacaila* Misra, *Rec. Indian Mus.*, 57 : 140.

1981. *Salmostoma bacaila* : Jayaram, *Handbk. Freshwater Fishes India* : 74

*Material examined* : (i) 1 ex., Mahanadi river, Gobra Rd., (West) Cuttack, coll. S. B., 17. 1. 1974. (ii) 6 exs., Ram Sagar, Bhabani Patna, Dt. Kalahandi, Coll. T. K. S., 17. xi. 1974. (iii) 5 exs., Parasor R., Kotagarh, Dist. Phulbani, coll. T. K. S., 27. xi. 1974. (iv) 5 exs., Bonaigarh, Dist. Sundergarh, Coll. T. K. S., 5-6. iv. 1973. (v) 5 exs., Brahmani R. at Bonaigarh Ferry Ghat, Dist. Sundargarh, coll. T. K. S., 4. iv. 1973. (vi) 12 exs., Mahanadi R. near Kamblibar, Dist. Sambalpur, coll. T. K. S., 25. iv. 1973.

*Measurements* : 62-92 mm (34 exs.)

*Distribution* : Throughout India (Orissa : as above) except in Kerala, Karnataka and Tamil Nadu.

*Remarks* : The mouth opening is directed upwards with a low lateral line. Found in the shallow waters in canals and tanks.

### 7. *Salmostoma clupeoides* (Bloch)

1795. *Cyprinus clupeoides* Bloch, *Naturg. Ausland. Fische*, 12 : 49, pl. 408, (type-locality : Tranquebar).

1962. *Oxygaster clupeoides*, Misra, *Rec. Indian Mus.*, 57 : 140-41.

1981. *Salmostoma Clupeoides* : Jayaram, *Handbk. Freshwater Fishes India* : 74

*Material examined* : (i) 1 ex., Nandankanan, Dist., Cuttack, coll. A. K. M., 1. VIII. 1973. (ii) 2 exs., West shore of Chilka Lake, Dist. Ganjam, coll. D. P. S., 11. IX. 1971. (iii) 2 exs., Badrama reserve forest, Dist. Sambalpur, coll. D. P. S., 3. VI. 1972. (iv) 1 ex., Mahanadi, Naraj, 2 km. North of P. W. D. Inspection Bunglow, coll. S. B., 5. II. 1974.

*Measurements* : 48-148 mm (6 exs.)

*Distribution* : Throughout the states of Gujarat, M. P., Tamil Nadu, Karnataka, Arunachal Pradesh in India. (Orissa : as above)

*Remarks* : This species comes closer to *S. bacaila*, it differs in the lateral line scales count. Found in the shallow waters of tanks and lakes.

### 8. *Securicula gora* (Hamilton)

1822. *Cyprinus gora* Hamilton, *Fish. Ganges*, 263, 384 (type-locality : Ganges and its tributaries).

1889. *Chela gora*, Day, *Fauna Brit. India, Fish.*, 1 A: 362

1962. *Oxygaster gora* Misra, *Rec. Indian Mus.*, 57 : 141.

1081. *Securicula gora* : Jayaram, *Handbk. Freshwater Fishes India* : 73

*Material examined* : 8 exs., Asha Sagar, Bhabanipatna, Dt. Kalahandi, Orissa, Coll. T. K. S., 16. XI. 1974.

*Measurements* : 85-92 mm (8exs.)

*Distribution* : Throughout the states of Assam, W. B., Punjab, U. P., Bihar, Orissa (Asha Sagar, Bhabanipatna, Mahanadi R.) in India Also in Pakistan.

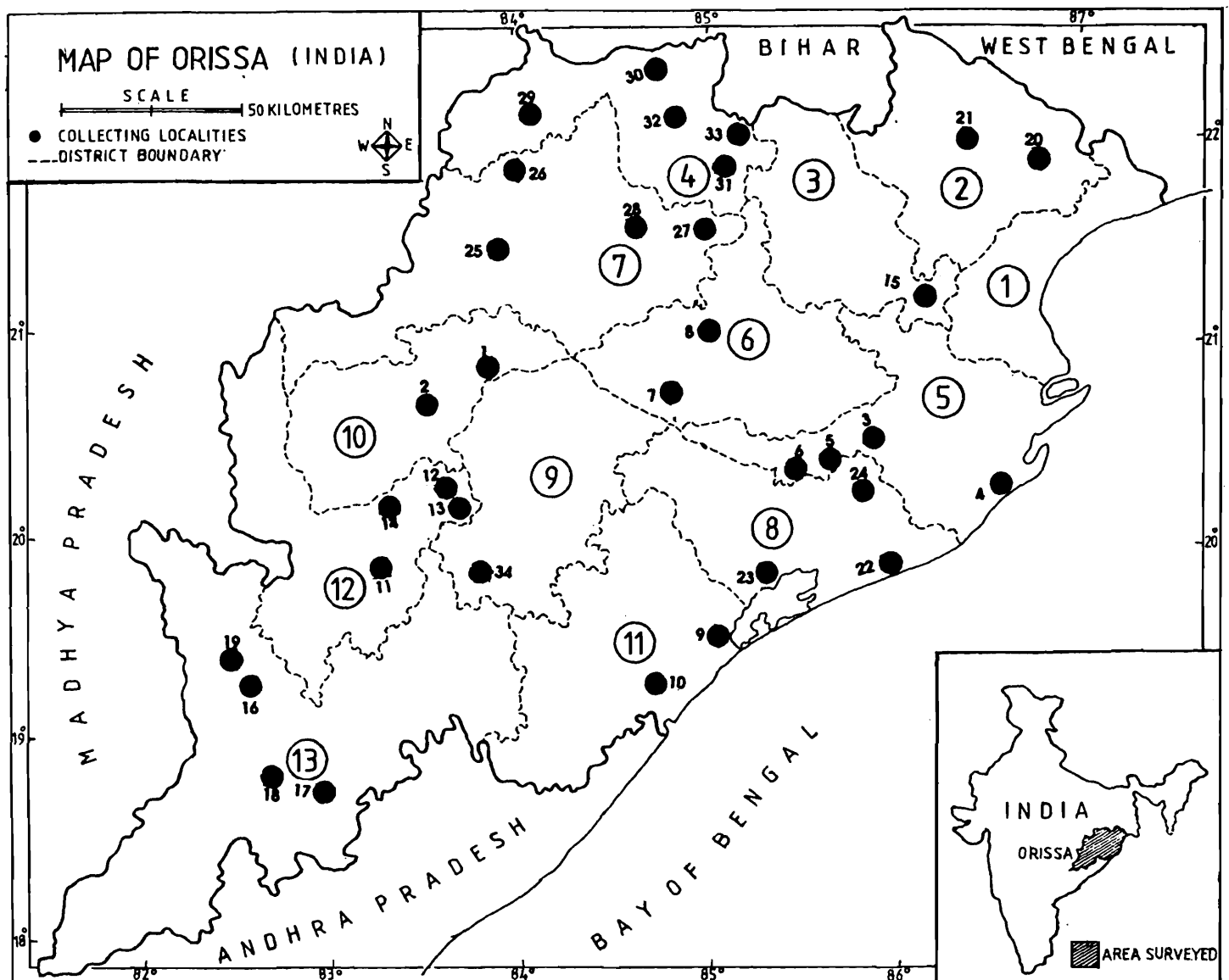


Fig. 1. Map of Orissa, showing collection stations.

Encircled large numbers 1 – 13 denote the districts and smaller numbers 1 – 34 the collection localities. The names of districts are : 1, Baleshwar; 2, Mayurbhanj; 3, Kendujhar; 4, Sundargarh; 5, Cuttack; 6, Dhenkana; 7, Sambalpur; 8, Puri; 9, Phulbani; 10, Balangir; 11, Ganjam; 12, Kalahandi; 13, Koraput. The names of collection localities are : 1, Sonapur; 2, Balangir; 3, Cuttack; 4, Paradwip; 5, Nandankanan; 6, Banki; 7, Baghmunda; 8, Tikarapara; 9, Rambha; 10, Berhampur; 11, Bhabanipatna; 12, Madanpur; 13, Rampur; 14, Kesinga; 15, Anandpur; 16, Nowrangpur; 17, Koraput; 18, Jeypore; 19, Pappadahandi; 20, Baripada; 21, Lagung; 22, Puri; 23, Balugaon; 24, Barang; 25, Sambalpur; 26, Jharsuguda; 27, Barkot; 28, Deogarh; 29, Sundargarh; 30, Rourkela; 31, Bonaigarh; 32, Banki; 33, Panposh; 34, Kotagarh.

Subfamily RASBORINAE  
9. *Barilius barna* (Hamilton)

1822. *Cyprinus barna* Hamilton, *Fish. Ganges*, : 268, 384. (type-locality : Yamuna and Brahmaputra)

1960. *Barilius barna*, De Witt, *Stanford Ichth. Bull.*, 7 (4) : 70.

1981. *Barilius barna* : Jayaram, *Handbk. Freshwater Fishes India* : 88

*Material examined* : (i) 9 exs., Brahamani R. at Bonaigarh ferry ghat, Dt. Sundargarh, Coll. T. K. S., 4. IV. 1973. (ii) 6 exs., Brahamani R. near Burtangra vill., 75 km. from Bonaigarh, Dt. Sundargarh, coll. T. K. S., 8. IV. 1973. (iii) 1 ex., Nowrangpur Market (Indravati Drainage), Coll. M. H., 1. IV. 1979.

*Measurements* : 62-82 mm (16 exs.)

*Distribution* : In the states of Assam, W. B. and Orissa (as above) in India. Also in Burma:

10. *Barilius bendelisis bendelisis* (Hamilton)

1807. *Cyprinus bendelisis* Hamilton, *Journey Mysore*, 3 : 345, pl. 32. type-locality : rivers of Mysore).

1962. *Barilius bendelisis* Misra, *Rec. Indian Mus.*, 57 : 141 - 42, fig. 66.

1981. *Barilius bendelisis* : Jayaram, *Handbk. Freshwater Fishes India* : 88

*Material examined* : (i) 4 exs., Mahanadi river of Tikarpara Dist. Dhenkanal. coll. J. K. S., 27. XI. 1972. (ii) 18 exs. between the main road and Brahamani R. Bonaigarh. coll. D. P. S., 15. VI. 1972. (iii) 1 ex., Wallipur, 4 km. north-west of Gania I. B., Puri Dist. Coll. S. B., 9. II. 1974. (iv) 2 exs., Sundargarh, Dt. Orissa, coll. T. K. S., 27. iii. 1973. (v) 1 ex. Nowrangpur Market (Indravati Drainage), coll. M. H., 30. III. 1970.

*Distribution* : Throughout the states of W. B., Assam, Orissa (as above) Bihar, U. P., H. P., Tamil Nadu, Punjab in India. Also in Bangladesh and Sri Lanka.

*Measurements* : 61-146 mm (26 exs.)

*Remarks* : Occurs in shallow hill streams beset with rockboulders and sand beds. The short vertical bars and a black spot on each scale are its typical distinguishing characters.

11. *Barilius shacra* (Hamilton)

1822. *Cyprinus shacra* Hamilton, *Fish. Ganges* : 271. (type-locality : River Kosi).

1949. *Barilius shacra* : Menon, *Rec. Indian Mus.*, 47 : 232.

1981. *Barilius shacra* : Jayaram, *Handbk. Freshwater Fishes India* : 89

*Material examined* : 7 exs., Kaira Vill., 60 km. from Bonaigarh, Dt. Sundargarh, coll. T. K. S., 9. IV. 1973.

*Distribution* : U. P. (Hardwar, down the valley of the Ganges), North East Bihar, and Assam. Recorded for the first time in the state of Orissa.(Kaira village, Binaigarh)

*Measurements* : 65-82 mm (7 exs)

12. *Barilius vagra vagra* (Hamilton)

1822. *Barilius vagra* Hamilton, *Fish. Ganges* : 269, 385 (type-locality : the Ganges at Patna).

1962. *Barilius vagra* : Misra, *Rec. Indian Mus.*, 57 : 143.

1981. *Barilius vagra vagra* : Jayaram, *Handbk. Freshwater Fishes India* : 89

*Material examined* : (i) 19 exs., Bolangir Dist. State Fishing Farm tank, Sonepur, coll. T. K. S., 29. i. 1973. (ii) 1 ex. Nowrangpur Fish Market (Indravati drainage), coll. M. H., 29. iii. 1979.

*Measurements* : 40-100 mm (7 exs.)

*Distribution* : Throughout the states of W. B., Assam, Orissa(Sonepur, Nowrangpur and Mahanadi R.), Bihar, Punjab, Western Himalayas in India. Also Nepal, Pakistan, Bangladesh, and Sri Lanka.

*Remarks* : Found in torrential waters, could be distinguished by 10 vertical bars.

### 13. *Danio (Danio) aequipinnatus* (McClelland)

1839. *Perilampus aequipinnatus*, McClelland, *Asiat. Res.*, 19 : 393, pl. 60. fig. 1 (type-locality : Assam)

1889. *Danio aequipinnatus* : Day, *Fauna Brit. India. Fish.* 1 : 356.

1981. *Danio (Danio) aequipinnatus* : Jayaram, *Handbk. Freshwater Fishes India* : 81.

*Material examined* : (i) 13 exs., Parasar R., Phulbani, Dist. Kotagarh, coll. T. K. S., 27. XI. 1974. (ii) 12 exs., 49 mm, Bondapimpli R., Phulbani, Dist. Kotagarh, coll. T. K. S., 29. XI. 1974. (iii) 6 exs., Nowrangpur Market (Indravati drainage), coll. M. H., 28. iii. 1979.

*Measurements* : 38-52 mm (31 exs.)

*Distribution* : Throughout the states of Assam, Manipur, Orissa, W. B., Sikkim, Madhya Pradesh, Andhra, Maharashtra, Karnataka, Kerala in India. Also Pakistan, Burma, Sri Lanka and Thailand.

*Remarks* : A beautiful silvery fish with blue and orange iridescence on horizontal bands. Fins yellow. Live in shallow waters, canals, ditches, tanks, beels and rivers.

### 14. *Danio (Danio) dangila* (Hamilton)

1822. *Cyprinus dangila* Hamilton, *Fish Ganges* : 312, 390

1878. *Danio (Danio) dangila* : Jayaram, *Handbk. Freshwater Fishes India* : 81.

*Material examined* : 1 ex., Nowrangpur market (Indravati drainage), coll. M. H. 28.iii. 1979.

*Distribution* : W. B., Bihar, Orissa (Nowrangpur)

### 15. *Danio (Danio) devario* (Hamilton)

1822. *Cyprinus devario* Hamilton, *Fish. Ganges*, : 341, 393, pl. 6, fig. 94 (type-locality : rivers and ponds of Bengal).

1962. *Danio devario* : Misra, *Rec. Indian Mus.*, 57 : 144.

1981. *Danio (Danio) devario* : Jayaram, *Handbk. Freshwater Fishes India* : 80

*Material examined* : (i) 2 exs., Sundergarh. coll. S. K., 17. IX. 1972. (ii) 2 ex., Pump House, Sambalpur. coll. S. K., 27. IX. 1972.

*Measurements* : 21-37 mm (3 exs.)

*Distribution* : Eastern Himalayas in W. B. and Assam, Orissa(Sundergarh, Sambalpur and Mahanadi R.), Bihar, U. P., Punjab, Himachal Pradesh, M. P., Gujarat in India. Also Pakistan and Bangladesh.

*Remarks* : Occurs in clear streams. Barbels absent.

16. *Danio (Brachidanio) rerio* (Hamilton)

1822. *Cyprinus rerio* Hamilton, *Fish, Ganges* 323, 390.

1878. *Danio rerio* : Day, *Fish. India*, 597, pl. cli, fig. 4.

1981. *Danio (Brachidanio) rerio* ; Jayaram, *Handbk. Freshwater Fishes India* : 81.

*Material examined* : 3 exs., Lake around State Botanical Garden, Dist. Puri. Coll. S. B., 1. II. 1974.

*Measurements* : 35-37 mm (3 exs.)

*Distribution* : Throughout Indian region (Orissa : Puri, Mahanadi R.)

17. *Esomus danricus* (Hamilton)

1822. *Cyprinus danrica* Hamilton, *Fish. Ganges*, : 325, 390, pl. 16, fig. 88 (type-locality : Ponds and ditches of Bengal).

1962. *Esomus danrica* : Misra, *Rec. Indian Mus.* 57 : 145, fig. 69.

1981. *Esomus danricus* : Jayaram, *Handbk. Freshwater Fishes India* : 78.

*Material examined* : (i) 1 ex., Karandi river 3 kms. north of Semiliguda, coll. K. V. S. R., 22. ii. 1971. (ii) 1 ex., River Mahanadi, Sambalpur. coll. J. K. S., 28. IX. 1972. (iii) 3 exs., Pustan Sagar, Bhabanipatna, Dist. Kalahandi, coll. T. K. S., 18. XI. 1974. (iv) 1 ex., Parasar R., Kotagarh, Dist. Phulbani, coll. T. K. S., 20. XI. 1974. (v) 5 exs., Nowrangpur Market, coll. M. H., 31. III. 1979.

*Measurements* : 30-61 mm (11 exs.)

*Distribution* : Throughout India, Orissa (as above). Also Bangladesh, Pakistan, Burma, Sri Lanka and Malayasia.

18. *Rasbora daniconius daniconius* (Hamilton)

1822. *Cyprinus daniconius* Hamilton, *Fish. Ganges*. : 327, 391, pl. 15, gif. 89. (type-locality the river of Southern Bengal).

1962. *Rasbora daniconius* : Misra, *Rec. Indian Mus.*, 57 : 145 146.

1981. *Rasbora daniconius daniconius* : Jayaram, *Handbk. Freshwater Fishes India* : 84.

*Material examined* : (i) 1 ex., Karandi river 3 kms. north of Semiliguda, coll. K. V. S. R., 22. ii. 1971. (ii) 1 ex., River Mahanadi, Sambalpur. coll. J. K. S., 28. IX. 1972. (iii) 3 exs., Pustan Sagar, Bhabaatna, Dist. Kalahandi, col. T. K. S., 18. XI. 1974. (iv) 1 ex., Parasar R., Kotagarh, Dist. Phulbani, coll. T. K. S. 20. XI. 1974. (v) 5 exs., Nowrangpur Market, coll. M. H., 31. III. 1979.

*Measurements* : 30-61 mm (11 exs.)

*Distribution* : Throughout India, Orissa (as above). Also Bangladesh, Pakistan, Burma, Sri Lanka and Malayasia.

## Subfamily CYPRININAE

19. *Ablypharyngodon mola* (Hamilton)

1822. *Cyprinus mola* Hamilton, *Fish. Ganges* : 334, 392, pl. 38, fig. 92 (type-locality : ponds and freshwater rivers in every part of the Gangetic provinces).

1889. *Amblypharyngodon mola* : Day, *Fauna Brit. India. Fish*, 1 : 291, fig. 101.

1981. *Amblypharyngodon mola* : Jayaram, *Handbk. Freshwater Fishes India* : 86.

*Material examined* : (i) 27 exs., Asha sagar, Bhawani Patna, Dist. Kalahandi, coll. T. K. S., 15-16. XI. 1974. (ii) 13 exs., Pastam Sagar, Bhawani Patna, Dist. Kalahandi, coll. T. K. S., 18. XI. 1974. (iii) 33 exs., Nowrangpur Market, coll. M. H., 28. iii. 1979.

*Measurements* : 45-58 mm (73 exs.)

*Distribution* : Throughout the Indian states except the Malabar coast. (Orissa : Asha sagar and Pastam sagar, Bhawani Patna, Nowrangpur and Mahanadi R.). Also Pakistan and Burma.

*Remarks* : Occurs in small streams, ditches, tanks, canals, beels and shallow rivers. Body covered with small silvery scales. Though the size is small it has good commercial value for its taste.

#### 20. *Aspidoparia morar* (Hamilton)

1822. *Cyprinus morar* Hamilton, *Fish Ganges*, 264, 381, pl. 31, fig. 75 (type-locality : Rivers Yamuna and Tista, two large but distant branches of the Ganges).

1962. *Aspidoparia morar* : Misra, *Rec. India Mus.* 57 : 147, fig. 71.

1981. *Aspidoparia morar* : Jayaram, *Handbk. Freshwater Fishes India* : 85.

*Material examined* : (i) 8 exs., Brahmani river, Balugaon, coll. T. K. S., 22. iii. 1973. (ii) 2 exs., Tel River, Kesinga Dist. Bolangir, coll. K. V. S. R., 28. i. 1972.

*Measurements* : 30-75 mm (10 exs.)

*Distribution* : Throughout Northern Indian states including Assam. (Orissa : Brahmani river, Balugaon, Tel river, Kesinga, Mahanadi R). Also Burma.

#### 21. *Catla catla* (Hamilton)

1822. *Cyprinus catla* Hamilton, *Fish. Ganges* : 287, pl. 13, fig. 81 (type-locality : rivers and tanks of Bengal).

1962. *Catla catla* : Misra, *Rec. Indian Mus.*, 57 : 156-57, fig. 79.

1981. *Catla catla* : Jayaram, *Handbk. Freshwater Fishes India* : 31.

*Material examined* : 1 ex., Jecra river, Bargarh, coll. T. K. S., 27. iv. 1973.

*Measurements* : 110 mm (1 ex.)

*Distribution* : Throughout India (Orissa : Jecra river, Bargarh, Narsingpur). Also Pakistan, Bangladesh, Burma and Sri Lanka.

*Remarks* : Occurs in rivers, tanks and ponds. It is an important food-fish (major carp) attains nearly to 1, 800 mm in length. It is largely employed in pond culture throughout India. A game fish with excellent commercial value.

#### 22. *Cirrhinus reba* (Hamilton)

1822. *Cyprinus reba* Hamilton, *Fish Ganges* : 289, 386 (type-locality : rivers and ponds of Bengal and Bihar).

1962. *Cirrhinus reba* : Misra, *Rec. Indian Mus.*, 57 : 158.

1981. *Cirrhinus reba* 127 : Jayaram, *Handbk. Freshwater Fishes India* : 127

*Material examined* : (i) 1 ex., Brahmani river, Balurghat, coll. T. K. S., 23. iii. 1973. (ii) 6 exs., Mahanadi river, Naraj, 2 kms. north of P. W. D. Inspection Bunglow. Naraj. Coll. S. B., 5. ii. 1974. (iii) 17 exs., Bonaigarh, Dist. Sundargarh, coll. T. K. S., 6-8. iv. 1973. (iv) 3 exs., Barkot, Dist. Sambalpur, coll. T. K. S., 11-12. iv. 1973. (v) 4 exs. Jeypore, Dist. Koraput, coll. T. K. S., 10. xi. 1974. (vi) 4 exs., Brahmani R. near Gagoa vill., Barkot, Dist. Sambalpur, coll. T. K. S., 14. iv. 1973.

*Measurements* : 86-133 mm (35 exs.)

*Distribution* : Throughout the states of India (Orissa : as above). Also Pakistan and Bangladesh.

*Remarks* : Occurs in shallow rivers. Body beset with hexagonal scales. A food fish (minor carp) of fair commercial value.

### 23. *Crossocheilus latius latius* (Hamilton)

1822. *Cyprinus latius* Hamilton, *Fish. Ganges*, 345-393 (type-locality : the Tista).

1962. *Crossocheilus latius latius* : Misra, *Rec. Indian Mus.* 57 : 169-70, pl. 89(a), 89(b).

1981. *Crossocheilus latius latius* : Jayaram, *Handbk. Freshwater Fishes India* : 134.

*Material examined* : (i) 1 ex., Brahmani river, Balurghat, coll. T. K. S., 23. iii. 1973. (ii) 1 ex., Jobra Rd., (West) Dist. Cuttack. coll. S. B., 17. i. 1974. (iii) 2 exs., Nowrangpur Market (Indravati drainage), coll. M. H., 29. iii. 1979.

*Measurements* : 63-110 mm (4 exs.)

*Distribution* : In the hill streams of Northern India, Orissa (as above) W. B., A. P., and M. P.

### 24. *Cyprinus carpio* Linnaeus

1758. *Cyprinus carpio* Linnaeus, *Syst. Nat.*, ed. 10, p. 320.

1952. *Cyprinus carpio* var. *specularis* Jones and Sarojini, *J. Bombay Nat. Soc.*

1981. *Cyprinus carpio specularis* : Jayaram, *Handbk. Freshwater Fishes India* : 94. Hist., 1, fig. 4 (plate 7).

*Material examined* : 1 ex., Fisheries Tank, Bhawani Patna, Kalahandi, coll. T. K. S., 14. xi. 1974.

*Measurements* : 310 mm (1 ex.)

*Distribution* : Originally found throughout China, Korea, Japan and Taiwan. Also in Europe and America. Introduced in India (Orissa : Fisheries tank, Bhawani Patna)

*Remarks* : A well established exotic fish having important commercial value, introduced in India in 1950. It enjoys a global distribution for its acclimatizing capacity at variety of habitats. Three subspecies are established in Indian waters namely, *C. carpio communis* (Scale carp), *C. C. specularis* (Mirror carp) and *C. C. nudus* (Leather carp).

### 25. *Garra gotyla gotyla* (Gray)

1822-33. *Cyprinus gotyla* Gray, *Ill. Ind. Zool. Hardwicke*, 2, pl. 88, figs. 3, 3 (type-locality : Northern India).

1962. *Garra gotyla* : Misra, *Rec. Indian Mus.*, 57 : 158-59.

1981. *Garra gotyla gotyla* : Jayaram, *Handbk. Freshwater Fishes India* : 136

*Material examined* : (i) 2 exs., Brahmani R., Bonaigarh, coll. D. P. S., North of Deogarh, Dist. Sambalpur, coll. D. P. S., 13. vi. 1972. (iii) 2 exs., Mahanadi R., off Tikarapara, Dist. Dhenkanal, coll. J. K. S., 22. xi. 1972.

*Measurements* : 78-127 mm (5 exs.)

*Distribution* : Throughout the states of U. P., Bihar, Orissa (as above), M. P., Gujarat, Maharashtra, Karnataka and Kerala in India.

*Remarks* : A typical hill-stream fish with ventral disc broader than long. Body dorso ventrally flattened with fan like pectoral fin.

#### 26. *Labeo bata* (Hamilton)

1822. *Cyprinus bata* Hamilton, *Fish. Ganges* : 283, 386 (type-locality : rivers and ponds of Bengal).

1962. *Labeo bata* : Misra, *Rec. Indian Mus.*, 57 : 159-60

1981. *Labeo bata* : Jayaram, *Handbk. Freshwater Fishes India* : 117

*Material examined* : (i) 2 exs., Wallipur, 4 kms. north-west of Gania, Dist. Puri. coll. S. B., 9. ii. 1974. (ii) 9 exs., Mahanadi river at Jobra, West Cuttack, coll. S. B., 17. i. 1974 (iii) 5 exs., Indravati river, Chandili, Koraput Dist., coll. D. P. S., 27. xi. 1973. (iv) 9 exs., Brahmani R. at Tumlela Bank, Dist. Sundargarh, coll. T. K. S., 31. iii. 1973. (v) 28 exs., Bostami Sagar, Bhawani Patna, Dist. Kalahandi, coll. T. K. S., 14. xi. 1974.

*Distribution* : In the states of Assam, W. B., Orissa (as above), M. P., Tamil Nadu and Andhra in India. Also Bangladesh.

*Remarks* : A minor carp having fishery importance, found in ponds, tanks, shallow rivers.

#### 27. *Labeo boga* (Hamilton)

1822. *Cyprinus boga* Hamilton, *Fish Ganges*, : 286, 386, pl. fig. 80 (type-locality : the Brahmaputra).

1889. *Labeo boga*, Day, *Fauna brit. India-Fish*, 1 : 269.

1981. *Labeo boga* : Jayaram, *Handbk. Freshwater Fishes India* : 117

*Material examined* : (i) 5 exs., Brahmani R., Banki, Dist. Sundargarh, coll. T. K. S., 30. iii. 1973. (ii) 2 ex., Brahmani R. near Kapana village, Dist. Sundargarh, coll. T. K. S., 7. iv. 1973.

*Measurements* : 85-97 mm (6 exs.)

*Distribution* : In the states of Punjab, U. P., Bihar, W. B., Orissa (as above), Tamil Nadu in India. Also Pakistan, Bangladesh and Burma.

#### 28. *Labeo boggut* (Sykes)

1841. *Chondrostoma boggut* Sykes, *Trans. zool. Soc. Lond.*, 2 : 359 (type-locality : Poona waterways).

1962. *Labeo boggut*, Misra, *Rec. India Mus.*, 57 : 160.

1981. *Labeo boggut* : Jayaram, *Handbk. Freshwater Fishes India* : 117

*Material examined* : (i) 3 exs., Prodhanpath reserve forest, 6 kms. north of Bolangir, Dist. Sambalpur, coll. D. P. S., 13. vi. 1972. (ii) 2 exs., Brahmani R. around Banki camp, Dist. Sundargarh, coll. T. K. S., 2. iv. 1973.

*Measurements* : 116-136 mm ( 5 exs.)

*Distribution* : In the states of W. B., Bihar, Orissa (as above), Punjab, U. P., Gujarat, M. P., Maharashtra, Andhra, Karnataka and Tamil Nadu in India. Also Pakistan, Bangladesh and Malaysia.

### 29. *Labeo calbasu* (Hamilton)

1822. *Cyprinus calbasu* Hamilton, *Fish. Ganges*, 297, 387, pl. 2, fig. 83 (type-locality : rivers and ponds of Bengal and in the Western provinces).

1962. *Labeo calbasu* : Misra, *Rec. Indian Mus.*, 57 : 161, fig. 82.

1981. *Labeo calbasu* : Jayaram, *Handbk, Freshwater Fishes India* : 117

*Material examined* : (i) 7 exs., Bhashmati river near Talpatia village, Dist. Sundargarh, coll. T. K. S., 27. iii. 1973.

*Distribution* : In the states of W. B., Assam, Orissa (Bhashmati), Punjab, U. P., Gujarat, Kerala, introduced in Maharashtra and Tamil Nadu in India. Also Bangladesh, Burma, Thailand, Yunnan and Pakistan.

*Remarks* : A major carp having important food and game fish value, attain nearly 900 mm in length. Found in rivers.

### 30. *Labeo dero* (Hamilton)

1822. *Cyprinus dero* Hamilton, *Fish. Ganges* 227, 331. pl. 22, fig. 87. (type-locality : R. Brahmaputra).

1978. *Labeo sidensis* : Day, *Fish. India* 544, pl. 132.

1981. *Labeo dero* : Jayaram, *Handbk. Freshwater Fishes India* : 117

*Material examined* : (i) 2 exs., Nampana vill. Banki, Dist. Sundargarh, coll. T. K. S., 1. iv. 1973. (ii) 1 ex., Bonaigarh, Dist. Sundargarh, coll. T. K. S., 8. iv. 1973. (iii) 1 ex., Sambalpur State Fisheries Farm, Sambalpur, coll. T. K. S., 26. iv. 1973.

*Measurements* : 120-135 mm (4 exs.)

*Distribution* : Throughout Northern Indian states, Orissa (as above)

*Remarks* : Occurs in torrential rivers, often the snout is demarcated by indistinct lateral lobes with pores. A major carp having high fishery value.

### 31. *Labeo dyocheilus dyocheilus* (McClelland)

1839. *Cyprinus dyocheilus* McClelland, *As. Res.* xix, pt. 2 ; *Ind. Cyp.* 268, 380, pl. fig. 1.

1878. *Labeo dyocheilus* : Day, *Fish. India*, p. 540, pl. Cxxx, fig. 1.

1981. *Labeo dyocheilus dyocheilus* : Jayaram, *Handbk. Freshwater Fishes India* : 117.

*Material examined* : (i) 1 ex., 127 mm, Sambalpur State Fisheries Tank, Sambalpur, coll. T. K. S., 26. iv. 1973.

*Distribution* : States of U. P. (Doon Valley), Kashmir (Poonch), Sikkim, Assam and Orissa (Sambalpur) in India. Also Nepal, Pakistan and Bangladesh.

*Remarks* : Found in torrential hill streams. A minor carp with good commercial value.

### 32. *Labeo pangusia* (Hamilton)

1822. *Cyprinus pangusia* Hamilton, *Fish. Ganges* : 285, 386.

1878. *Labeo pangusia* : Day, *Fish. India* : 541, pl. Cxxi, fig. 1.

1981. *Labeo pangusia* : Jayaram, *Handbk. Freshwater Fishes India* : 118

*Material examined* : (i) 2 exs., Gamblai village near Brahmani R., Dist. Sundargarh, coll. T. K. S., 6. iv. 1973. (ii) 2 exs., Brahmani R., Barkot, Dist. Sambalpur, coll. T. K. S., 11. iv. 1973. (iii) 9 exs., Sambalpur State Fisheries Farm, Sambalpur, coll. T. K. S., 29. vi. 1973.

*Measurements* : 130-142 mm (13 exs.)

*Distribution* : The states of Southern India, (Deccan), W. B., and Assam in India. Also Pakistan and Bangladesh.

### 33. *Labeo rohita* (Hamilton)

1822. *Cyprinus rohita* Hamilton, *Fish. Ganges*, : 301, 388, pl. 36, fig. 83

1962. *Labeo rohita* Misra, *Rec. Indian Mus.*, 57 : 162-63, fig. 83.

1981. *Labeo rohita* : Jayaram, *Handbk. Freshwater Fishes India* : 118

*Material examined* : 1 ex., 22 mm, Freshwater tank, Puri, coll. M. H., 5. xii. 1973.

*Distribution* : The states of Punjab, U. P., Bihar, W. B., Assam, Orissa (as above), M. P., Gujarat and Maharashtra in India. Also Pakistan, Bangladesh and Burma.

*Remarks* : The best major carp for fishery practice, extensively used for stocking tanks all over the country. Found in rivers, tanks, ponds also.

### 34. *Osteobrama cotio cotio* (Hamilton)

1822. *Cyprinus cotio* Hamilton, *Fish. Ganges* : 339, pl. 39, fig. 93 (type-locality : Ponds and ditches of Bengal).

1962. *Osteobrama cotio* : Misra, *Rec. Indian Mus.*, 57 : 164.

1981. *Osteobrama cotio* : Jayaram, *Handbk. Freshwater Fishes India* : 113.

*Material Examined* : (i) 1 ex., State Botanical Garden, Barang, Dist. Puri, coll. S. B., 30. i. 1974. (ii) 3 exs. Brahmani R. near Barakot camp, Dist. Sambalpur, coll. T. K. S., 11-13. iv. 1973.

*Measurements* : 72 87 mm (4 exs.)

*Distribution* : Throughout India except Kerala and south Tamil Nadu, Orissa (Barang and Brahmani river at Barakot). Also Pakistan, Bangladesh, Burma and China.

### 35. *Osteobrama vigorsii* (Sykes)

1841. *Rohtee vigorsii* Sykes, *Trans. Zool. Soc. Lond.*, 364, pl. 63 (type-locality : the Beema river at Pairgaon).

1962. *Osteobrama vigorssi* : Misra, *Rec. Indian Mus.*, 57, 164 65.

1981. *Osteobrama vigorsii* : Jayaram, *Handbk. Freshwater Fishes India* : 113

*Material examined* : (i) 1 ex., Jharsuguda, Dist. Sambalpur, coll. P. K. M., 7. i. 1972. (ii) 1 ex., Sambalpur Dist. Sambalpur, coll. P. K. M., 22. xii. 1971. (iii) 1 ex., Brahmani river, Banki, Dist. Sundargarh, coll. T. K. S., 2. iv. 1973. (iv) 38 exs. Bhasmati river near Talpatia village. Dist. Sundargarh., coll. T. K. S., 27. iii. 1973. (v) 1 ex., Mahanadi river, along Jobra Rd. (West) Cuttack. coll. S. B., 17. i. 1974. (vi) 1 ex., State Botanical Garden, Barang, Dist. Puri. coll. S. B., 1. ii. 1974. (vii) 6 exs., Brahmani R. near Gagoa village, Barkot, Dist. Sambalpur, coll. T. K. S., 2. xii. 1974.

*Measurements* : 56-178 mm (49 exs.)

*Distribution* : States of Orissa (as above), M. P., Maharastra and Karnataka in India.

### 36. *Osteocheilus (Osteocheilichthys) nashii* (Day)

1868. *Barbus nashii*. Day, *Proc. zool. Soc. Lond.* : 584 (type-locality : Coorg district).

1889. *Scaphiodon nashii* : Day, *Fauna Brit. India Fish 1* : 285.

1981. *Osteocheilus (Osteocheilichthys) nashii* ; Jayaram, *Handbk. Freshwater Fishes India* : 129.

*Material examined*: 1 ex., 145 mm, Lake around State Botanical Garden, Dist. Puri, coll. S. B., 1. ii. 1974.

*Distribution* : State of Karnataka, Tamil Nadu and Orissa (Puri).

### 37. *Puntius amphibius* (Valenciennes)

1842. *Capoeta amphibia* Valenciennes. *Hist. nat. poiss.*, 16: 282 pl. 478 (type-locality: Bombay).

1962. *Puntius amphibius* : Misra, *Rec. Indian Mus.*, 57 : 151.

1981. *Puntius amphibius* : Jayaram, *Handbk. Freshwater Fishes India* : 99.

*Material examined* : (i) 1 ex., Sambalpur, Dist. Sambalpur, coll. P. K. M., 22. xii. 1971. (ii) 1 ex., Reserve Forest, 6 kms. north of Deogarh, Dist. Sambalpur, coll. D. P. S., 13. vi. 1972. (iii) 1 ex., Badrama reserve forest, Dist. Sambalpur, coll. D. P. S., 3. vi. 1972. (iv) 8 exs., Nowrangpur Market (Indravati Drainage), coll. M. H., 28-30. iii. 1979.

*Measurements* : 61-76 mm ( 11 exs.)

*Distribution* : Throughout India, except states of Rajasthan, Punjab, Haryana and Kashmir (Orissa : as above)

### 38. *Puntius carnaticus* (Jerdon)

1849. *Barbus carnaticus* Jerdon, *Mad. J. Lit. Sci.*, 311 (type-locality : the Bhowany river).

1962. *Puntius carnaticus* : Misra, *Rec. India Mus.*, 57 : 152.

1981. *Puntius carnaticus* : Jayaram, *Handbk. Freshwater Fishes India* : 99

*Material examined* : (i) 1 ex., Mahanadi river off Tikarapara, Dist. Dhenkanal, coll. J. K. S., 27. xi. 1972. (ii) 70 exs., Bonda Pimpili R., Kotagarh, Dist. Phulbani, coll. T. K. S., 20. xi. 1974. (iii) 4 exs., Nowrangpur Market (Indravati drainage), coll. M. H., 28. iv. 1979.

*Measurements* : 65-99 mm (75 exs.)

*Distribution* : States of Tamil Nadu, (Nilgiris, Wynad and Canara hills), Maharashtra (Western Ghats) and Orissa (as above)

### 39. *Puntius chola* (Hamilton)

1822. *Cyprinus chola* Hamilton, *Buch. Fish Ganges* : 312 : 389

1878. *Barbus chola* ; Day, *Fish India*, 571, pl. cxlii, fig. 4.

1981. *Puntius chola* ; Jayaram, *Handbk. Freshwater Fishes India* : 100.

*Material examined* : 1 ex., 42 mm, Nowrangpur Market, coll. M. H., 31. iii. 1979.

*Distribution* : States of Kerala (Malabar) (Wynaad) Tamil Nadu, Orissa (Nowrangpur) Punjab, W. B., U. P., M. P., Assam in India. Also Burma.

### 40. *Puntius conchoni* (Hamilton)

1822. *Cyprinus conchoni* Hamilton, *Fish. Ganges* : 317, 389 (type-locality : Ponds of northeast of Bengal, and in the river Kosi and Ami).

1962. *Puntius conchoni* ; Misra, *Rec. Indian Mus.*, 57 : 152, fig. 76.

1981. *Puntius conchoni* : Jayaram, *Handbk. Freshwater Fishes India* : 100

*Material examined* : (i) 1 ex., Asha sagar, Bhawanipatna coll. K. V. S. R., 31. i. 1972. (ii) 4 exs., Asha sagar, Bhawanipatna, Dist. Kalahandi, coll. T. K. S., 16 xi. 1974.

*Measurements* : 40-45 mm (5 exs.)

*Distribution* : Throughout northern, eastern and north-eastern India (Orissa : Asha sagar, Bhawanipatna). Also Bangladesh and Pakistan.

*Remarks* : Found in road side ditches, canals, tanks, ponds, beels and shallow streams. Possesses a large round black blotch, on mid body, posterior to the anal fin.

#### 41. *Puntius jerdoni* (Day)

1870. *Barbus* (*Barbodes*) *jerdoni* Day, *Proc. zool. Soc. Lond.*, : 372 (type-locality : Mangalore).

1962. *Puntius jerdoni* : Misra, *Rec. Indian Mus.*, 57 : 154.

1981. *Puntius jerdoni* : Jayaram, *Handbk. Freshwater Fishes India* : 101

*Material examined* : 1 ex., 90 mm, Nandankanan, Barang, Dist. Cuttack, coll. S. B., 29. i. 1974.

*Distribution* : States of Karnataka, Kerala, Maharashtra, Andhra Pradesh, Orissa (Nandankanan), M. P. in India.

#### 42. *Puntius malabaricus* Jerdon

1849. *Barbus malabaricus* Jerdon, *Mad. Jour L. S. XV*, : 312 ; *Day Fish, India* : 569, pl. cxxxviii, fig. 6.

1981. *Puntius malabaricus* : Jayaram, *Handbk. Freshwater Fishes India* : 101

*Material examined* : 1 ex., 43 mm, Nowrangpur Market, coll. M. H., 31. iii. 1979.

*Distribution* : States of Maharashtra, Karnataka, Kerala and Orissa in India.

#### 43. *Puntius sarana sarana* (Hamilton)

1822. *Cyprinus sarana* Hamilton, *Fish. Ganges* : 307, 388 (type-locality : Ponds and rivers of India).

1962. *Puntius sarana* : Misra, *Rec. Indian Mus.*, 57 : 155.

1981. *Puntius sarana sarana* : Jayaram, *Handbk. Freshwater Fishes India* : 102

*Material examined* : (i) 2 exs., Mahanadi R. Off TIKARAPARA, Dist., Dhenkanal. coll. J. K. S., 27. xi. 1972. (ii) 1 ex., Mahanadi River., Sambalpur, Dist. Sambalpur coll. P. K. M., 22. xii. 1971. (iii) 5 exs., Satkuta village, 6 kms. from Bonaigarh, Dist. Sundargarh, coll. T. K. S., 7. iii. 1973. (iv) 2 exs., Bhasmati R. near Talpatia vill., Dist. Sundargarh, Coll. T. K. S., 27. iii. 1973. (v) 6 exs., Bonaigarh Dist. Sundargarh, coll. T. K. S., 4-5. iv. 1973. (vi) 2 exs., Brahmani R., 4 kms. from Bonaigarh. Dist. Sundargarh, coll. T. K. S., 8. iv. 1973.

*Measurements* : 84-152 mm (18 exs.)

*Distribution* : Throughout India (Orissa : as above). Also Bangladesh, Pakistan, Burma, Sri Lanka, Thailand and China.

*Remarks* : This is the largest species under this genus, grows to almost 300 mm in length. A tasty fish of excellent commercial value.

#### 44. *Puntius sophore* (Hamilton)

1822. *Cyprinus sophore* Hamilton, *Fish. Ganges* 310, 389 (type-locality : Ponds of Bengal).

1962. *Puntius sophore* : Misra, *Rec. Indian Mus.*, 57 : 115.

1981. *Puntius sophore* : Jayaram, *Handbk. Freshwater Fishes India* : 102

*Material examined* : (i) 3 exs., West shore of Chilka Lake, Rambha, Dist. Ganjam, coll. D.P.S., 11. xi. 1971. (ii) 2 exs., Sambalpur, Dist. Sambalpur, coll. P. K. M., 22, xii. 1971. (iii) 3 exs., University campus, Berhampur, Dist. Gangam, coll. D. P. S., 20. xi. 1971. (vi) 2 exs., reservoir at Jannguda 1.5 km. south of Semiliguda, coll. K. V. S. R., 22. ii. 1972. (v) 4 exs., Mahakhand village, 8 kms. south-east of forest Rest House, Mahakhand, Dist. Bolangir, coll. D. P. S., 30. v. 1972. (vi) 3 exs., Nandankanan, Dist. Cutack, coll. D. P. S., 1. xi. 1971. (vii) 5 exs., Sundargarh, coll. T. K. S., 26. iii. 1973. (viii) 7 exs., Sambalpur State Fisheries Farm, coll. T. K. S., 26. iv. 1973. (ix) 63 exs., Jeypore, Dist. Koraput, coll. T. K. S., 11. xi. 1974. (x) 4 exs., Pustam Sagar, Bhawani Patna, Dist. Kalahandi, coll. T. K. S., 18. ix. 1974 (xi) 1 ex., Nowrangpur market (Indravati drainage), coll. M. H., 30. iii. 1979.

*Measurements* : 39-75 (97 exs.)

*Distribution* : Throughout India. Orissa (as above and Mahanadi R. ). Also Bangladesh, Pakistan, Burma and China.

*Remarks* : Extensively distributed species throughout the country, found in road side ditches, ponds, tanks, cannals, beels and shallow rivers.

#### 45. *Puntius ticto ticto* (Hamilton)

1822. *Cyprinus ticto* Hamilton, *Fish Ganges* : 314, 389, pl. 8, fig. 87 (type locality : South eastern parts of Bengal).

1962. *Puntius ticto*, Misra, *Rec. Indian Mus.*, 57 : 156.

1981. *Puntius ticto ticto* : Jayaram, *Handbk. Freshwater Fishes India* : 103

*Material examined* : (i) 4 exs., Telkesinga River, coll. K. V. S. R., 28. i. 1972. (ii) 2 exs., Nandankanan, Dist. Cuttack, coll. D. P. S., 1. xi. 1971. (iii) 18 exs., Jagannath Sagar, Jeypore, Dist. Koraput, coll. T. K. S., 9-10. xi. 1974. (iv) 29 exs. Mahanadi R. near Barabazar, Sambalpur, coll. T. K. S., 26. iv. 1973. (v) 5 exs., Nowrangpur market (Indravati drainage), coll. M. H., 30. iii. 1979.

*Measurements* : 22-65 mm (58 exs.)

*Distribution* : Throughout India. Orissa (as above) Also Bangladesh, Pakistan, Burma, Srilanka and Thailand.

#### 46. *Tor khudree* (Sykes)

1838. *Barbus khudree* Sykes, *Proc. zool. Soc. Lond.*, 159 (type-locality : Mota Mola river, 8 miles east of Poona)

1962. *Tor khudree* : Misra, *Rec. Indian Mus.* 57 : 149, fig. 73.

1981. *Tor khudree* : Jayaram, *Handbk. Freshwater Fishes India* : 124

*Material examined* : (i) 2 exs., Mahanadi River off Tikarapara, Dist. Dhenkanal, coll. T. K. S., 27. xi. 1972. (ii) 4 exs., Brahmani R., Bonaigarh, Dist. Sundargarh, coll. T. K. S., 4-6. iv. 1973. (iii) 3 exs., Brahmani R. near Barkot camp. coll. T. K. S., 11-12. iv. 1973. (iv) 2 exs., Nowrangpur Market (Indravati drainage), coll. M. H., 30. iii. 1979.

*Measurements* : 79-147 mm (11 exs.)

*Distribution* : States of U. P., Orissa (as above), M. P., Andhra Pradesh, Karnataka.

*Remarks* : Offers great sports to the anglers. A noted game and food fish (major carp) found in torrential hill streams. Body with big scales, mouth with fleshy lips continuous at

the angels with an uninterrupted fold across the lower jaw, prominent two pairs of barbels are the distinctive characters of the species. All the species under the genus *Tor* are known as "Mahaseer"

#### 47. *Tor mussullah* (Sykes)

1838. *Barbus mussullah* Sykes, *Proc. zool. Soc. Lond* : 154 (type-locality : Serror of Sisur on the Ghod river).

1981. *Tor mussullah*, Jayaram, *Handbk. Freshwater Fishes India* : 124.

*Material examined* : 1 ex., 155 mm, Rangoli Dam (Brahmani R.), near Rangoli village, Barkot, Dist. Sambalpur, coll. T. K. S., 14. iv. 1973.

*Distribution* : States of Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, Madhya Pradesh and Orissa (Brahmani river near Rangoli)

*Remarks* : The distribution of this species is confined in Southern India. It is good game and food fish.

#### 48. *Tor putitora* (Hamilton)

1822. *Cyprinus putitora* Hamilton, *Fish. Ganges* : 303, 388 (type-locality : eastern parts of Bengal).

1962. *Tor putitora* : Misra, *Rec. Indian Mus.*, 57 : 150, fig. 74.

1981. *Tor putitora* : Jayaram, *Handbk. Freshwater Fishes India* : 124

*Material examined* : (i) 2 exs., River Palpala, 23 kms. west of Baripada Simlipal Hills, Dist. Mayurbhanj, coll. J. K. S., 8. xi. 1972.

*Measurements* : 163-181 mm (2 exs.)

*Distribution* : States of Punjab, U. P., (Western Himalays) W. B., Assam (Eastern Himalays) and Orissa (as above) in India. Also Pakistan and Bangladesh.

*Remarks* : Found in all along the foothill streams of the Himalays. An excellent game food fish.

#### 49. *Tor tor* (Hamilton)

1822. *Cyprinus tor* Hamilton, *Fish. Ganges* 305, 388 (type-locality : the Mahananda).

1962. *Tor tor*, Misra, *Rec. Indian Mus.*, 57 L 150-51, fig. 75.

1981. *Tor tor* : Jayaram, *Handbk. Freshwater Fishes India* : 124.

*Material examined* : (i) 34 exs., Tel river, Soncpur, Dist. Bolangir, coll. T. K. S., 29. iv. 1973. (ii) 2 exs., Brahmani river, Banki, Dist. Sundargarh, coll. T. K. S., 30. iii. 1973. (iii) 1 ex., Brahmani R. near Gogoia village, 24 km. from Barkot camp, Dist. Sambalpur, coll. T. K. S., 14. iv. 1973.

*Distribution* : States of Punjab, U. P., H. P., Bihar, W. B., Assam, Orissa (as above) and M. P. in India. Also Pakistan and Bangladesh.

*Remarks* : Found in the Himalayan foot hills. A good game and excellent fish for the table.

## Family IV COBITIDAE

50. *Lepidocephalus (Lepidocephalichthys) guntea* (Hamilton)

1822. *Cobitis guntea* Ham., *Fish. Ganges* : 353, 394 (type-locality : Ponds and Freshwater rivers of Bengal).

1878. *Lepidocephalichthys guntea* var. *balgara* : Day, *Fish, India* : 609, pl. 156, fig. 12.

1981. *Lepidocephalus (Lepidocephalichthys) guntea* ; Jayaram, *Handbk. Freshwater Fishes India* : 181.

*Material examined* : (i) 6 exs. Sambalpur, Dist. Sambalpur, coll. P. K. M., 22. xii. 1971. (ii) 22 exs., Jagannath Sagar, Jaypore, Dist. Koraput, coll. T. K. S., 9-10. xi. 1974. (iii) 11 exs., Nowrangpur Fish Market, coll. M. H., 29. iii. 1979. (iv) 68 exs., Pappadahandi Market, 13 km. north of Nowrangpur, coll. M. H., 31. iii. 1979.

*Measurements* : 55-76 mm ( 107 exs.)

*Distribution* : Throughout India . Orissa (as above and Mahanadi R.). Also Bangladesh and Pakistan.

51. *Lepidocephalus (Lepidocephalichthys) thermalis* (Valenciennes)

1946. *Cobitis thermalis* Cuv. & Val. , *Hist. Nat. Poiss.* 18, : 78.

1955. *Lepidocephalichthys thermalis* ; Munro, *Mar. FW. Fish. Ceylon*, : 48.

1981. *Lepidocephalus (Lepidocephalichthys) thermalis* ; Jayaram, *Handbk. Freshwater Fishes India* : 181.

*Material examined* : 1 ex., 61 mm, Mahanadi river, Tikarapara, Dist. Dhenkanal, coll. S. B., 22. i. 1974.

*Distribution* : States of South India, Orissa(Mahanadi R.). Also Sri Lanka.

52. *Noemacheilus beavani* (Gunther)

1868. *Nemacheilus beavani* Gunther, *Catal. Fish. Brit.. Mus.*, 7 : 350.

1878. *Nemacheilus Beavani* ; Day, *fish. India* : 620.

1981. *Nemacheilus Beavani* : Jayaram, *Handbk. Freshwater Fishes India* : 152

*Material examined* : 32 exs., 30 mm - 55 mm, Satighat nalla, Deogarh. coll. T. K. S., 23. iv. 1973.

*Distribution* : States of Tamil Nadu, Karnataka and Orissa ( Satighat nalla, Deogarh) in India.

53. *Noemacheilus botia botia* (Hamilton)

1822. *Cobitis botia* Hamilton, *Fish Ganges* : 350, 394 (type-locality : the rivers of north-eastern parts of Bengal).

1889. *Nemachilus botia* ; Day, *Fauna Brit. India Fish.*, 1 : 227.

1981. *Noemacheilus botia botia* : Jayaram, *Handbk. Freshwater Fishes India* : 153.

*Material examined* : 5 exs., Bondapinpli R. Kotagarh, Dist. Phulbani, coll. T. K. S., 29. xi. 1974.

*Distribution* : States of Punjab, U. P., (Tarai region of Himalayan Valleys of the Ganges, Jamuna), Sone rivers in Bihar, Assam , Orissa (Bondapinpli R., Kotagarh). Also Pakistan.

*Measurements* : 35-37 mm.

*Remarks* : A typical hill-stream fish with greater caudal peduncle depth.

54. *Noemacheilus denisonii* (Day)

1849. *Cobitis mintaus* Jerdon, *M. J. L. and S.*, : 332.

1878. *Nemacheilus denisonii* ; Day, *Fish. India*, : 612-618. pl. Cl III. Fig. 7.

1981. *Noemacheilus denisonii* ; Jayaram, *Handbk. Freshwater Fishes India* : 150.

*Material examined* : 1 ex., 38mm, Mahanadi river, Tikarapara, Dhenkanal Dist., coll. S.B., 22.i.1974.

*Ditribution* : States of Karnataka and Orissa in India.

55. *Noemacheilus rupecola rupecola* (Mc Clelland)

1830. *Schiztura rupecola* McClelland, *J. Asiat. Soc. Bengal.* 7.pl.55,fig. 3. (type-locality : mountain streams of simla).

1878. *Nemachellius repecola*, Day, *Fish. India*, : 616.

1981. *Noemacheilus rupecola rupecola* : Jayaram, *Handbk, Freshwater Fishes India* : 169

*Material examined* : 4 exs., 55 mm, Tel river, Sonepur Dist. Bolangir, coll. T. K. S., 29. iv. 1973.

*Distribution* : Foot hills of Himalayas in India (Orissa : Tel river).

*Remarks* : A hill stream fish with fan shaped pectoral fin.

## Family V BAGRIDAE

56. *Aorichthys aor* (Hamilton)

1822. *Pimelodus aor* Hamilton, *Fish. Ganges* : 295, 379, pl. 20, fig. 68

1962. *Mystus aor* ; Misra, *Rec. India Mus.*, 57 : 187.

1981. *Aorichthys aor* ; Jayaram, *Handbk. Freshwater Fishes India* : 205.

*Material examined* : (i) 2 exs., Mahanadi river, Jharsuguda, Dist. Sambalpur, coll. P. K. M., 7. i. 1972. (ii) 1 ex., Mahanadi river, Sambalpur, Dist. Sambalpur, coll. P. K. M., 22. xii. 1971.

*Measurements* : 174-214 mm (3 exs.)

*Distribution* : States of Punjab, U. P. , Bihar, W. B., Assam, Orissa (Mahanadi R.) and M. P. in India. Also Pakistan, Bangladesh and Burma.

*Remarks* : An important food fish having fair commercial value.

57. *Aorichthys seenghala* (Sykes)

1839. *Platystoma seenghala* lykes, *Trans. zool. Soc. Lond.*, 2 : 371. pl. 65, fig. 2 (type-locality : Mota Mola river at Poona).

1962. *Mystus seenghala* ; Misra, *Rec. Indian Mus.*, 57 : 190, fig. 109.

1981. *Aorichthys seenghala* ; Jayaram, *Handbk. Freshwater Fishes India* : 206

*Material examined* : (i) 11 exs., a tributary of Mahanadi, 6 kms. east fo Forest Rest House, Badrama Reserve Forest, Dist. Sambalpur, coll. D. P. S.,3. vi. 1972. (ii) 1 ex., Bonaigarh, Dist. Sundargarh, coll. T. K. S., 4. iv. 1973.

*Measurements* : 88-114 mm (12 exs.)

*Distribution* : The states of W. B., Assam, Orissa(as above), U. P., M. P., Gujarat and Maharashtra in India. Also Pakistan and Burma.

*Remarks* : Prefers to live in shallow rivers. It maxillary barbels reaching middle or just beyond rayed dorsal. A catfish of economic value.

#### 58. *Mystus bleekeri* (Day)

1877. *Macrones bleekeri* Day, *Fish. India* : 451, pl. 101, fig. 1 (type-locality : Sind, Jamuna, upper waters of Ganges, Burma).

1962. *Mystus bleekeri* ; Misra, *Rec. Indian Mus*, 57 : 177-88, fig. 106.

1981. *Mystus bleekeri* ; Jayaram, *Handbk. Freshwater Fishes India* : 196.

*Material examined* : (i) 1 exs. Mahanadi river, Sambalpur, Dist. Sambalpur, coll. P. K. M., 22.xii. 1971. (ii) 1 ex., Brahmani river, Bonaigarh, Dist. Sundargarh, coll. D. P. S., 17. vi. 1972. (iii) 3 exs., Jeypore, Dist. Koraput, coll. T. K. S., 10. xi. 1974.

*Measurements* : 137-167 mm ( 5 exs.)

*Distribution* : States of Punjab, W. B., Assam, Orissa (as above) , Gujarat, U. P. (Jamuna river and upper catchment of Ganga). Also Pakistan, Burma, Malaysia.

*Remarks* : Occurs in shallow rivers, canals, beels, possesses longitudinal bands one above the other, maxillary barbels extend to anal fin. A uneconomic fishery species.

#### 59. *Mystus cavasius* (Hamilton)

1822. *Pimelodus cavasius* Hamilton, *Fish. Ganges*, : 203, 379, pl. 11. fig. 6

1962. *Mystus cavasius*, Misra ; *Rec. Indian Mus*, 57 : 188-89, fig. 107.

1981. *Mystus cavasius* ; Jayaram, *Handbk. Freshwater Fishes India* : 196

*Material examined* : (i) 1 ex., Nandankanan, Cuttack Dist., coll. D. P. S., 1. xi. 1971. (ii) 1 ex., Prophanpat reserve forest, 6 kms. north of Deogarh, Dist. Sambalpur, coll. D. P. S., 13. vi. 1972. (iii) 1 ex., Botanical Garden, Barang, Dist. Puri. coll. S. B., 1.ii. 1974. (iv) P. S., 28. xi. 1973. (v) 15 exs. Panposh, Dist. Sundargarh, coll. T. K. S., 22. ii. 1973. (vi) 3 exs. Bhashmati R., near Talpatia vill., Dist. Sundargarh, coll. T. K. S., 27. iii. 1973. (vii) 8 exs. , Brahmani R. near Barkot camp, Dist. Sambalpur, coll. T. K. S. , 11-16. iv. 1973. (viii) 7 exs., Indravati R., 4 kms. from P. W. D. Rest House, Nowrangpur, coll. M. H., 29. iii. 1973.

*Measurements* : 71-107 mm (37 exs.)

*Distribution* : The states of Punjab, U. P., Bihar, W. B., Assam, Orissa (As above and Mahanadi R.), M. P., Tamil Nadu, Kerala, Karnataka, Gujarat and Maharashtra in India. Also Pakistan, Bangladesh, Burma, Thailand, Malaysia and China.

#### 60. *Mystus gulio* (Hamilton)

1822. *Pimelodus gulio* Hamilton, *Fish. Ganges*, : 201, 379, pl. 23, fig. 6

1962. *Mystus gulio* ; Misra, *Rec. Indian Mus.*, 57 : 789.

*Material examined* : (i) 5 exs., Paradip, coll. Y C., 9. ix. 1972.

*Measurements* : 32-42 mm.

*Distribution* : Throughout the sea coast, estuaries and tidal waters of India. Also Pakistan, Bangladesh and Burma.

61. *Mystus menoda menoda* (Hamilton)

1822. *Pimelodus menoda* Hamilton, *Fish. Ganges* : 203, 379, (type-locality : R. kosi and R. Mahananda, N. Bihar and Bengal).

1937. *Mystus menoda* : Shaw and Shebbeare, *J. Asiat. Soc. Beng.*, 3 : 92 fig. 91, pl. 3, fig. 2

1981. *Mystus menoda menoda*, Jayaram, *Handbk. Freshwater Fishes India* : 196

*Material examined* : 2 exs., West shore of Chilka lake, Rambha, Dist. Ganjam, coll. D. P. S., 11. xi. 1971.

*Measurements* : 95-100 mm (3 exs.)

*Distribution* : The states of Orissa(Chilka Lake), W. B. and Assam. Also Burma.

*Remarks* : A cat fish attaining moderately big size to 450 mm (1.5 ft.) in length could be distinguished by its typical cluster of 4-5 black blotches on the lateral line.

62. *Mystus vittatus* (Bloch)

1797. *Mystus vittatus* Bloch, *Ichth.*, pl. 371, fig. 2 (type-locality : Taranquebar).

1962. *Mystus vittatus*, Misra ; *Rec. India Mus.*, 57 : 190-91, fig. 110.

1981. *Mystus vittatus* : Jayaram, *Handbk. Freshwater Fishes India* : 197

*Material examined* : (i) 3 exs., Nandankanan, Dist. Cuttack, coll. A. K. M., 1.viii. 1973. (ii) 2 exs., Paradip, coll. Y. C., 8.ix. 1972. (iii) 4 exs., Dist. Sambalpur, Sambalpur, coll. P. K. M., 22. xii. 1971.

*Distribution* : Throughout India (Orissa : Nandankanan, Paradip, Sambalpur and Mahanadi R.). Also Pakistan, Bangladesh, Burma, Sri Lanka and Thailand.

*Remarks* : Abundantly found throughout the country. Distinguished by its typical horizontal stripes on the side of the body.

63. *Rita kuturnee* (Sykes)

1841. *Phractocephalus kuturnee* Sykes, *Trans. zool. Soc. Lond.*, 2 : 372, pl. 65, fig. 3 (type-locality : Beena river at Pairgaon).

1889. *Rita hastata*, Day, *Fauna Brit. India. Fish*, 1 : 168.

1981. *Rita kuturnee* : Jayaram, *Handbk. Freshwater Fishes India* : 190

*Material examined* : 6 exs., 100 mm, Indravati R., 4 kms. south of P. W. D. Rest House, Nowrangpur, coll. M. H., 29. iii. 1973.

*Distribution* : The states of M. P., A. P., Maharashtra, Tamil Nadu, (Tungabhadra and Kistna rivers) Karnataka in India (Orissa : Indravati river, Nowrangpur)

64. *Rita rita* (Hamilton)

1822. *Pimelodus rita* Hamilton, *Fish. Ganges*, : 165, 376, pl. 24, fig. 53 (type-locality : estuaries of Bengal).

1889. *Rita buchhanani* Day, *Fauna Brit. India-Fish.*, 1 : 165, fig. 66.

1981. *Rita rita* : Jayaram, *Handbk. Freshwater Fishes India* : 190

*Material examined* : 1 ex., 95 mm, Brahmani R., Barkot, Dist. Sambalpur, coll. T. K. S., 11. iv. 1973.

*Distribution* : The states of U. P., Bihar, W. B. (Darjeeling Dt.) in India (Orissa : Brahmani river, Barkot and Mahanadi R.). Also Pakistan and Burma.

## Family VI SILURIDAE

65. *Ompok bimaculatus* (Bloch)

1797. *Silurus bimaculatus* Bloch, *Syst. Ichth.*, 11 : 17. pl. 569. (type-locality : Malabar).

1962. *Ompok bimaculatus* ; Misra, *Rec. Indian Mus.*, 57, : 178 - 79.

1981. *Ompok bimaculatus* : Jayaram, *Handbk. Freshwater Fishes India* : 209

*Material examined* : (i) 1 ex., Jharsuguda, Dist. Sambalpur, coll. P. K. M., 7. i. 1972. (ii) 2 exs., Nandankanan, Dist. Cuttack, coll. D. P. S., 1. xi. 1971. (iii) 1 ex., Brahmani R. at Bonaigarh, Dist. Sundargarh, coll. D. P. S., 17. vi. 1972. (iv) 2 exs., Saluk R., coll. T. K. S., 1. xii. 1974. (v) 4 exs., Nowrangpur Fish Market (Indravati Drainage), coll. M. H., 29. iii. 1979.

*Distribution* : Throughout India (Orissa : as above). Also Pakistan, Bangladesh, Sri Lanka, Burma, Malaysia and Thailand.

*Remarks* : Popularly known as 'Butter-fish', have fishery value and esteemed for its taste.

66. *Wallago attu* (Schneider)

1801. *Silurus attu* Schneider, *Syst. Ichth.* : 338, pl. 75 (type-locality : Malabar).

1962. *Wallago attu* ; Misra, *Rec. Indian Mus.* 57 : 180-81, ig. 98.]

1981. *Wallago attu* : Jayaram, *Handbk. Freshwater Fishes India* : 210

*Material examined* : 1 ex., 113 mm, Coll. T. K. S., 23. iii. 1973.

*Distribution* : The states of Punjab, U. P., Bihar, W. B., Manipur, Assam, Orissa (Mahanadi R.), M. P., Tamil Nadu, Gujarat, Maharashtra, Kerala in India. Also Pakistan, Bangladesh, Burma, Srilanka, Malaysia, Thailand and Indo-China.

*Remarks* : Known as 'Freshwater shark'. A voracious predatory cat-fish found in rivers, tanks, lakes, etc. grows to 2 meters in length.

## Family VII ARIIDAE

67. *Tachysurus caelatus* (Valenciennes)

1840. *Arius caelatus* Valenciennes, *Hist. nat. Poiss.*, 15 : 66 (type-locality : Bombay).

1962. *Tachysurus caelatus* : Misra, *Rec. Indian Mus.*, 57 : 172 - 73.

1981. *Tachysurus caelatus* : Jayaram, *Handbk. Freshwater Fishes India* : 280

*Material examined* : (i) 1 ex., 148 mm, Jharsuguda, Dist. Sambalpur, coll. P. K. M., 7. i. 1972.

*Distribution* : The states of Maharashtra, Kerala, Pondicherry, Orissa (as above), W. B., in India. Also in Pakistan, Bangladesh, Sri Lanka, Malaysia and Thailand.

68. *Tachysurus sagor* (Hamilton)

1822. *Pimelodus sagor* Hamilton, *Fish. Ganges.* : 169, 376 (type-locality : Estuaries of Bengal).

1962. *Tachysurus sagor* : Misra, *Rec. Indian Mus.*, 57 : 174.

1981. *Tachysurus sagor* : Jayaram, *Handbk. Freshwater Fishes India* : 281.

*Material examined* : 1 ex., 185 mm, Mahanadi river, 5 kms., West of Cuttack, coll. K. V. S. R., 15. i. 1972.

*Distribution* : The states of Maharashtra, Orissa, Tamil Nadu, W. B. in India. Also Pakistan, Bangladesh, Malaysia and Thailand.

## Family VIII SCHILBEIDAE

69. *Ailia coila* (Hamilton)

1822. *Malapterurus coila* Hamilton, *Fish. Ganges* : 158, 375 (type-locality : Freshwater rivers of Bengal)

1962. *Ailia coila* ; Misra, *Rec. Indian Mus*, 57 : 181-82, pl. 99.

1981. *Ailia coila* : Jayaram, *Handbk. Freshwater Fishes India* : 213

*Material examined* : 1 ex., 95 mm, Mahanadi R. Dist. Cuttack, Coll. T. K. S., 26.iii. 1973.

*Distribution* : The states of Assam, W. B., Orissa (Mahanadi R.), Bihar, M. P., Tamil Nadu, Delhi, U. P. in India. Also Pakistan, Bangladesh and Nepal.

70. *Clupisoma garua* (Hamilton)

1822. *Silurus garua* Hamilton, *Fish. Ganges*, : 165, 375, pl. 21. fig. 50

1962. *Clupisoma garua* : Misra, *Rec. Indian Mus.*, 57 : 182, fig. 100(a).

1981. *Clupisoma garua* : Jayaram, *Handbk. Freshwater Fishes India* : 219

*Material examined* : (i) 4 exs., Mahanadi river, Sambalpur, Dist. Sambalpur, coll. T. K. S., 25. iv. 1973. (ii) 6 exs., Panposh, Dist. Sundargarh, coll. T. K. S., 24. iii. 1973. (iii) 2 exs., Brahmani R. near Rampona vill., 5 kms. from Bonaigarh, Dist. Sundargarh, coll. T. K. S., 7. iv. 1973. (iv) 2 exs., Brahmani R., Satkuta vill., 6 kms. from Bonaigarh, Dist. Sundargarh, coll. T. K. S., 7. iv. 1973.

*Measurements* : 122 - 170 mm (14 exs.)

*Distribution* : The states of W. B., Assam, Orissa, Bihar, Punjab, U. P., M. P. in India. Also Pakistan, Nepal, Burma and Bangladesh.

*Remarks* : Occurs in shallow rivers. Disliked being a foul-feeder.

## Family IX AMBLYCIPITIDAE

71. *Amblyceps mangois* (Hamilton)

1822. *Pimelodus mangois* Hamilton, *Fishes of Ganges*, : 199, 397. (type-locality : Nathpur, Northern Bihar).

1933. *Amblyceps mangois* ; Hora, *Rec. Indian Mus.*, 35 : 617.

1981. *Amblyceps mangois* : Jayaram, *Handbk. Freshwater Fishes India* : 228

*Material examined* : 2 exs., Baripada, Dist. Mayurbhanj, coll. S. K. M., 7. viii. 1972.

*Measurements* : 52-77 mm

*Distribution* : Throughout India (Orissa : Baripada ). Also in Burma and Thailand.

## Family X SISORIDAE

72. *Bagarius bagarius* (Hamilton)

1822. *Pimelodus bagarius* Hamilton, *Fish. Ganges* : 186, 378, pl. 7, fig. 62 (type-locality : the Ganges ).

1889. *Bagarius yarrellii* ; Day, *Fauna Brit. India*. Fish, i : 194, fig. 71.

1981. *Bagarius bagarius* : Jayaram, *Handbk. Freshwater Fishes India* : 238

*Material examined* : 1 ex., 172 mm, Brahmani R., near Kontabali vill., 40 kms. from Barkot camp, Dist. Sambalpur, coll. T. K. S., 15. iv. 1973.

**Distribution :** The states of Delhi, U. P., Bihar, W. B. (Darjeeling Dt.) Manipur, Assam, Orissa ( Brahmani river, Mahanadi river), Maharashtra (Poona), A. P., Tamil Nadu, Karnataka in India. Also Burma, Malaysia, Thailand, Indo-China.

**Remarks :** Attain big size (7.5 ft.) weighing 80 kgs. Consumed by the indigent population only. Distinguished by its dark vertical bands on the body, flattened head and dull earthy body colour.

### 73. *Glyptotharax lonah* (Sykes)

1841. *Bagrus lonah*, Sykes, Tr. Z. S. ii, : 371.

1978. *Glyptostern lonah* ; Day, *Fish. India*, : 496, pl. cxiii, fig. 5

1981. *Glyptostern lonah* : Jayaram, *Handbk. Freshwater Fishes India* : 254

**Material examined :** 2 exs., Nowrangpur market (Indravati drainage ), coll. M. H., 30. iii. 1979.

**Measurements :** 112 - 115 mm (2exs.)

**Distribution :** The states of A. P. (Godavari and Krishna river systems), Tamilnadu, Karnataka in India (Orissa : Indravati drainage)

### 74. *Nangra viridescens* (Hamilton)

1822. *Pimelodus viridescens* Hamilton, *Fish. Ganges* : 173, 376, pl. 10, fig. 56 (type-locality : N. Bengal).

1981. *Nangra viridescens* : Jayaram, *Handbk. Freshwater Fishes India* : 241

**Distribution :** The states of W. B. (rivers of North Bengal) Orissa, Bihar, Assam, Maharashtra (Poona), Delhi (Yamuna) in India. Also Bangladesh and Nepal.

## Family XI CLARIIDAE

### 75. *Clarias batrachus* (Linnaeus)

1758. *Silurus batrachus* Linnaeus, *Syst. Nat.*, 1, ed. 10, : 305 (type-locality : Asia, Africa).

1962. *Clarias batrachus*, Misra, *Rec. Indian Mus.*, 57 : 186 pl. 105.

1981. *Clarias batrachus* : Jayaram, *Handbk. Freshwater Fishes India* : 270

**Material examined :** 1 ex., 20 mm, Baripada, Dist. Mayurbhanj, coll. S. K. M., 7. viii. 1972.

**Distribution :** Throughout India (Orissa : Baripada). Also Pakistan, Bangladesh, Burma, Ceylon, Malaysia, Thailand, Indo-China and Philippines.

**Remarks :** A commercially important species of high market value, pectoral spine may inflict painful injury.

## Family XII HETEROPNEUSTIDAE

### 76. *Heteropneustes fossilis* (Bloch)

1774. *Silurus fossilis* Bloch, *Naturg. Ausland. Fische*, 8 : 46, pl. 370, fig. 2 (type-locality : Tranquebar).

1962. *Heteropneustes fossilis* ; Misra, *Rec. Indian. Mus.*, 57 : 185-86.

1981. *Heteropneustes fossilis* : Jayaram, *Handbk. Freshwater Fishes India* : 273

**Material examined :** (i) 1 ex., Jharsuguda, Dist. Sambalpur, coll. P. K. M., 7. i. 1972. (ii) 1 ex., Nandankanan, Dist. Cuttack, coll. S. B., 29. i. 1974.

*Measurements* : 122-142 mm (2 exs.)

*Distribution* : Freshwaters throughout India (Orissa : Jharsuguda). Also in Pakistan, Bangladesh, Burma, Sri Lanka and Thailand.

*Remarks* : A commercially important species having good marketing properties, the sharp pectoral spines might cause painful wounds if held in properly.

#### Family XIII CYPRINODONTIDAE

##### 77. *Aplocheilus lineatus* (Valenciennes)

1846. *Panchax lineatum* Valenciennes, *Hist. nat. poiss.*, 18 : 381 (type-locality : Bombay)

1962. *Aplocheilus lineatus* ; Misra, *Rec. Indian Mus.*, 57 : 204-5, fig. 121.

1981. *Aplocheilus lineatus* : Jayaram, *Handbk. Freshwater Fishes India* : 295

*Material examined* : 4 exs., Barang, Dist. Puri, coll. S. B., 30. i. 1974.

*Measurements* : 22-54 mm (4 exs.)

*Distribution* : Among the coast of Tamil Nadu, Orissa (Barang), Maharashtra, Kerala in India. Also Srilanka.

*Remarks* : A larvivorous fish used to destroy mosquito larvae in antimalarial campains.

#### Family XIV BELONIDAE

##### 78. *Xenentodon cancila* (Hamilton)

1822. *Esox cancila* Hamilton, *Fish. Ganges* : 213, 380, pl. 27, fig. 70

1962. *Xenentodon cancila* : Misra, *Rec. Indian Mus.*, 57 : 198-99, fig. 116.

1981. *Xenentodon cancila* : Jayaram, *Handbk. Freshwater Fishes India* : 291

*Material examined* : (i) 1 ex., Bandh, Dist. Puri, coll. K. V. S. R., 15. i. 1972. (ii) 6 exs., Hariharsagar, Madanpur, Rampur, Dist. Kalahandi, coll. T. K. S., 21. xi. 1974.

*Measurements* : 195-240 (7 exs.)

*Distribution* : The states of Gujarat, Maharashtra, Punjab, U. P., Bihar, W. B., Assam, Orissa (as above and Mahanadi R.), M. P., Tamil Nadu, Karnataka, Kerala in India. Also Pakistan, Bangladesh, Burma, Sri Lanka, Malaysia and Thailand.

##### 79. *Strongylura strongylura* (Van Hasselt)

1823. *Belone strongylura* Van Hasselt, *Algem. Konst. Letterbode.* 1, : 130 ( type-locality : Batavia, Java).

1962. *Strongylura strongylura* : Misra, *Rec. Indian Mus.*, 57 : 198, fog. 115

1981. *Strongylura strongylura* : Jayaram, *Handbk. Freshwater Fishes India* : 291

*Material examined* : (i) 2 exs., Chilka Lake, Rambha, Dist. Ganjam, coll. D. P. S., 11. xi. 1971. (ii) 1 ex., Hirakud Dam, Jharsuguda, Dist. Sambalpur, coll. P. K. M., 7.i.1972.

*Measurements* : 190-263 mm (3 exs.)

*Distribution* : The states of Maharashtra, Kerala, Tamil Nadu, Orissa (Chilka Lake and Hirakud Dam), W. B., Andamans in India. Also Pakistan, Bangladesh, Sri Lanka, Malaysia, China, Hongkong, Taiwan, Philippines, Melanesia and North Australia.

## Family XV CHANNIDAE

80. *Channa orientalis* (Schneider)

1822. *Ophiocephalus gachua* Hamilton, *Fish. Ganges* 68, 367, pl. 21, fig. 21 (type locality : Ponds and ditches of Bengal).

1962. *Channa gachua* ; Misra, *Rec. Indian Mus.*, 57 : 218.

1981. *Channa orientalis*, Jayaram, *Handbk, Freshwater Fishes India* : A 306

*Material examined* : (i) 10 exs., University Campus, Berhampur, Dist. Ganjam, coll. D. P. S., 20. xi. 1971. (ii) 3 exs., Jharsuguda, Dist. Sambalpur, coll. P. K. M., 7. i. 1972. (iii) 1 ex., Chhatamakhana village, Dist. Bolangir, coll. S. K., 1. x. 1972. (iv) 1 ex., Prophanpat reserve forest, 6 kms. North of Deogarh, Dist. Sambalpur, coll. D. P. S., 13. vi. 1972. (v) 1 ex., West shore of Chilka Lake, Rambha, Dist. Ganjam, coll. D. P. S., 11. xi. 1971. (vi) 1 ex., Nandankanan, Dist. Cuttack, coll. D. P. S., 3. xi. 1971. (vii) 2 exs., Sambalpur, Dist. Sambalpur, coll. P. K. M., 22. xii. 1971. (viii) 6 exs., Bagmunda tank, Dist. Dhenkanal, coll. V. C. A., 4. i. 1972. (ix) 19 exs., Bakra water base, Jeypore Dist. Koraput, coll. T. K. S., 11. xi. 1974. (x) 32 exs., Madanpur, Rampur, Dist. Kalahandi, coll. T. K. S., 20-22. xi. 1974. (xi) 1 ex., Nowrangpur Market, coll. M. H., 31. iii. 1979.

*Distribution* : The states of W. B., Assam, Arunachal Pradesh (Eastern Himalayas), Orissa (as above) U. P., Meghalaya, Nagaland, Manipur, Mizoram, Bihar, M. P., Tamil Nadu, Karnataka, Kerala, Maharashtra and Andaman in India. Also Paksitan, Bangladesh, Burma, Sri Lanka, Afghanistan, Malaysia, Thailand and Indo-China.

81. *Channa punctatus* (Bloch)

1793. *Ophicephalus punctatus* Bloch, *Naturg. Ausland. Fische*. 7 : 139, pl. 358

1962. *Channa punctatus* ; Misra, *Rec. Indian Mus.*, 57 : 219, pl. 133.

1981. *Channa punctatus* : Jayaram, *Handbk. Freshwater Fishes India* : 306.

*Material examined* : (i) 1 ex., West shore of Chilka Lake, Rambha, Dist. Ganjam, coll. D. P. S., 11. xi. 1971. (ii) 1 ex., Baripada, 10 kms. from Anandapur, Keonjhar Dist. coll. S. K. G., 5. iv. 1973. (iii) 1 ex., Mahakhand village, Dist. Bolangir, coll. D. P. S., 30. v. 1972. (iv) 1 ex., Jannguda, Semiliguda, coll. K. V. S. R., 22. ii. 1972. (v) 1 ex., Tikripara, Baripada, coll. J. K. S., 5. ix. 1972. (vi) 7 exs., Rangoli village, 45 kms. from Barkot camp, Sambalpur, coll. T. K. S., 15. iv. 1973. (vii) 2 exs., Lake around. State Botanical Garden, Dist. Puri, coll. S. B., 1. ii. 1974.

*Measurements* : 76-145 mm (14 exs.)

*Distribution* : The states of W. B., Assam, (Eastern Himalayas), Orissa (as above and Mahanadi R.), Tamil Nadu, Kerala and Gujarat in India. Also Pakistan, Bangladesh, Burma, Sri Lanka, Malaysia, China, Tahiti and Polynesia.

*Remarks* : A good food fish with fair economic value.

82. *Channa striatus* (Bloch)

1793. *Ophicephalus striatus* Bloch, *Naturg. Ausland. Fische*, 2 : 141, pl. 359.

1889. *Ophicephalus striatus*, Day ; *Fauna Brit. India*, Fish, 2 : 363.

1981. *Ophicephalus striatus* : Jayaram, *Handbk. Freshwater Fishes India* : 307.

*Material examined* : 2 exs. (135 mm- 147 mm), Harihar Sagar, Madanpur, Rampur Dist. Kalahandi, coll. T. K.S., 20. x. 1974.

*Distribution* : Throughout India (Orissa : Harihar Sagar, Madanpur, Rampur, Mahanadi R.). Also Pakistan, Burma, Sri Lanka, Malaysia, Thailand, China, Philippines, Honolulu (Introduced).

*Remarks* : A useful food-fish having yellowish bands on abdomen.

#### Family XVI SYMBRANCHIDAE

##### 83. *Monopterus cuchia* (Hamilton)

1822. *Unibranchapertura cuchia* Hamilton, *Fish. Ganges* : 16, 363, pl. 16, fig. 4 (type-locality: rivers and ponds of S. E. parts of Bengal).

1962. *Amphipnous cuchia* ; Misra, *Rec. India Mus.*, 57 : 221, fig. 135 (a)

1981. *Monopterus cuchia* : Jayaram, *Handbk. Freshwater Fishes India* : 310

*Material examined* : (i) 2 exs., Nandankanan, Dist. Cuttack, coll. D. P. S., 3. xi. 1971. (ii) 1 ex., Nandankanan, Dist. Cuttack, coll. D. P. S., 1. xi. 1973.

*Measurements* : 275-473 (3 exs.)

*Distribution* : Fresh and brackish waters of W. B. , Orissa (Nandankanan), Assam and Punjab states in India. Also Burma and Bangladesh.

*Remarks* : Scales longitudinally arranged, Dorsal fin rudimentary, Pectoral, Ventral, Anal and Caudal absent. Tail flattened on vertical plane.

##### 84. *Ophisternon bengalensis* McClelland

1845. *Ophisternon bengalensis* McClelland, *Calcutta J. nat. Hist.*, 5 : 179, 200, pl. 11, fig. 1 (type-locality : Calcutta).

1962. *Synbranchus bengalensis*, Misra, *Rec. Indian Mus.*, 57 : 220, fig. 134 (a).

1981. *Ophisternon bengalense*, Jayaram, *Handbk. Freshwater Fishes India* : 311.

*Material examined* : 2 exs., (153 mm - 167 mm), Nandankanan, Dist. Cuttack, coll. D. P. S., 1. xi. 1971.

*Distribution* : Throughout India (Orissa : Nandankanan). Also Pakistan, Burma, Sri Lanka, South-east Asia and West Australia.

#### Family XVII CENTROPOMIDAE

##### 85. *Chanda baculis* Hamilton

1822. *Chanda baculis* Hamilton, *Fish. Ganges* : 112, 371

1962. *Ambassis baculis* Misra ; *Rec. Indian Mus.*, 57 : 223.

1981. *Chanda baculis* : Jayaram, *Handbk. Freshwater Fishes India* : 318.

*Material examined* : (i) 1 ex., Naraj, 2 kms. north of P. W. D. Inspection Bungalow, Mahanadi river, coll. S. B., 5. ii. 1974. (ii) 3 exs., Barang, Dist. Puri, coll. S. B., 30.i.1974.

*Distribution* : The states of W. B., Punjab, U.P., Bihar, Orissa (as above), M. P., Maharashtra in India. Also Bangladesh and Pakistan.

##### 86. *Chanda nama* Hamilton

1822. *Chanda nama* Hamilton, *Fish. Ganges*, : 109, 371 (type-locality : Ponds throughout Bengal).

1962. *Ambasis nama* ; Misra, *Rec. Indian Mus*, 57 : 223-24.

1981. *Chanda nama* : Jayaram, *Handbk. Freshwater Fishes India* : 318.

*Material examined* : (i) 2 exs., Brahmani R., Bonaigarh, Dist. Sundargarh, coll. D. P. S., 15. vi. 1872. (ii) 28 exs., State fisheries farm tank, Sambalpur, coll. T. K. S., 26. iv. 1973. (iii) 4 exs., Asha sagar, Bhawani Patna, Dist. Kalahandi, coll. T. K. S., 15. xi. 1974.

*Measurements* : 44-55 (34 exs.)

*Distribution* : The states of W. B. , Assam, Orissa (as above), Punjab, U. P., Bihar and M. P. in India. Also Pakistan, Bangladesh and Burma.

*Remarks* : Commonly known as 'Glass' fish, also used in the aquarium.

### 87. *Chanda ranga* Hamilton

1822. *Chanda ranga* Hamilton, *Fish Ganges* : 113, 371, pl. 16, fig. 38, (type-locality : Freshwater of all parts of the Gangetic provinces)

1962. *Ambassis ranga*; Misra, *Rec. Indian Mus.*, 57 : 224.

1981. *Chanda ranga* : Jayaram, *Handbk Freshwater Fishes India* : 318

*Material examined* : 2 exs., Nandankanan, coll. A. K. M., 1. viii. 1973.

*Measurements* : 31-43 mm (2 exs.)

*Distribution* : Throughout the states of India (Orissa : Nandankanan). Also Bangladesh, Burma and Thailand.

*Remarks* : Known as 'Glass fish', an aquarium fish.

### 88. *Chanda thomassi* (Day)

1879. *Ambassis thomassi* Day, *Proc. zool. Soc. Lond.*, 369.

1962. *Ambassis thomassi* : Misra, *Rec. India Mus.*, 57 : 224.

1981. *Chanda thomassi* : Jayaram, *Handbk. Freshwater Fishes India* : 318.

*Material examined* : 23 exs., 42 mm - 45 mm, Jobra Road, Dist. Cuttack, coll. S. B., 17. i. 1974.

*Distribution* : The states of Orissa (Jobra Road, Cuttack), Kerala, and Maharashtra in India. Also Pakistan, Malaysia and Thailand.

## Family XVIII NANDIDAE

### 89. *Badis badis* (Hamilton)

1822. *Labrus badis* Hamilton, *Fish Ganges* : 386, pl. 25, fig. 23.

1875. *Badis b Buchanan* Day, *Fish India* : 128, pl. 31, fig. 6.

1981. *Badis badis* : Jayaram, *Handbk. Freshwater Fishes India* : 335.

*Material examined* : (i) 1 ex., Nandankanan, Dist. Cuttack, coll. A. K. M., 1. viii. 1973. (ii) 1 ex., Lake around State Botanical Garden, Dist. Puri, coll. S. B., 1. ii. 1974.

*Measurements* : 51-53 mm (2 exs.)

*Distribution* : The states of M. P., Orissa (Nandankanan, Mahanadi R.), W. B. (Northern Dists.). Also Bangladesh and Burma.

### 90. *Nandus nandus* (Hamilton)

1822. *Coius nandus* Hamilton, *Fish Ganges*, : 96, pl. 30, fig. 32.

1962. *Nandus nandus* : Misra, *Rec. Indian Mus.*, 57 : 286-87, fig. 172.

1981. *Nandus nandus* : Jayaram, *Handbk, Freshwater Fishes India* : 335.

*Material examined* : (i) 1 ex., Jharsuguda, Dist. Sambalpur, coll. P. K. M., 7. i. 1972. (ii) 1 ex., Nandankanan, Dist. Cuttack, coll. A. K. M., 1. viii. 1973. (iii) 2 exs., Sambalpur, Dist. Sambalpur, coll. P. K. M., 22. xii. 1971. (iv) 1 ex., State Botanical Garden, Barang, Dist. Puri, coll. S. B., 30. i. 1974. (v) 2 exs., Panposh, Dist. Sundargarh, coll. T. K. S., 22. iii. 1973. (vi) 1 ex., Lake around State Botanical Garden, Dist. Puri, coll. S. B., 1. ii. 1974.

*Measurements* : 61 - 95 mm (10 exs.)

*Distribution* : Throughout the states of India (Orissa : as above) Also Pakistan, Bangladesh, Burma, Malaysia, and Thailand.

*Remarks* : An important food fish, could be distinguished by the dark blotches on both sides of the body.

#### Family XIX MUGILIDAE

##### 91. *Liza parsia* (Hamilton)

1822. *Mugil parsia* Hamilton, *Fish. Ganges*, : 215, 380, pl. 17, fig. 71 (type-locality : Freshwater rivers of Bengal.)

1981. *Liza parsia*; Jayaram, *Handbk. Freshwater Fishes India*, 343.

*Material examined* : 4 exs. Chilka Lake, Rambha, Dist. Ganjam, coll. D. P. S., 11. xi. 1971.

*Measurements* : 60-71 mm (4 exs.)

*Distribution* : The states of W. B. (Coastal districts), Orissa (Chilka Lake), Maharashtra and Kerala in India. Also Pakistan, Burma, Sri Lanka, Malaysia, and Queensland (Australia).

*Remarks* : An excellent food fish having considerable commercial value.

##### 92. *Rhinomugil corsula* (Hamilton)

1822. *Mugil corsula* Hamilton, *Fish. Ganges* : 221, 381, pl. 9, fig. 97.

1962. *Rhinomugil corsula* ; Misra, *Rec. Indian Mus.*, 57 : 215, fig. 129.

1981. *Rhinomugil corsula* ; Jayaram, *Handbk. Freshwater Fishes India* : 345

*Material examined* : 3 exs., 95 mm - 200 mm, Mahanadi river Sambalpur, coll. T. K. S., 25. v. 1973.

*Distribution* : The states of Punjab, U. P., Bihar, W. B., Orissa (Mahanadi R.) in India. Also Pakistan and Bangladesh.

#### Family XX GOBIIDAE

##### 93. *Glossogobius giuris* (Hamilton)

1822. *Gobius giuris* Hamilton, *Fish. Ganges* : 51, 336, pl. 33, fig. 15.

1962. *Glossogobius giuris* : Misra, *Rec. Indian Mus.*, 57 : 303, fig. 188.

1981. *Glossogobius giuris* : Jayaram, *Handbk. Freshwater Fishes India* : 357

*Material examined* : (i) 2 exs., Sambalpur, Dist. Sambalpur, coll. P. K. M., 22. xii. 1971. (ii) 5 exs., Nandankanan, Dist. Cuttack, coll. D. P. S., 1. xi. 1971. (iii) 9 exs., Bashmati R. near Talpatia village, Sundargarh, coll. T. K. S., 27. iii. 1973. (iv) 2 exs., Pustam sagar, Bhawani Patna, Dist. Kalahandi, coll. T. K. S., 18. xi. 1974. (v) 6 exs., Nowrangpur, coll. M. H., 28. iii. 1979. (vi) 3 exs., Pappadahandi Market, 13 km North of Nowrangpur, Coll. M. H., 31. iii. 1979.

*Measurements* : 63-153 mm (27 exs.)

*Distribution* : Throughout the states of India. Also in Pakistan, Bangladesh, Burma, Sri Lanka, Africa, Mauritius, Malaysia, Thailand, China, Japan, Philippines, Nelasia, Polynesia and Australia.

Family XXI ANABANTIDAE

94. *Anabas testudineus* (Bloch)

1792. *Anthias testudineus* Bloch. *Natura. Ausland. Fische*. 6 : 121, pl. 322 (type - locality : Japan "East Indies").

1962. *Anabas testudineus* ; Misra, *Rec. Indian Mus.*, 57 : 301.

1981. *Anabas testudineus* ; Jayaram, *Handbk Freshwater Fishes India* : 379

*Material examined* : 2 exs., 72mm - 96mm, Nandankanan, Barang Dist, Cuttack, Coll. S.B., 29.i.1974.

*Distribution* : Throughout India. Also in Pakistan, Bangladesh, Burma, Sri Lanka, Malaysia, Thailand, Indo - China, China, Phillipines and Polynesia.

*Remarks* : An important food-fish, occurs in swamp lakes, canals, shallow water bodies, tanks. An air breathing fish capable of living outside water for quite some time.

95. *Colisa fasciatus* (Schneider)

1801. *Trichogaster fasciatus* Schneder, *sys. Ichth.* : 164, pl. 36 (type locality : Tranquebar).

1949. *Colisa facsciatus* Menon, *Rec. Indian Mus.*, 47 : 235.

1981. *Colisa fasciatus* : Jayaram, *Handble Freshwater Fishes India* : 383.

*Material examined*: 1 ex., 34mm, Barang, Dist. Puri, Coll. S.B., 30. i. 1974.

*Distribution* : North-eastern states of India (Eastern Himalayan region), W.B. (the estuaries of the Ganges), Orissa (Barang). Also Pakistan, Burma and Bangladesh.

Family XXII MASTACEMBELIDAE

96. *Macrognathus aculeatum* (Bloch)

1795. *Ophidium aculeatum* Bloch, *Naturng. Ausland. Fische* : 159, fig. 2.

1962. *Macrognathus aculeatum* ; Misra, *Rec. Indian Mus.*, 57 : 314, fig. 196.

1981. *Macrognathus aculeatum* : Jayaram, *Handbk Freshwater Fishes India* : 387.

*Material examined* : (i) 1 ex., Brahmani river, Bonaigarh, Dist. Sundargarh, coll. D. P. S., 17. vi. 1972. (ii) 1 ex., Mahakhand village, 8 kms. south-east of the Forest Rest House, Mahakand, coll. D. P. S., 30.v. 1972. (iii) 1 ex., Nandankanan, Dist. Cuttack, coll. S.B., 2. ii. 1974.

*Measurements* : 193-195 mm (3 exs.)

*Distribution* : Throughout the states of India (Orissa : As above and Mahanadi R.). Also Pakistan, Bangladesh, Burma, Sri Lanka, Malaysia, Thailand, Indo-China and China.

97. *Mastacembelus armatus* (Lacepede)

1800. *Macrognathus armatus* Lacepede, *Hist. nat, Poiss.*, 2 : 283-286.

1962. *Mastacembelus armatus* : Misra, *Rec. Indian Mus.*, 57 : 313-14, fig. 195.

1981. *Mastacembelus armatus* : Jayaram, *Handbk.Freshwater Fishes India* : 388

*Material examined*: (i) 1 ex., Sambalpur Lake, Jharsuguda, Dist. Sambalpur, coll. P. K. M., 7. i. 1972. (ii) 1 ex., Brahmani river, Bonaigarh, Dist. Sundargarh, coll. D. P. S., 17. vi. 1972.

*Measurements*: 249-315 mm ( 2 exs).

*Distribution*: Throughout the states of India. (Orissa : Sambalpur Lake, Brahmani R., Mahanadi R., Chilka Lake). Also Pakistan, Bangladesh, Burma, Srilanka, Malaysia and Thailand.

#### 98. *Mastacembelus pancalus* (Hamilton)

1822. *Macrogathus pancalus* Hamilton, *Fish. Ganges* : 30, 364, (type-locality : Tanks of the Gangetic provinces).

1962. *Mastacembelus pancalus* : Misra, *Rec. Indian Mus.*, 57 : 314.

1981. *Mastacembelus pancalus* : Jayaram, *Handbk. Freshwater Fishes India* : 389.

*Material examined*: (i) 1 ex. (58 mm), Indravati River, Chandili, Dist. Koraput, coll. D. P. S., 28. xi. 1973.

*Distribution*: Throughout the states of India (Orissa : Indravati R.). Also Pakistan and Bangladesh.

### Family XXIII TETRAODONTIDAE

#### 99. *Tetraodon cutcutia* Hamilton

1822. *Tetraodon cutcutia* Hamilton, *Fish Ganges* : 8, 362, pl. XVIII, fig. 3.

1937. *Tetraodon cutcutia* Shaw & Shebeare, *J. Roy. Asiat. Soc. Bengal, Sci. III* : 124, 125, fig. 126, pl. iv, figs. 12 & 13.

1981. *Tetraodon cutcutia* : Jayaram, *Handbk. Freshwater Fishes India* : 394

*Material examined*: 1 ex. 32 mm, Nandankanan, Dist. Cuttack, Coll. D.P.S., 1. xi. 1971.

*Distribution*: The states of Orissa, W.B., Assam in India. Also in Bangladesh.

*Remarks*: It might cause food poisoning if consumed. Its marketing is banned in West Bengal due to death caused by it.

### SUMMARY

A total of 143 species of fishes belonging to 65 genera under 25 families are recorded as occurring in the Orissa State. The fish fauna reciprocates into the categories of mountain, plateau and plain and its composition corresponds to the ecologic features.

The upper reaches of Mahanadi and Brahmani rivers have great potential for fish conservation and regulated exploitation. Valuable food fishes, namely, carps, cat fishes could be introduced and conserved in the upper reaches of the main river for future exploitation.

### ACKNOWLEDGEMENT

Authors are grateful to the Director, Zoological Survey of India for providing facilities in carrying out this investigation. They are also thankful to Dr. K. C. Jayaram, Joint Director, for extending all possible help and valuable suggestions in working out the collection. Sincerest thanks are due to Dr. O. B. Chhotani, Joint Director, for his valuable suggestions in the preparation of manuscript of the paper.

## REFERENCES

- Chauhan, B. S. 1947. Fish and Fisheries of the Patna State, Orissa. *Rec. Indian Mus.*, 45 : 267-82.
- Chauhan, B. S. and Ramakrishna, G. 1954. Fauna of the Balangir district (formerly Patna State) Orissa. *Rec. Indian Mus.*, 51 (3) [1953] : 395-416, pl.: xi-xiv.
- Chaudhuri, B. L. 1916. Fauna of Chilka Lake, *Mem. Indian Mus.*, 5, Fish (Part 1) : 405-439, Fish (Part 2): 441-458, Fish (Part 3): 491-506 ; Fish (Part 4) : 711-736.
- Day, F. 1878. The fishes of India, being a natural history of the fishes known to inhabit the seas and fresh waters of India, Burma and Ceylon. XX 778 pp. 195 pls.
- Greenwood, P.H., Rosen, D.E., Weitzman, S.H. and Myers, G.S. 1966. Phyletic studies of teleostean fishes with a provisional classification of living forms. *Bull. Amer. Mus. nat. Hist.*, 131 : 339 - 456, pls. 21 - 23.
- Hora, S. L. 1940. On a collection of fish from the head waters of the Mahanadi river, Raipur district, Central Provinces. *Rec. Indian Mus.*, 42 : 365-74.
- Jayaram, K. C. 1976. On a collection of fish from Mahanadi. *Rec. zool. Surv. India*, 69 (1-4) [1971] : 305-323.
- Jayaram K. C. 1981. The Freshwater Fishes of India, Handbk. ZSI. Calcutta.
- Misra, K. S. 1938. On a collection of fish from the Eastern Ghats, *Rec. Indian Mus.*, 40 : 255-64.
- Misra, K.S. 1962. An aid to the identification of common commercial fishes of India and Pakistan. *Rec. Indian Mus.*, 57 (1 - 4) : 1 320.



## AMPHIBIA

A. K. SARKAR

Zoological Survey of India, Calcutta.

### INTRODUCTION

Not much is known about the Amphibian fauna of Orissa. Besides the records of eleven species of anurans by Mohanty-Hejmadi (1977) giving some ecological notes and discussion on linear relationship between snout-vent and lengths of the species recorded from Bhubaneswar and Cuttack of Orissa, no concrete faunal work on this group has so far been done from this state. A few stray records of anurans by Annandale (1915, 1918 & 1921) and Boulenger (1890 & 1920) from the area are, however, also available.

This is the first consolidated account of the Amphibians of Orissa, giving some taxonomic remarks and ecological details, and is based on the observations made by me during the field survey in the State. A large collection of the group was also available to me from the different surveys conducted by the other scientists of the Survey. As a result of which as many as 2401 examples of anurans (2255 adults and 146 tadpoles) were available for this study and were determined to belong to four families, six genera and twelve species. Three species lacking in the material available, viz., *Uperodon systoma*, *Ramanella variegata* and *Rana erythraea* recorded by Mohanty-Hejmadi (1977) have also been included in this paper for a complete account of the amphibians of Orissa.

### SYSTEMATIC ACCOUNT

Class AMPHIBIA  
Order ANURA

Key to the families of Amphibians of Orissa :

1. Upper jaw toothless ..... 2  
Upper jaw toothed ..... 3
2. Skin rough with spiny warts, parotoids present ..... BUFONIDAE  
Skin more or less smooth, parotoids absent ..... MICROHYLIDAE
3. Without intercalary ossification (extra cartilaginous bone) between the distal and penultimate phalanges ..... RANIDAE  
With intercalary ossification between the distal and penultimate phalanges ..... RHACOPHORIDAE

#### Family I BUFONIDAE

This family is represented in Orissa by two species of the genus *Bufo* and can be distinguished by the following key :-

- Head with bony ridges, parotoids kidney-shaped ..... *melanostictus*  
Head without bony ridges, parotoids flat (not kidney-shaped) ..... *stomaticus*

Genus 1. *Bufo* Laurenti  
1. *Bufo melanostictus* Schneider  
(Common Indian Toad)

1799. *Bufo melanostictus* Schneider, *Hist. Amph.* 1: 216

1890. *Bufo melanostictus* : Boulenger, *Fauna Br. India, Rept. & Batr.* : 505-507

1977. *Bufo melanostictus* : Mohanty-Hejmadi, *Prakruti-Utkal Univ. J. Sci.*, 11 (1 & 2) : 95.

**Material** : 232 toads collected from the districts of Balasore (Chandipur, Nilgiri) : Cuttack (Athgrah, Barang, jobra, Mahandi Estuary area, Nandankanan); Puri (Balugaon, Konarak, Puri); Ganjam (Berhampur, Gopalpur, Rambha); Mayurbhanj (Baripada, Bisoi, Kaptipada, Chabalo, Lulang); Keonjhar (Ghatgaon); Dhenkanol (Purnakot); Sundargarh (Banki, Bonaigarh); Sambalpur (Badrama, Deogarh, Hirakud, Sambalpur); Bolangir (Bolangir town, Harisankar, Maharhand); Boudh Khandmals (Kalinga); Kalahandi (Madanpur-Rampur); Koraput (Jeypore, Rayagoda). Collection have been made throughout the year.

**Measurements** : Snout to vent length 17-99mm.

**Distribution** : Orissa : As mentioned above. Mohanty-Hejmadi (1977) records it from Bhubaneswar and Cuttack. Now it is being recorded from all other districts of Orissa. **Elsewhere** : Common throughout the plains of India, Sri Lanka and Burma. Its range extends to Southern China, Malaya Peninsula and Archipelago.

**Remarks** : It is the commonest toad found in all the thirteen districts of Orissa. It is nocturnal in habit and found in gardens and roadsides preying on arthropods and other invertebrates. It takes shelter inside the burrows on muddy-walls and in the dark corners of village huts during the day. Unlike frogs these toads are very familiar with human beings and are sometimes found to roam freely inside the rural houses in the presence of mankind.

2. *Bufo stomaticus* Lutken  
(Marbled Toad)

1863. *Bufo stomaticus* Lutken, *Vidensk, Meddr dansk naturh-Foren.* 14 : 305.

**Material** : 71 todes collected from Sundargarh dist. (2 ex., Sundargarh town, 17. ix. 1972, coll. S. Khera); Sambalpur dist. (26 ex., Jharsuguda, 30-31.x.1972; 3 ex., Sambalpur town, 3. xi. 1972, all coll. J. M. Julka and A.K.Sarkar; 25 ex., Sambalpur University Campus, 20.ix.1983, coll. B.K.Mahapatra) : Bolangir dist.(11 ex., Bolangir town, 9-11.xi.1972; 4 ex., Titlagarh town, 14. xi.1972, all coll. J.M. Julka and A.K.Sarkar).

**Measurements** : Snout to vent length 20-80 mm.

**Distribution** : Orissa : As mentioned above. New records from Sundargarh and Sambalpur districts. **Elsewhere** : Assam, West Bengal, Bihar, Andhra Pradesh, Rajasthan, Uttar Pradesh, Gujarat and Maharastra in India. Also Nepal, Burma Sri Lanka, Pakistan and Arabia.

**Remarks** : It is a rare form of toad found in three North-Western districts of Orissa. It is nocturnal in habit. In the month of November author has collected them in association with *Rana breviceps*, from open grassy lands a little away from human dwellings in Bolangir and Titagarh towns of Orissa. Three examples collected from Sambalpur in November, 1972 possess spiny tuberculated skin on dorsum.

## Family II MICROHYLIDAE

This family is represented in Orissa by three genera, two of which are again represented by single species each and third (*Uperodon*) is represented by two species.

## Key to the genera of the family MICROHYLIDAE

1. Tips of fingers more or less blunt (or rounded). not dilated into discs ....2  
 Tips of fingers dilated into triangular discs [A dermal ridge a little way behind each choana] .....*Ramanella*
2. Two strong and shovel-shaped metatarsal tubercles (inner large) present .....*Uperodon*  
 Two small but distinct, and normal (not shovel-shaped) metatarsal tubercles present .....*Microhyla*

Genus 2. *Uperodon* Dumeril & BibronKey to the species of the genus *Uperodon*

- Interorbital space about twice as broad as width of upper eyelid; dorsum marbled .....*systema*  
 Interorbital space about thrice as broad as width of upper eyelid; dorsum not marbled .....*globulosus*

3. *Uperodon systema* (Schneider)  
 (Marbled Baloon Frog)

1799. *Rana systema* Schneider, *Hist Amph.* 1 : 144.

1934. *Uperodon systema* : Parker, *Monogr. Microhylidae*, : 75-76.

1977. *Uperodon systema* : Mohanty-Hejmadi *Prakruti-Utkal Univ. J. Sci.*, II (1 & 2) : 95.

*Distribution* : Mohanty-Hejmadi (1977) records this frog from Bhubaneswar, Orissa. *Elsewhere* : Uttar Pradesh, Tamil Nadu and Kerala in India. Also Sri Lanka.

*Remarks* : This is a rare medium-sized microhylid frog found in Orissa. It leads subterraneous life and is found on the surface during breeding season. It is also a lazy frog and nocturnal in habit. No specimen of the species were available to me from Orissa.

4. *Uperodon globulosus* (Gunther)  
 (Baloon Frog)

1864. *Cacopus globulosus* Gunther, *Rept. Br. India*, p. 416.

1934. *Uperodon globulosum* : Parker, *Monogr. Microhylidae*, : 76.

*Material* : 1 ex. (F), Sambalpur University Campus, Sambalpur district, 20.ix.1983. coll. B.K.Mahapatra.

*Measurements*: Snout to Vent length 83 mm.

*Distribution* : Orissa: As mentioned above. New record from the area. Gunther (1864) described the species from 'Russelkonda, Madras Presidency' Latter Boulenger (1890) also mentioned 'Russellkonda, Ganjam' as habitat. *Elsewhere* : Assam, West Bengal, Madhya Pradesh, Maharashtra, Gujarat and Karnataka in India.

*Remarks* : It is a very rare microhylid frog and leads a secretive subterraneous life and surfaces only during breeding season. Daniel (1963) gave a detailed account regarding the habits of the species. The example reported here is very stout and large, and has been collected from underground while digging in the University garden for soil mites.

Genus 3. *Microhyla* Tschudi  
5. *Microhyla ornata* (Dumeril & Bibron)  
(Ornate Microhylid)

1841. *Engystoma ornatum* Dumeril and Bibron, *Erpet. Gen.*, 8 : 745.

1977. *Microhyla ornata* : Monthy-Hejmadi, *Prakruti-Utkal Univ.J.Sci.*, 11 (1&2) : 92.

**Material:** 133 frogs and 8 tadpoles collected from the districts of Cuttack (Athgarh); Puri (Balugaon); Ganjam (Taptapani); Mayurbhanj (Bisoi, Chabala); Keonjhar (Dhenkikote, Ghatgaon); Sundargarh (Bonaigarh, Sundargarh town); Sambalpur (Deogarh, Jharsuguda, Sambalpur town); Bolangir (Bolangir town, Titlagarh); Baudhkhandmals (Phulbani). Collections have been made during January, June and August to December.

**Measurements :** Snout to Vent length 8-24 mm.

**Distribution :** Orissa : As mentioned above. Annandale (1915) records its tadpoles form rain-fed pools on the banks of Chilka Lake, and Mohanty-Hejmadi (1977) records the adults form Bhubaneswar and Cuttack. Now the species is being recorded for the first time form Ganjam, Myurbhanj, Keonjhar, Sundargarh, Sambalpur, Bolangir and Baudhkhandmals districts of Orissa. Elsewhere : It is a widely distributed species in India and found all over the plains of the country upto an altitude of 1524 metres. Also Sri Lanka, Burma, South China, South-east Asia and Taiwan.

**Remarks :** This toad-like tiny frog is mostly found in the grasses and under the dry leaves spreaded over moist soil. Though it is mainly nocturnal in habit, adults are sometimes found during day-time in cloudy monsoon days. Two examples form Balugaon and five examples form Ghatgaon possess warty skin on dorsum; throat and breast of some examples from the same area are coloured with dark brown, and that of Bonaigarh examples are coloured with Chocolate.

Genus 4. *Ramanella* Rao & Ramanna  
6. *Ramanella variegata* (Stoliczka)  
(Variable Ramanella)

1872. *Callula variegata* Stoliczka, *J. Asiat.Soc.Beng.*, P.111.

1977. *Ramanella variegata* : Mohanty: Hejmadi, *Prakruti-Utkal Univ.J.Sci.*, 11 (1&2) : 95.

**Distribution :** Mohanty-Hejmadi (1977) recorded the species form Bhubaneswar in Orissa. Elsewhere : Eastern Peninsular India and Sri Lanka. I have got no specimens at my disposal.

**Remarks :** Small microhylid frog, according to Daniel (1963) is less than 40 mm form snout to vent. Barring during breeding season this frog is mainly found underground, in termitaries or under stones.

Family III RANIDAE

This family represented in Orissa by seven species of the genus *Rana* one species of the genus *Tomopterna*.

Key to the genera of family RANIDAE

Outer metatarsals seperated by web atleast in the distal half .....*Rana*

Outer metatarsals united or seperated only in their distal extremity .....*Tomopterna*

Key to the species of genus *Rana*

1. Toes webbed upto tips ..... 2  
Toes webbed not upto tips ..... 3
2. Inner metatarsal tubercle digitiform (toe-like) ..... *cyanophlyctis*  
Inner metatarsal tubercle not digitiform. .... 4
3. Tips of toes with distinct discs ..... *erythraea*  
Tips of toes swollen or pointed, but not with discs ..... 5
4. Inner metatarsal tubercle blunt and not shovel-shaped ..... *tigerina*  
Inner metatarsal tubercle sharp and shovel-shaped ..... *crassa*
5. A broad but feebly prominent glandular dorso-lateral fold from above tympanus to groin present ..... *malabarica*  
No such glandular dorso-lateral fold from above tympanum to groin present ..... 6
6. Head a little broader than long, two penultimate phalanges of fourth toe free from webbing ..... *keralensis*  
Head as long as broad; more than two penultimate phalanges of fourth toe free from webbing ..... *limnocharis*

Genus 5. *Rana* Linnaeus7. *Rana cyanophlyctis* Schneider

(Skipping Frog)

1799. *Rana cyanophlyctis* Schneider, *Hist. Amph.* 1 : 137.1977. *Rana cyanophlyctis* : Mohanty-Hejmadi, *Prakruti- Utkal Univ. J.Sci.*, 11 (1&2) : 91

*Material* : 1035 frogs and 56 tadpoles collected from the districts of Balasore (Chandipur, Nilgiri); Cuttack (Chauliaganj, Naraj, Mahanadi Estuary, Nandankanan); Puri (Konarak, Puri town, Barang, Chilka, Gangadharpur, Ramsha); Ganjam (Chatrapur, Berhampur, Gopalpur, Rambha); Mayurbhanj (Joshipur, Lulang); Keonjhar (Dhenkikote, Ghatgaon); Dhenkanol (Bagmunda, Purnakot, Tikarpara); Sundargarh (Bonaigarh, Koira, Panposh, Rourkela, Sundargarh town); Sambalpur (Badrama, Deogarh, Jharsuguda, Sambalpur town); Bolangir (Bolangir town Lathore, Sonepur, Titlagarh); Baudh Khandmals, (Budh, Kotagarh, Phulbani, Rajamunda); Kalahandi (Bhawanipatna, Biswanathpur, Madanpur-Rampur); Koraput (Ambodala, Chandili, Jeypore, Koraput, Madpad, Malkangiri). Collections are available throughout the year.

*Measurements* : Snout to Vent length 17-69 mm.

*Distribution* : Orissa: All the thirteen districts of Orissa as mentioned above. Annandala (1915) and Annandala and Rao (1918) record the species from Chilka Lake, Barkuda Island (Ganjam district) and Puri. Mohanty-Hejmadi (1977) reports it from Bhubaneswar and Cuttack. *Elsewhere* : Throughout the plains of India and upto 1846 m in the Himalaya. Also Pakistan, Afghanistan, Iran, Southern Arabia, Nepal, Thailand and Sri Lanka.

*Remarks* : It is the commonest frog found in all the districts of Orissa. It is normally found to float on the surface of water and sometimes found sitting on the muddy banks of ponds and ditches probably in search of food. One example from Joshipur and another from Konarak possess thickly tuberculated skin on the dorsum; seven examples from Jeypore and three examples from Purnakot possess darker spots on the Ventrums and four examples from

Kotagarh collected in December are with darker warty chains along the lateral and ventral skins of body

8. *Rana erythraea* (Schlegel)  
(Leaping Frog)

1837. *Hyla erythraea* Schlegel, *Abbild.*, p. 27.

1977. *Rana erythraea* : Mohanty-Hejmadi, *Parkruti-Utkal Univ. J.Sci.*, 11 (1&2) : 91-92.

*Distribution* : Annandale in Boulenger (1920) reports it from Orissa. Mohanty-Hejmadi (1977) reports the frogs from Bhubaneswar and Cuttack. Elsewhere : Lower Bengal and Assam in India and South-East Asia. I have got no specimen from the state.

*Remarks* : This is an elongated, medium-sized frog which is not common in the state. In general, this frog is found inside the floating aquatic vegetations and in the bushes growing at the edge of water.

9. *Rana tigerina* Daudin  
(Indian Bull Frog)

1803. *Rana tigerina* Daudin. *Hist. Rain. Gern.Crap.*, p.64.

1977. *Rana tigerina* : Mohanty-Hejmadi, *Parkruti-Utkal Univ. J.Sci.*, 11 (1&2) : 89-91.

*Material* : 39 frogs and 1 tadpole collected from districts of Balasore (Nilgiri, Chandipur, Chandbali); Cuttack (Nandankanan); Puri (Puri town, Konarak, Balaramgiri, Balugaon); Ganjam (Gopalpur, Rambha); Keonjhar (Ghatgaon); Sundargarh (Bonigarh, Sundargarh); Sambalpur (Deogarh, Jharsuguda); Bolangir (Bolangir town, Mahakhand, Titlagarh). Collections have been made during April to December.

*Measurements* : Snout to vent length 23-165 mm.

*Distribution* : Orissa: As mentioned above. Mohanty-Hejmadi (1977) records it from Bhubaneswar and Cuttack. *Elsewhere* : Throughout India from the base of the Himalaya to South India. Also Nepal, Sri Lanka, Burma, Thailand, South China and Taiwan.

*Remarks* : It is the commonest giant edible frog of our country. Mohanty-Hejmadi (1977) records an example measuring 195 mm from snout to vent. It prefers moist soil covered with shrubby bushes growing under the shade of trees. Its populations is gradually depleting owing to at-random lifting of the frogs from the nature for commercial use. One example collected from Titlagarh in November possesses deep darker spots on dorsum and no dark spots on the jaws, while another collected from Konarak in September has lower jaw dotted with darker spots. One tadpole collected from Konarak on 27th July is with flat abdomen and well developed mouth disc with nine rows (four upper and five lower) of serrated teeth.

10. *Rana crassa* Jerdon  
(Jerdon's Bull Frog)

1853. *Rana crassa* Jerdon, *J. Asiat. Sco. Beng.*, 22 : 531.

*Material* : 13 frogs collected from Balasore dist. : 5 ex., Nilgiri, 23 & 27. x. 1971, D. P. Sanyal. Puri dist. : 1 ex., Konarak, 22. ix. 1972, Y. Chaturbedi. Ganjam dist. : 3 ex., Gopalpur, 5 & 7. x. 1972 and 2 ex., Rambha, 6. xi. 1971, all Coll. D. P. Sanyal. Sambalpur dist. : 1 ex., Jharsuguda, 30. x. 1972, J. M. Julka. Bolangir dist. : 1 ex., Bolangir town, 11. xi. 1972 J. M. Julka.

*Measurements* : Snout to vent length 33-100 mm.

*Distribution* : Orissa : New record from all the districts mentioned above except Balasore (Chandbally) district (Boulenger, 1920). Elsewhere : Benaras and Agra (U.P.), Gaya (Bihar), Suburbs of Calcutta, Madras town and Malabar in India. Also Sri Lanka.

*Remarks* : This is an uncommon frog found in the State. The frog is a good digger and could be found inside the burrows made on the elevated banks of ponds and ditches. It is physically stout and considered as one of the edible species of frogs in our country.

### 11. *Rana malabarica* Tschudi (Fungoid Frog)

1838. *Rana malabarica* (Bibron), *Tschudi Class Batrachia*, : 40, 80.

*Material* : 2 frogs : 1 ex., Badrama Reserve Forest, Sambalpur district, 20. vii. 1973, P. K. Das, and 1 ex., Biswanathpur, Kalahandi district, 10. vii. 1974, A. K. Mondal.

*Measurements* : Snout to vent length 65-85 mm.

*Distribution* : Orissa : As mentioned above. New record from Orissa. *Elsewhere* : Maharastra, Goa, Kerala and Timal Nadu (Nilgiris) in Western India. Daniel and Selukar (1964) extend its range eastward by recording it from Jagdalpur, Bastar, Madhya Pradesh. The range is extended now more eastward by recording the species from Kalahandi and Sambalpur districts of Orissa.

*Remarks* : It is a rare from anuran found in the State. It is mainly nocturnal in habit and found in forest areas. During monsoon days this frog is sometimes found sitting quietly on moist ground in thick jungle during day-time. Daniel (1975) has given a good account of ecological details of the species. The 2 examples available here show following morphological variations :-

<i>Specimen from Kalahandi</i>	<i>Specimen from Sambalpur district</i>
1. Larger (Snout to Vent length 85 mm.)	Smaller (Snout to Vent length 65 mm.)
2. Lateral sides of body and outer surface of limbs much darker in colour	Same less so dark
3. Dorsum of body reddish brown	Same light brown
4. Ventrums and inner surface of limbs coloured chocolate	Same dull brownish
5. Skins of lateral sides of body, around the vent and undersurface of thighs thickly granulated	The same more or less smooth
6. Subarticular tubercles of toes and fingers, palmer warts and inner metatarsal tubercles highly developed	The same less so developed

12. *Rana keralensis* Dubois  
(Gunther's Warty-Frog)

1875. *Rana verrucos* Gunther, *Proc. zool. Soc., London*, p. 567

1980. *Rana keralensis* Dubois, *Bull. Mus. natn. Hist. nat. Paris*, (4) 2, Sec. A : 928 (replacement name)

*Material* : 3 frogs, Lulang, Mayurbhanj district, 11. xii. 1975, D. P. Sanyal and A. K. Sarkar

*Measurements* : Snout to vent length 19-60 mm.

*Distribution* : Orissa : As mentioned above. New record from Orissa. *Elsewhere* : Kerala and Tamil Nadu states in India.

*Remarks* : It is a rare form of anuran found in the State. The specimens have been collected from rocky bank of a fast flowing stream situated in dense forest of Lulang village on the eastern fringe of Simlipal National Park. The specimens have dark brown dorsum and dull white ventrum when alive. Both elongated and round warts on dorsum are very prominent and darker in colour. Two frogs possess broad, mid-dorsal stripe not much disturbed by darker warts. Tibio-tarsal articulation in all the specimens reaches the tip of the snout.

13. *Rana limnocharis* Boie  
(Paddy-field Frog)

1835. *Rana limnocharis* (Boie), Wiegmann, *N. Acta. Ac. Leop. Carol.*, 17 (i) : 255.

1977. *Rana limnocharis* : Mohanty-Hejmadi, *Prakruti-Utkal. Univ. J. Sci.*, 11 (1&2) : 91.

*Material* : 654 frogs and 71 tadpoles collected from the districts of Balasore (Chandbali, Nilgiri); Cuttack (Athgarh, Barang, Nandankanan, Naraj, Paradwip) : Puri (Balugaon, Berbera, Chilka, Konarak); Ganjam (Berhampur, Chatrapur, Rambha, Taptpani) : Mayurbhanj (Joshiipur, Lulang); Keonjhar (Dhenkikote, Ghatgaon, Kalinjar) : Dhenkanel (Purnakot, Tikarpara); Sundargarh (Banki, Bonaigarh, Panposh, Sundargarh town); Sambalpur (Badrama, Deogarh Jharsuguda, Rairakhol, Sambalpur town); Bolangir (Bolangir town, Titlagarh); Baudhkhandmals (Boudhgarh, Budh, Kotagarh); Kalahandi (Bhawanipatna, Madanpur-Rampur); Koraput (Jeypore, Malkangiri). Collections have been made throughout the year.

*Measurements* : Snout to vent length 12-52 mm.

*Distribution* : Orissa : As mentioned above. Mohanty-Hejmadi (1977) records it from Bhubaneswar and Cuttack. Besides Bhubaneswar and Cuttack, the above are all new records from Orissa. *Elsewhere* : It is a widely distributed species in India and found in almost all the biotopes of the country. Also Pakistan, Nepal, Sri Lanka, and China to Japan.

*Remarks* : This is also a common species of frogs found in Orissa. It is very common inside the bushes growing on moist soil by the side of water and agricultural fields. During day time this frog sometimes found in association with *Microhyla ornata*, under the heaps of broken bricks left on moist ground. Examples collected from Badrama Reserve Forest in June are with darker dorsum with more darker round warts. Tadpoles are with slender body, long tail and five rows (two upper and three lower) of serrated teeth on the mouth disc.

Genus 6. *Tomopterna* Dumcrlil & Bibron14. *Tomopterna breviceps* Schneider

(Bowling Frog)

1799. *Rana breviceps* Schneider, *Hist. Amph.*, 1 : 1401977. *Rana breviceps* : Mohanty-Hejmadi, *Prakruti-Utkal. Univ. J. Sci.*, 11 (1 & 2) : 911986. *Tomopterna breviceps* : Ingur and Datta, *J. Bombay nat. Hist. Soc.*, 83 : 138.

*Material* : 19 frogs and 8 tadpoles collected from Cuttack dist. : 2 ex., Athgarh, 27. viii. 1972. S. K. Mitra : 8 ex. (Tadpoles), Paradip, 4. ix. 1972, Y. Chaturbedi. Ganjam dist. : 2 ex., Gopalpur, 7. x. 1972, Y. Chaturbedi. Keonjhar dist. : 8 ex., Ghatgaon, 19-23. viii. : 1972 S. K. Mitra. Sambalpur dist. : 1 ex., Jharsuguda, 19. ix. 1972, S. Khera. Bolangir dist : 2 ex., Bolangir town, 9. xi. 1972 and 4 ex., Titagarh, 14. xi. 1972, J. M. Julka.

*Measurements* : Snout to vent length 6-33 mm.

*Distribution* : Orissa as mentioned above. New records from the district to Ganjam, Keonjhar, Sambalpur and Bolangir. Annandale (1915) records its tadpoles from the pools of rain-water in Chilka Lake area and Mohanty-Hejmadi (1977) records from Bhubaneswar and Cuttack. Elsewhere: It is a widely distributed species in India and found in most of the States of the country. Also Sri Lanka, Nepal and Upper Burma.

*Remarks* : It is an uncommon species of anuran found in the State. It is nocturnal in habit. It is a burrowing frog and uses its strong shovel-shaped metatarsal tubercle for digging in loose and sandy soil. According to Daniel (1975) this frog is seen only during the early monsoon months but adults have been collected in the middle of November in association with *Bufo stomaticus* at night in a roadside garden at Titagar (Bolangir district). All the examples at my disposal possess thickly tuberculated skin on dorsum and granular ventral. Among the adult and sub-adult frogs at my disposal, three frogs collected from Ghatgaon in August, 1972 possess thin, mid-dorsal stripe, darker tubercles on dorsum, and faint tubercle (almost confused with the dermal skin) at the tibio-tarsal articulation. On the other hand, seven examples collected from Athgarh in August, 1972, and Bolangir and Titagarh in November 1972 are with brown-tipped dorsal tubercles, without mid-dorsal stripe and with small but distinct tubercle at the tibio-tarsal articulation as described by Bhaduri and Kripalani (1954) Tadpoles collected from Paradip in September 1972 are with shorter tail and stout body and possess five rows (two upper of which inner one interrupted and three lower) of serrated teeth on the mouth disc.

Genus 7. *Polypedates* Tschudi14. *Polypedates maculatus* (Gray)

(The Chuman Frog or Tree Frog)

1832. *Hyla maculate* Gray, *III. Indian zool.*, 1, pl. 82, fig. 1.1977. *Rhacophorus maculatus* : Mohanty-Hejmadi, *Prakruti-Utkal Univ J. Sci.*, 11 (1&2) : 96.1986. *Polypedates maculatus* : Inger and Datta. *J. Bombay nat. Hist. Soc.*, 83 : 139.

*Material* : 53 frogs and 2 tadpoles collected from the districts of Cuttack (Jagatpur, Khira-Gachha, Mahanadi Estuary area. Nandankanan, Paradip); Pur (Balugaon, Chilka Lake area, Konarak, Puri town); Mayurbhanj (Joshipur); Keonjhar (Ghatgaon); Sundargarh (Bonalgah, Panposh, Sundargarh town); Sambalpur (Badrama, Deogarh, Jharsuguda, Sambalpur town); Bolangir (Bolangir town, Harisankar, Titalgarh); Baudhkhandmals (Kalinga); Koraput (Balimela, Jeypore, Madpad). Collections are available throughout the year.

*Measurements* : Snout to Vent length 30-73 mm.

*Distribution* : Orissa : As mentioned above. Annandale and Rao (1918) record its tadpoles from Balighai, near Puri. Mohanty-Hejmadi (1977) records the frog from Cuttack. *Eleewhere* : Plains of India in general. Also Sri Lanka.

*Remarks* : This is a common species of tree-frogs found in Orissa. The frogs are nocturnal in habit and during daytime prefer to stay under barks of trees, inside the holes on the tree-trunks, inside thick bushes where sun-light can not penetrate properly, and roofs of thatched village huts. It has been observed that this frog also prefers moist and dark corners of bath-room, as many examples have been collected from the bath-rooms of Govt. Rest Houses in the State. I have noticed that, the frogs of this species waiting on the flowering plants at the entrance of the Circuit House at Sambalpur and feeding on insects attracted by the night lamps on an evening in the month of November. Tadpoles have stout body, long and pointed tail, light-brownish belly, chocolate spotted throat, and seven rows (four upper and three lower) of serrated teeth on the mouth disc.

### SUMMARY

This paper deals with the Amphibian fauna of Orissa based on the collections mainly made by the Surveys undertaken by the Scientists of the Zoological Survey of India during November, 1962 to March, 1977. It consists of 2401 examples of Anurans (Frogs and Toads) belonging to four families, six genera and fifteen species, of which *Rana malabarica* and *Rana keralensis* are recorded for the first time from Orissa. Many other species have been recorded for the first time from districts of the State. Keys for determination of the species have also been included in the paper.

### ACKNOWLEDGEMENT

The author is highly indebted to the Director, zoological Survey of India for the inspiration and providing with all sorts of facilities to carry out this work; to Dr. O. B. Chhotani, Scientist-SF, of our department for kindly going through the introduction of the manuscript; to all the departmental collecting the material and handing over the same to me for the study and to Shri B. K. Mahapatra, Research Scholar (Life Science Wing), Sambalpur University for making a small but good collection from the University Campus and handing over the same for my studies. Thanks are also due to Shri S. Ray, Gallery Assistant, attached to Protochordata and Amphibia Section of the Department for the help rendered by typing the manuscript.

### REFERENCES

- Annandale, N. 1915. Fauna of the Chilka Lake, mammals, reptiles and batrachians. *Mem. Indian Mus.*, 5 (2) : 163-174.
- Annandale, N. 1921. The Reptiles and Batrachia of Barkuda Island. *Rec. Indian Mus.*, 22 : 331-333.
- Annandale, N. Rao, C. R. N. 1918. The tadpoles of the families Ranidae and Bufonidae found in the plains of India. *Rec. Indian Mus.*, 15 (3) : 25-40.
- Bhaduri, J. L. Kkipalani, M. 1954. Notes on the frog *Rana breviceps* Schneider. *J. Bombay nat. Hist. Soc.*, 52 : 621-623.
- Boulenger, G. A. 1890. The Fauna of British India, including Ceylon and Burma. Reptilia and Batrachia, London (Taylor & Francis), pp. xviii + 541.

- Boulenger G.A. 1920. A monograph of the South Asian, Papuan, Melanesian and Australian Frogs of the Genus *Rana*. *Rec. Indian Mus.* 20 : 1-266.
- Daniel, J. C. 1963. Field Guide to the Amphibians of Western India, part 1. *J. Bombay nat. Hist. Soc.*, 60 (2) : 415-438, and part 2. 60 (3) : 690-702.
- Daniel, J.C. 1975. Field Guide to the Amphibians of Western India, part 3. *J. Bombay nat. Hist. Soc.*, 72 (2) : 506-522.
- Daniel, J. C. Selukar, T. G. 1964. Occurrence of the fungoid frog *Rana malabarica* (Bibr.) at Jagdalpur, Bastar district, M.P. *J. Bombay nat. Hist.Soc.* 60 : 743-744.
- Mohanty-hejmadi P. 1977. Amphibian fauna of Orissa. *Prakruti-Utkal Univ. J.-Sci.*, 11 (1&2) : 89-97.
- Sarkar A. K. 1984. Taxonomic and Ecological studies on the Amphibians of Calcutta and its environs. *Rec. zool. Surv. India*, 81 (3&4) : 215-236.



## REPTILIA

D. P. SANYAL

*Zoological Survey of India, Calcutta*

### INTRODUCTION

The reptile fauna of India as a whole is fairly well studied and Smith's fauna volumes (1931 1935, 1943), are very valuable. The works of Annandale (1907, 1912, 1915, 1917, 1921) and recent studies by Behura (1966); Biswas and Acharjyo (1977, 1980, 1984); Biswas, Acharjyo and Mahapatra (1978); Talukdar, Gayen and Sanyal (1979); Biswas and Kar (1981, 1982) are some of the studies on the reptilia fauna of Orissa but there has been no consolidated faunistic account on reptiles of the state.

The present work on Orissa reptiles is based largely on the extensive collections in the Zoological Survey of India, made during faunistic Surveys of the State, comprising 1025 specimens belonging to 57 species of 42 genera under 16 families; of these 11 species are new records from Orissa. As many as 90 species of reptiles are known from Orissa, a list of which is included in the contribution.

While giving distribution of the species, earlier worked out collections and deposited in the National Zoological Collections of Z S I, have also been taken into consideration.

Colouration of specimens, given in the remarks column, is of specimens preserved in formalin and stored in alcohol.

#### *Abbreviations used.*

The following are the abbreviations used in this paper :-

AKM, Dr. A. K. Mukherjee; An. KM, Dr. A. K. Mondal; AKS, A. K. Singh; BSL, Dr. B. S. Lamba; BSC & KKT, Drs. B. S. Chauhan & K. K. Tiwari; coll., collected by; DPS, D. P. Sanyal; EOM, Dr. E. O. Moll; EAM, E. A. Minchin; ex, examples. GR, G. Ramakrishna; HCR, Dr. H. C. Roy; JMJ, Dr. J. M. Julka; JKS, Dr. J. K. Sen; KSM, K. S. Misra; KNN, K. N. Nair; KVSR, K. V. Surya Rao; LNA; Dr. L. N. Acharjyo; MH, Dr. M. Haffezullah; NA, Dr. N. Annandale; NM, Dr. N. Majumdar; NCG, N. C. Gayen; NVSR, Dr. N. V. Subba Rao; OBC, Dr. O. B. Chhotani; PKM, Dr. P. K. Maity; PKT, Dr. P. K. Talwar; PKD, P. K. Das; RKK, Dr. R. K. Kachar; RLC, R. L. Chowdhury; RP, Dr. R. Prasad; SB, S. Biswas; SK, Dr. S. Khera; SKM, Dr. S. K. Mitra; SKG, Dr. S. K. Gupta; SS, S. Sur; SSS, S. S. Saha; TKS, T. K. Sen; VKP, Dr. V. K. Premkumar; VCA, Dr. V. C. Agrawal; YC, Dr. Y. Chaturvedi.

## LIST OF REPTILES RECORDED FROM ORISSA

The species marked with asterisk are from earlier records.

## Order I TESTUDINES

## Family 1. CHELONIIDAE

1. *Lepidochelys olivacea olivacea* (Eschscholtz)

## Family 2. EMYDIDAE

2. *Kachuga tentoria* (Gray)

## Family 3. TRIONYCHIDAE

3. *Lissemys punctata granosa* (Schoepff)      \*4. *Chitra indica* (Gray)  
 \*5. *Trionyx gangeticus* Cuvier      \*6. *T Hurum* Gray  
 \*7. *T Leithi* Gray

## Family 4. TESTUDINIDAE

8. *Geochelone elongata* (Blyth)

## Order II CROCODYLIA

## Family 5. GAVIALIDAE

- \* 9. *Gavialis gangeticus* (Gmelin)

## Family 6. CROCODYLIDAE

- \*10. *Crocodylus porosus* Schneider      \*11. *Crocodylus palustris* Lesson

## Order III SQUAMATA

## Suborder (i) SAURIA

## Family 7. GEKKONIDAE

12. *Cyrtodactylus nebulosus* (Beddome)      \*13. *Cyrtodactylus jeyporensis* (Beddome)  
 14. *Hemidactylus brooki* Gray      15. *H. leschenaulti* Dumeril & Bibron  
 16. *H. flaviviridis* Ruppell      17. *H. frenatus* Schlegel  
 18. *Eublepharis hardwickii* Gray

## Family 8. AGAMIDAE

19. *Sitana ponticeriana* Cuvier      20. *Calotes versicolor* (Daudin)  
 21. *Psammothilus blanfordanus* (Stoliczka)

## Family 9. CHAMAELEONIDAE

22. *Chamaeleo zeylanicus* Laurenti

## Family 10. SCINCIDAE

23. *Mabuya bibroni* (Gray)      24. *M. dissimilis* (Hallowell)  
 25. *M. macularia* (Blyth)      26. *M. carinata* (Schneider)  
 27. *M. beddomii* (Jerdon)      28. *Riopa punctata* (Linnaeus)  
 29. *R. albopunctata* Gray      30. *Barkudia insularis* Annandale



## Family 18. ELAPIDAE

84. *Bungarus caeruleus* (Schneider)      85. *B. fasciatus* (Schneider)  
 86. *B. walli* Wall      \*87. *Calliophis melanurus* (Shaw)  
 88. *Naja naja naja* (Linnaeus)      \* 89. *Ophiophagus hannah* (Cantor)

## Family 19. VIPERIDAE

90. *Vipera russli* (Shaw)

## SYSTEMETIC ACCOUNT

## Order I TESTUDINES

## Family 1. CHELONIIDAE

1. *Lepidochelys olivacea olivacea* (Eschscholtz)

1829. *Chelonia olivacea* Eschscholtz, *zool. Atlas, pt. 1 : 2, pl. 11.*

*Material examined* : Balasore Dist. 2 ex., Guhirmata 27. iii. 1974 (coll. SB), Puri Dist.: 7 ex., Konarak coast, ii. 1975 (Coll. SB).

*Distribution* : Orissa : As above under material. The species are distributed widely in the warmer parts of tropical and subtropical Atlantic, Indian and Pacific Oceans.

*Remarks* : From the available records, it appears that this turtle commonly known as Olive Ridley comes for nesting in large numbers to the sea side deltoid areas of Brahamani and Baitarani rivers and Puri-Balukhanda, Konarak-chandrabhaga and Chandipur-Burablang coastal areas.

## Family 2. EMYDIDAE

2. *Kachuga tentoria* (Gray)  
(Oriya name : Pani Kaincha)

1834. *Emys tentoria* Gray, *Proc. zool. Soc.*, : 54.

*Material examined* : Cuttack Dist. : 1 ex., Naraj (coll. EOM & SB); Dhenkanal Dist.: 2 ex., Tikarapara (coll. EOM & SB).

*Measurements* : Carapace length 77-183 mm (carapace breadth 67-137 mm carapace depth 50-91 mm) Plastron length 73-189 mm.

*Distribution* : Orissa : Localities as mentioned under Material. *Elsewhere* : Andhra Pradesh, Bihar, Madhya Pradesh, Uttar Pradesh and West Bengal.

*Remarks* : The species is absolutely aquatic and inhabits the slow running water near the banks and still water pools on the river side. It is mainly herbivorous.

## Family 3. TRIONYCHIDAE

3. *Lissemys punctata granosa* (Schoepff)  
(Oriya name : Panka Kaichha)

1792. *Testudo punctata granosa* Schoepff, *Hist. Test.* : 127, pls. 30 A & B.

*Material examined* : Bolangir Dist. : 4 ex., 5 km w of Forest Rest House. Mahakhand, 31. v. 1972 (coll. DPS). Cuttack Dist. : 1 ex., Nandankanan, 29. x. 1971 (coll. DPS); 1 ex., Paradip, 22. v. 1972 (coll. PKT), Puri Dist. : 1 ex., Konarak, 23. ix. 1972 (coll. YC).

*Measurements* : Carapace length 90 to 110 mm.

*Distribution* : Orissa : Widely distributed throughout the state in the river streams, muddy ditches, lakes & marshes. It is however, very common throughout the peninsula south of Ganges in India. It is also reported from Sri Lanka.

Family 4. TESTUDINIDAE  
4. *Geochelone elongata* (Blyth)

1853. *Testudo elongata* Blyth, *J. Asiat. Soc. Bengal*, 22 : 639.

*Material examined* : Puri Dist : 1 ex., from a forest, 27. iv. 1969 (coll. D. F. O. Puri Division).

*Measurements* : Carapace length 220 mm, Breadth 154 mm, Length of plastron 190 mm.

*Distribution* : Orissa : Locality as mentioned under Material (First record from Orissa), Elsewhere : Bihar, Uttar Pradesh (Garhwal district) and West Bengal (Jalpaiguri district). Also the north eastern states. Extralimittally in Bangladesh, Burma, Cambodia, Indonesia, Laos, Malaysia, Nepal, Thailand and Vietnam.

*Remarks* : This species inhabits the low rocky hilly areas.

Order II SQUAMATA  
Suborder (i) SAURIA  
Family 5. GEKKONIDAE  
5. *Cyrtodactylus nebulosus* (Beddome)

1970. *Gymnodactylus nebulosus* Beddome, *Madras Month. J. Med. Sc.*, 2 : 174.

*Material examined* : Koraput Dist : 1 ex., Madpad, 21. ii. 1977 (coll. NM).

*Measurements* : Length : Snout to vent 32 mm, tail 20 mm.

*Distribution* : Orissa : As mentioned above (First record from Orissa). Elsewhere : India: Golconda Hills; George Hill, Russelconda and Nelamba (Tamil Nadu).

*Remarks* : Colour of the specimen is light brown. A curved mark is present on the nape and head, lips and throat are spotted with brown.

6. *Hemidactylus brooki* Gary

1845. *Hemidactylus brookii* Gray, *Cat. Liz. Brit. Mus.* : 153.

*Material examined* : Bolangir Dist. : 1 ex., Salapal. 4 km South of Bolangir, 1. i. 1972 (coll. PKM); 3 ex., Bolangir, 9-12. ix. 1972; 1 ex., Titlagarh, 16. ix. 1972 (coll. JmJ); 3 ex., Lathore, 21. v. 1972; 1 ex., Mahakhand, 27. v. 1972 (coll. DPS). Boudhkhandmals Dist. : 1 ex., Kotagarh, 15. xii. 1973 (coll. DPS). Dhenkanal Dist., 1 ex., Purnakot, 25. xi. 1972 (coll. JKS). Ganjam Dist. : 7 ex., Gopalpur, 14. xi. 1972 (coll. DPS); 1 ex., Gopalpur, 27. v. 1972 (coll. PKT). Keonjhar Dist. : 1 ex., Dhenkikote, 27. xii. 1975 (coll. DPS). Koraput Dist. : 2 ex., Chandili, 28. xi. 1977 (coll. DPS). Mayurbhanj Dist. : 1 ex., Chahala, 24. i. 1971 (Coll. An. KM), 2 ex., Bijoyramchandrapur, 10. viii. 1972 (coll. SKM); 1 ex., Gurguria, Simlipal hill, 23 km of NE of Joshipur, 13. xi. 1972 (coll. JKS); 1 ex., Lulang, 11. xii. 1975 (coll. DPS). Puri Dist. : 1 ex., Balugaon, 16. xii. 1960 (coll. BSL); Barkul near Chilka Lake,

Baligai near Puri, Puri (coll. Dr. Annandale, Capt. F. H. Stewart, 1913). Gopkudgs, Chilka Lake (coll. R. Hodgart). Sambalpur Dist. : 2 ex., Jharsuguda, 5. i. 1972 (coll. PKM); 1 ex., Deogarh, 12. vi. 1972 (coll. DPS); 1 ex., Jharsuguda, 30. x. 1972 (coll. JMJ); 1 ex., Deogarh, 29. xii. 1972 (coll. An K M); 1 ex., Kansar, 2. i. 1973 (coll. An. K M). Sundargarh Dist. : 3 ex., Sundargarh 26-28. xii. 1971 (coll. PKM); 1 ex., Bishal Bhari R. Forest, 5 km SE of Sundargarh, 9. i. 1972; 3 ex., Bilijuri vill., 4 km W of Sundargarh, 11. i. 1972 (coll. PKM); 1 ex., Kalung, 6 km W. of Panposh, 22. vi. 1972 (coll. DPS); 1 ex., Near Collage, Sundargarh town, 27. x. 1972 (coll. JMS); 2 ex., Bonaigarh, 9. iv. 1973 (coll. TKS).

*Measurements* : Length : Snout to vent 22-47 mm; tail 55 mm.

*Distribution* : Orissa : Localities as mentioned under Material above. Elsewhere : India : Whole of India. Also Sri Lanka, Burma, China, SE Asia, North Africa and West Indies.

*Remarks* : This species is characteristically a domestic gecko over much of its range but it is sometime found far away from human habitations.

### 7. *Hemidactylus leschenaulti* Duméril & Bibron

1836. *Hemidactylus leschenaulti* Duméril & Bibron, *Erp. Gen.*, 3 : 364.

*Material examined* : Balasore Dist., 1 ex., Nilgiri, 26. x. 1971 (coll. DPS). Boudhkandmels Dist. : 1 ex., Phulbani, 14. i. 1972 (coll. KVSR). Cuttack Dist. : 3 ex., Nandankanan, 3 & 14. xi. 1971 (coll. DPS). Ganjam Dist. : 5 ex., Gopalpur, 14. xi. 1971 (coll. DPS); 1 ex., Mohana, 18. xii. 1971 (coll. VCA). Koraput Dist. : 4 ex., Chandili, (coll. DPS). Puri Dist. : Puri, 2. ii. 1975 (coll. SB); Barkul, near Chilka Lake (Dr. N. Annandale). Sambalpur Dist. : 2 ex., Badrama, 3. xi. 1972 (coll. DPS); Sundargarh Dist. : 1 ex., Bedvyas, ca 5 km N of Punpose, 26. vi. 1972 (coll. DPS).

*Measurements* : Length : Snout to vent 48-52 mm; tail 60 mm.

*Distribution* : Orissa : Localities as mentioned above under Material. Elsewhere : India: Annamalai, Nilgiri & Palkonda Hills & Godavary valley (Andhra Pradesh); Belgaum (Karnataka); Bombay, Pune and Nagpur (Maharashtra); Khandesh & Dangs, Sural (Gujarat); South of Jaisalmer (Rajasthan); Calcutta (West Bengal); Sri Lanka.

*Remarks* : This is an arboreal gecko found on large trees such as banyan, mango and tamarind. It usually lies concealed under bark of trees, several feet above the ground.

### 8. *Hemidactylus flaviviridis* Ruppell

1835. *Hemidactylus flaviviridis* Ruppell, *Neue, Wirb : Fauna. Abyss.* : 18, pl. vi. fig. 2.

*Material examined* : Bolangir Dist.; 3 ex., Lathore, 21. v. 1972; 2 ex., Harishankar hill, ca 40 km n of Lathore, 25. v. 1972 (coll. DPS); 2 ex., Titlagarh, 16. xi. 1972 (coll. JMJ). Sambalpur Dist. : 4 ex., Jharsuguda, 31. x. 1972 (coll. JMJ). Sundargarh Dist. : 4 ex., near college, Sundargarh, 25-27. x. 1972 (coll. JMJ).

*Measurements* : Length : Snout to vent 58-82 mm; tail 85 mm.

*Distribution* : Orissa : Localities as mentioned above. Elsewhere : India : Northern India to W. Bengal and south to the vicinity of Bombay. Also occurs from the shores of the Red Sea and around the coasts of Arabia and Iran,

*Remarks* : This gecko is an edificial species, seldom seen far from human dwellings.

9. *Hemidactylus frenatus* Schelegel

1836. *Hemidactylus frenatus* Schelegel, *Erp. Gen.*, 3 : 336.

*Material examined*: Cuttack Dist. : 1 ex., Nandankanan, 1. xi. 1971 (coll. DPS). Ganjam Dist. : 10 ex., Gopalpur, 14. xi. 1971 (coll. DPS). Kalahandi Dist. : 1 ex., 3 km W of Madanpur-Rampur, 7. xii. 1977 (coll. DPS). Mayurbhanj Dist. : 1 ex., c 5 km NE of Joshipur, 18. xii. 1975 (coll. DPS). Puri Dist. : Barkuda Is, Chilka Lake (coll. N. Annandale and F. H. Gravely)

*Measurements* : Length : Snout to vent 35-50 mm; tail 55 mm.

*Distribution* : Orissa : Localities as mentioned above under Material. Elsewhere : India: West Bengal; Southern India. Also Sri Lanka and Southern Indo-China.

*Remarks* : Greyish brown above with indistinct darker markings arranged longitudinally and dirty whitish below.

10. *Eublepharis hardwickii* Gray

1827. *Eublepharis hardwickii* Gray, *Phil. Mag.* (2) ii : 56.

*Material examined* : Bolangir Dist. : 1 ex., Harishankar, 16. vi. 1978 (coll. NCG). Dhenkanal Dist. : 1 ex., Tikarpara, Jan, 1978 (coll. AKS).

*Measurements* : From snout to vent 80 mm; tail 65 mm.

*Distribution* : Orissa : Localities as mentioned under Material. Elsewhere : Bengal, Bihar (Chota Nagpur), Madhya Pradesh, Uttar Pradesh.

*Remarks* : Colour dark brown above with cream colour transverse markings.

## Family 6. AGAMIDAE

11. *Sitana ponticeriana* Cuvier

1844. *Sitana ponticeriana* Cuvier, *Guerin Icon. Reg. Anima. Rept.* : pl. x. fig. 2.

*Material examined* : Bolangir Dist. : 6 ex., Lathore, 22. v. 1972; 10 ex., Dhurakhamund vill., ca. 11 km SE of Lathore, 23. v. 1972; 1 ex., ca 6 km NW of Forest Rest House, Lathore, 24. v. 1972; 7 ex., Harishankar Hill, 25. v. 1972; 4 ex., Mahakhand, 27. v. 1972; 3 ex., Mahakhand vill., ca 3 km SE of Forest Rest House, 30. v. 1972 (coll. DPS); 2 ex., Bolangir, 10. xi. 1972 (JMJ); 2 ex., Sonapur, 14. i. 1975 (coll. SB), Boudhkhondmals Dist. : 1 ex., Kotagarh, 12. xii. 1973 (coll. DPS). Dhenkanal Dist. : 1 ex., Purnakot, 25. xi. 1972 (coll. JKS). Ganjam Dist. : 1 ex., Taptapani, June, 71 (coll. DPS). Kalahandi Dist. : 1 ex., near Bhawanipatna, 31. 1. 1972 (coll. AnKM); 11 ex., Nakjhari ca. 18 km SE of Madanpur-Rampur, 10. xii. 1973 (coll. DPS), Keonjhar Dist. : 1 ex., Gopalpur, 4. ii. 1971 (coll. AnKM); 1 ex., Ghatgaon, 21. xii. 1975 (coll. DPS). Mayurbhanj Dist. : 1 ex., near Budjore Irrigation Project, 17. ii. 1976 (coll. RLC). Puri Dist. : 1 ex., Konarak, 9. vi. 1972 (coll. PKT); 7 ex., Konarak, 29 & 30. i. 1975 (coll. SB). Sambalpur Dist. : 4 ex., Badrama, 2. vi. 1972 (coll. DPS); 1 ex., Badrama, 27. xii. 1972 (coll. AnKM). Sundargarh Dist. : 3 ex., Sundargarh, 28. xii. 1971 (coll. PKM).

*Measurements* : Length : snout to vent 25-40 mm; tail 75-120 mm.

*Distributio* : Orissa : Localities as mentioned above under Material. Elsewhere : India : whole of India up to Himalayan foothills except Bengal east of Ganges, but there is a specimen from Haldibari (North Bengal). Also Sri Lanka.

*Remarks* : The specimens belong to the smaller form out of two forms mentioned by Smith (loc. cit.) due to the following characters : tail more than twice the length of head and body, hindlimb reaching the tip of snout, labial and occipital scales intermixed with larger ones.

## 12. *Calotes versicolor* (Daudin)

1802. *Agama versicolor* Daudin, *Hist. Nat. Rept.* 3 : 395.

*Material examined* : Balasore Dist. : 9 ex., Nilgiri, 23-24.x. 1971; 8 ex., Santagaria ca 8 km s of Nilgiri, 26. x. 1971; 8 ex., Scrogarh, ca. 8 km E of Nilgiri, 27. x. 1971 (coll. DPS). Bolangir Dist., 2 ex., Matkai R. F. ca. 12 km SW of Bolangir, 31. xii. 1971 (coll. PKM); 8 ex., Lathore, 21-22 & 24. v. 1972; 5 ex., Dhurakhamund vill., ca 11 km SE of F. R. H., Lathore 23. v. 1972; 1 ex., Harishankar hill, 25. v. 1972; 7 ex., Mahakhand, 27-30. v. 1972 (coll. DPS); 1 ex., Raj Bari, Bolangir, 30. ix. 1972; 1 ex., Kadampara vill. near Bolangir, 1. x. 1972; 1 ex., Titlagarh, 6. x. 1972 (coll. SK); 2 ex., Bolangir, 11. xi. 1972; 6 ex., Titlagarh, 15-17. xi. 1972 (coll. JMJ); 2 ex., Lathore, 22. xi. 1972 (coll. DPS); 3 ex., Lathore, 14-15. xii. 1972 (coll. AKM); 3 ex., Sonapur, 14 & 18. i. 1975 (coll. SB), Boudhkhendmal Dist. : 4 ex., Hill behind Panchayat Bhaban, Phulbani 10. i. 1972 (coll. KVSR); 6 ex., Kotagarh 12-15. xii. 1973 (coll. DSP); 1 ex., Kalinga, 29. vi. 1974; 1 ex., Baliguda, 1. vii. 1974 (coll. AKM). Cuttack Dist. : 7 ex., Nandankanan, 21. x. 1971 (coll. DPS); 1 ex., ca 6 km E of Cuttack 28. x. 1971 (coll. SSS); 19 ex., Nandankanan, 1 & 3. xi. 1971 (coll. DPS); 3 ex., Paradip, 21. v. 1972 (coll. PKT); 2 ex., Barang, 15. vii. 1973 (coll. An. KM), 1 ex., Nandankanan, 21. i. 1975 (coll. SB); Ganjam Dist. : 2 ex., Chatrapur, 25. xi. 1962 (coll. GR); 1 ex., ca. 2 km N of Rambha Rly Station 28. v. 1969 (coll. KNN); 12 ex., from different localities round Gopalpur, 9-15. xi. 1971; 52 ex., collected from different localities round Rambha, 5-19. xi. 1971; 43 ex., collected from different localities of Berhampur, 19-22. vi. 1971; 10 ex., Taptapani, 17. xi. 1971 (coll. DPS); 2 ex., Mohana, 16-17. xii. 1971 (coll. VCA); 1 ex., Taptapani 14. vii. 1973; 1 ex., Chandragiri, 15. vii. 1973 (coll. AKM). Kalahandi Dist. : 1 ex., ca. 5 km N of Bhawanipatna, 29. i. 1972 (coll. NVSR); 4 ex., Madanpur-Rampur, 6-7. xii. 1973 (coll. DPS); 1 ex., Longigarh, 7. vii. 1974; 3 ex., Biswanathpur, 6 & 10. vii. 1974 (coll. An. KM). Keonjhar Dist. : 2 ex., (JUV). 21. viii. 1972 (coll. SKM); 1 ex., 5-20. xi. 1972 (coll. JKS); Ghatgaon, 21. 24. xii. 1975; 6 ex., Dhenkikote, 26-29. xii. 1975 (coll. DPS). Koraput Dist. : 3 ex., Jeypore, 23-24. xi. 1973; 4 ex., Chandili, 26-28. xii. 1973; 1 ex., 4 km NE of P. W. D. I. B., Jeypore, 3. xii. 1973 (coll. DPS); 1 ex., ca 3 km SW of Jeypore, 4. xii. 1973; 2 ex., Madpad, 6. vii. 1974; 1 ex., Rayagada, 17. vii. 1974. (coll. An. KM); 10 ex., Govindapalle, ca 51 SW of Jeypore, 21. ii. 1977, 6 ex., Balimala, 3. iii. 1977; 1 ex., Chitrakonda, 20. iii. 1977 (coll. NM). Mayurbhanj Dist. : 1 ex., Chahala, 21. i. 1971 (coll. An. KM); 1 ex., Baripada, 6. viii. 1972 (coll. SKM); 1 ex., Gurguria, 13. xi. 1972 (coll. JKS); 1 ex., Bangriposighat, 25. iii. 1973 (coll. SKG); 8 ex., Lulang, 12-15. ii. 1975 (coll. RLC); 5 ex., Lulang, 11-13. xii. 1975; 1 ex., ca 5 km NE of Joshipur, 18. xii. 1975 (coll. DPS); 3 ex., Kathpal, 15-18. ii. 1976 (coll. RLC), Puri dist. : 4 ex., Balugaon, 12-23. xii. 1960 (coll. BSL); 19 ex., Chilka and Balugaon, 15-22. ii. 1969 (coll. KNN); 1 ex., Puri, 7. ii. 1971 (coll. VKP); 2 ex., Puri, 2. vi. 1972; 8 ex., 8-9. vi. 1972

(coll. PKT); 4 ex., Konarak, 15-20. ix. 1972; 4 ex., Balugaon, 29. ix. 1972 (coll. YC); 2 ex., Berbera, 23. vii. 1973; 1 ex., Konarak, 27. vii. 1973 (coll. AKM); 5 ex., Konarak, 13-17. xii. 1973 (coll. MH); 2 ex., Balugaon, 30. xii. 1973; 1 ex., Kalipuraghat, 2. i. 1974; 3 ex., Berbera, 4-9. i. 1974 (coll. RLC); 1 ex., Puri, 29. i. 1975 (coll. SB); 4 ex., Konarak, 1. iii. 1977 (coll. NM). Sambalpur Dist.; 1 ex., Badrama, 6. vi. 1972; 2 ex., Deogarh, 12. vi. 1972 (coll. DPS); 1 ex., (JUV), Jharsuguda, 18. ix. 1972; 2 ex., (JUV); Sambalpur, 28. ix. 1972 (coll. SK); 2 ex., Jharsuguda, 1. xi. 1972; 6 ex., Sambalpur, 3-7. xi. 1972 (coll. JMJ); 1 ex., Deogarh, 29. xii. 1972; 3 ex., Barkot, 1. i. 1973; 2 ex., Kansar, 2. i. 1973; (coll. An. KM). Sundargarh Dist. : 9 ex., Bonaigarh, 15-17. vi. 1972, 6 ex., Panposh, 23-25. vi. 1972 (coll. DPS); 5 ex., collected from different localities of Sundargarh, 12-22. ix. 1972 (coll. SK); 1 ex., Sundargarh town; 25. x. 1972; 1 ex., near collage, Sundargarh, 27. xi. 1972 (coll. JMJ); 6 ex., Bonaigarh, 6-9. i. 1973 (coll. An. KM); 12 ex., Panposh, 22. iii. 1973 (coll. TKS).

*Measurements* : Length : snout to vent 60-195 mm; tail 165-290 mm.

*Distribution* : Orissa : localities mentioned as above under Material. Elsewhere : India : common throughout India and the Andaman Islands. Also Pakistan, Afghanistan, Sri Lanka, Nepal, Burma, Northern part of Malay Peninsula, Indo-China, Hainan, Hongkong and South China.

*Remarks* : This common garden lizard is essentially arboreal in its habits but is also found in the open fields, hedges and gardens. It climbs with great agility, often jumping from branch to branch. Its toes are prehensile and the long tail is used for balancing. When sleeping or basking it usually lies with the body closely pressed against a stem. It feeds upon various kind of insects.

### 13. *Psammophilus blanfordanus* (Stoliczka)

1871. *Charasia blanfordana* Stoliczka, *Proc. Asiat. Soc. Bengal*, : 194 and 1872. *J. Asiat. Soc. Bengal.*, 41 : 110, pl. iii, fig. 5.

*Material examined* : Bolangir Dist. : 8 ex., Lathore, 21-25. v. 1972., 7 ex., Mahakhand, 27-30. v. 1972, Boudhkhondmals Dist. : 5 ex., Kotagarh, 13-16. xii. 1973 (coll. DPS), Ganjam Dist. : 1 ex., Chandragiri, 15. vii. 1973 (coll. An. KM), Kalahandi Dist. : 6 ex., collected from different localities of Madanpur-Rampur, 6-10. xii. 1973 (coll. DPS), Keonjhar Dist.; 5 ex., Ghatgaon, 19-21. xi. 1972 (coll. JKS); 6 ex., Kushnupur, vill., ca 3 km NE of P. W. D., I. B. Ghatgaon, 22-24. xii. 1975 (coll. DPS), Koraput Dist. : 5 ex., Govindapalle, 1-3. iii. 1977; 5 ex., Balimala, 10. iii. 1977; 2 ex., Chitrakonda, 16. iii. 1977 (coll. NM). Mayurbhanj Dist. : 1 ex., Asana, 16. viii. 1972 (coll. SKM); 1 ex., Champagarh, 4. xii. 1972 (coll. JKS); 2 ex., Bangriposighat, 25. iii. 1973 (coll. SKG); 7 ex., Lulang, 11-13. xii. 1975 (coll. DPS). Puri Dist. : 2 ex., Barang, 23. i. 1975 (coll. SB); Puri & Khandagiri (coll. F. H. Gravely). Sambalpur Dist. : 23 ex., Badrama, 2-6. vi. 1972; 7 ex., Deogarh, 11-12. vi. 1972 (coll. DPS); 3 ex., Sambalpur, 7. xi. 1972 (coll. JMJ); 1 ex., Kansal, 2. i. 1973 (coll. AKM). Sundargarh Dist. : 1 ex., Barsur, 15. ix. 1972 (coll. SK); 7 ex., Bonaigarh, 6-9. i. 1973 (coll. An. KM).

*Measurements* : Length : snout to vent 60-85 mm; tail 90-160 mm.

*Distribution* : Orissa: localities as mentioned above under Material. Elsewhere : India : Bihar, Madhya Pradesh, Eastern Ghats, South Kerala upto Trivandrum.

*Remarks* : Common in many parts of Orissa

## Family 7. CHAMAELEONIDAE

14. *Chamaeleo zeylanicus* Laurenti

(Oriya name : Bahurupi, Endua or Pohola Endua)

1768. *Chamaeleo zeylanicus* Laurenti, *Syn. Rept.* : 46.

*Material examined* : Cuttaack Dist. : 1 ex., Nandankanan, Dec. 1976 (coll. RP). Ganjam Dist. : 1 ex., Taptapani, 13. vii. 1973 (coll. An. KM). Puri Dist. : 2 ex., Paradip, 4. ix. 1972 (coll. YC); 1 ex., Berber, 25. vii. 1973 (coll. An. KM). Sambalpur Dist. 1 ex., Binakhand vill., 26. ix. 1972 (coll. SK).

*Measurements* : Length : Snout to vent 95-140 mm, tail 115-165 mm

*Distribution* : Orissa : as mentioned above under Material. Elsewhere : India : The Peninsular India south of the Gangetic Plain, Cutch. Also Sri Lanka.

*Remarks* : This chamaeleon is essentially arboreal in its habits. It is found on plants and bushes and is a voracious eater.

## Family 8. SCIENCIDAE

15. *Mabuya bibroni* (Gray)1838. *Tiliqua bibroni* Gray, *Ann. Mag. Nat. Hist.*, 2 : 290.

*Material examined* : Prui Dist. : 1 ex., Puri 2. iii. 1964 (coll. NVSR); 2 ex., Konarak, 30. i. 1975 (coll. SB).

*Measurements* : Length : snout to vent 35-40 mm, tail 50-55 mm.

*Distribution* : Orissa : As mentioned above under Material. Elsewhere : India : Madurai Dist., Ramnad and Rameswaram in Tamil Nadu. Also Sri Lanka.

*Remarks* : Colour olive brown above and whitish below, with 28 scales round the middle of the body.

16. *Mabuya dissimilis* (Hallowell)1857. *Euprepis dissimilis* Hallowell, *Trans. Amer. Phil. Soc.* (2), 11. 78.

*Material examined* : Bolangir Dist. : 1 ex., Bolangir, 10. xi. 1972 (coll. JMJ). Koraput Dist. : 1 ex., Malakangiri, 2. xii. 1973 (coll. DPS).

*Measurements* : Length : snout to vent 38-42 mm, tail 52-60 mm.

*Distribution* : Orissa : As mentioned above (First record from Orissa). Elsewhere : India : The range is from West Bengal & Bihar across the plains of central and northern India. Also Waziristan, Sibi district (Baluchistan), Shikarpur (Sind) and Rawalpindi in Pakistan.

*Remarks* : Colour light brown above with a vertebral and 2 dorso-lateral greenish white stripes; lower parts yellowish-white; with 34 to 35 scales around the middle of the body.

17. *Mabuya macularia* (Blyth)1853. *Euprepes macularius* Blyth, *J. Asiat. Soc. Bengal*, 22 : 652.

*Material examined* : Bolangir Dist. : 8 ex., collected from different localities round lathore, 23-25. v. 1972; 2 ex., Mahakhand, 30. v. 1972 (coll. DPS). Boudhkhondmals Dist.:

2 ex., Kotagarh, 13. xii. 1973 (coll. DPS). Kalahandi Dist. : 15 ex., Nakjhari, ca 18 km. S. E. of Madanpur-Rampur, 10. xii. 1973 (coll. DPS). Keonjhar Dist. : 1 ex., Ghatgaon, 21. xii. 1975 (coll. DPS). Mayurbhanj Dist. : 1 ex., Chahala, 24. i. 1971 (coll. An. KM). Sambalpur Dist. : 7 ex., Badrama, 4-6. vi. 1972; 7 ex., collected from different localities round Deogarh, 9-12. vi. 1972 (coll. DPS). Sundargarh Dist. : 2 ex., Bonaigarh, 13. xii. 1971 (coll. PKM); 1 ex., Panposh, 25. vi. 1972 (coll. DPS).

*Measurements* : Length : snout to vent 30-35 mm. tail 35-65 mm.

*Distribution* : Orissa : localities mentioned as above under Material. Elsewhere : India : Throughout. Also Pakistan (Sind and Rawalpindi), Indo-china, Malay Peninsula, Burma and Sri Lanka.

*Remarks* : Smith (1935) mentioned five geographical 'forms', the present examples conform to the fourth 'form' due to the presence of 28-30 scales around the body; dorsal and lateral scales with 7-8 distinct keels.

### 18. *Mabuya carinata* (Schneider)

1807. *Scincus carinatus* Schneider, *Hist. Amphib.*, 2 : 183.

*Material examined* : Balasore Dist. : 2 ex., Scrogarh, ca 8 km E. of Nilgiri, 27. x. 1971 (coll. DPS). Bolangir Dist. : 1 ex., ca 4 km S. of forest rest house, Lathore; 22. vi. 1972; 2 ex., Dhurakhamund vill., ca 4 km S. E. of Lathore, 23. v. 1972; 3 ex., Harishankae, 25. vi. 1972; 2 ex., Mahakhand, 27 & 29. v. 1972 (coll. DPS); 1 ex., Bolangir, 10. xi. 1972; 4 ex., Titlagarh, 15-17. xi. 1972 (coll. JMJ); 1 ex., Sonapur, 18. i. 1975 (coll. SB). Cuttack Dist.: 2 ex., Nandankanan, 21. x. 1971 (coll. DPS); 3 ex., Nandankanan, 21-25. i. 1975 (coll. SB). Ganjam Dist. : 1 ex., Taptapani 1971 (coll. DPS). Kalahandi Dist. : 1 ex., Jharkhaman, 9. xii. 1972, 1 ex., Biswanathpur, 6. vii. 1974 (coll. An. KM). Koraput Dist. : 1 ex., Malakangiri, 2. xii. 1973 (coll. DPS); 6 ex., Madpad, 19-21. ii. 1973. 1 ex., Govindapalle, 1. iii. 1973 (coll. NM). Puri dist. : 2 ex., Konarak, 15 & 17. xii. 1972 (coll. MH); 1 ex., Kalipuraghat, 2. i. 1974 (coll. RLC). Sambalpur Dist. : 1 ex., Badrama, 6. vi. 1972, 1 ex., Deogarh, 11. v. 1972 (coll. DPS); 1 ex., Pallahara, 31. xii. 1972 (coll. An. KM). Sundargarh Dist. : 1 ex., Bonaigarh, 15. vi. 1972 (coll. DPS), 1 ex., Bonaigarh, 7. i. 1973 (coll. An. KM), 1 ex., Panposh, 25. vi. 1972 (coll. DPS).

*Measurements* : Length : snout to vent 105-130, tail 140-170 mm.

*Distribution* : Orissa : As mentioned above (First record from Orissa). Elsewhere : India : The Peninsular India except the extreme North-West.

*Remarks* : Olive above with a longitudinal streak along the lateral margins of the scales. A light dorso-lateral line starting from above the eye and extended up to the base of the tail. Lower parts yellowish-white.

### 19. *Mabuya beddomii* (Jerdon)

1870. *Euprepes beddomii*, Jerdon. *Proc. Asiat. Soc. Bengal*, : 73.

*Material examined* : Keonjhar Dist. : 1 ex., ca 4 km S. of P. W. D. I. B. Ghatgaon, 22. xii. 1975 (coll. DPS)

*Measurements* : Length : snout to vent 55 mm, tail 99 mm.

*Distribution* : Orissa : As mentioned above under Material. Elsewhere : India : Southern India. Also Sri Lanka.

*Remarks* : Dorsal and lateral scales sub-equal, dorsal with 3 feebly keeled scales. With 32 scales round the body. A broad brownish band present along either side of head and upper part of flanks; it is edged above and below with a white streak, the lower part of which starts from upper lip and passes through the ear. Whitish below. Talukdar *et al.* (1979) recorded the species first time from Orissa.

#### 20. *Riopa albopunctata* Gray

1846. *Riopa albopunctata* Gray, *Ann. Mag. Nat. Hist.*, 18 : 430.

*Material examined* : Balasore Dist. : 1 ex., Serogarh, ca 8 km E. of Nilgiri, 21. xi. 1971 (coll. DPS). Ganjam Dist. : 1 ex., Satpara Is., 45 km N. of Bulugaon, 23. ix. 1950 (coll. OBC & KKT). Puri Dist. : 1 ex., Puri, 15. ii. 1969. 1 ex., Chilka Lake., 15. ii. 1969, 2 ex., Chilka Lake, 18. ii. 1969, 4 ex., Injanpur, Bulugaon, 16. ii. 1969, 3 ex., ca 3 km N. E. of Khalikota Rly. Stn. 5. vi. 1969 (coll. KNN); 1 ex., under log, Barkuda Is., 9. vii. 1961 (coll. OBC); 1 ex., on the temple road, Puri, 18. xi. 1972 (coll. GR). Sundargarh Dist. : 2 ex., Sundargarh, 15-27. vii. 1971 (coll. PKM).

*Measurements* : Length : snout to vent 40-51 mm.

*Distribution* : Orissa : localities as mentioned above under Material. Elsewhere : India : Andhra Pradesh; Bilaspur (M. P.); Purnea, Muzaffarpur (Bihar); Mundiaghat (U. P.); Calcutta (W. B.), Dibrugarh, Kokilamukh (Assam).

*Remarks* : 26 to 28 smooth scales round the body. Lower eyelid scaly. Two or three of the central scales often much larger than the others. Brownish above with a dark spot on each scale forming longitudinal series. Yellowish-white below.

#### 21. *Riopa punctata* (Linnaeus)

1799. *Scincus punctatus* Linn., *Hist. Amphib.* : 197.

*Material examined* : Ganjam Dist : 2 ex., Berhampur, Dec. 1976 (coll. RP)

*Measurements* : snout to vent 55 mm.

*Distribution* : Orissa : Locality as mentioned under Material. Elsewhere : Bihar, Madhya Pradesh, Uttar Pradesh, Andhra Pradesh and Tamil Nadu.

*Remarks* : Brown above with a dark basal spot on the sides of each scale.

#### 22. *Barkudia insularis* Annandale (Oriya name : Decmundia)

1917. *Barkudia insularis* Annandale, *Rec. Ind. Mus.* 13 : 20, figs.

*Material examined* : Cuttack Dist. : 1 ex., Nandankanan, 2. xi. 1973 (coll. SB); 2 ex., Nandankanan, 12. xi. 1978 (coll. LNA). Puri Dist. : 1 ex., From understone, Barkuda Is., Chilka Lake, 5. vii. 1961 (coll. OBC).

*Measurements* : Length : snout to vent 51 mm, tail 22 mm.

*Distribution* : Orissa : As mentioned above under Material. Elsewhere : India : Andhra Pradesh (Waltair).

*Remarks* : Body much elongate. 21 smooth scales round the middle of the body. Colour light brown above with a central dot on each dorsal scale. Lower parts whitish.

## Family 9. LACERTIDAE

23. *Ophiosops beddomei* (Jerdon)

1870. *Pseudophiops beddomei* Jerdon, *Proc. Asiat. Soc. Bengal*, : 72.

*Material examined*: Boudh-Khandmals Dist. : 1 ex., Kotagarh, 24. i. 1972 (coll. KVSR).

*Measurements*: Length : snouth to vent 34 mm, tail broken.

*Distribution*: Orissa : As mentioned above under Material. (First record from Orissa).  
Elsewhere : India : S. Kanara plains. Karnataka; Madras, Satara district, Maharashtra; Goa; Brahmagiri Hills, Kerala.

*Remarks*: 28 scales round the body. Colour olive-brown above. Yellowish-white below. *Ophiosops* is diurnal terrestrial and moderately secretive. It is often found under rocks and rubbish, it darts rapidly from one bit of shelter to another.

24. *Cabrita jerdoni* Beddome

1870. *Cabrita jerdoni* Beddome, *Madras Month, J. Med. Sci.*, : 34.

*Material examined*: Kconjhar Dist. : 2 ex., 2 km S. of Ghatgaon I. B. 22. xi. 1972 (coll. JKS).

*Measurements*: Length : snout to vent 26 mm tail 97 mm.

*Distribution*: Orissa : As mentioned above under Material. (First record from Orissa).  
Elsewhere : India : Agra, Uttar Pradesh, Chanda, Bilaspur, Bhandra, Madhya Pradesh, Udaipur, Jashpur, West of Chota Nagpur, Palkonda Hills. Godavari district, Andhra Pradesh.

*Remarks*: Labials not keeled. Upper head-shields coarsely striated. Dorsal scales larger. 28 scales round the middle of the body. Colour brownish above with two light lateral stripes.

## Family 10. VARANIDAE

25. *Varanus bengalensis* (Daudin)

(Oriya name : Godhi, Goisap)

1802. *Tupinambis bengalensis* Daudin. *Hist. Nat. Rept.*, 3 : 67.

*Material examined*: Bolangir Dist. : 1 ex., Mahakhand, 28. v. 1972 (coll. DPS). Cuttack Dist. : 1 ex., Nandankanan, 29. x. 1971 (coll. DPS). Ganjam Dist. : 1 ex., Behrampur, Dec., 1976 (coll. RP). Kalahandi Dist. : 1 ex., Manipani, 9. vii. 1972 (coll. An. KM).

*Measurements*: Length : snouth to vent 600 mm, tail 890 mm.

*Distribution*: Orissa : localities as mentioned above under Material. Elsewhere : India : Occurs throughout India. Also Burma, Nepal, Sri Lanka, Pakistan and Iran.

*Remarks*: The body in adults in brownish or olive above, usually with blackish dots; lower parts are yellowish sometimes spotted black. The lizards lives in all biotops from evergreen forests to the fringes of the desert.

26. *Varanus flavescens* (Gray)

(Oriya name : Godhi)

1827. *Manitor falvescens* Gray, *Zool. Journ.* 3 : 226.

*Material examined*: Balasore Dist. : 4 ex., Serogarh, ca 8 km E. of Nilgiri, 27. x. 1971. Cuttack Dist. : 13 ex., Nandankanan, 29. x. 1971 (coll. DPS).

*Measurements* : Length : snout to vent 310 mm, tail 450 mm.

*Distribution* : Orissa : localities as mentioned above under Material. Elsewhere : India : W. Bengal, Bihar, Punjab.

*Remarks* : The nostril is nearer the end of the snout. The tail is compressed and has a low double-toothed crest above. The back and tail in adult is a fairly distinct pattern of alternating transverse bars of reddish-brown and dirty yellow.

Suborder (ii) SERPENTES  
Family 11. TYPHLOPIDAE  
27. *Ramphotyphlops braminus* (Daudin)  
(Oriya name : Telia sapa)

1803. *Eryx braminus* Daudin, Hist. Nat. Rept., 7 : 279.

*Material examined* : Boudhkhandmals Dist. 2 ex., Raikai, 30. vi. 1974, 2 ex., Sankhakholi, 3. vii. 1974 (coll. An. KM). Dhenkanol Dist. : 1 ex., Purnakot, 1. xii. 1972 (coll. JKS). Ganjam Dist. : 2 ex., Barkul point, Rambha, 7. iii. 1955 (coll. HCR). Kalahandi Dist. : 1 ex., Biswanathpur, 9. vii. 1974 (coll. An. KM). Keonjhar Dist. : 1 ex., Ghatgaon, 22. xi. 1972 (coll. JKS). 1 ex., Dhenkikote, 26. xii. 1975 (coll. DPS). Koraput Dist. : 1 ex., near Bograwaterfalls, 13 km SE of Jeypore, 15. ii. 1972 (coll. KVSR). Puri Dist. : 1 ex., Barkuda Is., Chilka lake, 21. ix. 1923 (coll. NA). Sambalpur Dist. : 1 ex., Ushakothi, Badrama, 25. xii. 1972 (coll. AKM). Sundargarh Dist. : 1 ex., Sundargarh, 15. xii. 1971 (coll. PKM).

*Measurements* : Length : Snout to vent 137 mm, Tail 5 mm.

*Distribution* : Orissa : Barkuda Is. (Dr. N. Annandale & F. H. Gravely). Satpara (S. P. Agharkar) and the localities mentioned as above under Material. Elsewhere : India : Throughout including Andaman and Nicobar Islands. In the east it extends to Vietnam, Malaysia and in the west upto Africa. Also Mexico.

*Remarks* : 20 scales round the body. 297-310 transverse rows of scales. Colour brownish. These little burrowing snakes are found in below flowerpots in garden, flat stones, logs of wood etc., which afford shelter to this absolutely harmless and defenceless snake.

28. *Typhlops diardi diardi* Smith  
(Oriya name : Telia sapa)

1839. *Typhlops diardi* Schlegel, *Abbilid. Amphib.* : 39.

*Material examined* : Mayurbhanj Dist. : 1 ex., Chahala, 26. i. 1972 (coll. An. KM).

*Measurements* : Total length 150 mm.

*Distribution* : Orissa : As mentioned above under Material. (first record from Orissa). Elsewhere : India. Bengal, Assam.

*Remarks* : Snout rounded, nostril lateral, eye distinct, colour brownish.

29. *Typhlops porrectus* Stoliczka

1871. *Typhlops porrectus* Stoliczka, *J. Asiat. Soc. Bengal*, 50 : 426, pl. XXV, figs, 1-4.

*Material examined* : Puri Dist. : 1 ex., on temple road, 18. xi. 1962 (coll. GR).

*Measurements* : Total length 170 mm.

*Distribution* : Orissa : Locality as mentioned above under Material. Elsewhere : India : W. Bengal, Bihar, Uttar Pradesh, Maharashtra (Bombay), Karnataka (Bangalore), Kerala. Also Sri Lanka and Upper Burma.

*Remarks* : Colour brownish above, paler below. Snout, chin and under side of tail usually whitish.

30. *Typhlops acutus* (Dum. & Bibr.)  
(Oriya name : Telia Sapa)

1844. *Onychocephalus acutus* Dum. & Bibr., *Erp. Gen.* 6 : 333.

*Material examined* : Cuttack Dist. : 1 ex., Brahmanbasta reserve forest, 29. viii. 1972. Mayurbhanj Dist. : 1 ex., Bijoy Ramchandrapur vill. 10. viii. 1972 (coll. SKM). Sundargarh Dist. : 1 ex., Bonaigarh, 12. xii. 1971 (coll. PKM).

*Measurements* : Total length 210-320 mm.

*Distribution* : Orissa : Balasore (J. Cleghorn), Gopkuda Is, Chilka Lake (R. Hodgart), Angul (J. Taylor), Barkuda Is. and Ramba (N. Annandale) and the localities mentioned as above under Material. Elsewhere : India : South of the Gangetic plains and south of Rajasthan, West to Baroda (Gujarat) and east to Calcutta (West Bengal).

*Remarks* : 30 scales round the body, 450-468 transverse rows of scales. Colour-deep brownish above and paler below.

Family 12. BOIDAE

31. *Python molurus molurus* (Linnaeus)  
(Oriya name : Ajagar Sapa, Boda Sapa)

1758. *Coluber molurus* Linnaeus, *Syst. Nat.* 10th ed., : 225

*Material examined* : Cuttack Dist. : 1 ex. Nandankanan, 28. iii. 1974. (coll. RKK).

*Measurements* : Length : Snout to vent. 1140 mm. Tail 160 mm. Scale counts V : 254, C : 60, D : 61.

*Distribution* : Orissa : Jeypore (R. Patton) and the locality as mentioned above under Material. Elsewhere : Peninsular India upto Sind in the West and Bengal in the East. Also Sri Lanka.

*Remarks* : Brownish above. 7th labial touching eye. Head with a lance-shaped mark.

32. *Eryx conicus* (Schneider)  
(Oriya name : Boda Sapa)

1801. *Boa conica* Schneider, *Hist. Amphib.* 2 : 268.

*Material examined* : Sambalpur Dist.; 1 ex., Sambalpur Rly. Station compound, 2. vi. 1972 (coll. DPS).

*Measurements* : Length : Snout to vent. 310 mm Tail 33 mm.

*Distribution* : Orissa. Chandballi (J. Wood Mason), Chilka lake (Dr. N. Annandale) and the locality as mentioned above under Material. Elsewhere : India : The whole of India as far as Bihar and Bengal in the east and Nainital Distrinct in the west.

*Remarks* : Nostrill slit like, 10 scales between the eyes. 13 scales round the eye, Scales in 43 rows. Feebly keeled. Tail pointed. Colour brownish. The species is a sluggish and a persistent burrower.

### Family 13. COLUBRIDAE

#### 33. *Acrochordus granulatus* (Schneider)

1799. *Hydrus granulatus* Schneider, *Hist. Amph.* 1 : 243.

*Material examined* : Puri Dist. : 1 ex., Western coast of Chilka lake near Balugaon, 13. vi. 1969 (coll. KNN).

*Measurement & counts* : Total length 650 mm. 10 scales between the eyes. 95 scales round the middle of the body. Scale feebly imbricate with a small central keel.

*Distribution* : Orissa. Near Barkul, Chilka lake (Dr. N. Anandale) and the locality as mentioned above under Material. Elsewhere : India : Coasts of Bombay in the West and Bengal in the East. Also Nicobar Is.

*Remarks* : Colour dark grey with whitish crossbars above, showing many dorsal; scales on top of head small and granular. These snakes inhabit both fresh and salt water.

#### 34. *Cerberus rhynchops* (Schneider)

1799. *Hydrus rhynchops* Schneider, *Hist. Amph.* 1 : 246.

*Material examined* : Cuttack Dist. : 1 ex., Nandankanan, 5. III. 1980 (coll. LNA) Puri Dist. : 2 ex., Shores of Chilka lake, Balugaon, 20. ix. 1950 (coll. BSC & KKT); 1 ex., Opposite Kankanpara Is. ca. 18 km E of Balugaon, Chilka lake, 21. i. 1954, 1 ex., Kespur, ca. 20 km SW of Balugaon Chilka lake, 3. ii. 1954 (coll. KSM); 1 ex., collected from the edge of water, satpura Is. Chilka lake, 20. xii. 1952 (coll. HCR); 2 ex., Parikuda Is, Chilka lake, 10. vi. 1969 (coll. KNN).

*Measurements* : Snout to vent 150-175 mm vent to tail 50-55 mm.

*Distribution* : Orissa : Gopkuda Is. Chilka lake (R. A. Hodgart) and the localities as mentioned above under Material. Elsewhere. Coasts of tidal rivers of India. Also from Andaman and Nicobar Islands.

*Remarks* : Scales are strongly keeled. Colour greyish above with dark spots. This snake is equally well adapted in sea as well as fresh water rivers.

#### 35. *Enhydris enhydris* (Schneider)

(Oriya name : Danda Sapa, Pani Dhand, Mati Birali)

1799. *Hydrus enhydris* Schneider, *Hist. Amph.*, 1 : 245.

*Material examined* : Balasore Dist. : 2 ex., Santragaria, ca 8 km of Nilgiri, 26. xi. 1971. 1 ex., Sajangarh, ca 7 km NW of Nilgiri, 25. x. 1971, 1 ex., Serogarh, ca 8 km E of Nilgiri, 27. x. 1971. Ganjam Dist. 1 ex., Berhampur, 19. xi. 1971 (coll. DPS).

*Measurements* : Snout to vent 430-450 mm, vent to tail 85-95 mm.

*Distribution* : Orissa. Kendrapara (A. J. Fraser), Sur lake, near Puri (Dr. N. Annandale) and the localities mentioned as above under Material. Elsewhere : India : Assam, Bengal, Bihar, Andhra Pradesh & Uttar Pradesh.

*Remarks* : Colour olivaceous above. This snake is fairly common in ponds, irrigated fields and sluggish water. Though it is mainly an aquatic snake it has to come to land to lay eggs. This breeding habit indicates that it was originally terrestrial but subsequently changed to an aquatic habit.

### 36. *Atretium schistosum* (Daudin)

1803. *Coluber schistosus* Daudin, *Hist. Nat. Rept.*, 7 : 132.

*Material examined* : Balasore Dist. : 9 ex., collected from in and around Nilgiri area. 24-27. x. 1971 (coll. DPS). Puri Dist. : 1 ex. Barkul, 28. ix. 1972 (coll. YC).

*Measurements & counts* : Snout to vent 292-625 mm, Vent to tail 70-150 mm D. 19, V. 139. C. 77. A. 2.

*Distribution* : Orissa : Localities as mentioned above under Material. Elsewhere : India : Peninsular India, South of 15°N latitude and along coast to Uttar Pradesh. Sri Lanka.

*Remarks* : Colour olive-brownish above. It lives either in water or among the surrounding vegetation.

### 37. *Elephe helena* (Daudin)

1803. *Coluber helena* Daudin, *Hist. Nat. Rept.*, 6 : 277.

*Material examined* : Sambalpur Dist. : 1 ex. ca. 2 km east of P. W. D. I. B., Deogarh, 10. vi. 1972 (coll. DPS).

*Measurements* : Snout to vent 620 mm, tail 110 mm.

*Distribution* : Orissa : Jeypore (R. Patton) and the locality mentioned above under Material. Elsewhere : India : Peninsular India and from Sind in the west to Assam in the east. Also Sri Lanka.

*Remarks* : Light brown above with two longitudinal black stripes converging posteriorly.

### 38. *Ptyas mucosus* (Linnaeus) (Oriya name : Dhamana Sapa)

1758. *Coluber mocusus* Linn., *Mus. Ad. Frid.*, 1 : 37, pl. 23 and *Syst. Nat.*, Ed. 10 : 226

*Material examined* : Balasore Dist. : 3 ex., Scrogarh, ca 8 km. E. of Nilgiri, 27. x. 1971 (coll. DPS), Cuttack Dist. : 2 ex., Nandankanan, 29. x. 1971, 1 ex., Swampyland, 1 km. NE of forest house, Nandankanan, 3. xi. 1971 (coll. DPS), Ganjam Dist. : 1 ex., besides tourist bungalow, Rambha, 6. xi. 1971, 1 ex., Gopalpur, 14. xi. 1971 (coll. DPS), Koraput Dist. : 1 ex., ca 3 km., 3 km. E of forest rest house, Chandli, 26. xi. 1973 (coll. DPS).

*Measurements* : Length : snout to vent 975 to 1820 mm, Tail 460 mm.

*Distribution* : Orissa. The localities mentioned as above under Material. It is common throughout Orissa. Elsewhere : India : including the Andaman Islands. Outside India, it occurs in Yunnan, South China, Hainan, Java, Sumatra.

*Remarks* : Colour olive-green above with dark cross bars on the body which are prominent in the posterior part of the body.

**39. *Xenochrophis piscator* (Schneider)**  
(Oriya name : Dhanda Sapa, Panidhanda Sapa)

1799. *Hydrus piscator* Schneider, *Hist. Amph.* 1, : 247.

*Material examined* : Balasore Dist. : 1 ex., Raigao vill. ca 4 km E of Nilgiri, 24. x. 1971, 10 ex., Sajanagarh. ca. 7 km. NW of Nilgiri 25. x. 1971, 27 ex., Santragaria, ca 8 km. S. of Nilgiri, 26. x. 1971, 5 ex., Serogarh ca 8 km. E of Nilgiri, 27. 10. 1971 (coll. DPS), Chandipur, 13. v. 1972 (coll. PKT), Bolangir Dist. : 1 ex., Mahakhand, 30. v. 1972 (coll. DPS), 1 ex., Bolangir revenue I. B., 2. x. 1972 (Coll. SK), Cuttack Dist. : 1 ex., Cuttack, 2. xi. 1971 (coll. SSS), 1 ex., Kujang, 15. i. 1974 (coll. RLC), Ganjam Dist. : 1 ex., Rambha, 4. vii. 1961 (Coll OBC), 1 ex., from western shore of Chilka Lake, Rambha, 11. xi. 1971 (coll. DPS), Kalahandi Dist. : 1 ex., Jurakhaman, ca 12 km. E of Madanpur-Rampur, 9. xii. 1973 (coll. DPS), Mayurbhanj Dist. : 1 ex., Kathpal, 13. ii. 1976 (Coll.RLC), Puri Dist. : 2 ex., Chilka lake, 17. ii. 1969, 1 ex., Balugaon, 21. ii. 1969, 2 ex., Chilka, 23. ii. 1969, 1 ex., Khalikota, 6. vi. 1969 (coll. KNN), 1 ex., Station road, Puri, 5. vi. 1972 (coll PKT), 1 ex., Konarak, 14. xii. 1973 (coll. MH), Sambalpur Dist. : 1 ex., Badrama, 2. vi. 1972, 1 ex., Deogarh, 13. vi. 1972 (coll. DPS).

*Measurements* : Length : snout to vent 325 to 805 mm, tail 100 to 235 mm.

*Distribution* : Orissa : The locality mentioned as above under Material. Elsewhere : India, whole of India. Also Pakistan and of Upper Burma (Myitkina).

*Remarks* : Smith (1943) distinguished four well defined races, each with its own geographical range. The specimen belongs to the typical form. The snake is found plentiful in large marshes, in weed-choked ditches and in ponds. It is seen most frequently during the monsoon, when seasonal rains greatly expand the available shallow, fresh-water habitat.

**40. *Amphiesma stolata* (Linnaeus)**  
(Oriya name : Kauchia, Bramhuni, Matibiradi sapa)

1758. *Coluber stolatus* Linn., *Syst. Nat.*, 10th Ed. : 219 and 1766 Ibid, 12th ed. : 379.

*Material examined* : Balasore Dist. : 8 ex., Santragaria, ca 8 km. S of Nilgiri, 25/26. x. 1971, Cuttack Dist. : 2 ex., Nandankanan, 1. xi. 1971 (coll. DPS), Ganjam Dist. : 1 ex., Sabolia vill. ca 1 km. S of Rambha Rly Stn., 30. v. 1969 (coll. KNN), Puri Dist. : 1 ex., Rambha, 9. xi. 1971 (coll. DPS) : 2 ex., Rambha, 31. vi. 1969 (coll. KNN). Sambalpur Dist. : 1 ex., from the bank of Mahanadi, 28. ix. 1972 (coll. SK) : 1 ex., Sambalpur, 4. xi. 1972 (coll. JMJ), Sundargarh Dist. : 1 ex., Bonaigarh, 15. vi. 1972 (coll. DPS).

*Measurements* : Length : snout to vent 267 to 490 mm, tail 135 to 170 mm.

*Distribution* : Orissa : Barkul (Dr. N. Annandale) and the localities mentioned as above under Material. Elsewhere : India : Whole of India including Andaman Is. Also Sri Lanka, Southern China, Hainan, Vietnam, Cambodia.

*Remarks* : In India, it is common in the plains and rarer in the hills. It is diurnal in its habits and of gentle disposition, never attempting to bite when handled.

**41. *Macropisthodon plumbicolor* (Cantor)**

1839. *Tropidonotus plumbicolor* Cantor, *Proc. Zool. Soc.*, : 54

*Material examined* : Cuttack Dist. : 1 ex., Nandankanan, 5. iii. 1977 (Coll. LNA)

*Measurements* : Length : snout to vent 350 mm, tail 43 mm.

*Distribution* : Orissa : As mentioned above under material (first record from Orissa). Elsewhere : India : The whole of India except the Ganges valley and the extreme north-west. Sri Lanka.

*Remarks* : Body stout with head distinct from neck. Colour grass-green above and whitish below. A gentle and inoffensive snake.

42. *Lycodon aulicus* (Linnaeus)  
(Oriya name : Boda, Jatia Sapa)

1754. *Coluber aulicus* Linn., *Mus. Adolph. Frider*, 1 : 29. pl. 12, fig. 2.

*Material examined* : Balasore Dist. : 1 ex., Scrogarh, ca 8 km. E. of Nilgiri, 27. xii. 1971 (coll. DPS). Boudhkhandmals Dist. : 2 ex., 3 km. N. of Kotagarh, 15-17. xii. 1973 (coll. DPS); Cuttack Dist. : 1 ex., Berbera, 23. vii. 1973 (coll. AKM); 1 ex., Nandankanan, 5. xi. 1977 (coll. LNA). Puri Dist. : 1 ex., Balugaon, 22. xii. 1960 (coll. BSL); 1 ex., Konarak, 11. xii. 1973 (coll. MH).

*Measurements* : Length : snout to vent 310 to 410 mm, tail to 78 mm.

*Distribution* : Orissa : Jeypore (R. Pattan), Aska (E. A. Minchin) and the localities mentioned above under Material Elsewhere : Throughout India. Also Nepal and Burma north to Lat. 17°N.

*Remarks* : The species is commonest and most widely distributed.

43. *Oligodon arnensis* (Shaw)

1802. *Coluber arnensis* Shaw, *Gen. Zool.*, 3, : 526.

*Material examined* : Cuttack Dist. : 2 ex., Nandankanan, 5. iii. 1977 (coll. LNA). Ganjam Dist. : 2 ex., Aska (coll. EAM).

*Measurements* : Length : snout to vent 325 mm, tail 51 mm.

*Distribution* : Orissa : As mentioned above under Material. (First record from Orissa). Elsewhere : Peninsular India. Also Bangladesh and Central Nepal, West to the Indus valley, Sri Lanka.

*Remarks* : This snake is mainly found in caves, crevices and tree-holes. Due to their banded pattern, they are often mistaken for kraits and killed.

44. *Boiga trigonata* (Schneider)

1802. *Coluber trigonatus* Schneider, in *Bechst. transl.*, 4 : 256.

*Material examined* : Puri Dist. : 1 ex., Nandankanan, 2. ii. 1974 (Coll. LNA).

*Measurements* : Total length 410 mm, tail 80 mm.

*Distribution* : Orissa : Localities as mentioned under Material. Elsewhere : Found throughout India.

*Remarks* : It is mainly nocturnal and arboreal in habits.

45. *Psammodynastes pulverulentus* (Boie)

1827. *Psammophis pulverulenta* Boie, *Isis* : 547.

*Material examined* : Mayurbhanj Dist. : 1 ex., Jenabil, Simlipal forest, 9. x. 1985 (coll. SS).

*Measurements* : Total length 275 mm., tail 60 mm.

*Distribution* : Orissa : Locality as mentioned under Material (First record from Orissa). Elsewhere : The whole of the Indo-chinese subregion extending from the eastern Himalayas, as far West as Nepal, to Southern China, Hainan and South to the Malay Archipelago.

*Remarks* : The colour is dark-brown above with small black streaks on the dorsal side of back and with pink shade all over the body.

46. *Dendrelaphis tristis* (Daudin)

1803. *Coluber tristis* Daudin, *Hist. Nat. Rept.*, 6 : 430.

*Material examined* : Balasore Dist. : 1 ex., Scrogarh, ca 8 km. E. of Nilgiri, 27. x. 1971 (coll. DPS). Cuttack Dist. : 1 ex., Nandankanan, 5. iii. 1977 (coll. LNA) Ganjam Dist. : 1 ex., Gopalpur. 13. xi. 1971 (coll. DPS).

*Measurements* : Length : snout to vent 450 to 585 mm, tail 255 to 290 mm.

*Distribution* : Orissa : Rambha, Barkuda Is. (Dr. N. Annandale) and the localities mentioned as above under Material. Elsewhere : India : Peninsular India as far as Darjeeling District in the north-east.

*Remarks* : Colour bronze-brown above and greenish below. A diurnal snake lives almost entirely on tree and shrubs.

47. *Dendrelaphis ahaetulla* (Linnaeus)

1758. *Coluber ahaetulla* Linn., *Syst. Nat.*, Ed. 10 : 225.

*Material examined* : Keonjhar dist. : 1 ex., Dhenkikote, 30. ix. 1985 (coll. SS), Puri Dist. : 1 ex., Barbera, 21. vii. 1973 (coll. An. KM); 1 ex., Nandankanan, 19. xii. 1985 (coll. SB).

*Measurements* : Total length 660 mm., tail 150 mm.

*Distribution* : Orissa : Localities as mentioned under Material. (First record from Orissa). Elsewhere : The whole of the Indo-chinese region, from West Bengal to eastern Himalayas. Also Southern China.

*Remarks* : It is mainly arboreal and mainly lives among bushes and on trees.

## Family 14. HYDROPHIIDAE

48. *Enhydrina schistosa* (Daudin)

1803. *Hydrophis schistosus* Daudin, *Hist. Nat. Rept.*, 7 : 386. (based on Russell, 1801-1803, pl. 10).

*Material examined* : Ganjam Dist. : 2 ex., (JUV), Gopalpur coast, 27. xi. 1973 (coll. MH)

*Measurements* : From head to tail 350 to 400 mm.

*Distribution* : Orissa : Puri coast (Dr. Fayrer, J. T. Jenkins, G. Paiva) and the locality mentioned above under Material. Elsewhere : It is common on both coasts of the Indian peninsula. Also recorded from Persian Gilf to New Guinea.

*Remarks* : Colour pale greenish gray with blackish cross bands most distinct on posterior half of body and tending to fuse anteriorly. Belly whitish.

#### 49. *Hydrophis fasciatus* (Schneider)

1799. *Hydrus fasciatus* Schneider, *Hist. Amph.*, 1 : 240.

*Material* : Balasore Dist. : 2 ex., Chandipur, 6. xi. 1962 (coll. GR). Ganjam Dist.: 3 ex., Gopalpur, 24. xi. 1977 (coll. MH).

*Measurements* : From head to tail 685 to 750 mm.

*Distribution* : Orissa : Puri (J. Fayrer, J. L. Hendley, F. W. Gravelly & Dr. B. Prasad) and the locality mentioned as above under Material. Elsewhere : The coasts of India and Burma and the straits of Malacca. The snake is common on the eastern coast from Madras northwards to the Sunderbans.

*Remarks* : Colour dark olive with yellowish spots on the sides; whitish below.

#### 50. *Hydrophis cyanocinctus* Daudin

1803. *Hydrophis cyanocinctus* Daudin, *Hist. Nat. Rept.*, 7 : 383

*Material* : Ganjam Dist. : 1 ex., Backwater area. Gopalpur 15. xi. 1971 (coll. DPS) Puri Dist. : 1 ex., 1 km. south of Swargadwara, Puri, 17. xi. 1962 (coll. GR)

*Measurements* : From snout to tail 715 to 750 mm.

*Distribution* : Orissa : Gopalpur (P. C. Sinha, 1923) and the localities mentioned as above under Material. Elsewhere : A wide-ranging species, the annualated seasnake is found from the Persian Gulf to the Idzu sea of Japan, southward to Sri Lanka and the islands of Indonesia.

*Remarks* : Head moderately small and slightly distinct from neck. Body more or less cylindrical anteriorly and compressed in the posterior three fifths.

#### 51. *Hydrophis stricticollis* Gunther

1864. *Hydrophis stricticollis* Gunther, *Rept. Brit. Ind.* : 376.

*Material examined* : Puri Dist. : 1 ex., Gopalpur, 24. xi. 1977 (coll. MH).

*Measurements* : Total length 850 mm., tail 75 mm.

*Distribution* : Orissa : Locality mentioned as above under Material. Elsewhere : The east coast of India and the coast of Burma.

*Remarks* : Colour greyish above and yellowish below.

#### 52. *Kerilia jerdoni* Gray

1849. *Kerilia jerdoni* Gray, *Cat. Sn. Brit. Mus.* : 57

*Material examined* : Ganjam Dist. : 1 ex., Gopalpur, 28. xi. 1962 (coll. GR).

*Measurements* : From snout to tail 425 mm.

*Distribution* : Orissa : The locality mentioned as above under Material. Elsewhere. The east coast of the Indian Peninsula, Sri Lanka.

*Remarks* : Olive and yellowish beneath.

### 53. *Microcephalophis cantoris* (Gunther)

1864. *Hydrophis cantoris* Gunther, *Rept. Brit. Ind.* : 374.

*Material examined* : Ganjam Dist. : 1 ex., Gopalpur, 15. xi. 1971 (coll. DPS).

*Measurements* : From snout to tail 780 mm.

*Distribution* : Orissa : Puri (J. L. Hendley) and the locality mentioned as above under Material. Elsewhere : This species has been recorded on the west coast of India and Pakistan from Karachi to Cannanore and on the east from Orissa to Chittagong.

*Remarks* : Anterior half of body olive above, paler below, posterior half of body dark olive above.

### Family 15. ELAPIDAE

#### 54. *Bungarus caeruleus* (Schneider) (Oriya name : Chitti Sapa)

1801. *Pseudoboa caerulea* Schneider, *Hist. Amph.* 2 : 284.

*Material examined* : Mayurbhanj Dist. : 1 ex., Mayurbhanj forest rest house, Mayurbhanj, 18. i. 1971 (coll. An. KM.)

*Measurements* : Length : snout to vent. 450 mm, tail 55 mm.

*Distribution* : Orissa : Aska (E. A. Minchin) and the locality mentioned as above under Material. Elsewhere. This species occurs from western Bengal through Peninsular Indian and Sri Lanka. The species is common in many parts of India.

*Remarks* : Colour bluish-black above with narrow white cross-bars usually arranged in pairs. Ventral surface uniform white.

#### 55. *Bungarus fasciatus* (Schneider) (Oriya name : Raona Sapa)

1801. *Pseudoboa fasciata* Schneider, *Hist. Amph.*, 2 : 283.

*Material examined* : Sambalpur Dist. : 1 ex., Dcogarh, 10. vi. 1972. (coll. DPS).

*Measurements* : Length : Snout to vent 775 mm, tail 60 mm.

*Distribution* : Orissa : Aska, Berhampur (F. Wall) and the localities mentioned as above under Material. Elsewhere. India : West Bengal, Bihar, Andhra Pradesh, Uttar Pradesh, Madhya Pradesh. The species is also recorded from the Burma, whole of Indo-chinese subregion, the Malay peninsula and Archipelago, Southern China.

*Remarks* : Alternately banded with black and yellow. Whitish below.

#### 56. *Naja naja naja* (Linnaeus) (Oriya name : Tampa Sapa)

1758. *Coluber naja* Linn. *Syst. Nat.*, 10th ed. : 221.

*Material examined* : Balasore Dist. : 2 ex., Chandpali, 25. vii. 1973 (coll. MH) Cuttack Dist. : 3 ex., Nandankanan, 3. xi. 1971 (coll. DPS); 1 ex., Nandankanan, 18. ix. 1973 (coll. SB).

*Measurements* : Length : snout to vent 270 mm to 1045 mm, tail 50 to 185 mm.

*Distribution* : Orissa : Jeypore (R. Patton), Aska (E. A. Minchin) and the localities mentioned as above under Material. Elsewhere : West Bengal, Bihar, Uttar Pradesh and Peninsular India.

*Remarks* : It is brownish above in colour.

#### Family 16. VIPERIDAE

##### 57. *Vipera russelli* (Shaw)

(Oriya name : Chandra Bora, Chandramuthia Boda Sapa)

1797. *Celuber resseli* Shaw, *Nat. Misc.*, 8, pl. 291 (based on Russell's figure).

*Material examined* : Cuttack Dist : 1 ex. near the bank of Mahanadi, Kujang, 16. i. 1974 (coll. RLC)

*Measurements* : Length : Snout to vent 140 mm, tail 33 mm

*Distribution* : Orissa : Barkuda Is. Chilka Lake (F. H. Gravely) and the locality mentioned as above under Material. Elsewhere India : Occurs throughout India.

*Remarks* : Head distinctly wider than neck. Light brown above, with series of large rounded spots brown in the centre with a black margin edged with white.

#### SUMMARY

This paper deals with the reptile fauna of Orissa. It is based on several collections made by parties of the Zoological Survey of India with altogether 1025 specimens. This collection contains 57 species belonging to 42 genera and 16 families. Of these 11 species are new records from Orissa. A list of reptiles known to occur from Orissa is given.

#### ACKNOWLEDGEMENTS

The author is thankful to Dr. B. S. Lamba, Joint Director in-Charge, Zoological Survey of India for allowing the facilities to work out the collections and to Dr. O. B. Chhotani, Deputy Director for help in various ways.

#### REFERENCES

- Annandale, N. 1907. Reptiles and Batrachian from an island in the Chilka Lake, Orissa. *Rec. Indian Mus.*, 1 (4) : 397-398.
- Annandale, N. 1912. The aquatic Chelonia of the Mahanadi and its tributaries. *Rec. Indian Mus.*, 7 (3) : 261-266.
- Annandale, N. 1912. The Indian Mud-turtles (Trionychidae). *Rec. Indian Mus.*, 7 (3) : 151-178.
- Annandale, N. 1915. Fauna of Chilka Lake, Reptiles and Batrachia. *Mem. Indian Mus.*, 5 d : 167-174
- Annandale, N. 1917. A new genus of limbless skink from an Island in the Chilka Lake. *Rec. Indian Mus.*, 13 (1) : 17-21.
- Annandale, N. 1921. Reptiles and Batrachia of Barkuda Island *Rec. Indian Mus.*, 22 (4) : 331-333.

- Behura, B. K. 1966. Snakes of Orissa. Zoological Society of Orissa.
- Biswas, S. and Acharjyo, L. N. 1977. Notes on ecology and Biology of some reptiles occurring in and around Nandankanan Biological Park, Orissa. *Rec. zool. Surv. India.*, **73** : 95-109.
- Biswas, S., Acharjyo, L. N. and Mohapatra, S. 1978. Notes on distribution, sexual dimorphism and growth in captivity of *Geochelone elongata* (Blyth). *J. Bombay nat. Hist. Soc.* **75** (3) : 928-930.
- Biswas, S. and Acharjyo, L. N. 1980. A note on distribution of *Barkudia insularis* Annandale, a rare limbless lizard from Orissa. *J. Bombay nat. Hist. Soc.*, **76** (3); 524-525.
- Biswas, S. and Kar, S. 1981. Some observations on nesting habits and Biology of *Varanus salvator* (Laurenti) of Bhitorkanika Sanctuary, Orissa. *J. Bombay nat. Hist. Soc.* **78** (2) : 303-308.
- Biswas, S. and Kar, S. 1982. Two new records of the species belonging to the genus *Varanus* Merrem 1920 (Reptilia : Varanidae) from Orissa. *Rec. zool. Surv. India.*, **79** (3 & 4) : 515-520.
- Biswas, S. and Acharjyo, L. N. 1984. Notes on the study of the three species of river turtles in Orissa. *Bull. zool. Surv. India*, **6** (1-3) : 219-222.
- Talukdar, S. K., Gayen, N. C. and Sanyal, D. P. 1979. First record with taxonomic notes on the scincid lizard, *Mabuya beddomii* (Jerdon) (Sauria : Scincidae) from Orissa. *J. Bombay nat. Hist. Soc.*, **74** (3) : 528 (Dec. 1977)
- Smith, M. A. 1931. Fauna of British India, Reptilia and Amphibia. Vol. 1. *Lo ricata*, Testudines : London (Taylor & Francis).
- Smith, M. A. 1935. Fauna of British India, Reptilia and Amphibia. Vol. 2. Sauria : London (Taylor & Francis).
- Smith, M. A. 1943. Fauna of British India, Reptilia and Amphibia. Vol. 3. Serpentes. London (Taylor & Francis).

## BIRDS

N. MAZUMDAR & J.M. DASGUPTA  
*Zoological Survey of India, Calcutta 700 053*

### INTRODUCTION

Till date no comprehensive work has been done on the avifauna of Orissa. However, stray reports are available by Ball (1877 and 1878), Biswas (1953) on Patna State (Bolangir district), Mukherjee (1953) on Simlipal Hills (Mayurbhanj district), Majumdar (1978 - 1988), Dasgupta (1976), Dasgupta and Choudhury (1977) and Ripley (1978).

This paper is based on collection of birds made by different survey parties of the Zoological Survey of India under the leadership of the following persons during the years 1971-78.

- i) Dr. V. C. Agrawal, December 1971 - January 1972; January - February 1974.
- ii) Sri P. K. Das, April - June 1972; March 1973; July - August 1973; March - April 1976.
- iii) Dr. N. Majumdar, March - April 1976.
- iv) Dr. A. K. Mondal, January - February 1971; July 1972; December 1972 - January 1973.
- v) Dr. J. K. Sen, November 1972.
- vi) Dr. C. B. Srivastava, October - November 1972.

Besides, a few birds were collected by the staff of the Bird Section.

A total of 189 species and subspecies of birds belonging to 117 genera, 46 families and 17 orders from Orissa are dealt with in this paper.

For wing, tail and bill measurements, the standard methods were followed (Ali and Ripley, 1968). All the measurements are expressed in millimetres. The range of measurements are given, along with the arithmetical mean in parenthesis.

Weight (in gram) was taken in the field soon after the birds were killed. The sex was determined from the actual examination of the gonads.

Local names (Oriya) are taken from Behura and Guru (1969).

The authors are grateful to the Director, Zoological Survey of India for giving the opportunity to work out the material and to Dr. V. C. Agrawal, Scientist 'SE' for his cooperation in preparation of this paper. Thanks are due to the officials of the Forest Department, Orissa, for their help.

### SYSTEMATIC LIST OF BIRDS FROM ORISSA

#### Order I PODICIPEDIFORMES

#### Family 1. PODICIPEDIDAE

1. *Podiceps cristatus cristatus*  
(Linnaeus)
2. *Podiceps ruficollis capensis* Salvadori

## Order II CICONIIFORMES

## Family 2. ARDEIDAE

3. *Ardeola grayii grayii* (Sykes)      4. *Bubulcus ibis coromandus* (Boddaert)  
 5. *Nycticorax nycticorax nycticorax* (Linnaeus)

## Family 3. CICONIIDAE

6. *Anastomus oscitans* (Boddaert)

## Order III ANSERIFORMES

## Family 4. ANATIDAE

7. *Dendrocygna javanica* (Horsefield)      8. *Anas acuta* Linnaeus  
 9. *Anas strepera strepera* Linnaeus      10. *Anas querquedula* Linnaeus  
 11. *Anas clypeata* Linnaeus      12. *Nettapus coromandelianus coromandelianus* (Gmelin)

## Order IV FALCONIFORMES

## Family 5. ACCIPITRIDAE

13. *Elanus caeruleus vociferus* (Latham)      14. *Accipiter badius dussumieri* (Temminck)  
 15. *Circus melanoleucos* (Pennant)      16. *Spilornis cheela melanotis* (Jerdon)

## Order V GALLIFORMES

## Family 6. PHASIANIDAE

17. *Gallus gallus murghi* Robinson & Kloss

## Order VI GRUIFORMES

## Family 7. TURNICIDAE

18. *Turnix tanki tanki* Blyth

## Order VII CHARADRIIFORMES

## Family 8. JACANIDAE

19. *Hydrophasianus chirurgus* (Scopoli)      20. *Metopidius indicus* (Latham)

## Family 9. CHARADRIIDAE

## Subfamily (i) CHARADRIINAE

21. *Vanellus indicus indicus* (Boddaert)      22. *Vanellus malabaricus* (Boddaert)  
 23. *Pluvialis dominica fulva* (Gmelin)      24. *Charadrius dubius jerdoni* (Legge)  
 25. *Charadrius alexandrinus alexandrinus* Linnaeus

## Subfamily (ii) SCOLOPACINAE

26. *Limosa limosa limosa* (Linnaeus)      27. *Tringa totanus totanus* (Linnaeus)  
 28. *Tringa glareola* Linnacus      29. *Tringa hypoleucos* Linnacus  
 30. *Calidris minuta* (Leisler)

## Family 10. RECURVIROSTRIDAE

- 31.
- Himantopus himantopus himantopus*
- (Linnaeus)

## Family 11. LARIDAE

- 32.
- Larus brunnicephalus*
- Jerdon      33.
- Chlidonias hybrida indica*
- (Stephens)

## Order VIII COLUMBIFORMES

## Family 12. COLUMBIDAE

34. *Treron bicincta bicincta* (Jerdon)      35. *Treron phoenicoptera phoenicoptera*  
(Latham)
36. *Treron phoenicoptera chlorigaster*      37. *Ducula aenea sylvatica* (Tickell)  
(Blyth)
38. *Streptopelia orientalis agricola*      39. *Streptopelia decaocto decaocto*  
(Tickell)      (Frivaldsky)
40. *Streptopelia chinensis suratensis*      41. *Streptopelia senegalensis cambayensis*  
(Gmelin)      (Gmelin)
42. *Chalcophaps indica indica* (Linnaeus)

## Order IX PSITTACIFORMES

## Family 13. PSITTACIDAE

43. *Psittacula eupatria nipalensis*      44. *Psittacula eupatria eupatria* (Linnaeus)  
(Hodgson)
45. *Psittacula krameri manillensis*      46. *Psittacula cyanocephala cyanocephala*  
(Bechstein)      (Linnaeus)

## Order X CUCULIFORMES

## Family 14. CUCULIDAE

47. *Cuculus varius varius* Vahl      48. *Cuculus canorus canorus* Linnaeus
49. *Cacomantis merulinus passerinus*      50. *Eudynamys scolopacea scolopacea*  
(Vahl)      (Linnaeus)
51. *Rhopodytes tristis tristis* (Lesson)      52. *Taccocua leschenaultii infuscata* Blyth
53. *Centropus sinensis parroti* Stresemann

## Order XI STRIGIFORMES

## Family 15. STRIGIDAE

## Subfamily STRIGINAE

54. *Otus scops sunia* (Hodgson)      55. *Otus bakkamoena marathae* Ticehurst
56. *Bubo zeylonensis leschenault*      57. *Glaucidium radiatum radiatum* (Tickell)  
(Temminck)
58. *Ninox scutulata lugubris* (Tickell)      59. *Athene brama indica* (Franklin)
60. *Athene brama brama* (Temminck)      61. *Strix leptogrammica indraee* Sykes

## Order XII CAPRIMULGIFORMES

## Family 16. CAPRIMULGIDAE

62. *Caprimulgus indicus indicus* Latham    63. *Caprimulgus macrurus albonotatus*  
Tickell  
64. *Caprimulgus asiaticus asiaticus* Latham    65. *Caprimulgus affinis*  
*monticola* Franklin

## Order XIII APODIFORMES

## Family 17. APODIDAE

## Subfamily APODINAE

66. *Apus affinis affinis* (J. E. Gray)

## Order XIV TROGONIFORMES

## Family 18. TROGONIDAE

67. *Harpactes fasciatus legerli* Koelz

## Order XV CORACIIFORMES

## Family 19. ALCEDINIDAE

68. *Alcedo atthis bengalensis* Gmelin    69. *Halcyon smyrnensis fusca* (Boddaert)

## Family 20. MEROPIDAE

70. *Merops leschenaulti leschenaulti* Vieillot    71. *Merops orientalis orientalis* Latham

## Family 21. CORACIIDAE

72. *Coracias benghalensis benghalensis* (Linnaeus)

## Family 22. UPUPIDAE

73. *Upupa epops ceylonensis* Reichenbach    74. *Upupa epops longirostris* Jerdon

## Family 23. BUCEROTIDAE

75. *Tockus birostris* (Scopoli)    76. *Anthracoceros malabaricus malabaricus*  
(Gmelin)

## Order XVI PICIFORMES

## Family 24. CAPITONIDAE

77. *Megalaima zeylanica caniceps* (Franklin)    78. *Megalaima lineata hodgsoni* Bonaparte  
79. *Megalaima haemacephala indica* (Latham)

## Family 25. PICIDAE

## Subfamily (i) JYNGINAE

80. *Jynx torquilla torquilla* Linnaeus    81. *Jynx torquilla himalayana* Vaurie

## Subfamily (ii) PICINAE

82. *Picus myrmecophoneus* Stresemann    83. *Picus canus hesei* Gyldenstolpe  
 84. *Picus flavinucha flavinucha* Gould    85. *Picus chlorolophus chlorigaster* Jerdon  
 86. *Dinopium benghalense benghalense* (Linnaeus)    87. *Picoides macei macei* (Vieillot)  
 88. *Picoides mahrattensis mahrattensis* (Latham)    89. *Picoides nanus hardwickii* (Jerdon)  
 90. *Hemicircus canente* (Lesson)    91. *Chrysocolaptes festivus festivus* (Boddaert)  
 92. *Chrysocolaptes lucidus guttacristatus* (Tickell)

## Order XVII PASSERIFORMES

## Family 26. PITTIDAE

93. *Pitta brachyura brachyura* (Linnaeus)

## Family 27. ALAUDIDAE

94. *Mirafra assamica affinis* Blyth    95. *Mirafra erythroptera erythroptera* Blyth  
 96. *Eremopterix grisea* (Scopoli)

## Family 28. HIRUNDINIDAE

97. *Hirundo daurica nipalensis* Hodgson    98. *Hirundo daurica erythroptera* Sykes

## Family 29. LANIIDAE

99. *Lanius schach tricolor* (Hodgson)    100. *Lanius cristatus cristatus* Linnaeus

## Family 30. ORIOLIDAE

101. *Oriolus oriolus kundoo* Sykes    102. *Oriolus xanthornus maderaspatanus* Franklin

## Family 31. DICRURIDAE

103. *Dicrurus adsimilis macrocercus* Vieillot    104. *Dicrurus leucophaeus longicaudatus* Hay  
 105. *Dicrurus caerulescens caerulescens* (Linnaeus)    106. *Dicrurus aeneus aeneus* Vieillot  
 107. *Dicrurus hottentottus hottentottus* (Linnaeus)    108. *Dicrurus paradiseus grandis* (Gould)

## Family 32. ARTAMIDAE

109. *Artamus fuscus* Vieillot

## Family 33. STURNIDAE

110. *Sturnus malabaricus malabaricus* (Gmelin)    111. *Sturnus pagodarum* (Gmelin)

112. *Sturnus contra contra* Linnaeus  
 114. *Acridotheres fuscus fuscus* (Wagler)
113. *Acridotheres tristis tristis* (Linnaeus)  
 115. *Gracula religiosa intermedia* A. Hay

## Family 34. CORVIDAE

116. *Dendrocitta vagabunda vagabunda* (Latham)  
 118. *Corvus splendens splendens* Vieillot
117. *Dendrocitta formosae himalayensis* Blyth  
 119. *Corvus macrorhynchos culminatus* Sykes

## Family 35. CAMPEPHAGIDAE

120. *Hemipus picatus picatus* (Sykes)  
 122. *Coracina novaehollandiae macei* (Lesson)  
 124. *Coracina melanoptera sykesi* (Strickland)
121. *Tephrodornis pondicerianus pondicerianus* (Gmelin)  
 123. *Coracina melaschistos melaschistos* (Hodgson)  
 125. *Pericrocotus flammeus semiruber* Whistler & Kinnear

## Family 36. IRENIDAE

126. *Aegithina tiphia humei* Baker  
 128. *Chloropsis cochinchinensis jerdoni* (Blyth)
127. *Chloropsis aurifrons aurifrons* (Temminck)

## Family 37. PYCNONOTIDAE

129. *Pycnonotus melanicterus flaviventris* (Teckell)  
 131. *Pycnonotus cafer wetmorei* Deignan
130. *Pycnonotus jocosus emeria* (Linnaeus)  
 132. *Pycnonotus luteolus luteolus* (Lesson)

## Family 38. MUSCICAPIDAE

## Subfamily (i) TIMALINAE

133. *Pellorneum ruficeps ruficeps* Swainson  
 135. *Pomatorhinus horsfieldii horsfieldii* Sykes  
 137. *Macronous gularis rubricapilla* (Tickell)  
 139. *Turdoides striatus orissae* Jerdon
134. *Trichastoma abbotti abbotti* (Blyth)  
 136. *Dumetia hyperythra hyperythra* (Franklin)  
 138. *Chrysomma sinense sinense* (Gmelin)  
 140. *Alcippe poioicephala brucei* Hume

## Subfamily (ii) MUSCICAPINAE

141. *Muscicapa parva albicilla* Pallas  
 143. *Muscicapa rubeculoides rubeculoides* (Vigors)  
 145. *Muscicapa thalassina thalassina* Swainson  
 147. *Rhipidura aureola aureola* Lesson
142. *Muscicapa poliogenys vernayi* (Whistler)  
 144. *Muscicapa tickelliae tickelliae* (Blyth)  
 146. *Culicicapa ceylonensis calochrysea* Oberhdser  
 148. *Rhipidura albicollis orissae* Ripley

## Subfamily (iii) MONARCHINAE

149. *Terpsiphone paradisi paradisi* (Linnaeus)      150. *Hypothymis azurea styani* (Hartlaub)

## Subfamily (iv) SYLVIINAE

151. *Prinia hodgsoni hodgsoni* Blyth      152. *Prinia buchanani* Blyth  
 153. *Orthotomus sutorius guzuratus* (Latham)      154. *Acrocephalus aedon aedon* (Pallas)  
 155. *Acrocephalus stentoreus brunnescens* (Jerdon)      156. *Acrocephalus dumetorum* Blyth

## Subfamily (v) TURDINAE

157. *Erithacus calliope* (Pallas)      158. *Copsychus saularis saularis* (Linnaeus)  
 159. *Copsychus malabaricus indicus* (Baker)      160. *Saxicoloides fulicata erythrura* (Lesson)  
 161. *Monticola cinclorhynchus* (Vigors)      162. *Zoothera citrina citrina* (Latham)  
 163. *Zoothera citrina cyanotus* (Jardine & Selby)      164. *Turdus unicolor* Tickell

## Family 39. PARIDAE

## Subfamily PARINAE

165. *Parus xanthogenys aplonotus* Blyth

## Family 40 SITTIDAE

## Subfamily SITTINAE

166. *Sitta castanea castanea* Lesson      167. *Sitta frontalis frontalis* Swainson

## Family 41. MOTACILLIDAE

168. *Anthus hodgsoni hodgsoni* Richmond      169. *Anthus hodgsoni yunnanensis* Uchida & Kuroda  
 170. *Anthus novaeseelandiae rufulus* Vieillot      171. *Motacilla cinerea cinerea* Tunstall  
 172. *Motacilla maderaspatensis* Gmelin

## Family 42. DICAIDAE

173. *Dicaeum agile agile* (Tickell)

## Family 43. NECTARINIIDAE

174. *Nectarinia zeylonica flaviventris* (Hermann)      175. *Nectarinia lotenia hindustanica* (Whistler)  
 176. *Nectarinia asiatica asiatica* (Latham)      177. *Nectarinia asiatica intermedia* (Hume)  
 178. *Aethopyga siparaja seheriae* (Tickell)      179. *Arachnothera longirostris longirostris* (Latham)  
 180. *Zosterops palpebrosa palpebrosa* (Temminck)

Family 44. PLOCEIDAE  
Subfamily (i) PASSERINAE

181. *Passer domesticus indicus*      182. *Petronia xanthocollis xanthocollis*  
Jardine & Selby      (Burton)

Subfamily (ii) PLOCEINAE

183. *Ploceus philippinus philippinus* (Linnaeus)

Subfamily (iii) ESTRILDINAE

184. *Estrilda formosa* (Latham)      185. *Lonchura striata striata* (Linnaeus)  
186. *Lonchura kelaarti vernayi*      187. *Lonchura punctulata punctulata*  
(Whistler & Kinnear)      (Linnaeus)

Family 45. FRINGILLIDAE  
Subfamily CARDUELINAE

188. *Carpodacus erythrinus roseatus* (Blyth)

Family 46. EMBERIZIDAE

189. *Melophus lathami* (J. E. Gray)

SYSTEMATIC ACCOUNT

Order I PODICIPEDIFORMES

Family 1. PODICIPEDIDAE

1. *Podiceps cristatus cristatus* (Linnaeus)

1758. *Colymbus cristatus* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 135 (Sweden).

*Common name* : Great Crested Grebe (English).

*Distribution* : India : Orissa : Puri (Dsagupta and Chowdhury, 1977), throughout northern India east upto Manipur and south through Rajasthan, Gujarat and Madhya Pradesh. Elsewhere : Pakistan, Nepal, Europe, Siberia, China and Japan.

2. *Podiceps ruficollis capensis* Salvadori

1884. *Podiceps capensis* Salvadori, *Ann. Mus. Civ. Genova* (2), 1 : 252 (Shoa, Africa).

*Common name* : Little Grebe or Dabchick (English) and Pani hansha (Oriya).

*Material examined* : Mayurbhanj District : 1 Male and 1 Female, Jasipur, coll. A. K. Mondal, 31. i. 1971.

*Measurements* : 1 Male : Wing 98, tail (-), bill 27; 1 Female : wing 96, tail (-), bill 28.

*Distribution* : India : Orissa : Mayurbhanj (recent record), Koraput (Majumdar 1988). Found throughout the Indian subcontinent except Andaman and Nicobar Islands. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, N. Africa, Madagascar, Middle East and S. E. Asia.

## Order II CICONIIFORMES

## Family 2 ARDEIDAE

3. *Ardeola grayii grayii* (Sykes)

1832. *Ardea grayii* Sykes, *Proc. zool. Soc. Lond.*, : 158 (Dukhun = Deccan).

*Common names* : Indian Pond Heron or Paddy-bird (English), and Chota kantia baga (Oriya).

*Material examined* : Sambalpur District : 1 Male, Bamoli, near Hirakud Dam, coll. C. B. Srivastava, 27. x. 1972.

*Measurements* 1 Male : Wing 210, tail 75, bill from feather 55.

*Distribution* : India : Orissa : Sambalpur (recent record), Bolangir (Biswas 1953), Koraput (Majumdar 1988), throughout Indian Union. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, and from Persian Gulf to Malayasia through Burma.

4. *Bubulcus ibis coromandus* (Boddaert)

1783. *Cancroma coromanda* Boddaert, *Tabl. pl. enlum.* : 54 (Coromandel, Tamil, Nadu, India).

*Common names* : Cattle Egret (English), and Nandibaga (Oriya).

*Material examined* : Sambalpur District : 1 Female, Bamoli, near Hirakud Dam, coll. C. B. Srivastava, 29. x. 1972.

*Measurements* : 1 Female : Wing 235, tail 83, bill from feather 59.

*Distribution* : India : Orissa : Sambalpur (recent record), Bolangir (Biswas 1953), throughout Indian Union. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, Burma, Indochinese countries, Malaysia, S. China, S. Japan, Formosa, Hainan, Philippines, Sunda islands, Sulawesi and Ceram, S. America and U. S. A.

5. *Nycticorax nycticorax nycticorax* (Linnaeus)

1758. *Ardea nycticorax* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 142 (Southern Europe).

*Common name* : Night Heron (English).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), throughout the Indian Union. Elsewhere : Pakistan, Nepal, Bhutan, Sri Lanka, Central and Southern Europe, south to Africa. Middle east, Burma, Thailand, Malaysia, the Indochinese countries to China and Japan.

## Family 3 CICONIIDAE

6. *Anastomus oscitans* (Boddaert)

1783. *Ardea oscitans* Boddaert, *Tabl. Pl. enlum.*, 55 (Pondicherry, India).

*Common names* : Openbill Stork (English), and Gendalia, Kaansha (Oriya).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), throughout Indian Union. Elsewhere : Pakistan, Nepal, Sri Lanka, Burma, Thailand, east through the Indochinese subregion.

## Order III ANSERIFORMES

## Family 4. ANATIDAE

7. *Dendrocygna javanica* (Horsfield)

1821. *Anas javanica* Horsfield, *Trans. Linn. Soc. Lond.*, 13 : 199, pl. 1 (Java).

*Common names* : Lesser Whistling Teal (English) and Hansharali (Oriya).

*Material examined* : Cuttack district : 2 Male, Kujang, coll. V. C. Agrawal, 14. ii. 1974; Kalahandi district : 1 Male and 1 Female, Madanpur Rampur, coll. P. K. Das, 27. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	187-197 (193)	46-50 (47)	43-44 (43)
1 Female :	190	45	41

*Distribution* : India : Orissa : Cuttack and Kalahandi (recent records), all India including Andaman & Nicobar Islands. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, Burma, eastwards to coast of S. China, Malaysia, Thailand, S. Vietnam, Ryukyu Island, S. W. Borneo, Sumatra and Java.

8. *Anas acuta* Linnaeus

1758. *Anas acuta* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 126 (Sweden).

*Common names* : Pintail (English) and Panda hansha (Oriya).

*Material examined* : Sambalpur district : 1 (unsexed), Hirakud, coll. A. K. Mondal, 24. xii. 1972.

*Measurements* : 1 (unsexed) : wing 254, tail 112, bill 65.

*Distribution* : India : Orissa : Sambalpur (recent record). Throughout Indian mainland. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka (in Winter). Breeds in the northern part of Europe, Asia and N. America, including British Isles. Winters south to N. Africa, the Nile Valley, Ethiopia, the Persian Gulf, Burma, Siam and S. China.

9. *Anas strepera strepera* Linnaeus

1758. *Anas strepera* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 125 (Sweden).

*Common names* : Gadwall (English) and Kujihans (Oriya)

*Material examined* : Puri District : 1 Female, Chilka Lake, coll. C. B. Srivastava, 14. xi. 1972.

*Measurements* : 1 Female : Wing 250, tail 92, bill 54.

*Distribution* : India : Orissa : Puri (recent record) and throughout the Indian mainland. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

10. *Anas querquedula* Linnaeus

1758. *Anas querquedula* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 126 (Sweden).

*Common name* : Garganey (English).

*Material examined* : Cuttack District : 1 Male and 1 Female, Kujang, coll. V. C. Agarwal, 13. ii. 1974.

<i>Measurements :</i>	Wing	Tail	Bill
1 Male :	192	68	46
1 Female :	183	67	47

*Distribution* : India : Orissa : Cuttack (recent record), winter visitor throughout Indian mainland and Maldivian Island. Elsewhere : In winter Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. In breeding, Europe and Central Asia, migrating to Africa and southern Asia.

### 11. *Anas clypeata* Linnaeus

1758. *Anas clypeata* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 124 (South Sweden).

*Common names* : Shoveller (English) and Girdhari (Oriya).

*Material examined* : Puri district : 1 Male, Chilka Lake, Balugaon, coll. C. B. Srivastava, 15. xi. 1972.

*Measurements* : 1 Male : wing 242, tail 84, bill 85.

*Distribution* : India : Orissa : Puri district (recent record), throughout Indian mainland. Elsewhere : Wintering in Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. Breeds in Europe, Asia and N. America. Wintering as far south as E. Africa, Persian Gulf, Burma, S. China, Japan, Hawaii, Lower California, Mexico, Honduras and Florida.

### 12. *Nettapus coromandelianus coromandelianus* (Gmelin)

1789. *Anas coromandelianus* Gmelin, *Syst. Nat.*, 1 (2) : 522 (Coromandal, India).

*Common names* : Cotton Teal (English) and Jalachataka (Oriya)

*Material examined* : Sambalpur district : 1 Female, Rairakhol, coll. P. K. Das, 29. vii. 1973; Puri district : 1 Female, Konarak, coll. A. K. Mondal, 27. vii. 1973; Bolangir district : 1 Female, Harisankar, coll. A. K. Mondal, 17. xii. 1972.; Kalahandi district : 1 Male, Madanpur Rampur, coll. P. K. Das, 31. v. 1972.

<i>Measurements :</i>	Wing	Tail	Bill
1 Male :	152	57	32
3 Females :	155-157 (156)	60-67(64)	28-30(29)

*Weights* : 1 Male : 260 ; 1 Female 216.

*Distribution* : India : Orissa : Sambalpur, Puri, Bolangir and Kalahandi (recent records), throughout the Indian Union including Maldivian Island (except Kerala). Elsewhere : Pakistan, Nepal, Bangladesh, Sri Lanka, Burma, east to S. China, Malay and north-western East Indies.

## Order IV FALCONIFORMES

### Family 5. ACCIPITRIDAE

### 13. *Elanus caeruleus vociferus* (Latham)

1790. *Falco vociferus* Latham, *Index Orn.*, 1 : 46 (Coromandal coast, Tamil Nadu, India).

*Common name* : Blackwinged Kite (English).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), throughout Indian mainland, Laccadive Island. Elsewhere : Pakistan, Nepal, Bangladesh, Sri Lanka, east to S. Yunnan, south to N. Tenasserim and the Indo-Chinese countries.

14. *Accipiter badius dussumieri* (Temminck)

1824. *Falco dussumieri* Temminck, *Pl. Col. Livr.* : 52, text to pl. 308 (adult), pl. 336 (immature) (Bengal = West Bengal, India).

*Common names* : Indian Shikra (English) and Baza (Oriya).

*Material examined* : Cuttack district : 2 Females, Vidyadharpur, coll. A. K. Mukherjee, 3 xi. 1971; Sambalpur district : 1 Female, Hirakud Dam, coll. C. B. Srivastava, 2. xi. 1972.

*Measurements* : 3 Females Wing 206 - 231 (214), tail 157 - 160 (159), bill 23.

*Distribution* : India : Orissa : Cuttack, Sambalpur (recent records) and Koraput (Majumder 1988), throughout India excepting Assam and eastern Indian and Kerala. Elsewhere : Pakistan, Nepal and Bangladesh.

15. *Circus melanoleucos* (Pennant)

1769. *Falco melanoleucos* Pennant, *Ind. Zool.* : 12, pl. 2 (Ceylon = Sri Lanka).

*Common name* : Pied Harrier (English).

*Distribution* : India : Orissa : Koraput (Majumder 1988), Uttar Pradesh, Bihar, West Bengal, Assam, Arunachal Pradesh, Manipur, Meghalaya, Madhya Pradesh, Maharashtra, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Nepal and Bangladesh.

16. *Spilornis cheela melanotis* (Jerdon)

1884. *Buteo melanotis* Jerdon, *Madras J. Lit. Sci.*, 13 : 166 (Nilgiris, Tamil Nadu, India).

*Common name* : Peninsular Crested Serpent Eagle (English).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), Bihar, West Bengal, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry and Andhra Pradesh. Elsewhere : Bangladesh.

## Order V GALLIFORMES

## Family 6. PHASIANIDAE

17. *Gallus gallus murghi* Robinson & Kloss

1920. *Gallus ferrugineus murghi* Robinson & Kloss, *Rec. Indian Mus.*, 19 : 14 and 15 (Chirala, Gaya district, Bihar).

*Common names* : Indian Red Junglefowl (English) and Ganga Bankukuda (Oriya).

*Material examined* : Mayurbhanj district : 1 Male, Lulang, coll. A. K. Mondal, 18. i. 1971; Dhenkanal district : 1 Male and 1 Female, Bagmunda, coll. V. C. Agarwal, 1. i. 1972; Sambalpur district : 1 Male (juvenile), Rairakhol, coll. P. K. Das, 26. vii. 1973; Puri district : 1 Female, Berbera, coll. V. C. Agarwal, 28. i. 1974; 1 Male, Dhuanali, coll. N. Majumdar, 12. iii. 1976; Ganjam district : 1 Male, Mohana, coll. V. C. Agarwal, 19. xii. 1971; Kalahandi district : 1 Male, Madanpur Rampur, coll. P. K. Das, 30. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
5 Males :	231-245 (237)	300-365 (333)	18-25 (21)
2 Females :	194, 203	130, 148	19, 20.

*Distribution* : India : Orissa : Mayurbhanj, Dhenkanal, Sambalpur, Puri, Ganjam and Kalahandi (recent records), Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Madhya Pradesh and Andhra Pradesh. Elsewhere : Pakistan and Bangladesh.

#### Order VI GRUIFORMES

##### Family 7. TURNICIDAE

#### 18. *Turnix tanki tanki* Blyth

1943. *Turnix tanki* Blyth, *J. Asiat. Soc. Beng.*, **12** : 180 (No locality = Bengal, based on drawing by Buchanan Hamilton. Not *Turnix maculatus* Vieillot = Synonym of *Turnix maculosa* (Temminck))

*Common names* : Indian Yellowlegged Button Quail (English) and Punduki chadhei (Oriya).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), throughout the Indian Union excepting Maldiva Island. Elsewhere : Pakistan, Nepal, Bhutan and Bangladesh.

#### Order VI CHARADRIIFORMES

##### Family 8. JACANIDAE

#### 19. *Hydrophasianus chirurgus* (Scopoli)

1786. *Tringa Chirurgus* Scopoli, *Del. Flor. et. Fauna. Insubr., fasc. 2* : 92 (In nova Guiana = Luzon ex sonnerat).

*Common names* : Pheasant-tailed Jacana (English) and Dalapinpin (Oriya).

*Material examined* : Kalahandi district : 1 Female, Madanpur Rampur, coll. P. K. Das, 31. v. 1972.

*Measurements* : 1 Female : Wing 240, tail 308, bill from feather 31.

*Distribution* : India : Orissa : Kalahandi (recent record). Found throughout India. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, Burma, Thailand, eastward to S. China, Formosa (=Taiwan), south to Malaya Peninsula, Java, Cambodia and Philippine Islands.

#### 20. *Metopidius indicus* (Latham)

1790. *Parra indica* Latham, *Index. Orn. 2* : 765 (India).

*Common names* : Bronzewinged Jacana (English) and Pani dahuka (Oriya).

*Material examined* : Kalahandi district : 1 Female, Madanpur Rampur, coll. P. K. das, 29. v. 1972.

*Measurement* : 1 Female : wing 177, tail 45, bill 39.

*Distribution* : India : Orissa : Kalahandi (recent record), Bolangir (Biswas 1953) and throughout India. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Burma, Thailand, Vietnam, Cambodia, Malay Peninsula, Java and Sumatra.

## Family 9. CHARADRIIDAE

## Subfamily (i) CHARADRIINAE

21. *Vanellus indicus indicus* (Boddaert)

1783. *Tringa Tndica* Boddaert, *Tabl. Pl. enlum* : 150 (Goa, India).

*Common names* : Redwattled Lapwing (English) and Tentei (Oriya).

*Material examined* : Baleshwar district : 1 Female, Daripokhara, coll. P. K. Das, 5. iv. 1976; Cuttack district : 1 Male and 1 Female, Vidyadharpur, coll. S. S. Saha, 26. x. 1971; Sambalpur district 1 Female, Bamoli near Hirakud Dam, coll. C. B. Srivastava. 27. x. 1972, 1 Female, Rairakhol, coll. P. K. Das, 27. vii. 1973; Phulbani district : 1 Male, Kalinga, coll. A. K. Mandal, 3. vii. 1974, 1 Female, Kotagarh, coll. N. Majumder, 23. ii. 1976, 1 Male (Juvenile), Kotagarh, coll. R. K. Das, 25. v. 1972; Ganjam district; 1 Female, Mohana, coll. V. C. Agarwal, 18. xii. 1971; 1 Male, Tarasingi, coll. V. C. Agarwal, 26. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
4 Males :	215-227 (222)	110-123 (116)	35-38 (37)
5 Females :	207-226 (217)	114-125 (120)	36-39 (37)

*Weights* : 1 Male : 200; 1 Female : 180.

*Distribution* : India : Orissa : Baleshwar, Cuttack, Sambalpur, Phulbani and Ganjam (recent records), throughout Indian mainland. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Eastern Transcaspian, Iraq, Iran, Arabia and Afghanistan.

22. *Vanellus malabaricus* (Boddaert)

1783. *Charadrius malabaricus* Boddaert, *Tabl. Pl. enlum.*, : 53 (Malabar Coast, ex Daubenton, pl. 880).

*Common names* : Yellow-wattled Lapwing (English) and Tentei (Oriya).

*Material examined* : Cuttack district : 1 Female, Vidyadharpur, coll. S. S. Saha, 26. x. 1971.

*Measurements* : 1 Female : Wing 186, tail 77, bill 29.

*Distribution* : India : Orissa : Cuttack (recent records). Throughout Indian mainland. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

23. *Pluvialis dominica fulva* (Gmelin)

1789. *Charadrius fulvus* Gmelin, *Syst. Nat.*, 1 (2) : 678 (Tahiti).

*Common name* : Eastern Golden Plover (English).

*Material examined* : Baleshwar districts : 2 Females, Daripokhara, coll. P. K. Das, 5. iv. 1976; Mayurbhanj district : 1 Male, Kaptipada, coll. P. K. Das, 24. iii. 1976; Cuttack district : 1 Female, Kujang, coll. V. C. Agarwal, 14. ii. 1975; Puri district : 1 Male, Chilka Lake, near Balugaon, coll. C. B. Srivastava, 15. xi. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	159-163 (161)	57-62 (59)	20-23 (22)
2 Females :	155, 158	57, 59	23, 24

*Weights* : 1 Male : 24.

*Distribution* : India : Orissa : Baleswar, Mayurbhanj, Cuttack and Puri (recent records), throughout Indian Union. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, Burma, Thailand, Malaysia, Indochinese countries, S. China, Oceania, Australia, Hawaii Island, East Africa and Pacific Coast of N. America.

#### 24. *Charadrius dubius ferdoni* (Legge)

1880. *Aegialitis jerdoni* Legge *Proc. zool. Soc. Lond.* (Ceylon = Sri Lanka and middle India).  
New name for *Aegialitis minuta* Jerdon nec *Charadrius minutus* Pallas.

*Common name* : Indian Little Ringed Plover (English).

*Material examined* : Sambalpur district : 1 Male, Bamoli, Hirakud Dam. coll. C. B. Srivastava, 27. x. 1972.

*Measurements* : 1 Male : wing 109, tail 58, bill 17.

*Distribution* : India : Orissa : Sambalpur (recent record), throughout Indian Union. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, Burma, Thailand, Malay Peninsula, Indichina, New Guinea, Bismarck, Archipelago, apparently also the greater and lesser Sunda islands.

#### 25. *Charadrius alexandrinus alexandrinus* Linnæus

1758. *Charadrius alexandrinus* Linnæus *Syst. Nat.*, 10 ed., 1 : 150 (Egpt, ex Hasselquist).

*Common name* : Kentish plover (English).

*Material examined* : Puri district : 1 Male, Konarak, coll. V. C. Agarwal, 4. ii. 1974.

*Measurement* : 1 Male : wing 112, tail 50, bill 22.

*Distribution* : India : Orissa : Puri (recent record) and throughout Indian Union. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, and Srilanka. Migrates in winter to tropical and southern Africa, S. China, Japan, Formosa (=Taiwan) and the Sunda Islands. Breeds on the canary, Midcira, Azores, and Cape Verde Islands, south coast of England and the greater part of Europe and Central Asia from Sweden and Lativa east to Korea, south to the northern Sahara, Egypt and Arabia.

#### Subfamily (ii) SCOLOPACINAE

#### 26. *Limosa limosa limosa* (Linnaeus)

1758. *Scolopax Limosa Limosa* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 147 (in Europa = Sweden).

*Common Name* : Blacktailed Godwit (English).

*Material examined* : Cuttack district : 3 Males and 1 Female, Kujang, coll. V. C. Agarwal, 12. ii. 1974; Puri district. 3 Females, Bhusandipur, coll. J. M. Dasgupta, 9. i. 1978.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	197-211 (205)	80	84-117 (96)
4 Females :	215-236 (223)	81-86 (85)	112-122 (117)

*Distribution* : India : Orissa : Cuttack, Puri (recent records) and throughout India except eastern part of India and very rare in the Peninsula. Elsewhere : Pakistan, Nepal, Sri Lanka Mediterranean countries south to tropical Africa in winter. Breeds locally in northern and central Europe and W. Asia. Migrates over the greater part of Europe and western Asia.

27. *Tringa totanus* (Linnaeus)

1758. *Scolopax totanus* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 145 (In Europa = Sweden).

*Common names* : Common Redshank (English) and Cha chadhei (Oriya).

*Material examined* : Puri district : 1 Male, Chilka Lake, Balugaon, coll. C. B. Srivastava, 19. xi. 1972.

*Measurements* : 1 Male : wing 155, tail 63, bill 47.

*Distribution* : India : Orissa : Puri (recent record), and throughout India including Andaman and Nicobar Islands. Elsewhere : Pakistan, Nepal, Bangladesh, Sri Lanka, Malaya States, and Philippines, Sunda Islands in winter. Breeds in central and eastern Asia east to Transbaikali and west Kansu.

28. *Tringa glareola* Linnaeus

1758. *Tringa glareola* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 149 (in Europa = Sweden)

*Common names* : Wood Sandpiper (English) and Cha chadhei (Oriya).

*Material examined* : Sambalpur district : 1 Male, Kenda, Hirakud Dam, coll. C. B. Srivastava, 29. x. 1972; Puri district : 1 Female, Bhusandipur, coll. J. M. Dasgupta, 9. i. 1978.

*Measurements* : 1 Male : wing 123, 125; tail 51, 56; bill (from feathers) 28 (2).

*Distribution* : India : Orissa : Sambalpur, Puri (recent records) and Bolangir (Biswas 1953) and throughout India including Andaman and Maldive Islands. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. Breeds in north Europe and north Asia east to the Amur River, Kamchatka and northern Kurile Islands. Wintering throughout Africa and Se Asia, Japan, Philippines, Malay Archipelago to Australia.

29. *Tringa hypoleucos* Linnacus

1758. *Tringa hypoleucos* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 149 (in Europa = Sweden)

*Common names* : Common Sandpiper (English) and Cha chadhei (Oriya).

*Material examined* : Cuttack district : 1 Female, Kujang, coll. V. C. Agrawal, 12. ii. 1974.

*Measurements* : 1 Female : wing 106, tail 53, bill (from feathers) 25.

*Distribution* : India : Orissa : Cuttack (recent record) and Bolangir (Biswas 1953) and throughout India. Elsewhere : Pakistan, Baluchistan, Nepal, Bhutan, Bangladesh, Sri Lanka, Burma, Africa, S. E. Asia north S. China, Taiwan, the Philippines, Malay Archipelago to Australia in winter. Breeds throughout Europe and Asia south of the tundra, south to N. Spain, N. Italy, S. Russia, Iran, Mongolia, Manchuria and Japan.

30. *Calidris minutus* (Leisler)

1812. *Tringa minuta* Leisler, *Nachtrage zu Bechstein's Naturg. Deutschl.* : 74 (Hanau am Main, Germany).

*Common names* : Little Stint (English) and Cha chadhei (Oriya).

*Material examined* : Mayurbhanj district : 1 Female, Kaptipada, coll. P. K. Das, 27. iii. 1976.

*Measurements* : 1 Female : wing 101, tail 40, bill (from feathers) 20.

*Distribution* : India : Orissa : Mayurbhanj (recent record) and Bolangir (Biswas 1953) and throughout Indian Union excepting Nicobar Island. Elsewhere : Pakistan, Baluchistan, Nepal, Srilanka, Burma, Africa and the southern shores of Caspian Ocean. Breeds in U. S. S. R.

#### Family 10. RECURVIROSTRIDAE

##### 31. *Himantopus himantopus himantopus* (Linnaeus)

1758. *Charadrius himantopus* Linnaeus *Syst. Nat.*, 10 ed., 1 : 151 (Southern Europe)

*Common names* : Indian Blackwinged Stilt (English) and Cha chadhei (Oriya).

*Material examined* : Sambalpur district : 1 Male, Bamoil, Hirakud Dam, coll. C. B. Srivastava, 28. x. 1972.

*Measurements* : 1 Male : Wing 143, tail 88, bill (-).

*Distribution* : India : Orissa : Sambalpur (recent record) and throughout Indian Union excepting Andaman & Nicobar Islands. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh and Burma. Breeds locally in the Mediterranean region; about the mouth on the Danube; steps of S. Russia; S. Asia east to China and S. Arabia, Malay States; Egypt, Africa, south of the Sahara; Madagascar.

#### Family 11. LARIDAE

##### 32. *Larus brunnicephalus* Jerdon

1840. *Larus brunnicephalus* Jerdon, *Madras, J. Lit. Sci.*, 12 : 225 (West coast of Indian Peninsula, India).

*Common names* : Brownheaded Gull (English) and Machhakhia (Oriya).

*Material examined* : Puri district : 1 Male, Chilka Lake, Balaugaon, coll. C. B. Srivastava, 17. xi. 1972.

*Measurements* : 1 Male : wing 340, tail 128, bill 38 (from feathers).

*Distribution* : India : Orissa : Puri (recent record) and throughout Indian mainland. Breeds in Ladakh between c 3000 and 4500 m. Elsewhere : Coasts of Pakistan, Nepal, Bangladesh, Sri Lanka and southern Asia. Breeds in Central Asia from Chinese Turkestan to S. Mongolia and south to Ladakh.

##### 33. *Chlidonias hybrida indica* (Stephens)

1826. *Viralva indica* Stephens, in *Shaw's Gen. Zool.*, 13 (1) : 169 (Cawnpore = Kanpur, Uttar Pradesh, India).

*Common name* : Indian Whiskered Tern (English).

*Material examined* : Puri district : 1 Female, Chilka Lake, Balugaon, coll. C. B. Srivastava, 17. xi. 1972.

*Measurements* : 1 Male : wing 223, tail 81, bill 33.

*Distribution* : India : Orissa : Puri (recent record), winter visitor throughout Indian mainland. Elsewhere : Pakistan, Nepal, Bangladesh and Sri Lanka.

## Order VIII COLUMBIFORMES

## Family 12. COLUMBIDAE

34. *Treron bicincta bicincta* (Jerdon)

1840. *Vinago bicincta* Jerdon, *Madras J. Lit. Sci.*, 12 : 13 (Sea coast south of Tellicherry, Tamil Nadu, India).

*Common name* : Indian Orangebreasted Green Pigeon (English).

*Material examined* : Baleshwar district : 1 Male, Daripokhari, coll. P. K. Das, 15. vi. 1976.

*Measurements* : 1 Male : wing 171, tail 100, bill 19.

*Distribution* : India : Orissa : Baleshwar (recent record), Koraput (Majumder 1987), throughout Indian mainland excepting Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Rajasthan and Gugarat. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Burma, Thailand, Malay Peninsula and south Vietnam.

35. *Treron phoenicoptera phoenicoptera* (Latham)

1790. *Columba phoenicoptera* Latham *Index Orn.*, 2 : 597 (India).

*Common name* : Bengal Green Pigeon (English).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), Punjab, Haryana, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Manipur, Mizoram, Meghalaya and Rajasthan. Elsewhere : Nepal and Bangladesh.

36. *Treron phoenicoptera chlorigaster* (Blyth)

1843. *Vinago chlorigaster* Blyth, *J. Asiat. Soc. Beng.*, 12 (1) : 167 (No locality = Indian Peninsula).

*Common names* : Southern Green Pigeon (English) and Haradakhai (Oriya).

*Material examined* : Baleshwar district : 3 Females, Daripokhari, coll. P. K. Das, 5, 7 and 15. iv. 1976; Keonjhar district : 2 Males and 1 Female, Gopalpur, coll. A. K. Mondal, 2. ii. 1971; Sambalpur district : 1 Female, Badrama, coll. A. K. Mondal, 25. xii. 1972; Puri district : 1 Female, Pratap village, coll. A. K. Mondal, 23. vii. 1973; Phulbani district : 2 Males, Kotagarh, coll. P. K. Das, 20 and 21. v. 1972; Ganjam district : 1 Male, Mohana, coll. V. C. Agrawal, 16. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
5 Males :	182-192 (188)	113-118 (115)	22-23 (22)
6 Female :	176-185 (181)	103-118 (111)	21-23 (22)

*Distribution* : India : Orissa : Baleshwar, Keonjhar, Sambalpur, Puri, Phulbani and Ganjam (recent records), Koraput (Majumdar 1988), Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry and Andhra Pradesh. Elsewhere : Sri Lanka.

37. *Ducula aenea sylvatica* (Tickell)

1833. *Columba sylvatica* Tickell, *J. Asiat. Soc. Beng.*, 2 : 581 (Borabhum, Shingbhum, Bihar, India).

*Common name* : Northern Green Omperial Pigeon (English).

*Material examined* : Puri district : 1 Female, Berbera, coll. A. K. Mondal, 22. vii. 1973.

*Measurements* : 1 Female : wing 214, tail 139, bill 29.

*Distribution* : India : Orissa : Puri (recent record), Uttar Pradesh, Bihar, West Bengal, Sikkim, Assam, Arunachal Pradesh and Meghalaya. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Thailand and Indochinese countries.

### 38. *Streptopelia orientalis agricola* (Tickell)

1833. *Columba agricola* Tickell, *J. Asiat. Soc. Bengal.*, 2 : 581 (Jungles of Dholbhum, Singbhum district, Bihar and Borabhum = Barahabhum, Purulia district, West Bengal, India).

*Common name* : Eastern Turtle-Dove (English).

*Material examined* : Dhenkanal district : 1 Female, Tikarpara, coll. J. K. Sen, 29. xi. 1972.

*Measurements* : 1 Female : wing 172, tail 124, bill 23.

*Distribution* : India : Orissa : Dhenkanal (recent record), Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram and Meghalaya. Migrates in winter southward into peninsular India chiefly on the eastern sides.

### 39. *Streptopelia decaocto decaocto* (Frivaldszky)

1758. *Columba risoria* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 65 (India).

1838 (1834-6) *Columba risoria* L. var. *decaocto* Frivaldszky, K., *Magyar Tudos Tarsasag Evkonyvi* 3 : 183, pl. 8 (Turkey)

*Common names* : Indian Ring Dove (English) and Kapota (Oriya).

*Material examined* : Baleshwar district : 1 Male, Daripokhari, coll. P. K. Das, 12. iv. 1976; Mayurbhanj district : 1 Male, Kaptipada, coll. P. K. Das, 30. iii. 1976; Kalahandi district : 1 Female, Madanpur Rampur, coll. P. K. Das, 31. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	164, 166	122, 134	21, 22
1 Female :	161	123	21

*Distribution* : India : Orissa : Baleshwar, Mayurbhanj, Kalahandi (recent records), Bolangir (Biswas 1953) and throughout the Indian mainland. Elsewhere : Pakistan, Nepal and Sri Lanka.

### 40. *Streptopelia chinensis suratensis* (Gmelin)

1789. *Columba suratensis* Gmelin, *Syst. Nat.*, 1 (2) : 778 (Surat, Gulf of Cambay, Gujarat, India).

*Common names* : Indian Spotted Dove (English) and Kapota (Oriya).

*Material examined* : Baleshwar district : 2 Males and 1 Female, Daripokhari, coll. P. K. Das, 11 and 15. iv. 1976; Mayurbhanj district; 1 Male, Lulang, coll. A. K. Mandal, 19. i. 1971; 1 Male and 1 Female (Juvenile), Lulang, coll. J. K. Sen, 9. xi. 1972; 1 Male and 2 Females, Katipada, coll. P. K. Das, 26 and 30. ii. 1976; Keonjhar district : 1 Male, Ghatgaon, coll. J. K. Sen, 21. xi. 1972; Sundargarh district; 1 Male and 1 Female, Koira, coll. P. K. Das, 16. vii. 1973; Sambalpur district : 1 Male, Bamoli, Hirakud Dam, coll. C. B. Srivastava, 27. x. 1972; 1 Female, Charnal, coll. N. Majumdar, 27. iii. 1976; Puri district : 1 Male, Berbera,

coll. A. K. Mondal, 19. vii. 1973; Phulbani district : 2 Males, Kotgarh, coll. P. K. Das, 20 and 24. v. 1972 | Ganjam district : 1 Female, Mohana, coll V. C. Agrawal, 18. xii. 1971; 3 Males, Taptapani, coll. A. K. Mandal 13. vii. 1973.

<i>Measurements :</i>	Wing	Tail	Bill
14 Males :	130-141 (135)	110-142 (127)	18-20 (19)
6 Females :	130-137 (134)	112-131 (124)	19-20 (19)

*Distribution* : India : Orissa : Baleshwar, Mayurbhanj, Keonjhar, Sundargarh, Sambalpur, Puri, Phulbani and Ganjam (recent records), Bolangir (Biswas 1953) and Koraput (Majumdar 1988) and throughout Indian mainland excepting Jammu & Kashmir. Elsewhere : Pakistan, Nepal, Bhutan and Bangladesh.

#### 41. *Streptopelia senegalensis cambayensis* (Gmelin)

1789. *Columba cambayensis* Gmelin, *Syst. Nat.*, 1 (2) : 779 (Cambaya = Gulf of Cambay, Gujarat, India).

*Common names* : Indian Little Brown Dove (English) and Panka (Oriya).

*Material examined* : Bolangir district : 1 Female, Lathore, coll. A. K. Mondal, 18. xii. 1972.

*Measurements* : 1 Female : wing 128, tail 117, bill 19.

*Distribution* : India : Orissa : Bolangir (recent record), throughout India excepting Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Assam. Elsewhere : West Pakistan and Bangladesh.

#### 42. *Chalocophaps indica indica* (Linnaeus)

1758. *Coloumba indica* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 164 (Orientali = Amboina vide Stresemann, 1952, Ibis 94 : 611).

*Common name* : Indian Emerald Dove (English).

*Material examined* : Baleshwar district : 1 Male, Daripokhari, coll. P. K. Das, 13. iv. 1976; Puri district : 1 Female, Berbera, coll. V. C. Agrawal, 21. i. 1974; 1 Male and 3 Females, Dhuanali, coll. N. Majumdar, 10 and 12. iii. 1976.

<i>Measurements :</i>	Wing	Tail	Bill
2 Males :	143, 152	87, 98	21, 24
4 Females :	136-147 (142)	90-95 (92)	20-23 (21)

*Distribution* : India : Orissa : Baleshwar, Puri (recent records), throughout Indian Union. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Malay Peninsula, Indochinese countries, Philippines and Indonesia.

### Order IX PSITTACIFORMES

#### Family 13. PSITTACIDAE

#### 43. *Psittacula eupatria nipalensis* (Hodgson)

1836. *Palaeornis nipalensis* Hodgson, *Asiat. Res.*, 19 (1) : 177 (Nepal).

*Common name* : Large Indian Parakeet (English).

*Material examined* : Mayurbhanj district : 1 Female, Chahala, coll. A. K. Mondal, 22. i. 1971; Sambalpur district : 2 Males, Bhutel, coll. A. K. Mondal, 17. xii. 1972; Bolangir district : 3 Females (1 juvenile), Lathore, coll. A. K. Mondal, 13 and 14. xii. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	220, 221	278, 318	37
3 Females :	196-211 (204)	273-299 (288)	35-37 (36)

*Weight* : 1 Male: 235.

*Distribution* : India : Orissa : Mayurbhanj, Sambalpur, Bolangir (recent records), Koraput (Majumdar 1988), Punjab, Haryana, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Gujarat, Maharashtra, Madhya Pradesh and Northern Andhra (roughly 18°N). Elsewhere : Pakistan, Nepal, Bhutan and Bangladesh.

#### 44. *Psittacula eupatria eupatria* (Linnaeus)

1766. *Psittacus eupatris* Linnaeus, *Syst. Nat.*, 12 ed., 1 : 140 (No locality = Gingee, South Arcot district, Madras = Tamil Nadu, India ex Brisson).

*Common names* : Large Ceylonese Parakeet (English) and Madana (Oriya).

*Material examined* : Phulbani district : 1 Male : ?

*Measurements* : 1 Male : Wing 224, tail 315, bill 41.

*Distribution* : India : Orissa : Phulbani (recent record), Koraput (Majumdar 1988), Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry and Andhra Pradesh. Elsewhere : Sri Lanka.

#### 45. *Psittacula krameri manillensis* (Bechsteinza)

1800. *Psittacus Manillensis* Bechstein, *Stubenvogel*, 2nd Gotha ed : 612 (Philippines, errore = Ceylon = Sri Lanka).

*Common names* : Roscringed Parakeet (English) and Chandana (Oriya).

*Material examined* : Baleshwar district : 2 Males, Daripokhara, coll. P. K. Das, 5. iv. 1976; Cuttack district : 1 Female, Vidyadharpur, coll. S. S. Saha, 2. xi. 1971; Dhenkanal district : 1 Male, Bagmunda, coll. V. C. Agrawal, 6. i. 1972; Sambalpur district : 1 Female (juvenile), Rairakhol, coll. P. K. Das, 29. vii. 1973; Bolangir district : 1 Male, (juvenile) and 1 Female, Harishankar, coll. P. K. Das, 3 and 5. viii. 1973; Ganjam district : 1 Male, Tarasingi, coll. V. C. Agrawal, 25. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
4 Males :	162-177 (170)	190-243 (218)	22-24 (23)
2 Females :	165, 170	173	25

*Weights* : 3 Males : 110-114 (126) : 2 Females : 116, 156.

*Distribution* : India : Orissa : Baleshwar, Cuttack, Dhenkanal, Sambalpur, Bolangir and Ganjam (recent records), Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondecherri and Andhra Pradesh. Elsewhere : Sri Lanka.

#### 46. *Psittacula cyanocephala cyanocephala* (Linnaeus)

1766. *Psittacus cyanocephalus* Linnaeus, *Syst. Nat.*, 12 ed., 1 : 141 (East Indies = Gingee, South Arcot district, Madras = Tamil Nadu, India).

*Common names* : Southern Blossomheaded Parakeet (English) and Chandani (Oriya).

*Material examined* : Keonjhar district : 2 Males, Gopalpur, coll. A. K. Mandal, 2 and 5. ii. 1971; Dhenkanal district : 1 Male, Tikarpara, coll. J. K. Sen, 29. xi. 1972; Sambalpur district : 1 Male and 1 Female (juvenile), Badrama, coll. A. K. Mandal, 21. xii. 1972; Puri district : 1 Female, Berbera, coll. V. C. Agrawal, 21. i. 1974; 2 Males and 1 Female, Dhuanali, coll. N. Majumdar, 13. iii. 1976; Phulbani district : 1 Female (juvenile), Kalinga, coll. A. K. Mandal, 2. iii. 1974; Ganjam district : 5 Males, Tarasingi, coll. V. C. Agrawal, 25 and 26. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
11 Males :	129-145 (136)	170-245 (199)	19-21 (20)
2 Females :	121, 134	137, 164	16, 17

*Weights* : 7 Males : 26 - 66 (64) ; 1 Female : 66.

*Distribution* : India : Orissa : Keonjhar, Dhenkanal, Sambalpur, Puri, Phulbani, and Ganjam (recent records), Koraput (Majumdar 1988), Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondichery and Andhra Pradesh. Elsewhere : Sri Lanka.

#### Order X CUCULIFORMES

##### Family 14. CUCULIDAE

##### 47. *Cuculus varius varius* Vahl

1797. *Cuculus varius* Vahl, *Skriver. Naturhist. Selsk., Kjobenhavn* 4 (1) : 60 (Tranquebar).

*Common name* : Common Hawk-Cuckoo (English)

*Material examined* : Dhenkanal district : 1 Male, Tikarpara, coll. V. C. Agrawal, 8. i. 1972; Puri district : 1 Female, Berbera, coll. V. C. Agrawal, 21. i. 1974; 1 Male, Dhuanali, coll. N. Majumdar, 12 and 13. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	185, 199	161, 170	29 (2)
2 Females :	186, 194	158, 176	28, 29

*Weights* : 1 Male : 88; 1 Female : 92.

*Distribution* : India : Orissa : Dhenkanal, Puri (recent records), Koraput (Majumdar 1988), throughout Indian mainland. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

##### 48. *Cuculus canorus canorus* Linnaeus

1758. *Cuculus canorus* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 110 (Europa = Sweden, ex. Fn. Suec.).

*Common name* : Cuckoo (English).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), throughout Indian Union except Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and Meghalaya. Elsewhere : Breeds in Europe and Asia-Siberia, Kamchatka, Asia-Minor, Iran, Manchuria, Korea, Japan and Kurile Is. Winter visitor in Africa, Malaysia to New Guinea.

49. *Cacomantis merulinus passerinus* (Vahl)

*Cuculus passerinus* Vahl, *Skiv. Naturhist. Selsk., Kjobenhava*, 4 (1) : 57 (Tranquebar).

**Common name** : Indian Plaintive Cuckoo (English).

**Material examined** : Baleshwar district : 1 Male, Daripokhara, coll. P. K. Das, 5. iv. 1976; Phulbani district : 1 Male, Kotagarh, coll. P. K. Das, 20. v. 1972, 1 Male, Kalinga, coll. A. K. Mondal, 1. vii. 1974.

**Measurements** : 3 Males : Wing 115 - 118 (116), tail 112 - 113 (112), bill 22.

**Distribution** : India : Orissa : Baleshwar, Phulbani (recent records) and throughout the country excepting in drier parts of northwestern India and whole of eastern India beyond West Bengal. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka and Burma.

50. *Eudynamys scolopacea scolopacea* (Linnaeus)

1758. *Cuculus scolopaceus* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 111 (Malabar = Kerala, India).

**Common names** : Indian Koel (English) and Koili (Oriya).

**Material examined** : Mayurbhanj district : 1 Male, Baripada coll. A. K. Mondal, 17. i. 1971, 2 Males and 1 Female, Kaptipada, coll. P. K. Das, 27, 28 and 31. iii. 1976; Phulbani district : 1 Male, Kotagarh, coll. N. Majumdar 22. iii. 1976; Kalahandi district : 1 Male, Madanpur Rampur, coll. P. K. Das, 1. vi. 1972.

<b>Measurements :</b>	<b>Wing</b>	<b>Tail</b>	<b>Bill</b>
5 Males :	175 - 199	175 - 189	32 - 34
1 Female :	185	180	33

**Weights** : 2 Males : 186, 188; 1 Female 162.

**Distribution** : India : Orissa : Mayurbhanj, Phulbani, Kalahandi (recent records), Koraput (Majumdar 1988), throughout Indian Union excepting eastern India beyond Assam, Andaman and Nicobar Is. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

51. *Rhopodytes tristis tristis* (Lesson)

1830. *Melias tristis* Lesson, *Traite d'Orn., livr. 2* : 132 (Sumatra, errore = Bengal).

**Common name** : Large Greenbilled Malkoha (English).

**Material examined** : Puri district : 1 Male, Berbera, coll. V. C. Agrawal, 27. i. 1974.

**Distribution** : India : Orissa : Puri (recent record), Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Meghalaya, Tripura and eastern Madhya Pradesh. Elsewhere : Nepal, Bhutan and Bangladesh.

52. *Taccocua leschenaultii infuscata* Blyth

1845. *Taccocua infuscata* Blyth, *J. Asiat. Soc. Beng.*, 14 (1) : 200 (sub-Himalayan region — the terai region near Darjeeling).

**Common name** : Eastern Sirkeer Cuckoo (English).

**Material examined** : Phulbani district : 1 Female, Kotagarh, coll. P. K. Das, 21. v. 1972.

**Measurements** : 1 Female : wing 150, tail 222, bill 33.

*Distribution* : India : Orissa : Phulbani (recent record), Koraput (Majumder 1988), Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Western Arunachal Pradesh, Madhya Pradesh, Maharashtra and Andhra Pradesh. Elsewhere : Nepal, Bhutan and Bangladesh.

### 53. *Centropus sinensis parroti* Stresmann

1913. *Centropus sinensis parroti* Stresmann, *Nov, Zool.*, 20 : 323 (Ceylon = Sri Lanka).

*Common names* : Southern Crow-Pheasant (English) and Kumbhati (Oriya).

*Material examined* : Baleshwar district : 1 Male, Daripokhari, coll. P. K. Das, 4. iv. 1976; Mayurbhanj district : 1 Female, Lulung, coll. J. K. Sen, 9. xi. 1972; Dhenkanal district : 1 Female, Bagmunda, coll. V. C. Agrawal, 5. i. 1972; Sambalpur district : 1 Male, Bamoli, Hirakud Dam, coll. C. B. Srivastava, 1. xi. 1972; 1 (unsexed, juvenile) Rairakhol, coll. P. K. Das, 26. vii. 1973; Puri district : 1 Female, Dhuanali, coll. N. Majumder, 11. iii. 1976; Phulbani district : 1 Female, Kotagarh, coll. P. K. Das, 23. v. 1972; 1 Male, coll. N. Majumdar, 20. iii. 1976; Bolangir district : 1 Male Harishankar, coll. P. K. Das, 4. viii. 1973; Ganjam district : 1 Female, Tarasingi, coll. V. C. Agrawal, 24. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
5 Males :	180-195 (188)	242-270 (259)	39-41 (40)
4 Female :	180-205 (193)	253-280 (268)	40-49 (41)

*Weights* : 2 Males : 238, 250; 1 Female 240.

*Distribution* : India : Orissa : Baleshwar, Mayurbhanj, Dhenkanal, Sambalpur, Puri, Phulbani, Bolangir, Gangam (recent records), Gujarat, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry and Andhra Pradesh. Elsewhere : Sri Lanka.

## Order XI STRIGIFORMES

### Family 15. STRIGIDAE

#### Subfamily STRIGINAE

### 54. *Otus scops sunia* (Hodgson)

1836. *Scops sunia* Hodgson, 1836. *Asiat. Res.*, 19 : 175 (Nepal).

*Common name* : North Indian Scops Owl (English).

*Material examined* : Puri district : 1 Male, Berbera, coll. V. C. Agrawal, 26. i. 1974; Phulbani district : 1 Male, Kotagarh, coll. P. K. Das, 23. v. 1972.

*Measurements* : 2 Males, wing 134, 135; tail 53, 60; bill 19, 20.

*Weights* : 2 Males : 68, 70

*Distribution* : India : Orissa : Puri, Phulbani (recent records), Koraput (Majumdar 1988), Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Sikkim, Assam, Arunachal Pradesh, Manipur, Madhya Pradesh and Maharashtra. Elsewhere : Pakistan, Nepal, Bhutan and Bangladesh.

*Remarks* : Majumdar (1979) recorded this bird for the first time from Orissa.

55. *Otus bakkamoena marathae* Ticehurst

1922. *Otus bakkamoena marathae* Ticehurst, *Bull. Br. Orn. Cl.*, 42 : 122 (Raipur, Madhya Pradesh, India).

*Common names* : Central Indian Collared Scops Owl (English) and Raja pecha (Oriya).

*Material examined* : Phulbani district : 1 Female, Kotagarh, coll. P. K. Das, 20. v. 1972.

*Measurements*: 1 Female : wing 149, tail 75, bill 26.

*Distribution* : India : Orissa : Phulbani district (recent record), Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, southern Bihar, and southern West Bengal.

*Remarks* : Not very common, seen singly.

56. *Bubo zeylonensis leschenault* (Temminck)

1820. *Strix leschenault* Temminck, *Pl. col. livr.* 4, pl. 20 (Eastern provinces of India = Chandernagore, West Bengal, India)

*Common names* : Brown Fish Owl (English) and Hunha (Oriya).

*Material examined* : Puri district : 1 Female, Berbera, coll. V. C. Agrawal, 28. i. 1974.

*Measurements* : 1 Female : wing 385, tail 212, bill 52.

*Distribution* : India : Orissa : Puri district (recent record) and throughout Indian mainland. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Burma and far East.

*Remarks* : Common, seen in most of the districts, singly.

57. *Claucidium radiatum radiatum* (Tickell)

1833. *Strix radiata* Tickell, *J. Asiat. Soc. Beng.*, 2 : 572 (Jungle of Borabhum, Purulia district, West Bengal and Dholbhum, Singhum district, Bihar, India).

*Common names* : Barred Jungle Owlet (English) and Hulhulia pecha (Oriya).

*Material examined* : Mayurbhanj district : 1 Male, Lulung, coll. A. K. Mondal, 20. i. 1971, 1 Male, Chahala, coll. A. K. Mondal, 25. i. 1971; Sambalpur district : q Male, Bhutel, coll. A. K. Mondal, 27. xii. 1972, Puri district : 1 Female, Berbera, coll. V. C. Agrawal, 29. 1. 1974; 2 Males, Dhuanali, coll. N. Majumdar, 9 and 10. iii. 1976. Phulbani district : 1 Male, Kotagarh, coll. N. Majumdar, 20. iii. 1976. Bolangir district : 1 Male and 2 Females, Harishankar, coll. P. K. Das, 5 and 6. viii. 1973. Ganjam district : 1 Male, Mohana, coll. V. C. Agrawal, 22. xii. 1971, 1 Male, Tarasingi, coll. V. C. Agrawal, 27. xii. 1971. Kalahandi district, 1 Male (juvenile), Madanpur Rampur, coll. P. K. Das, 31. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
9 Male :	123-130 (127)	59-71 (66)	17-20 (19)
3 Females :	123-130 (126)	62-68 (65)	18-20 (19)

*Weights* : 3 Males : 104-121 (113); 2 Females : 116, 126.

*Distribution* : India : Orissa : Mayurbhanj, Sambalpur, Puri, Phulbani, Bolangir, Gnam and Kalahandi (recent records), Koraput (Majumdar 1988), Himachal Pradesh, Uttar Pradesh, Bihar, West Bengal, Sikkim, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Nepal, Bhutan and Sri Lanka.

58. *Ninox scutulata lugubris* (Tickell)

1833. *Strix Lugubris* Tickell, *J. Asiat. Soc. Beng.*, 2 : 572 (Dampara, Dholbhum, Bengal = Dhalbhum, Singhbhum Dist., Bihar, India).

*Common name* : Indian Brown Hawk-Owl (English).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), Punjab, Haryana, Uttar Pradesh, Sikkim, West Bengal, Assam, Arunachal Pradesh, Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Tamil Nadu and Andhra Pradesh. Elsewhere : Pakistan, Nepal and Bhutan.

59. *Athene brama indica* (Franklin)

1831. *Noctua indica* Franklin, *Proc. zool. Soc. Lond.*, 115 (Banks of the Ganges and in the mountain chain of upper Hindoostan, i. e. , Uttar Pradesh, India).

*Common names* : Noctern Spotted Owlet (English) and Raja pecha (Oriya).

*Material examined* : Cuttack district : 1 Male, Vidyadharpur, coll. S. S. Saha, 2. xi. 1971; Phulbani district, 1 Male and 1 Female, Kotagarh, coll. P. K. Das, 20. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	160, 165	82, 84	21
1 Female :	158	84	22

*Weights* : 1 Male 104.

*Distribution* : India : Orissa : Cuttack and Phulbani (recent records), Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal, Sikkim, Assam, Arunachal Pradesh, Manipur, Rajasthan, Gujarat, Maharashtra and Madhya Pradesh. Elsewhere : Pakistan, Nepal, Bhutan and Bangladesh.

60. *Athene brama brama* (Temminck)

1821. *Strix brama* Temminck, *Pl. Col., livr.* 12, pl. 68 (Pondicherry and West coast of India)

*Common names* : Southern Spotted Owlet (English) and Pecha (Oriya).

*Material examined* : Baleswar district : 1 Female, Daripokhari, coll. P. K. Das, 13. iv. 1976.

*Measurements* : 1 Female : wing 152, tail 66, bill 21.

*Weight* : 1 Male 104.

*Distribution* : India : Orissa : Baleswar (recent record), Koraput (Majumdar 1988), southern Maharashtra, southern Madhya Pradesh, Karnataka, Tamil Nadu and Andhra Pradesh.

*Remarks* : Not very common, found in cultivated field.

61. *Strix leptogrammica indranee* Sykes

1831. *Strix indranee* Sykes, *Proc. zool. Soc. Lond.*, : 82 (The Ghauts = Lonauli, Western Ghats, India).

*Common name* : Brown Wood Owl (English).

*Material examined* : Baleswar district : 1 Female (juvenile) Daripokhara, coll. P. K. Das, 7. iv. 1976.

*Distribution* : India : Orissa : Baleshwar (recent record), Maharashtra, Goa, Karnataka, Tamil Nadu, Kerala and Andhra Pradesh.

*Remarks* : Juvenile with moulting wing feathers.

### Order XII CAPRIMULGIFORMES

#### Family 16. CAPRIMULGIDAE

#### 62. *Caprimulgus indicus indicus* Latham

1790. *Caprimulgus lindicus* Latham, *Index Or.*, 2 : 588 (India).

*Common name* : Indian Jungle Nightjar (English).

*Material examined* : Dhenkenal district : 2 Males, Bagmunda, coll. V. C. Agrawal, 5. i. 1972.

*Measurements* : 2 Males : wing 194 (2); tail 134, 140; bill 22, 24.

*Distribution* : India : Orissa : Dhenkenal (recent record), Koraput (Majumdar 1988), Punjab, Haryana, Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, Gujarat, Maharashtra, Karnataka, Tamil Nadu, Kerala and Andhra Pradesh.

#### 63. *Caprimulgus macrurus albonotatus* Tickell

1833. *Caprimulgus Albonotatus* Tickell, *J. Asiat. Soc. Beng.*, 2 : 580 (Dampara, Bholbhum, Singhum district, Bihar, India).

*Common name* : Indian Longtailed Nightjar (English).

*Material examined* : Dhenkenal district : 1 Male (juvenile), Bagmunda, coll. V. C. Agrawal, 3. i. 1972.

*Distribution* : India : Orissa : Dhenkenal (recent record), Mayurb'aj (Mukherjee 1953), Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Meghalaya and Andhra Pradesh. Elsewhere : Nepal, Bhutan and Bangladesh.

#### 64. *Caprimulgus asiaticus asiaticus* Latham

1790. *Caprimulgus asiaticus* Latham, *Index Orn.*, 2 : 588 (Bombay, India)

*Common names* : Indian Little Nightjar (English) and Bhuinchhapuli (Oriya).

*Material examined* : Puri district : 1 Male, Dhuanali, coll. N. Majumdar, 13. iii. 1976. Kalahandi district : 2 Females, Madanpur Rampur, coll. P. K. Das, 29. vi. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male :	151	112	17
2 Females :	139, 147	101, 102	16, 17.

*Weights* : 1 Male 54; 2 Females 46 (2).

*Distribution* : India : Orissa : Puri and Kalahandi (recent records), Koraput (Majumdar 1988) and throughout Indian mainland excepting east to Assam. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Burma, Thailand and Indochinese countries.

*Remarks* : Very common, found in open forest and in cultivated fields. Food : Beetles and bugs.

65. *Caprimulgus afinis monticola* Franklin

1831. *Caprimulgus monticolus* Franklin, *Proc. zool. Soc. Lond.* : 116 (Ganges between Calcutta and Benares = Varanasi).

*Common name* : Franklin's Nightjar (English).

*Material examined* : Phulbani district : 1 Female, Kotagarh, coll. P. K. Das, 21. v. 1972.

*Measurements* : 1 Female : wing 180, tail 110, bill 21.

*Distribution* : Orissa : Phulbani (recent record), Punjab, Haryana, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu, Kerala and Andhra Pradesh. Elsewhere : Pakistan, Nepal, Bhutan and Bangladesh.

*Remarks* : Rather uncommon, found singly, sometimes in pairs.

## Order XIII APODIFORMES

## Family 17. APODIDAE

66. *Apus affinis affinis* (J. E. Gray)

1830. *Cypselus affinis* J. E. Gray in Gray and Hardwicke's *Ill. Ind. Zool.* 1 (2), pl. 35, f. 2 (no locality = Ganges, India).

*Common names* : Indian House Swift (English) and Chataka (Oriya).

*Material examined* : Sundargarh district : 2 Males, Bonaigarh, coll. A. K. Mondal, 6. i. 1973; Sambalpur district : 1 Male, Palahara, coll. A. K. Mondal, 31. xii. 1972; 1 Male, Kansar, coll. A. K. Mondal, 2. i. 1973; 1 Male and 1 Female, Burket, coll. A. K. Mondal, 3. 1. 1973.

<i>Measurements</i> :	Wing	Tail	Bill
5 Male :	123-129 (126)	41-43 (41)	7-9 (8)
2 Females :	126, 127	42 (2)	9 (2)

*Distribution* : India : Orissa : Sundargarh, Sambalpur (recent records), throughout India excepting Jammu & Kashmir, Himachal Pradesh and eastern India beyond West Bengal and Kerala.

## Order XIV TROGONIFORMES

## Family 18. TROGONIDAE

67. *Harpactes fasciatus legerli* Koelz

1939. *Harpactes fasciatus* Koelz, *Proc. Biol. Soc. Washington*, 52 : 79 (Foot of Mahendragiri, Orissa, India).

*Common name* : Central Indian Trogon (English).

*Material examined* : Sundargarh district : 1 Male, Koira, coll. P. K. Das, 12. vii. 1973; Phulbai district : 1 Male and 1 Female, Kotagarh, coll. P. K. Das, 22. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	130, 134	181, 185	20 (2)
1 Female :	129	168	19

*Distribution* : India : Orissa : Sundargarh, and Phulbani (recent records) Bihar, Gujarat, Madhya Pradesh and Maharashtra.

## Order XV CORACIIFORMES

## Family 19. ALCEDINIDAE

68. *Alcedo attahis bengalensis* Gmelin

1788. *Alcedo bengalensis* Gmelin, *Syst. Nat.*, 13 ed., 1 : 450 (Bengala = Bengal, India).

*Common names* : Indian Small Blue Kingfisher (English) and Machharanka (Oriya).

*Material examined* : Puri district : 1 Female, Dhuanali, coll. N. Majumdar, 15. iii. 1976. Kalahandi district : 1 Male, Madanpur Rampur, coll. P. K. Das, 27 v. 1972.

*Measurements* : 1 Male, 1 Female : wing 70, 73; tail 33, 31; bill 43, 44.

*Distribution* : India : Orissa : Puri, Kalahandi (recent records), Koraput (Majumdar 1988), Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Andaman & Nicobar Islands. Elsewhere : Pakistan, Nepal, Bhutan and Bangladesh.

69. *Halcyon smyrnensis fusca* (Boddaert)

1783. *Alcedo fusca* Boddaert, *Table Pl. enlum.*, 54 (Malabar Coast ex Baubenton, Pl. enlum., no. 894).

*Common names* : Indian Whitebreasted Kingfisher (English) and Machharanka (Oriya).

*Material examined* : Sambalpur district : 1 Male, Rairakhol, coll. P. K. Das, 30. vii. 1973. Puri district : 1 Male, Konarak, coll. V. C. Agrawal, 3. ii. 1974, 1 Female, Balugaon, coll. C. B. Srivastava, 16. xi. 1972. Ganjam district : 1 Male, Tarasingi, coll. V. C. Agrawal, 25. xii. 1971; 1 Female (juvenile), Taptapani, coll. A. K. Mondal, 13. vii. 1973.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	118-121 (119)	76- 80 (77)	57-64 (60)
1 Female :	113	75	60

*Distribution* : India : Orissa : Sambalpur, Puri, Ganjam (recent records), Koraput (Majumdar 1988), Punjab, Haryana, Uttar Pradesh, Bihar, Sikkim, West Bengal, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu and Pondicherry. Elsewhere : Nepal, Bangladesh and Sri Lanka.

## Family 20. MEROPIDAE

70. *Merops leschenaulti leschenaulti* Vicillot

1817. *Merops Leschenaulti* Vicillot, *Nouv. Dict. Hist. Nat.*, 14 : 17 (Java, errore = Ceylon = Sri Lanka).

*Common names* : Chestnutheaded Bee-eater (English) and Bangshapatari (Oriya).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Goa, Karnataka, Tamil Nadu and Kerala. Elsewhere : Nepal, Bhutan, Bangladesh, Sri Lanka, Burma, Malay Peninsula, Yunnan, Thailand and the Indo-Chinese countries.

71. *Merops orientalis orientalis* Latham

1801. *Merops orientalis* Latham, *Indix Orn., Suppl.*, 33 (India = Pondichery vide Stresemann, 1952, Ibis 94 : 515).

*Common names* : Indian Small Green Bee-eater (English) and Balishua (Oriya).

*Material examined* : Baleshwar district : 1 Male and 2 Females, Daripokhari, coll. P. K. Das, 5 and 16. iv. 1976. Puri district : 1 Male, Berbera, coll. A. K. Mondal, 22. vii. 1973; 1 Female, Konarak, coll. V. C. Agrawal, 4. ii. 1974; 1 Male and 1 Female Dhuanali, coll. N. Majumdar, 12. iii. 1976. Ganjam district : 2 Males, Tarasingi, coll. V. C. Agrawal, 25 and 26. xii. 1971. Kalahandi district : 1 Male (adult) and 1 Male (juvenile), Madanpur Rampur, coll. P. K. Das, 28 and 31. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
6 Males :	88-98 (93)	102-132 (115) (inner) 64-75 (69) (outer)	39-33 (32)
4 Females :	92-96 (93)	98-118 (111) (inner) 69-73 (70) (outer)	30-34 (32)

*Distribution* : India : Orissa : Baleshwar, Puri, Ganjam, Kalahandi (recent records), Mayurbhanj (Mukherjee 1953), Bolangir (Biswas 1953) and throughout the Indian mainland excepting Asam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya and Tripura. Elsewhere : Nepal, Bhutan and Bangladesh.

#### Family 21. CORACIIDAE

##### 72. *Coracias benghalensis benghalensis* (Linnaeus)

1758. *Corvus benghalensis* Linnaeus, *Syst. Nat. 10 ed.*, 1 : 106 (Benghala = Bengal).

*Common names* : Northern Roller (English) and Chasha pakshi (Oriya).

*Material examined* : Baleshwar district : 2 Males, Daripokhari, coll. P. K. Das, 7 and 8. iv. 1976; Puri district : 1 Female, Konarak, coll. V. C. Agrawal, 3. ii. 1974; 1 Male, Dhuanali, coll. N. Majumdar, 15. iii. 1976. Phulbai district : 1 unsexed (juvenile), Kotagarh, coll. P. K. Das, 20. v. 1972; Ganjam district : 1 Female, Tarasingi, coll. V. C. Agrawal, 24. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	180-185 (182)	120-125 (122)	39-44 (42)
2 Females :	182, 187	125, 133	40 (2)

*Weights* : 3 Males 108-123 (118).

*Distribution* : India : Orissa : Baleshwar, Puri, Phulbai and Ganjam (recent records), Mayurbhanj (Mukherjee 1953), Bolangir (Biswas 1953), Koraput (Majumder 1988), Punjab, Haryana, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Meghalaya, Rajasthan, Gujarat, Madhya Pradesh and Maharashtra. Elsewhere : Pakistan, Nepal, Bhutan and Bangladesh

#### Family 22. UPUPIDAE

##### 73. *Upupa epops ceylonensis* Reichenbach

1853. *Upupa ceylonensis* Reichenbach, *Handb. Spec. Orn. Scansoriae* : 320, pl. DXCV, f. 4036 (Ceylon = Sri Lanka).

*Common names* : Ceylon Hoopoe (English) and Kathahana (Oriya).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), Uttar Pradesh, Bihar, Sikkim, West Bengal, Gujarat, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry and Andhra Pradesh. Elsewhere : Nepal, Bhutan and Sri Lanka.

74. *Upupa epops longirostris* Jerdon

1862. *Upupa longirostris* Jerdon, *Bds, India*, 1 : 393 (Burma).

*Common name* : Burmese Hoopoe (English).

*Material examined* : Sambalpur district : 1 Female, Bamoil, Hirakud Dam, coll. C. B. Srivastava, 30. x. 1972.

*Measurements* : 1 Female : Wing 148, tail 100, bill (from feathers) 48.

*Distribution* : India : Orissa : Sambalpur (recent record), Assam and Manipur. Elsewhere : Bangladesh, Burma, Thailand, Indo-Chinese countries, Malay Peninsula and Sumatra.

*Remarks* : This constitutes its first record from Orissa State.

Family 23. BUCEROTIDAE

75. *Tockus birostris* (Scopoli)

1786. *Buceros birostris* Scopoli, *Del. Flor. et. Faun. Insubr., fasc. 2* : 87 (Coromandel, Tamil Nadu, India).

*Common names* : Grey Hornbill (English) and Bahadakhai (Oriya).

*Material examined* : Bolangir district : 1 Female, Lathore, coll. A. K. Mondal, 17. xii. 1972. Kalahandi district : 2 Males, Madanpur Rampur, coll. P. K. Das, 31. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	215, 216	228, 230	108, 110
1 Female :	215	160	106

*Distribution* : India : Orissa : Bolangir, Kalahandi (recent records), Punjab, Haryana, Uttar Pradesh, Sikkim, West Bengal, Rajasthan (except arid parts), Gujarat (except Run of Kutch), Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala (except heavy rainfall area), Tamil Nadu, Pondicherry and Andhra Pradesh. Elsewhere : Pakistan and Nepal.

76. *Anthracoseros malabaricus malabaricus* (Gmelin)

1788. *Buceros malabaricus* Gmelin, *Syst. Nat.*, 1 (1) : 359 (India = Chandernagor, apud Baker)

*Common name* : Indian Pied Hornbill (English).

*Material examined* : Bhenkanal district : 1 Male, Tikarpara, coll. J. K. Sen, 29. xi. 1972.

*Measurements* : 1 Male : Wing 305; tail 285; bill 165.

*Distribution* : India: Orissa : Dhenkanal (recent record), Bihar, West Bengal, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry and Andhra Pradesh. Elsewhere : Sri Lanka.

Order XVI PICIFORMES

Family 24. CAPITONIDAE

77. *Megalaima zeylanica caniceps* (Franklin)

1831. *Bucco caniceps* Franklin, *Proc. zool. Soc. Lond.* (1) : 121 (on the Ganges between Calcutta and Benares [= Varanasi], and the Vindhyan Hills between the latter place and Gurrah Mundela on the Nerbuda).

*Common name* : Northern Green Barbet (English).

*Material examined* : Puri district : 1 Male, Dhuanali, coll. N. Majumdar, 13. iii. 1976. Phulbani district : 2 Males, Kotagarh, coll. P. K. Das, 19. v. 1972; 1 Female, coll. N. Majumdar, 23. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	107-115 (112)	69-74 (70)	30-32 (30)
1 Female :	118	72	34

*Weights* : 1 Male : 93; 1 Female : 130.

*Distribution* : India : Orissa : Puri, Phulbani (recent records), Mayurbhanj (Mukherjee 1953), Koraput (Majumdar 1988), Himachal Pradesh, Uttar Pradesh, Bihar, Sikkim, West Bengal, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra. Elsewhere : Nepal.

#### 78. *Megalaima lineata hodgsoni* Bonaparte

1850. *Megalaima hodgsoni* Bp. = Bonaparte, *Consp. Av.*, 1 : 144 (Nepal, restricted to Simra, Central Nepal, by Ripley, 1950, *Proc. Biol. Soc. Washington*, 63 : 102).

*Common name* : Eastern Lincated Barbet (English).

*Distribution* : India : Orissa : Mayurbhanj (Mukherjee 1953), Bihar, Sikkim, West Bengal, Assam and Manipur. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Thailand, the Indo-Chinese countries and Malay Peninsula.

#### 79. *Megalaima haemacephala indica* (Latham)

1788. *Bucco indicus* Latham, *Index Orn.*, 1 (1) : 205 (India).

*Common names* : Crimsonbreasted Barbet or Copper smith (English) and Sinduramundi (Oriya).

*Material examined* : Mayurbhanj district : 1 Male, Jashipur, coll. A. K. Mondal, 30, i, 1971; 1 Female, Kptipada, coll. P. K. Das, 26. iii. 1976; Keonjhar district : 1 Male and 1 Female, Gopalpur, coll. A. K. Mondal, 1 and 3. ii. 1971; Sundargarh district : 1 Male, Koira, coll. P. K. Das, 15. vii. 1973; Puri district : 1 Female, Dhuanali, coll. N. Majumdar, 14. iii. 1976; Phulbani district : 1 Male, Kotagarh, coll. P. K. Das, 19. v. 1972; Bolangir district : 1 Female, Harishankar, coll. P. K. Das, 5. viii. 1973.

<i>Measurements</i> :	Wing	Tail	Bill
5 Males :	77-81 (80)	32-36 (33)	17-18 (18)
3 Females :	78-84 (80)	33-35 (34)	19-20 (19)

*Weights* : 1 Male : 41; 2 Females : 36, 42.

*Distribution* : India : Orissa : Mayurbhanj, Keonjhar, Sundargarh, Puri, Phulbani and Bolangir (recent records), throughout Indian mainland excepting Kerala. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Yunnan, Malay, Thailand and the Indo-Chinese countries.

#### Family 25. PICIDAE

#### Subfamily JYNGINAE

#### 80. *Jynx torquilla torquilla* Linnaeus

1758. *Jynx torquilla* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 112 (Europe = Sweden).

*Common name* : European Wryneck (English).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), Punjab, Haryana, Uttar Pradesh, Rajasthan, Gujarat, Maharashtra, Goa, Karnataka and Kerala. Elsewhere : Pakistan, European and African countries.

*Remark* : Majumdar (1988) has reported this bird for the first time from Orissa.

### 81. *Jynx torquilla himalayana* Vaurie

1959. *Jynx torquilla himalayana* Vaurie, *Amer. Mus. Novit.*, No. 1963 : 9 (Inshan, Warswan Valley, Kashmir).

*Common name* : Kashmir Wryneck (English).

*Distribution* : India : Orissa : Sambalpur (Majumdar 1980), it breeds in the North-west Himalayas from the Kurram Valley to Chitral, Gilgit, Ladakh, Baltistan (Kashmir) and Himachal Pradesh.

*Remarks* : The winter ranges have not been worked out. However, Majumdar (1980) has reported this bird from Orissa for the first time.

## Subfamily PICINAE

### 82. *Picus myrmecophoneus* Stresemann

1920. *Picus myrmecophoneus* Stresemann, *Verh. Ges. Bayern*, 14 : 289, New name for *Picus striolatus* Blyth, preoccupied (Himalaya and Central India).

*Common name* : Little Scalybellied Green Woodpecker (English).

*Material examined* : Phulbani district : 1 Male, Kotagarh, coll. N. Majumdar, 22. iii. 1976.

*Measurements* : 1 Male : wing 132, tail 88, bill 35.

*Distribution* : India : Orissa : Phulbani (recent record), Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal, Assam, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry and Andhra Pradesh. Elsewhere : Nepal, Bangladesh and Sri Lanka.

### 83. *Picus canus hessei* Gyldenstolpe

1916. *Gecinus canus hessei* Gyldenstolpe, *Orn. Monatsbr.*, 24 : 28 (N. Siam = Thailand).

*Common name* : Blacknaped Green Woodpecker (English).

*Distribution* : India : Orissa : Puri (Majumdar 1980), Sikkim, Assam, Arunachal Pradesh, Nagaland, Manipur and Mizoram. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Thailand and Indo-chinese countries.

*Remarks* : Rather uncommon. Only one was collected from Dhanali, Puri district. The Assam population, was separated from *Picus canus hessei* Gyldenstolpe as *Picus c. gyldenstolpei* by Baker (1918). Vaurie (1959) however, treated *gyldenstolpei* as a synonym of *hessei*. Majumdar (1980) agreed with Vaurie in not recognizing *gyldenstolpei* as a distinct subspecies. Majumdar (1980) reported for the first time from Orissa and extends its distribution as far south as Orissa.

84. *Picus flavinucha flavinucha* Gould

1834. *Picus flavinucha* Gould, *Proc. zool. Soc. Lond.*, 120 (Himalayas, i) Darjeeling, West Bengal, India).

*Common name* : Eastern Large Yellownaped Woodpecker (English).

*Material examined* : Mayurbhanj district : 1 Female, Chahala, coll. A. K. Mondal, 25. i. 1971.

*Measurements* : 1 Female : Wing 167, tail 118, bill 41.

*Distribution* : India : Orissa : Mayurbhanj (recent record), Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur and Mizoram. Elsewhere : Nepal, Bhutan, Bangladesh and Burma.

85. *Picus chlorolophus chlorigaster* Jerdon

1844. *Picus chlorigaster* Jerdon, *Madras J. Lit. Sci.* 13 (2) : 139 (Southern India).

*Common name* : South Indian Small Yellownaped Woodpecker (English).

*Material examined* : Puri district : 1 Female, Berbera, coll. V. C. Agrawal, 22. i. 1974; 1 Male, Dhuanali, coll. N. Majumdar, 13. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male :	125	89	27
1 Female :	127	93	28

*Distribution* : India : Orissa : Puri (recent record), Mayurbhanj (Mukherjee 1953), Maharashtra, Goa, Kerala, Tamil Nadu and Andhra Pradesh.

86. *Dinopium benghalense benghalense* (Linnaeus)

1758. *Picus benghalensis* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 113 (Benghala = Chandernagor vide Stresemann, 1952, *Ibis*, 94 : 517).

*Common names* : Northern Goldenbacked Woodpecker (English) and Katha khumpa (Oriya).

*Material examined* : Sambalpur district : 1 Female, Badrama, coll. P. K. Das, 22. vii. 1973; 1 Male, Charmal, coll. N. Majumdar, 27. iii. 1976; 1 Male, Rairakhol, coll. P. K. Das, 27. vii. 1973, Phulbani district : 1 Female, Kotagarh, coll. N. Majumdar, 23. iii. 1976, Ganjam district : 1 Male, Tarasingi, coll. V. C. Agrawal, 28. xii. 1971; Kalahandi district: 1 unsexed (juvenile), Madanpur Rampur, coll. P. K. Das, 31. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	140-149 (145)	90-93 (91)	40-41 (40)
2 Females :	139, 144	90, 94	40, (-)

*Weights* : 2 Males : 120 (2), 1 Female : 110

*Distribution* : India : Orissa : Sambalpur, Phulbani, Ganjam and Kalahandi (recent records), Mayurbhanj (Mukherjee 1953), Koraput (Majumder 1988), Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal, Assam, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra and Andhra Pradesh. Elsewhere : Nepal and Bangladesh.

*Remarks* : Rather common, seen in pairs or in small groups.

87. *Picoides macei macei* (Vieillot)

1818. *Picus macei* Vieillot, *Nouv. Dict. d'Hist. Nat.*, 26 : 80 (Bengal).

*Common name* : Indian Fulvousbreasted Pied Woodpecker (English).

*Material examined* : Puri district : 1 Female, Berbera, coll. V. C. Agrawal, 27. i. 1974.

*Measurements* : 1 Female : Wing 102, tail 60, bill 24.

*Distribution* : India : Orissa : Puri (recent record), Koraput (Majumdar 1988); Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya, Andhra Pradesh. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh and Burma.

*Remark* : Not very common, seen in pairs.

88. *Picoides mahrattensis mahrattensis* (Latham)

1801. *Picus Mahrattensis* Latham, *Index Orn., Suppl.*, xxxi (India = Mahratta country).

*Common name* : Yellowfronted Pied or Mahratta Woodpecker (English).

*Material examined* : Mayurbhanj district : 1 Male, Jasipur, coll. A. K. Mondal, 29. ii. 1971. Keonjhar district : 1 Female. Gopalpur, coll. A. K. Mondal, 1. ii. 1971. Bolangir district : 1 Male, Harishankar, coll. P. K. Das, 5. viii. 1973.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	105, 107	62, 63	25, 27
1 Female :	98	55	26

*Distribution* : India : Orissa : Mayurbhanj, Keonjhar and Bolangir (recent records), Koraput (Majumdar, 1988), Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal, Assam, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Pakistan, Nepal, Bangladesh and Sri Lanka.

*Remark* : Rather common, seen in pairs or multiple of twos.

89. *Picoides nanus hardwickii* (Jerdon)

1844. *Picus (Dnedrocopos) hardwickii* Jerdon, *Madras J. Lit. Sci.*, 13 (2) : 138 (Southern India = Goomsoor, Ganjam).

*Common name* : Southern Browncrowned Pygmy Woodpecker (English)

*Material examined* : Phulbani district : 2 Males, Kotagarh, coll. P. K. Das, 21. v. 1972.

*Measurements* : 2 Males : Wing 73, 75; tail 35, 38; bill 15, 16.

*Distribution* : India : Orissa : Phulbani (recent record), Southern Madhya Pradesh, Maharashtra, Goa, Karnataka, Tamil Nadu and Andhra Pradesh.

*Remark* : Very common, seen in pairs.

90. *Hemicircus canente* (Lesson)

1830. *Picus canente* Lesson, *Cent. Zool.*, : 215, pl. 73 (Pegu, Burma).

*Common name* : Heartspotted Woodpecker (English).

*Material examined* : Puri district : 1 Male, Dhuanali, coll. N. Majumdar, 9. iii. 1976.

*Measurements* : 1 Male : Wing 98, tail 35, bill 25.

*Distribution* : India : Orissa : Puri (recent record), Bihar, West Bengal, Assam, Manipur, Meghalaya, Gujarat, Madhya Pradesh, Maharashtra, Goa, Kerala and Tamil Nadu. Elsewhere : Bangladesh, Burma, Malay Peninsula, Thailand and southern Indo-Chinese countries.

*Remark* : Not very common, seen singly or in pairs.

### 91. *Chrysocolaptes festivus festivus* (Boddaert)

1783. *Picus festivus* Boddaert, *Table Pl. enlum.*, : 43 (Goa, India ex Daubenton, pl. 696).

*Common name* : Indian Blackbacked Woodpecker (English).

*Distribution* : India : Orissa : Bolangir (Biswas 1953), Uttar Pradesh, Bihar, West Bengal, Assam, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu, Kerala and Andhra Pradesh.

### 92. *Chrysocolaptes lucidus guttacrastatus* (Tickell)

1833. *Picus guttacrastatus* Tickell, *J. Asiat. Soc. Beng.* 2 : 578 (Jungles of Borabhum, Purulia district, West Bengal and Dholbhum, = Dhalbhum, Singbhum Dist., Bihar, India).

*Common name* : Eastern Larger Goldenbacked Woodpecker (English).

*Material examined* : Dhenkanal district : 1 Female, Puranakoti coll. J. K. Sen, 28. xi. 1972; Puri district : 1 Male, Berbera, coll. V. C. Agrawal, 21. i. 1974.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male :	169	92	56
1 Female :	167	93	52

*Distribution* : India : Orissa : Dhenkanal and Puri (recent records), Koraput (Majumdar 1988), West Bengal, Bihar, Sikkim, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya, Madhya Pradesh and Andhra Pradesh. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Thailand and South Vietnam.

*Remark* : Rather common, seen in pairs or in multiple twos.

## Order XVII PASSERIFORMES

### Family 26. PITTIDAE

### 93. *Pitta brachyura brachyura* (Linnaeus)

1766. *Corus brachyurus* Linnaeus, *Syst. Nat.*, 12 ed., 1 : 158 (Moluccas = Sri Lanka).

*Common name* : Indian Pitta (English).

*Material examined* : Sambalpur district : 1 Female, Badrama, coll. P. K. Das, 20. vii. 1973; Puri district : 1 Female, Berbera, coll. A. K. Mondal, 21. vii. 1973.

<i>Measurement</i> :	Wing	Tail	Bill
2 Female	102, 105	35, 36	23, 26

*Weight* : 1 Female : 53.

*Distribution* : India : Orissa Sambalpur and Puri (recent records), throughout India mainland. Elsewhere : Nepal, Bangladesh and Sri Lanka.

*Remark* : Not very common, seen singly.

## Family 27. ALAUDIDAE

94. *Mirafra assamica affinis* Blyth

1845. *Mirafra affinis* "Jerdon" in Blyth, *J. Asiat. Soc. Beng.*, 13 : 359 (Southern part of the peninsula of India).

*Common name* : Madras Bush Lark (English).

*Material examined* : Baleshwar district : 3 Males, Daripokhari, coll. P. K. Das, 5. 9. 10 and 13. iv. 1976; Sambalpur district : 1 Males, Rairakhol, coll. P. K. Das, 28. vii. 1973; Puri district : 1 Male, Berbera, coll. V. C. Agrawal, 28. i. 1974, 1 Male, Konarak, coll. V. C. Agrawal, 3. ii. 1974.

*Measurements* : 6 Males : wing 83-89 (85); tail 46-48(47); bill 16-17(17).

*Weights* : 5 Males : 28 (3), 29, 31.

*Distribution* : India : Orissa : Baleshwar, Sambalpur and Puri (recent records), Koraput (Majumder 1988), Madhya Pradesh, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Sri Lanka.

*Remarks* : Very common, seen in small groups. According to Ali and Ripley (1972) this subspecies occurs upto southern Orissa. But this bird collected from Baleshwar and Sambalpur which are situated on the northern part of Orissa State. Hence its range extends further upto North Orissa.

95. *Mirafra erythroptera erythroptera* Blyth

1845. *Mirafra erythroptera* Blyth, *J. Asiat. Soc. Beng.*, 13 : 958 (Northern portion of the peninsula of India = northern Deccan, India).

*Common name* : Redwinged Bush Lark (English).

*Distribution* : India : Orissa : Bolangir (Biswas 1953), Uttar Pradesh, Bihar, West Bengal, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh.

96. *Eremopterix grisea* (Scopoli)

1786. *Alauda grisea* Scopoli, *Del. Flor. et Faun. Insubr.* 2 : 95 (Gingee, S. Arcot Dist., India).

*Common name* : Ashycrowned Finch-Lark (English).

*Material examined* : Baleshwar district : 2 Males, Daripokhari, coll. P. K. Das, 7. iv. 1976. Cuttack district : 1 Males, Kujang, coll. V. C. Agrawal, 14. ii. 1974.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	75-77 (76)	43 (43)	13-14 (13)

*Weights* : 2 Males : 15 (2).

*Distribution* : India : Orissa : Baleshwar and Cuttack (recent records), throughout India excepting eastern India beyond Assam. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

## Family 28. HIRUNDINIDAE

97. *Hirundo daurica nipalensis* Hodgson

1836. *Hirundo Nipalensis* Hodgson, *J. Asiat. Soc. Beng.*, 5 : 780 (Nepal)

*Common names* : Himalayan Striated or Redrumped Swallow (English) and Chhataka (Oriya).

*Distribution* : India : Orissa : Korapur (Majumdar 1988), throughout Indian mainland except Jammu & Kashmir. Elsewhere : Nepal, Bhutan, Bangladesh and Burma.

### 98. *Hirundo daurica erythropygia* Sykes

1832. *Hirundo erythropygia* Sykes, *Proc. zool. Soc. Lond.*, : 83 (Dukhun, Poona = Pune, India).

*Common names* : Indian Redrumped Swallow (English) and Chhataka (Oriya).

*Material examined* : Baleswar district : 1 Male and 1 Female, Daripokhari, coll. P. K. Das, 9. iv. 1976. Bolangir district : 2 Males, Lathore, coll. A. K. Mondal, 16. xii. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
3 Females :	109-113 (110)	40-45 (42) (inner) 53-65 (58) (outer)	9
1 Male :	110	43 (inner) 73 (Outer)	9

*Weights* : 1 Male : 17.

*Distribution* : India : Orissa : Baleswar, Bolangir (recent records), throughout the Indian mainland excepting Jammu & Kashmir, Himachal Pradesh, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya and Tripura. Elsewhere : Sri Lanka.

### Family 29. LANIIDAE

#### 99. *Lanius schach tricolor* (Hodgson)

1837. *Lanius (Collurio)tricolor* Hodgson, 1837. *Ind. Rev.*, 1 (10) : 446 (Nepal, restricted to Kathmandu, Nepal Valley, by Biswas, 1950, *J. Bombay nat. Hist. Soc.*, 49 (3): 451).

*Common name* : Blackheaded Shrike (English).

*Material examined* : Dhenkanal district : 1 Male, Purnakote, coll. J. K. Sen, 29. xi. 1972; Phulbani district : 1 Female, Kalinga, coll. A. K. Mondal, 2. vii. 1974; 1 Male, Kotagarh, coll. N. Majumdar, 21. iii. 1976; Puri district : 1 Male and 2 Females, Dhuanali, coll. N. Majumder, 12 and 13. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
4 Males :	87-91 (89)	110-115 (111)	20-22 (21)
3 Females :	90-92 (91)	108-116 (113)	21-22 (21)

*Weights* : 2 Males : 33, 35; 2 Females : 38, 40.

*Distribution* : India : Orissa : Dhenkanal, Phulbani and Puri (recent records), Mayurbhanj (Mukherjee 1953), Koraput (Majumder 1988), Punjab, Uttarpradesh, Bihar, Sikkim, West Bengal, Assam, Nagaland, Manipur and Meghalaya. Elsewhere : Nepal, Bhutan and Bangladesh.

#### 100. *Lanius cristatus cristatus* Linnaeus

1758. *Lanius cristatus* Linnaeus, *Syst. Nat. 10 ed.*, 1 : 93 (Benghala = Bengal, India).

*Common name* : Brown Shrike (English).

*Material examined* : Ganjam district : 1 Female, Mohana, coll. V. C. Agrawal, 17. xii. 1971.

*Measurements* : 1 Female : wing 86, tail 84, bill 21.

*Distribution* : India : Orissa : Ganjam (recent record), Koraput (Majumder 1988) and throughout the Indian mainland excepting Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Rajasthan, Laccadive, Andaman Is. Elsewhere : Nepal, Bhutan, Bangladesh, Sri Lanka and Maldives.

### Family 30. ORIOLIDAE

#### 101. *Oriolus oriolus kundoo* Sykes

1832. *Oriolus Kundoo* Sykes, *Proc. zool. Soc. Lond.*, : 87 (Dukhun, Poona = Pune, India).

*Common names* : Indian Golden Oriole (English) and Haladibasanta (Oriya).

*Material examined* : Baleshwar district : 2 Males, Daripokhari, coll. P. K. Das, 9 and 13. iv. 1976; Cuttack district : 1 Female, Kujang, coll. V. C. Agrawal, 15. ii. 1974; Sambalpur district : 1 Male, Rairakhol, coll. P. K. Das, 26. vii. 1973; Phulbani district : 1 Male, Kalinga, coll. A. K. Mondal, 2. vii. 1974.

<i>Measurements</i> :	Wing	Tail	Bill
4 Males :	138-148 (141)	81-92 (85)	30-33 (31)
1 Female :	133	83	33

*Distribution* : India : Orissa : Baleshwar, Cuttack, Sambalpur (recent records), throughout Indian mainland excepting Sikkim, Arunachal Pradesh, Nagaland, Manipur, Meghalaya and Tripura. Elsewhere : Pakistan, Nepal, Bangladesh and Sri Lanka.

#### 102. *Oriolus xanthornus maderaspatanus* Franklin

1831. *Oriolus Maderaspatanus* Franklin, *Proc. zool. Soc. Lond.*, : 118 (Ganges between Calcutta and Benares [= Varanasi, India ], and in the Vindhyaian Hills, etc., restricted to Jabalpur by Whistler and Kinnear, 1934, *J. Bombay nat. Hist. Soc.*, 36 : 585).

*Common names* : South Indian Blackheaded Oriole (English) and Haladibasanta (Oriya).

*Material examined* : Baleshwar district : 2 Males, Dharipokhari, coll. P. K. Das, 3 and 14. iv. 1976; Keonjhar district : 1 Female (juvenile), Ghatgaon, coll. J. K. Sen, 22. xi. 1972; 2 Males, Gopalpur, coll. A. K. Mondal, 2. ii. 1971; Cuttack district : 1 Female, Kendrapara, coll. Museum Collector, viii. 1888; Sambalpur district : 1 Female, Badrama, coll. P. K. Das, 20. vii. 1973; Puri district : 1 Female (juvenile), Berbera, coll. A. K. Mondal, 22. vii. 1973; 1 Female, coll. V. C. Agrawal, 21. i. 1974; Phulbani district : 1 Male (adult) and 1 Male (juvenile), Kotagarh, coll. P. K. Das, 21. v. 1972; Ganjam district : 1 Female, Tarasingi, coll. V. C. Agrawal, 28. xii. 1971; Kalahandi district : 1 Female, Madanpur Pampur, coll. P. K. Das, 1. iv. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
5 Males :	130-142 (136)	85-90 (87)	30-32 (31)
5 Females :	130-136 (132)	82-89 (85)	33

*Distribution* : India : Orissa : Baleshwar, Keonjhar, Cuttack, Sambalpur, Puri, Phulbani, Ganjam, Kalahandi (recent records), Mayurbhanj (Mukherjee 1953), Bolangir (Biswas

1953), Koraput (Majumdar 1988), Bihar, Gujarat, Madhya Pradesh, Maharashtra, Goa, Kamataka, Kerala, Tamil Nadu, Pondicherry and Andhra Pradesh.

*Remarks* : Majumdar (1980) reviewed the taxonomic status of *Oriolus xanthornus maderaspatanus* Franklin 1831 and showed that the Orissa population belongs to south Indian population. Though Mukherjee (1953) and Biswas (1953) enlisted as *Oriolus xanthornus xanthornus* (Linnaeus). It should be *Oriolus xanthornus maderaspatanus*.

### Family 31. DICRURIDAE

#### 103. *Dicrurus adsimilis macrocercus* Vieillot

1817. *Dicrurus macrocercus* Vieillot, *Nouv. Dict. Hist. Nat., nouv. ed.* 9 : 588, based on 'le Drongolon' of Levaillant, 1805, Ois. Afr.4, pl. 174 : 72 (India, restricted to Orissa by Baker, 1924, *Fbi, Bird 2* : 356).

*Common names* : South Indian Black Drongo or King Crow (English) and Kajalapati (Oriya).

*Material examined* : Baleshwar district : 1 Male, Daripokhari, coll. P. K. Das, 6. iv. 1976; Sambalpur district : 1 Male, Bamoli, Hirakud Dam, coll. C. B. Srivastava, 26. x. 1972, 1 Male (juvenile), Rairkhol, coll. P. K. Das, 25. vii. 1973; Puri district 1 Female, Konarak, coll. V. C. Agrawal, 3. ii. 1974; Phulbani district : 1 Female (juvenile), Kalinga, coll. A. K. Mondal, 2. vii. 1974; Ganjam district : 1 Male, Tarasingi, coll. V. C. Agrawal, 28. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	141-148 (145)	90-107 (101) (central) 144-165 (157) (outer)	24-27 (26)
2 Females :	139, 141	102, 107 (central) 154, 160 (outer)	24

*Distribution* : India : Orissa : Baleshwar, Mayurbhanj, Sambalpur, Puri, Phulbani and Ganjam (recent records), Bolangir (Biswas 1953), Koraput (Majumdar 1988), Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Nagaland, Manipur and Rajasthan. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Iran and Afghanistan.

#### 104. *Dicrurus leucophaeus longicaudatus* Hay

1845. *Dicrurus (Dicrurus) longicaudatus* Lord Arthur Hay, in Jerdon, *Madras J. Lit. Sci.*, 13 : 121 nom, nud.

*Common name* : Indian Grey Drongo (English).

*Material examined* : Mayurbhanj district : 1 Male, Lulang, coll. A. K. Mondal, 19. ii. 1971; 1 Female, Chahala, coll. A. K. Mondal 28. i. 1971; 1 Female, Kaptipada, coll. P. K. Das, 26. iii. 1976; Sambalpur district : 1 Male, Rairkhol, coll. P. K. Das, 25. vii. 1973.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	133, 137	95, 98 (central) 125, 132 (outer)	24, 25
2 Females :	134, 136	98, 102 (central) 138 (2) (Outer)	26 (2)

*Weight* : 1 Female : 43.

*Distribution* : India : Orissa : Mayurbhanj and Sambalpur (recent records), throughout India excepting Arunachal Pradesh, Nagaland, Mizoram, Tripura, Assam, Meghalaya and arid portions of Rajasthan, Kutch and Saurashtra. Elsewhere : Pakistan, Nepal, Bhutan, Sri Lanka and eastern Afghanistan south of the Hindu Kush.

*Remarks*: Rather common, found in thick jungle as well as open country, singly or in pairs.

#### 105. *Dicrurus caerulescens caerulescens* (Linnaeus)

1758. *Lanius caerulescens* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 95 (Benghala = Bengal, India)

*Common names* : Indian Whitebellied Drongo (English) and Kajjualapati (Oriya).

*Material examined* : Sundargarh district : 1 Male (juvenile), Koira, coll. P. K. Das, 12. vii. 1973; Phulbani district : 1 (unsexed, juvenile), Kotagarh, coll. P. K. Das, 20. v. 1972.

*Distribution* : India : Orissa : Sundargarh, Phulbani (recent records), Mayurbhanj (Mukherjee 1953), Himachal Pradesh, Uttar Pradesh, Bihar, West Bengal, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu, Kerala and Andhra Pradesh. Elsewhere : Nepal.

#### 106. *Dicrurus aeneus aeneus* Vieillot

1817. *Dicrurus aeneus* Vieillot, *Nouv. Diet. d'Hist. Nat.* 9 : 586 (Bengal, restricted to Dacca by Baker, 1924, *Faun. Br. India, Birds* 2 : 368).

*Common name* : Bronzed Drongo (English).

*Material examined* : Dhenkanal district : 1 Male, Bagmunda, coll. V. C. Agrawal, 4. i. 1972; Puri district : 1 Male, Berbera, coll. J. M. Dasgupta, 7. i. 1978.

*Measurements* : 2 Males : wing 116, 121; tail (inner) 84, 87; tail (outer) 116, 123; bill 23, 24.

*Distribution* : India : Orissa : Dhenkanal and Puri (recent records), Mayurbhanj (Kukherjee 1953), Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Meghalaya, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Yunnan, Thailand, Indochinese countries and Malay Peninsula.

#### 107. *Dicrurus hottentottus hottentottus* (Linnaeus)

1766. *Corvus hottentottus* Linnaeus, *Syst. Nat.*, 12 ed., 1 : 155 (Cape of Good Hope, restricted to Sikkim by Baker, 1919, re-restricted to Chandernagor, West Bengal, India by Stresemann, 1952, *bis* 94 : 517, 521).

*Common name* : Haircrested Drongo (English).

*Material examined* : Phulbani district : 1 Male and 1 Female, Kotagarh, coll. N. Majumdar, 20 and 22. iii. 1976.

*Measurements* : 1 Male and 1 Female : wing 163, 163 | tail 127 (inner), 142 (outer); 128 (inner), 140 (outer); bill 37, 41.

*Distribution* : India : Orissa : Phulbani (recent record), Koraput (Majumdar 1988), throughout Indian mainland excepting Jammu & Kashmir, Himachal Pradesh, Mizoram, Rajasthan. Elsewhere : Nepal, Bhutan and Bangladesh.

108. *Dicrurus paradiseus grandis* (Gould)

1836. *Edolius grandis* Gould, *Proc. zool. Soc. Lond.*, 5 (Nepalia).

*Common names* : Northern Large Racket-tailed Drongo (English) and Bhrungaraja (Oriya).

*Material examined* : Bolangir district : 1 Male, Harishankar, coll. P. K. Das, 4. viii. 1973.

*Measurements* : 1 Male : wing 172, tail (central) 155, tail (outer) 347, bill 39.

*Distribution* : India : Orissa : Bolangir (recent record), all over India excepting Jammu & Kashmir, Punjab, Haryana, Rajasthan, Goa, Maharashtra, Karnataka, Tamil Nadu and Kerala. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Yunnan and Vietnam.

*Remark* : Central tail feathers moulting.

Family 32. ARTAMIDAE

109. *Artamus fuscus* Vieillot

1817. *Artamus fuscus* Vieillot, *Nouv. Dict. d'Hist. Nat.*, 17 : 297 (Bengal, India).

*Common name* : Ashy Swallow-Shrike (English).

*Material examined* : Sundargarh district : 1 Female, Koira, coll. P. K. Das, 18. iii. 1973.

*Measurements* : 1 Female : wing 139, tail 57, bill 22.

*Distribution* : India : Orissa : Sundargarh (recent record), Koraput (Majumdar 1988), throughout India excepting Jammu & Kashmir. Elsewhere : Nepal, Bhutan, Bangladesh, Sri Lanka, Burma, the Indo-Chinese countries and China.

Family 33. STURNIDAE

110. *Sturnus malabaricus* Gmelin

1789. *Turdus malabaricus* (Gmelin), *Syst. Nat.*, 13 ed., 1 : 816 (Malabar Coast).

*Common name* : Greyheaded Myna (English)

*Material examined* : Dhenkanal district : 1 Male, and 2 Females, Tikarpara, coll. V. C. Agrawal, 10 and 11. i. 1972; Puri district : 3 Males and 1 Female, Dhuanali, coll. N. Majumdar, 10, 11 and 14. iii. 1976; Phulbani district : 1 Female, Kalinga, coll. A. K. Mandal, 2. vii. 1974; 1 Male, Kotagarh, coll. N. Majumdar, 21. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
5 Males :	97-103 (99)	59-62 (60)	22-24 (23)
4 Females :	94-100 (98)	55-63 (59)	19-23 (22)

*Weights* : 3 Males : 40-43 (42); 3 Females : 38-43 (40).

*Distribution* : India : Orissa : Dhenkanal, Puri and Phulbani (recent records), Koraput (Majumdar 1988), throughout Indian mainland excepting Jammu & Kashmir, Nagaland, Manipur and Kerala. Elsewhere : Nepal, Bhutan and Bangladesh.

111. *Sturnus pagodarum* (Gmelin)

1789. *Turdus pagodarum* Gmelin, *Syst. Nat.*, 13 ed., 1 : 816 (Malabar).

*Common names* : Blackheaded or Brahminu Myna (English) and Telhia Maina (Oriya).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), throughout India excepting eastern part of the country beyond West Bengal. Rare in Assam. Elsewhere : Pakistan and rare in Bangladesh.

112. *Sturnus contra contra* Linnaeus

1758. *Sturnus contra* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 167 (India).

*Common names* : Indian Pied Myna (English) and Guhkkhai Maina (Oriya).

*Material examined* : Mayurbhanj district : 1 Male and 1 Female, Kaptipada, coll. P. K. Das, 29 and 31. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male :	123	72	32
1 Female :	119	68	31

*Weight* : 1 Male 62; 1 Female : 72.

*Distribution* : India : Orissa : Mayurbhanj (recent record), Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal, Assam, Meghalaya, Rajasthan, Madhya Pradesh and Andhra Pradesh. Elsewhere : Nepal and Bangladesh.

113. *Acridotheres tristis tristis* (Linnaeus)

1766. *Paradisea tristis* Linnaeus, *Syst. Nat.*, 12 ed., 1 : 167 (Philippines, error = Calcutta vide Baker, 1926, *Faun. Brit. India Bird*, 3 : 53 = Pondicherry vide Stresemann, 1952, *Ibis*; 515).

*Common names* : Indian Myna (English) and Rajabani, Rajamaina (Oriya).

*Material examined* : Mayurbhanj district : 1 Male; Jasipur, A. K. Mondal, 30. i. 1971; Dhenkenal district : 1 Male, Bagmunda, coll. V. C. Agrawal, 6. i. 1972; Sambalpur district : 1 Male, Rairakhol, coll. P. K. Das, 29. vii. 1973.

<i>Measurements</i> :	Wing	Tail	Bill
3 males :	136-147 (140)	78-90 (83)	27-28 (28).

*Distribution* : India : Orissa : Mayurbhanj, Dhenkenal, Sambalpur (recent records), Bolingir (Biswas 1953), throughout the Indian Union - introduced in Andaman & Nicobar Islands. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka, Burma, Thailand, Indo-Chinese countries, Russian Turkestan and Afghanistan. Introduced in Australia, New Zealand, Hawaii, South Africa, Seychelles and Mauritius.

114. *Acridotheres fuscus fuscus* (Wagler)

1827. *Pastor fuscus* Wagler, *Syst. Av. Pastor sp.* 6 [ India = East Bengal (= Bangladesh) ].

*Common names* : Northern Jungle Myna (English) and Guhabani, Ghukalika (Oriya).

*Distribution* : India : Orissa : Puri (Majumdar 1981), Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Rajasthan and Madhya Pradesh. Elsewhere : Pakistan, Nepal, Bhutan and Bangladesh.

115. *Gracula religiosa intermedia* A. Hay

1844. *Gracula intermedia* A. Hay, *Madras J. Lit. Sci.*, 13 : 157 (Cachar, Assam, India)

*Common names* : Northern Hill Myna (English) and Shari (Oriya).

*Material examined* : Mayurbhanj district : 1 Female, Lulang, coll. A. K. Mondal, 29. i. 1971; 1 Male, coll. J. K. Sen, 9. xi. 1972; Phulbani district : 4 Males and 2 Females, Kotagarh, coll. P. K. Das, 19 and 20. v. 1970; 1 Male and 1 Female, coll. N. Majumdar, 24. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
6 Males :	154-169 (161)	72-84 (78)	32-34 (33)
4 Females :	154-159 (158)	69-77 (76)	31-33 (32).

*Distribution* : India : Orissa : Mayurbhanj and Phulbani (recent records), Koraput (Majumdar 1988), Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Madhya Pradesh and Andhra Pradesh. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Thailand and the Indo-Chinese countries.

*Remarks* : Majumdar (1981) has synonymized *Gracula religiosa peninsularis* Whistler & Kinnear with *Gracula religiosa intermedia* A. Hay.

## Family 34. CORVIDAE

116. *Dendrocitta vagabunda vagabunda* (Latham)

1790. *Coracias vagabunda* Latham, *Index Orn.*, 1 : 171 (India, restricted to Calcutta by Ticehurst, 1922, *Ibis* 537).

*Common names* : Northeastern Tree Pie (English) and Karkara Chadhei (Oriya).

*Material examined* : Baleswar district : 1 Male, Daripokhari, coll. P. K. Das, 3. iv. 1976; Cuttack district : 1 Female, Kujang, coll. V. C. Agrawal, 15. ii. 1974; Dhenkenal district : 1 Female, Bagmunda, coll. V. C. Agrawal, 6. i. 1972; Sambalpur district : 2 Males (one juvenile) and 1 Female, Badrama, coll. P. K. Das, 22. vii. 1973; Puri district : 1 Female, Konarak, coll. V. C. Agrawal, 3. ii. 1974; 1 Female, Dhuanali, coll. N. Majumdar, 14. iii. 1976; Phulbani district : 1 Male, Kotagarh, coll. N. Majumdar, 23. iv. 1976; Kalahandi district : 1 Male, Madanpur Rampur, coll. P. K. Das, 1. vi. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	149-156 (153)	210-235 (227)	31-37 (35)
6 Females :	142-151 (147)	205-232 (216)	31-33 (32).

*Weights* : 2 Males : 103, 113; 2 Females : 112, 130.

*Distribution* : India : Orissa : Baleswar, Cuttack, Dhenkenal, Sambalpur, Puri, Phulbani and Kalahandi (recent records), Mayurbhanj (Mukherjee 1953), Koraput (Majumdar 1988), Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Manipur, Meghalaya, Madhya Pradesh, Maharashtra and Andhra Pradesh. Elsewhere : Nepal and Bangladesh.

117. *Dendrocitta formosae himalayensis* Blyth

1865. *Dendrocitta himalayensis* Blyth, *Ibis* : 45 (Sikkim, India).

*Common name* : East Himalayan Tree Pie (English).

*Material examined* : Puri district : 1 Male, Berbera, coll. V. C. Agrawal, 28. i. 1974; 1 Female and 1 Male (juvenile), Dhuanali, coll. N. Majumdar, 12 and : 5. iii. 1976; Phulbani district : 1 Males, Kotagarh, coll. P. K. Das, 21. v. 1972.

*Measurements* : 3 Males : wing 137-139 (138); tail 195-210 (203), bill 33 (3).

*Distribution* : India : Orissa : Puri and Phulani (recent records), Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Mizoram, Manipur and Meghalaya. Elsewhere : Nepal, Bhutan and Bangladesh, Burma, Yunnan, Vietnam, Laos, China, Hainan and Taiwan.

### 118. *Corvus splendens splendens* Vieillot

1817. *Corvus splendens* Vieillot, *Nouv. Dict. d'Hist. Nat.*, 8 : 44 (Bengal).

*Common names* : Indian House Crow (English) and Kuwa (Oriya).

*Material examined* : Sambalpur district : 2 Males (juvenile), Rairakhol, coll. P. K. Das, 29. vii. 1973.

*Distribution* : India : Orissa : Sambalpur (recent record), Koraput (Majumdar 1988), throughout India excepting Jammu & Kashmir, Punjab, Himachal Pradesh, Kerala and Laccadive; Andaman Islands (introduced). Elsewhere : Bangladesh and Burma,

### 119. *Corvus macrorhynchos culminatus* Sykes

1832. *Corvus culminatus* Sykes, *Proc. zool. Soc. Lond.*, 96 (Dukhun = Poona = Pune, vide Whistler & Kinnear, 1932. *J. Bombay nat. Hist. Soc.*, 35 : 512).

*Common names* : Indian Jungle Crow (English) and Damara Kua (Oriya).

*Material examined* : Daleshwar district : 1 Female, Daripokhari, coll. P. K. Das, 3. iv. 1976; Mayurbhuj district : 1 Male, Chahala, coll. A. K. Mondal, 24. i. 1971; Sambalpur district : 1 Male, Rairakhol, coll. P. K. Das, 31. vii. 1973; Ganjam district : 1 Male, Tarasinghi, coll. V. C. Agrawal, 28. vii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	285-304 (294)	160-192 (172)	60-67 (62)
1 Female :	301	173	61

*Weight* : 1 Male : 442.

*Distribution* : India : Orissa : Baleshwar, Mayurbhanj, Sambalpur and Ganjam (recent records), Bolangir (Biswas 1953) and Koraput (Majumdar 1988), Uttar Pradesh, Bihar, West Bengal, Rajasthan (Mt. Abu), Gujarat, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Bangladesh and Sri Lanka.

### Family 35. CAMPEPHAGIDAE

#### 120. *Hemipus picatus picatus* (Sykes)

1832. *Muscicapapicata* Sykes, *Proc. zool. Soc. Lond.* : 85 (Dukhan = Poona = Pune, Maharashtra, India).

*Common name* : Blackbacked Pied Flycatcher-Shrike (English).

*Material examined* : Phulbani district : 1 Female, Kotagarh, coll. P. K. Das, 23. v. 1972.

*Measurements* : 1 Female : wing 63, tail 63, bill 17.

*Distribution* : India : Orissa : Phulbai (recent record), Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry, Andhra Pradesh and West Bengal. Elsewhere : Bangladesh.

121. *Tephrudirnis pondicerianus pondicerianus* (Gmelin)

1789. *Musicapa pondiceriana* Gmelin, *Syst. Nat.*, 1 : 939 (Coromandea, Tamil Nadu, India).

*Common name* : Indian Wood Shrike (English).

*Material examined* : Sambalpur district : 1 unsexed, Rairakhol, coll. P. K. Das, 30. vii. 1973, 1 Female, Charmal, coll. N. Majumdar, 28. iii. 1976; Puri district : 2 Males, Dhuanali, coll. N. Majumdar, 10. iii. 1976; Phulbani district : 1 Male, Kotagarh, coll. N. Majumdar, 21. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	84-85 (84)	63-64 (64)	20-21 (20)
1 Female :	86	63	21

*Distribution* : India : Orissa : Sambalpur, Puri and Phulbani (recent records), Koraput (Majumdar 1988), throughout Indian mainland excepting Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Nagaland, Manipur, Mizoram, Tripura and Rajasthan. Elsewhere : Bangladesh.

122. *Coracina novaehollandiae macei* (Lesson)

1830. *Graucalus macei* Lesson, 1830. *Traite d' Orn.* : 349 (Calcutta, West Bengal, India).

*Common Name* : Indian Large Cuckoo-Shrike (English).

*Material examined* : Mayurbhanj district : 1 Male, Jashipur, coll. A. K. Mondal, 30. i. 1971; Keonjhar district : 1 Female, Gopalpur, coll. A. K. Mondal, 1. ii. 1071; Sambalpur district : 1 Male, Badrama, coll. P. K. Das, 20. vii. 1973; Puri district : 1 Male, Dhuanali, coll. N. Majumdar, 13. iii. 1976; Ganjam district : 1 Female, Mohana, coll. V. C. Agrawal, 20. xii. 1971; 1 Male, Tarasingi, coll. V. C. Agrawal, 27. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	167-170 (169)	126-129 (127)	29-30 (29)
3 Females :	159-168 (164)	110-120 (116)	26-30 (27)

*Distribution* : India : Orissa : Mayurbhanj, Keonjhar, Sambalpur, Puri and Ganjam (recent records), Koraput (Majumdar 1988), throughout Indian mainland excepting Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Sikkim, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya and Tripura. Elsewhere : Bangladesh.

123. *Coracina melaschistos melaschistos* (Hodgson)

1836. *Volvocivora melaschistos* Hodgson, *Ind. Rev.*, 1 (8) : 328 (Nepal).

*Common name* : Dark Grey Cuckoo-Shrike (English).

*Material examined* : Puri district : 1 Female (juvenile), Berbera, coll. V. C. Agrawal, 22. i. 1976.

*Distribution* : India : Orissa : Puri (recent record), Kashmir, Himachal Pradesh, Uttar Pradesh, Sikkim, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram and Meghalaya. Elsewhere : West Pakistan, Nepal, Bhutan and Bangladesh.

124. *Coracina melanoptera sykesi* (Strickland)

1844. *Lalage sykesi* Strickland, *Ann. Mag. Nat. Hist.*, 13 : 36 (Calcutta, vide Baker = Dukhun (= Poona = Pune), Sykes, 1832, *Proc. zool. Soc. Lond.*, pt. 2 : 77, 87)

*Common name* : Peninsular Blackheaded Cuckoo-Shrike (English).

*Material examined* : Baleshwar district : 1 Male (juvenile), Doripokhari, coll. P. K. Das, 14. iv. 1976; Puri district : 1 Male, Dhuanali, coll. N. Majumdar, 14. iii. 1976.

*Measurements* : 1 Male : wing 15, tail -, bill 20.

*Weight* : 1 Female : 53.

*Distribution* : India : Orissa : Baleshwar, Puri (recent records), throughout Indian mainland excepting Jammu & Kashmir, Himachal Pradesh, Punjab and Haryana, Arunachal Pradesh, Mizoram and Tripura. Elsewhere : Bangladesh and Sri Lanka.

125. *Pericrocotus flammeus semiruber* Whistler & Kinnear

1933. *Pericrocotus speciosus semiruber* Whistler and Kinnear, *J. Bombay nat. Hist. Soc.*, 36 : 340 (Sankrametta, Vizagapatam, Andhra Pradesh, India)

*Common names* : East Indian Minivet (English) and Sundari (Oriya).

*Material examined* : Dhenkenal district : 1 Male, Bagminda, coll. V. C. Agrawal, 5. i. 1971; Sambalpur district : 1 Male, Badrama, coll. P. K. Das, 21. vii. 1973; Puri district; 2 Males and 1 Female, Berbera, coll. V. C. Agrawal, 22, 25 and 26. i. 1974; 3 Males, 1 Males (juvenile), 1 Females, Dhuanali, coll. N. Majumdar, 10, 11, 12 and 13. iii. 1976; Phulbani district : 1 Female, Kotagarh, coll. P. K. Das, 22. v. 1972; Ganjam district : 1 Female, Mohana, coll. V. C. Agrawal, 19. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
8 Males :	101-104 (102)	95-102 (98)	19-21 (20)
3 Females :	97-99 (98)	95-97 (96)	20-21 (21).

*Weights* : 5 Males : 28-31 (29); 1 Female 25.

*Distribution* : India : Orissa : Dhenkenal, Sambalpur, Puri, Phulbani, Ganjam (recent records), Koraput (Majumder 1988), Bihar, West Bengal, Madhya Pradesh and Andhra Pradesh.

Family 36. IRENIDAE

126. *Aegithina tiphia humei* Baker

1922. *Aegithina tiphia humei* Baker, *Faun. Brit. India, Birds* (2nd ed.) 1 : 342 (Raipur Madhya Pradesh, India).

*Common name* : Central Indian Iora (English).

*Material examined* : Sambalpur district : 1 Male, Charnal, coll. N. Majumdar, 27. iii. 1976; Puri district : 1 Male, Berbera, coll. V. C. Agrawal, 27. i. 1974; 2 Males and 2 Females, Dhuanali, coll. N. Majumdar, 12, 13 and 15. iii. 1977; Phulbani district : 1 Male, Kotagarh,

coll. N. Majumdar, 22. iii. 1976; Bolangir district : 1 Male, Harishankar, coll. P. K. Das, 6. viii. 1973; Ganjam district : 1 Male, Mohana, coll. V. C. Agrawal, 22. xii. 1971.

<i>Measurements :</i>	Wing	Tail	Bill
7 Males :	64-68 (66)	47-56 (53)	15-19 (18)
3 Females :	61-64 (63)	50-53 (52)	17-19 (18)

*Weights :* 6 Males : 10-16 (14), 3 Females : 13-16 (14).

*Distribution :* India : Orissa : Sambalpur, Puri, Phulbani, Bolangir and Gajam (recent records), Mayurbhuj (Mukherjee 1953), Koraput (Majumdar 1988), Uttar Pradesh, Bihar, West Bengal, Rajasthan, Gujarat and Madhya Pradesh.

### 127. *Chloropsis aurifrons aurifrons* (Temminck)

1829. *Phyllornis aurifrons* Temminck, *Pl. Col. d 'Ois., livr. 81 pl. 484*, fig. 1 (Sumatra, India = Cachar, Assam).

*Common names :* Northern Goldfronted Chloroplis (English) and Baraba chadhei (Oriya).

*Material examined :* Baleshwar district : 1 Male, Daripokhari, coll. P. K. Das, 3. iv. 1976; Keonjhar district : 1 Male, Gopalpur, coll. A. K. Mondal, 4. ii. 1971; Sundargarh district : 1 Male and 1 Female, Koira, coll. P. K. Das, 15. vii. 1973; Puri district : 1 Male, Berbera, coll. V. C. Agrawal, 21. i. 1974.

<i>Measurements :</i>	Wing	Tail	Bill
4 Males :	95-98 (97)	65-73 (67)	24-25 (25)
1 Female :	95	65	25

*Weights :* 1 Male : 33; 1 Female : 34.

*Distribution :* India : Orissa : Baleshwar, Keonjhar, Sundargarh and Puri (recent records), Mayurbhanj (Mukherjee 1953), Koraput (Majumdar 1988), Himachal Pradesh, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya and Tripura. Elsewhere : Nepal, Bhutan and Bangladesh.

### 128. *Chloropsis cochinchinensis jerdoni* (Blyth)

1844. *Phyllornis jerdoni* Blyth, *J. Asiat. Soc. Beng.*, 13 : 392 (Central India).

*Common names :* Jerdon's Chloropsis (English) and Kanakachampa (Oriya).

*Material examined :* Mayurbhanj district : 1 Male, Kaptipada, coll. P. K. Das, 24. iii. 1976; Keonjhar district : 1 Male, Gopalpur, coll. A. K. Mondal, 4. ii. 1971; Puri district : 1 Female, Dhuanali, coll. N. Majumdar, 14. iii. 1976; Phulbani district : 1 Male, Kotagarh, coll. P. K. Das, 23. v. 1972; Kalahandi district : 1 Female, Madanpur Rampur, coll. P. K. Das, 1. vi. 1972.

<i>Measurements :</i>	Wing	Tail	Bill
3 Males :	90-95 (92)	67-78 (72)	22-28 (24)
2 Females :	87, 89	67, 69	23 (2)

*Weights :* 1 Male 24.

*Distribution :* India : Orissa : Mayurbhanj, Keonjhar, Puri, Phulbani and Kalahandi (recent records), Uttar Pradesh, Bihar, West Bengal, Gujarat, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry and Andhra Pradesh. Elsewhere : Sri Lanka.

## Family 37. PYCNONOTIDAE

129. *Pycnonotus melanicterus flaviventris* (Tickell)

1833. *Vanga flaviventris* Tickell, *J. Asiat. Soc. Beng.*, 2 : 573 (Dampara in Dholbhum, Singbhum, Bihar, India).

*Common name* : Blackcrested Yellow Bulbul (English).

*Material examined* : Phulbani district : 1 Male, Kotagarh, coll. N. Majumdar, 24. iii. 1976.

*Measurements* : 1 Male : wing 93, tail 88, bill 16.

*Weight* : 1 Male : 27.

*Distribution* : India : Orissa : Phulbani (recent record), Himachal Pradesh, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya, Tripura, Madhya Pradesh and Andhra Pradesh. Elsewhere : Nepal, Bhutan and Bangladesh.

130. *Pycnonotus jocosus emeria* (Linnaeus)

1758. *Motacilla emeria* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 187 (Benghala = Bengal).

*Common names* : Bengal Redwhiskered Bulbul (English) and Bulbul (Oriya).

*Material examined* : Sundargarh district : 2 Males and 1 Female, Koira, coll. P. K. Das, 13 and 14. vii. 1973; Dhenkenal district : 1 Male, Tikarpara, coll. V. C. Agrawal, 9. i. 1972; Puri district : 1 Male and 3 Females, Dhuanali, N, Majumdar, 10 and 11. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
4 Males :	80-85 (83)	76-87 (81)	18-19 (18)
4 Females :	76-83 (79)	73-80 (76)	18-19 (18)

*Weights* : 1 Male : 18; 2 Female : 26, 28.

*Distribution* : India : Orissa : Sundargarh, Dhenkenal and Puri (recent records), Mayurbhanj (Mukherjee 1953), Koraput (Majumdar 1988), West Bengal, Tamil Nadu and Andhra Pradesh. Elsewhere : Bangladesh, Burma and Thailand.

131. *Pycnonotus cafer wetmorei* Deignan

1960. *Pycnonotus cafer wetmorei* nom. nov. Deignan In Peters, *J. L.*, *check-list of Birds of the World*, vol. 9 : 236.

*Common names* : Orissa Redvented Bulbul (English) and Champa (Oriya).

*Material examined* : Baleshwar district : 2 Males, Daripokhara, coll. P. K. Das, 12. iv. 1976; Puri district : 1 Male and 1 Female, Nayagarh, coll. A. K. Mondal, 20. vii. 1973; 1 Female, Berbera, coll. A. K. Mondal, 22. vii. 1972; Phulbani district : 1 Male and 1 Female, Kotagarh, coll. P. K. Das, 22. v. 1972; 1 Female, Kalinga coll. A. K. Mondal, 3. vii. 1974; Ganjam district : 1 Female, Mohana, coll. V. C. Agrawal, 19. xii. 1971; Kalahandi district : 1 Male, Madanpur Rampur, coll. P. K. Das, 31. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
5 Males :	93-108 (97)	85-94 (87)	18-21 (20)
6 Females :	85-92 (88)	72-84 (77)	18-21 (19)

*Weights* : 2 Males : 24, 38; 1 Female : 28.

*Distribution* : India : Orissa : Baleshwar, Puri, Phulbani, Ganjam and Kalahandi (recent records), Koraput (Majumdar 1988) and Andhra Pradesh.

132. *Pycnonotus luteolus luteolus* (Lesson)

1841. *Haematornis luteolus* Lesson, *Rev. zool.*, 354 (Bombay).

*Common name* : Whitebrowed Bulbul (English).

*Material examined* : Baleshwar district : 2 Males, Garipokhari, coll. P. K. Das 4 and 6. iv. 1976; Puri district : 1 Male and 1 Female, Ghuanali, coll. N. Majumdar, 13. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	87-89 (88)	80-84 (81)	18-20 (19)
1 Female :	83	77	19

*Weights* : 2 Males : 36 (2); 1 Female 38.

*Distribution* : India : Orissa : Baleshwar and Puri (recent records), West Bengal, Gujarat, Madhya Pradesh, Maharashtra, Goa, Karnataka, Tamil Nadu, Kerala and Andhra Pradesh.

Family 38. MUSCICAPIDAE

Subfamily (i) TIMALINAE

133. *Pellorneum ruficeps ruficeps* Swainson

1832. *Pellorneum ruficeps* Swainson, *Fauna Boreali Americana* : 487 (India = Coonoor, Nilgiris, restricted by Deignan, 1947, *Smith. Misc. Coll.*, 1 - 20).

*Common name* : Peninsular Spotted Babbler (English).

*Material examined* : Puri district : 1 Male and 2 Females, Dhuanali, coll. N. Majumdar, 9, 11 and 13. iii. 1976; Phulbani district : 1 Male and 1 Female, Kotagarh, coll. P. K. Das, 24. iv. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	70, 73	62, 65	18 (2)
3 Females :	68-70 (69)	59-60 (59)	18 (18)

*Distribution* : India : Orissa : Puri and Phulbani (recent records), Koraput (Majumdar 1988), Bihar, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry and Andhra Pradesh.

134. *Trichastoma abbotti abbotti* (Blyth)

1845. *Malacocincla Abbotti* Blyth, *J. Asiatic Soc. Beng.*, 14 : 601 (Ramree Island, Arakan, Burma).

*Common name* : Abbott's Babbler (English).

*Distribution* : India : Orissa : Puri (Dasgupta 1976), Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland and Manipur, Elsewhere : Nepal, Butan, Bangladesh, Burma and Thailand.

135. *Pomatorhinus horsfieldii horsfieldii* Sykes

1832. *Pomatorhinus horsfieldii* Sykes, *Proc. zool. Soc. Lond.*, : 89 (Mahabaleshwar, Western Ghats, Maharashtra, India).

*Common name* : Deccan Scimitar Babbler (English).

*Material examined* : Puri district : 1 Male, Dhuanali, coll. N. Majumdar, 12. iii. 1976; Phulbani district : 1 Male and 1 Female, Kotagarh, coll. N. Majumdar, 22. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
2 Male :	93, 101	96, 102	30, 32
1 Female :	89	92	33

*Distribution* : India : Orissa : Puri and Phulbani (recent records), Gujarat, Maharashtra, Goa, Karnataka and Andhra Pradesh.

### 136. *Dumetia hyperythra hyperythra* (Franklin)

1831. *Tamalia hyperythra* Franklin, *Proc. zool. Soc. Lond.*, : 118 (Ganges near Benares = Varanasi, Uttar Pradesh, India).

*Common name* : Rufousbelliced Babbler (English).

*Material examined* : Puri district : 1 Male and 1 Female, Dhuanali, coll. N. Majumdar, 13 and 14. iii. 1976; Phulbani district : Kotagarh, 1 Female, coll. P. K. Das, 20. v. 1972; 3 Males, coll. N. Majumdar 22 and 23. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
4 Males :	55-57 (56)	60-67 (64)	14-15 (14)
2 Females :	56, 57	60, 64	14 (2)

*Weights* : 4 Males : 10-14 (12); 1 Females 10.

*Distribution* : India : Orissa : Puri and Phulbani (recent records), Koraput (Majumdar 1988), Himachal Pradesh, Uttar Pradesh, Bihar, West Bengal, Madhya Pradesh and Andhra Pradesh. Elsewhere : Nwpal and Bangladesh.

### 137. *Macronous rubricapilla* (Tickell)

1833. *Montacilla rubricapilla* Tickell, *J. Asiat. Soc. Beng.*, 2 : 576 (Borabhum = Bihar, India).

*Common name* : Yellow breasted Babbler (English).

*Material examined* : Puri district : 3 Males, Berbera, coll. V. C. Agrawal, 23 and 27. i. 1974; 5 Males and 2 Females, Dhuanali, coll. N. Majumdar, 12-15. iii. 1976; Phulbani district : 1 Male, Kotagarh, coll. P. K. Das, 24. v. 1972; Bolangir district : 1 Male, Harishankar, coll. P. K. Das, 6. viii. 1973.

<i>Measurements</i> :	Wing	Tail	Bill
4 Males :	58-61 (60)	50-52 (51)	14-16 (15)
2 Females :	55 (2)	47, 55	14, 16

*Weights* : 4 Males : 12-14 (13); 2 Females : 14, 16.

*Distribution* : India : Orissa : Puri, Phulbani and Bolangir (recent records), Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Karnataka and Andhra Pradesh. Elsewhere : Nepal, Bhutan and Bangladesh.

### 138. *Chrysomma sinense sinense* (Gmelin)

1789. *Parus sinensis* Gmelin, *Syst. Nat.*, 1 : 1012 (China)

*Common name* : Yellow-eyed Babbler (English).

*Material examined* : Puri district : 1 Male and 2 Females, Dhuanali, coll. N. Majumdar, 10, 14 and 16. iii. 1976; Phulbani district : Kotagarh, 1 Female, coll. P. K. Das, 23. v. 1972, 1 Male and 5 Females, coll. N. Majumdar, 20 and 22. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	67, 68	85, 88	15 (2)
8 Females :	63-67 (64)	75-84 (81)	14-15 (15)

*Weights* : 2 Males : 18, 20; 7 Females : 15 - 19 (17).

*Distribution* : India : Orissa : Puri and Phulbani (recent records), Koraput (Majumdar 1988), Uttar Pradesh, Bihar, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Meghalaya; Tripura, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Thailand, Vietnam and China.

### 139. *Turdoides striatus orissae* Jerdon

1847. *Turdoides striatus orissae* Jerdon, Ill. Ind. Orn., text to pl. 19 (Goomsoor, Neotype (neo Holotype) designated and re-described from Barkot, alt. 120 m. Bamra, Sambalpur district, Orissa, by Riley, 1969, *J. Bombay nat. Hist. Soc.*, 66 : 168).

*Common names* : Orissa Jungle Babbler (English) and Kundakhai (Oriya).

*Material examined* : Baleshwar district : 4 Males, Daripokhasri, coll. P. K. Das, 8-10. iv. 1976; Mayurbhanj district : 2 Males, Lulang, coll. A. K. Mondal, 20. i. 1971; Sundargarh district : 1 Male, Koira, coll. P. K. Das, 15. vii. 1973; Sambalpur district : 1 Female, Badrama, coll. P. K. Das, 20. vii. 1973; 1 Male, Rairakhol, coll. P. K. Das, 30. vii. 1973; Puri district : 1 Female, Berbera, coll. V. C. Agrawal, 29. i. 1974; 1 Female, Konarak, coll. V. C. Agrawal, 3. ii. 1974; 1 Male and 1 Female, Dhuanali, coll. N. Majumdar, 9 and 15. iii. 1976; Phulbani district : Kotagarh, 1 Male, coll. P. K. Das, 20. v. 1972, 2 Females., coll. N. Majumdar, 22. iii. 1976; 1 Male, Kalinga, coll. A. K. Mondal, 2. iii. 1971; Ganjam district : 1 Female, Tarasingi, coll. V. C. Agrawal, 25. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
5 Males :	102-108 (104)	95-110 (101)	24 (5)
11 Females :	100-115 (106)	98-107 (104)	23-26 (25)

*Weights* : 3 Males : 65-75 (68); 8 Females : 64-84 (73).

*Distribution* : India : Orissa : Baleshwar, Mayurbhanj, Sundargarh, Sambalpur, Puri, Phulbani and Ganjam (recent records), Koraput (Majumdar 1988) and Andhra Pradesh.

*Remarks* : Mukherjee (1953) reported this bird as *Turdoides somervillei terricolor* (Blyth) which is now synonymised as *Turdoides striatus striatus* (Dumont).

### 140. *Alcippe poiocephala brucei* Hume

1870. *Alcippe brucei* Hume, *J. Asiat. Soc. Beng.*, 39 : 122 (Mahabaleshwar, Maharashtra, India).

*Common name* : Bombay Quaker Babbler (English).

*Material examined* : Puri district : 1 Male, Dhuanali, coll. N. Majumdar, 12. iii. 1976; Bolangir district : 1 Male and 1 Female, Harishankar, coll. P. K. Das, 4 and 6. viii. 1973.

<i>Measurements :</i>	Wing	Tail	Bill
2 Male :	68, 72	66, 68	15, 16
1 Female :	68	70	15

*Weights :* 2 Male : 15, 19; 1 Female : 18.

*Distribution :* India : Orissa : Puri and Bolangir (recent records), Koraput (Majumdar 1988), Bihar, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu, Pondicherry and Andhra Pradesh.

#### Subfamily (ii) MUSCICAPINAE

##### 141. *Muscicapa parva albicilla* Pallas

1811. *Muscicapa Albicilla* Pallas, *Zoogr. Rosso-Asiat.*, 1 : 462, Aves, pl. 1 (Dauria).

*Common name :* Eastern Redbreasted Flycatcher (English).

*Distribution :* India : Orissa : Koraput (Majumdar 1988), Jammu & Kashmir, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Madhya Pradesh, Maharashtra, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Nepal, Bhutan, Burma, Thailand and Indo-Chinese countries. Breeds from the Urals to Kamchatka.

##### 142. *Muscicapa poliogenys vernayi* (Whistler)

1931. *Cyornis poliogenys vernayi* Whistler, *Bull. Brit. Orn. cl.*, 52; 24 (Sankrametta, 3500 ft., Vizagapatam dist., Eastern Ghats, Andhra Pradesh).

*Common name :* Peninsular Brook's Flycatcher (English).

*Distribution :* India : Orissa : Koraput (Majumdar 1988), Sikkim, West Bengal, Mizoram and Meghalaya. Elsewhere : Nepal, Bhutan and Bangladesh.

##### 143. *Muscicapa rubeculoides rubeculoides* (Vigors)

1831. *Phoenicurus rubeculoides* Vigors, *Proc. zool. Soc. Lond.*, 35 : (Darjeeling - Darjiling, West Bengal, India).

*Common name :* Blue throated Flycatcher (English).

*Distribution :* India : Orissa : Koraput (Majumdar 1988), Jammu & Kashmir, Himachal Pradesh, Bihar, West Bengal, Sikkim, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya, Karnataka, Tamil Nadu, Kerala and Andhra Pradesh. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Thailand, Yunnan and Vietnam.

##### 144. *Muscicapa tickelliae tickelliae* (Blyth)

1843. *C. (Yornis) Tickelliae* Blyth, *J. Asiat. Soc. Benga.*, 12 : 941 (Central India = Borabhum = Barahabhum, Purulia district, West Bengal, India).

*Common name :* Tickell's Redbreasted Blue Flycatcher (English).

*Distribution :* India : Orissa : Koraput (Majumdar 1988), throughout Indian mainland excepting Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Nagaland, Manipur and Mizoram. Elsewhere: Bangladesh, Burma, the Indo-Chinese countries : Malaysia, Indonesia and the Philippines.

145. *Muscicapa thalassina thalassina* Swainson

1838. *Muscicapa thalassina* Swainson, *Nat. Library, Flycatchers* 21 : 252 (India).

*Common name* : Verditer Flycatcher (English).

*Material examined* : Kconjhar district : 1 Male, Gopalpur, coll. A. K. Mondal, 4. ii. 1971; Puri district : 1 Male, Berbera, coll. V. C. Agrawal, 27. i. 1974, 1 Male, Dhuanali, coll. N. Majumdar, 12. iii. 1976.

*Measurements* : 3 Male : wing 77-83 (80); tail 63-71 (66); bill 13-14 (14).

*Weight* : 1 Male : 21.

*Distribution* : India : Orissa : Kconjhar and Puri (recent records), Koraput (Majumdar 1988), throughout India. Elsewhere : Pakistan, Bangladesh, Burma, Indo-Chinese countries, Vietnam and China.

146. *Culicicapa ceylonensis calochrysea* Oberholser

1848. *Chyptolopa cinereocapilla* (Vicillot) Hutton, *J. Asiat. Soc. Beng.*, 17 : 689 (Himalay).  
Nom. nud. *Culicicapa ceylonensis calochrysea* Oberholser, 1923, *Smith. Misc. Coll.*,  
76 : 8 (Quayamoo Choung = Left bank of Thaungyin River, lat. 17° 15' N., Amherst Dist.,  
Tenasserim, Burma).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), throughout Indian mainland excepting Kerala and Tamil Nadu. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Burma, Indo-Chinese countries, Palawah, Borneo and the Sunda Islands, Timor and China.

147. *Rhipidura aureola aureola* Lesson

1830. *Rhipidura aureola* Lesson, *Traite d'Orn.* : 290 (Bengal = West Bengal, India)

*Common name* : Northern Whitebrowed Fantail Flycatcher (English).

*Material examined* : Sambalpur district : 1 Male, Charnal, coll. N. Majumdar, 28. iii. 1976.

*Measurements* : 1 Male : wing 80, tail 87, bill (-).

*Distribution* : India : Orissa : Sambalpur (recent record), Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Rajasthan, Gujarat, Madhya Pradesh and Maharashtra. Elsewhere : Nepal, Bhutan and Bangladesh.

148. *Rhipidura albicollis orissae* Ripley

1955. *Rhipidura albicollis orissae* Ripley, *Proc. Biol. Soc., Washington*, 68 : 42 (Toda, Bonai, Orissa, India).

*Common name* : Orissa Whitethroated Fantail Flycatcher (English).

*Material examined* : Sambalpur district : 2 Males, Rairakhol, coll. P. K. Das, 26. vii. 1973; Phulbani district : 1 Male, Kotagarh, coll. P. K. Das, 25. v. 1972; Puri district : 1 Female, Dhuanali, coll. N. Majumdar, 12. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
3 Males :	63-78 (72)	89-100 (96)	14
1 Females :	73	97	15

*Distribution* : India : Orissa : Sambalpur, Phulbani and Puri (recent records), Koraput (Majumdar 1988), Bihar and Madhya Pradesh.

Subfamily (iii) MONARCHINAE

149. *Terpisphone paradisi paradisi* (Linnaeus)

1758. *Corvus paradisi* Linnaeus, *Syst. Nat.*, 10 ed., 1 : 107 (In India = Chandernagor, Stresemann, 1952, *Ibis* 94 : 517).

*Common names* : Penisular Inidan Paradise Flycatcher (English) and Feeta Bulbul (Oriya).

*Material examined* : Kalahandi district : 1 Male, Madanpur Rampur, coll. P. K. Das, 1. vi. 1972.

*Measurements* : 1 Male : wing 96, tail 388, bill 25.

*Distribution* : India : Orissa : Kalahandi (recent record), Bihar, West Bengal, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Bangladesh.

150. *Hypothymis azurea styani* (Hartlaub)

1898. *Siphia styani* Hartlaub, *Abh. Nat. Ver. Bremen*, 16 : 248 (Harhow, Hainan).

*Common name* : Indian Blacknaped Monarch Flycatcher (English).

*Material examined* : Puri district : 1 Male and 1 Female, Berbere, coll. V. C. Agrawal, 23 and 29. i. 1974; 1 Female, Dhanali, coll. N. Majumdar, 12. iii. 1976; Phulbani district : 1 Female, Kotagarh, coll. N. Majumdar, 24. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male :	70	68	16
3 Females :	67-70 (69)	68-70 (69)	15-16 (15)

*Weight* : 2 Males : 10 and 11.

*Distribution* : India : Orissa : Puri and Phulbani (recent records), Mayurbhanj (Mukherjee 1953), Koraput (Majumdar 1988), throughout India excepting Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana and Nagaland. Elsewhere : Bangladesh, Burma, the Indo-Chinese countries, Indonesia, Philippines and China.

Subfamily (iv) SYLVIINAE

151. *Prinia hodgsoni hodgsoni* Blyth

1844. *Pr. (inia) Hodgsonii* Blyth, *J. Asiat. Soc. Beng.*, 13 : 276, new name for *Prinia gracilis* Franklin, 1831, not *Sylvia* (= *Prinia*) *gracilis* Lichtenstein, 1823; *Prinia gracilis* Franklin, 1831, *Proc. zool. Soc. Lond.*, 119 (Mirzapur District, restricted by Ticehurst and Whistler, *Ibis*, 1939 : 763).

*Common name* : Franklin's Ashy-grey Wren-Warbler (English).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), throughout Indian mainland excepting Jammu & Kashmir, Himachal Pradesh, Punjab, Assam, Arunachal Pradesh, Nagaland, Mizoram, Meghalaya, Kerala, Tamil Nadu and Andhra Pradesh.

152. *Prinia buchanani* Blyth

1844. *P. (rinia) Buchanani* Blyth, *J. Asiat. Soc. Beng.*, 13 : 376, new name for *Prinia rufifrons* Jerdon, 1840, nec *Prinia rufifrons* Ruppell 1835, *Prinia rufifrons* Jerdon, 1840. *Madras J. Lit. Sci.*, 11 : 4 (neighbourhood of Jalna, northwestern Hyderabad).

*Common name* : Rufousfronted Wren-Warbler (English).

*Distribution* : India : Orissa : Koraput Majumdar 1988), Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Bihar, Rajasthan, Gujarat, Madhya, Maharashtra and Andhra Pradesh.

153. *Orthotomus sutorius quzuratus* (Latham)

1790. *Sylvia guzerata* Latham, *Index Orn.* : 554 (Gujarat, India).

*Common names* : Indian Tailor Bird (English) and Tiki chadhei (Oriya).

*Material examined* : Baleshwar district : 2 Males, Daripokhari, coll. P. K. Das, 4 and 5. iv. 1976; Sambalpur district : 1 Male, Badrama, coll. A. K. Mondal, 26. xii. 1972; 1 Male, Charnal, coll. N. Majumdar, 28. iii. 1976; Puri district : 1 Male and 2 Females, Dhuanali, coll. N. Majumdar, 13 and 15. iii. 1976; Phulbani district : 1 Female, Kotagarh, coll. P. K. Das, 20. v. 1972; 1 Female, coll. N. Majumdar, 23. iii. 1976; Bolangir district : 1 Male, Lathore, coll. A. K. Mondal, 15. xii. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
5 Males :	46-51 (49) 3	7-41 (40)	16
4 Females :	47-48 (47)	41-47 (43)	15-16 (15)

*Weights* : 2 Males : 8 (2); 3 Females : 6-8 (7).

*Distribution* : India : Orissa : Baleshwar, Sambalpur, Puri, Phulbani and Bolangir (recent records), Koraput (Majumdar 1988), throughout India excepting Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and Meghalaya..

154. *Acrocephalus aedon aedon* (Pallas)

1776. *Muscicapa aedon* Pallas, 1776. *Reise Russ. Reichs*, 3 : 695 (Dauria).

*Common name* : Thickbilled Warbler (English).

*Material examined* : Dhenkanal district : 1 Female, Bagmunda, coll. V. C. Agrawal, 5. i. 1972; Puri district : 1 Male, Dhuanali, coll. N. Majumdar, 14. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male :	84	89	20
1 Female :	83	87	19

*Weight* : 1 Male : 26.

*Distribution* : India : Orissa : Dhenkanal and Puri (recent records), West Bengal, Assam, Gujarat, Maharashtra (southwest), Karnataka, Kerala, Tamil Nadu, Andhra Pradesh and Nicobar Islands. Elsewhere : Ncoal (terai), Bhutan (duars), Burma, Indo-Chinese countries, Malaya Peninsula. Breeds in southern Siberia from the Ob river to northeastern China and Japan.

155. *Acrocephalus stentoreus brunnescens* (Jerdon)

1839. *A. (grobates) brunnescens* Jerdon, *Madras J. Lit. Sci.*, 10: 269 (Carnatic, near Trichinopoly, Tamil Nadu, India).

*Common name* : Indian Great Reed Warbler (English).

*Material examined* : Dhenkanal district : 1 Female, Bagmunda, coll. V. C. Agrawal, 5. i. 1972; Puri district : 1 Male, Dhuanali, coll. N. Majumdar, 14. iii. 1976; Ganjam district : 1 Male, Mohana, coll. V. C. Agrawal, 22. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	81, 83	85, 90	20, 21
1 Female :	78	83	20

*Weights* : 1 Male : 26.

*Distribution* : India : Orissa : Dhenkanal, Puri and Ganjam (recent records), Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, West Bengal, Rajasthan, Madhya Pradesh, Maharashtra, Tamil Nadu and Kerala. Elsewhere : Pakistan, Sri Lanka and Iran.

156. *Acrocephalus dumetorum* Blyth

1849. *Acrocephalus dumetorum* Blyth, *J. Asiat. Soc. Beng.*, 18: 815 (No locality = Calcutta, vide Biswas, 1962, *J. Bombay nat. Hist. Soc.* 59: 410).

*Common name* : Blyth's Reed Warbler (English).

*Material examined* : Bolangir district : 1 Male, Nawapara, coll. A. K. Mondal, 19. xii. 1972.

*Measurements* : 1 Male : wing 62, tail 54, bill 18.

*Distribution* : India : Orissa : Bolangir (recent record), Koraput (Majumdar 1988), throughout Indian mainland. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Sri Lanka and Burma. Breeds in Central Eurasia from Lake Baikal west to southern Finland and south to Iran.

## Subfamily (v) TURDINAE

157. *Erithacus calliope* (Pallas)

1776. *Motacilla calliope* Pallas, *Reise Russ. Reichs*, 3: 697 (Yenisei).

*Common name* : Rubythroat (English).

*Material examined* : Puri district : 1 Female, Salia Dam, coll. J. M. Dasgupta, 6. i. 1978.

*Measurements* : 1 Female : wing 78, tail (-), bill 17.

*Distribution* : India : Orissa : Puri (recent record), throughout northern India, south upto Madhya Pradesh and Andhra Pradesh. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Indo-Chinese countries and southern China to Formosa (= Taiwan) and Philippines. Breeds in Siberia from the Ural Mts. to Anadyr, Kamchatka and Hokkaido.

158. *Copsychus saularis saularis* (Linnaeus)

1758. *Gracula saularis* Linnaeus, *Syst. Nat.*, ed. 10, 1: 109. (Asia = Bengal).

*Common names* : Indian Magpie-Robin (English) and Dayal (Oriya)

*Material examined* : Baleshwar district : 2 Male, Daripokhari, coll. P. K. Das, 5 and 8. iv. 1976; Mayurbhanj district : 1 Female, Kaptipada, coll. P. K. Das, 29. iii. 1976; Keonjhar district : 1 Male, Gopalpur, coll. A. K. Mondal, 3. ii. 1971; Dhenkenal district : 1 Male, Bagmunda, coll. V. C. Agrawal, 3. i. 1972; 1 Male, Tikarpara, coll. V. C. Agrawal, 10. i. 1972; Sambalpur district : 1 Male and 1 Female (juvenile), Rairakhol, coll. P. K. Das, 25 and 30. vii. 1973; Puri district : 1 Male, Berbera, coll. A. K. Mondal, 22. vii. 1973, 1 Male and 1 Female, coll. V. C. Agrawal, 23 and 27. i. 1974, 2 Males, Dhuanali, coll. N. Majumdar, 13 and 15. iii. 1976; Phulbani district : 1 Male, Kotagarh, coll. N. Majumdar, 22. iii. 1976; Ganjam district : 1 Female, Tarasingi, coll. V. C. Agrawal, 28. xii. 1971.

<i>Measurements</i> :	Wing	Tail	Bill
10 Males :	99-102 (100)	80-90 (87)	22-25 (23)
3 Females :	90-92 (91)	75-77 (76)	19-22(20)

*Weights* : 5 Males : 31-39 (35); 3 Females : 26-31 (28).

*Distribution* : India : Orissa : Baleshwar, Mayurbhanj, Keonjhar, Dhenkenal, Sambalpur, Puri, Phulbani and Ganjam (recent records), Koraput (Majumdar 1988), throughout Indian mainland excepting eastern India beyond West Bengal and Kerala. Elsewhere : Pakistan, Nepal and Bangladesh.

#### 159. *Copsychus malabaricus indicus* (Baker)

1924. *Kittacincla malabarica indica* Baker, *Faun. Br. India, Birds* 2 : 118 (Bhutan duars).

*Common names* : Indian Shama (English) and Shama (Oriya).

*Material examined* : Sundargarh district : 1 Male, Koira, coll. P. K. Das, 14. vii. 1973.

*Measurements* : 1 Male : wing 95, tail 148, bill 21.

*Distribution* : India : Orissa : Sundergarh (recent record), Koraput (Majumdar 1988), Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Meghalaya, Madhya Pradesh, Maharashtra, Tamil Nadu and Andhra Pradesh.

#### 160. *Saxicoloides fulvicata erythrura* (Lesson)

1832. *Turdus (Saxicoloides) erythrurus* Lesson, in Belanger, *Voy. Ind. Orient. Zool.*, pt. 4 : 270 (Bengale = Bengal).

*Common names* : Bengal Black Robin (English) and Shuce (Oriya).

*Material examined* : Baleshwar district : 1 Male, Daripokhari, coll. P. K. Das, 12. iv. 1976.

*Measurements* : 1 Male : wing 73, tail 66, bill 16.

*Weight* : 1 Male : 18.

*Distribution* : India : Orissa : Baleshwar (recent record), Dhenkenal, Sambalpur, Bolangir and Koraput (Majumdar 1988), Bihar and West Bengal. Elsewhere : Bangladesh.

#### 161. *Monticola cinclorhynchus* (Vigor)

1832. *Pterocinclla cinclorhyncha* Vigors, *Proc. zool. Soc. Lond.*, : 172 (Himalayan Mountains = Simla).

*Common name* : Blueheaded Rock Thrush (English).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland and Meghalaya, Gujarat, Maharashtra, Karnataka, Kerala, Tamil Nadu (western part), Madhya Pradesh and Rajasthan (Mt. Abu). Elsewhere : Afghanistan, Pakistan, Nepal and Bhutan.

162. *Zoothera citrina citrina* (Latham)

1790. *Turdus citrinus* Latham, *Index Orn.*, 1 : 350. (India, Cachar).

*Common name* : Orangeheaded Ground Thrush (English).

*Material examined* : Baleshwar district : 1 Female, Daripokhari, coll. P. K. Das, 12. iv. 1976.

*Measurements* : 1 Female : wing 115, tail 69, bill -.

*Weight* : 1 Female : 58.

*Distribution* : India : Orissa : Baleshwar (recent record), Jammu & Kashmir, Punjab, Himachal Pradesh (Kangra), Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Meghalaya, Rajasthan, Madhya Pradesh, Maharashtra and Tamil Nadu. Elsewhere : Pakistan, Nepal, Bangladesh and Sri Lanka.

163. *Zoothera citrina cyanotus* (Jardine & Selby)

1828. *Turdus cyanotus* Jardine & Selby, *Ill. Orn.*, 1, pl. 46 (Bangalore, India).

*Common name* : Whitethroated Ground Thrush (English).

*Material examined* : Puri district : 2 Males and 2 Females, Ghuanali, coll. N. Majumdar, 10 and 14. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
2 Males :	104, 106	70, 71	23 (2)
2 Females :	102 (2)	70, 74	22, 23

*Weights* : 2 Males : 46, 48; 1 Female : 46.

*Distribution* : India : Orissa : Puri (recent record), Koraput (Majumdar 1988), Bihar, Gujarat (southeastern), Madhya Pradesh (Satpura Range), Maharashtra, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh.

164. *Turdus unicolor* Tickell

1833. *T. (urdus) unicolor* (Tickell), *J. Asiat. Soc. Beng.*, 2 : 577 (Bansigar in Borabhum, Purulia district., West Bengal, India).

*Common name* : Tickell's Thrush (English).

*Material examined* : Puri district : 1 Male, Dhuanali, coll. N. Majumdar, 10 and 14. iii. 1976.

*Measurements* : 1 Male : wing 115, tail 80, bill 23.

*Weight* : 1 Male : 58.

*Distribution* : India : Orissa : Puri (recent record), Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Sikkim, West Bengal, Assam, Arunachal Pradesh, Madhya Pradesh, Maharashtra, Tamil Nadu and Andhra Pradesh. Elsewhere : Pakistan, Nepal and Bangladesh.

Family 39. PARIDAE  
Subfamily PARINAE

165. *Parus xanthogenys aplonotus* Blyth

1847. *P. (arus) aplonotus* Blyth, *J. Asiat. Soc. Beng.*, 16 : 444 (Mountains of central India, restricted to Chaibasa, Singhbhum, Bihar by Whistler and Kinnear, 1932. *J. Bombay nat. Hist. Soc.*, 35 : 519-521.)

*Common name* : Central India Yellowchecked Tit (English).

*Material examined* : Puri district : 1 Male, Berbera, coll. Agrawal, 22. i. 1974; Phulbani district : 1 Female, Kotagarh, coll. P. K. Das, 21. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male :	75	55	13
1 Female :	68	52	12

*Distribution* : India : Orissa : Puri and Phulbani (recent records), Mayurbhanj (Mukherjee 1953), Koraput (Majumdar 1988), Gujarat, Rajasthan, Madhya Pradesh, Bihar, Andhra Pradesh and Maharashtra.

Family 40. SITTIDAE  
Subfamily SITTINAE

166. *Sitta castanea castanea* Lesson

1830. *Sitta castanea* Lesson, *Traite d' Orn.*, : 316 (Bengale = Bengal).

*Common name* : Peninsular Chestnutbelliced Nuthatch (English).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), Punjab, Uttar Pradesh, Bihar (Darbhanga and Rajmahal hills), West Bengal, Madhya Pradesh, Rajasthan (eastern part), Maharashtra, Goa, Karnataka (southern part), Kerala (Wynaad and Palghat Hills) and Tamil Nadu (Nilgiri Hills).

167. *Sitta frontalis frontalis* Swainson

1820. *Sitta frontalis* Swainson, *Zool. Ill. (1)*, pl. 2 (Ceylon).

*Common name* : Velvetfronted Nuthatch (English).

*Material examined* : Puri district : 2 Females, Dhuanali, coll. N. Majumdar, 11. iii. 1976.

*Measurements* : 2 Females : wing 77, 79; tail 40, 42; bill 15, 16.

*Distribution* : India : Orissa : Puri (recent record), Uttar Pradesh, Bihar, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Meghalaya, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Kerala and Andhra Pradesh. Elsewhere : Nepal, Bangladesh, Sri Lanka, Burma, Indo-chinese Countries and Indonesia.

Family 41. MOTACILLIDAE

168. *Anthus hodgsoni hodgsoni* Richmond

1907. *Anthus trivialis hodgsoni* Richmond, in Blackwelder, *Res. in China* (2); 493, new name for *Anthus maculatus* Jerdon, 1864, *Bds, India* 3 : 873 (Calcutta).

*Common name* : Indian Tree Pipit (English).

*Material examined* : Puri district : 4 Females, Dhuanali, coll. N. Majumdar, 11, 14 and 15. iii. 1976.

*Measurements* : 4 Females : wing 78-82 (80); tail 58-60 (60), bill 18-23 (21).

*Weights* : 4 Females : 18-23 (21).

*Distribution* : India : Orissa : Puri (recent record), Koraput (Majumdar 1988), throughout India excepting Kashmir. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Malaysia, Philippines, Indo-chinese countries, China, Korea and Japan.

#### 169. *Anthus hodgsoni yunnanensis* Uchida & Kuroda

1916. *Anthus maculatus yunnanensis* Uchida & Kuroda, *Annot. Zool. Jap.*, **9** : 134 (Yunnan).

*Common name* : Siberian Tree Pipit (English).

*Material examined* : Baleshwar district : 1 Female, Daripokhari, coll. P. K. Das, 8. iv. 1976.

*Measurements* : 1 Female : wing 81, tail 60, bill 14.

*Weight* : 1 Female : 20.

*Distribution* : India : Orissa : Baleshwar (recent record), throughout Indian mainland excepting Kashmir. Elsewhere : Nepal, Bangladesh, Burma, China, Kamchatka and Japan.

#### 170. *Anthus novaeseelandiae rufulus* Vieillot

1818. *Anthus rufulus* Vieillot, *Nouv. Dict. d'Hist. Nat.*, **26** : 494 (Bengal).

*Common name* : Indian Paddyfield Pipit (English).

*Material examined* : Puri district : 1 Female, Konarak, coll. V. C. Agrawal, 4. ii. 1974.

*Measurements* : 1 Female : wing 75, tail 55, bill 16.

*Distribution* : India : Orissa : Puri (recent record), all India excepting Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Rajasthan, Gujarat and Kerala. Elsewhere : Nepal, Bhutan, Bangladesh, Burma, Thailand, Vietnam and China.

#### 171. *Motacilla cinerea cinerea* Tunstall

1771. *Motacilla cinerea* Tunstall, *Orn. Brit.* : **2** (Wycliffe, Yorkshire, England).

*Common names* : Grey Wagtail (English) and Khanjana (Oriya).

*Distribution* : India : Orissa : Puri (recent record), Mayurbhanj (Mukherjee 1953), Koraput (Majumdar 1988), Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Sikkim, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, entire Peninsular India, Andaman & Nicobar Islands. Elsewhere : Pakistan, Afghanistan, Nepal, Bangladesh, Maldives, Kamchatka, Japan, China, British Isles, Burma, Sri Lanka, Mediterranean region, Africa, Iran, Turkestan, Taiwan, Indochinese countries, Indonesia and the Philippines.

#### 172. *Motacilla maderaspatensis* Gmelin

1789. (*Motacilla*) *maderaspatensis* Gmelin, *Syst. Nat.* **1** : 961 (India = Madras vide Whistler & Kinnear, 1933, *J. Bombay nat. Hist. Soc.*, **36** : 842).

*Common names* : Large Pied Wagtail (English) and Chanchi (Oriya).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), throughout India excepting Jammu & Kashmir, Himachal Pradesh, Arunachal Pradesh, Manipur, Nagaland, Mizoram and Assam. Elsewhere : Nepal and Bangladesh.

## Family 42. DICAIEIDAE

173. *Dicaeum agile agile* (Tickell)

1833. *Fringilla agilis* Tickell, *J. Asiat. Soc. Bengal*, 2 : 578. (Borabhum and Dholbhum).

*Common name* : Indian Thickbilled Flowerpecker (English).

*Material examined* : Sambalpur district : 1 Male, Charmal, coll. N. Majumdar, 27. iii. 1976; Phulbani district : 1 Female, Kotagarh, coll. N. Majumdar, 24. iii. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male :	62	32	10
1 Female :	58	30	10

*Weights* : 1 Male : 7; 1 Female : 8.

*Distribution* : India : Orissa : Sambalpur and Phulbani (recent records) =, Koraput (Majumdar 1988). All India excepting Jammu & Kashmir. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh, Burma, Indo-chinese countries, Malaysia and Philippines.

## Family 43. NECTARINIDAE

174. *Nectarinia zeylonica flaviventris* (Hermann)

1804. *Certhia flaviventris* Hermann, *Observ. zool.*, 136 (Tranquebar).

*Common name* : Indian Purplerumped Sunbird (English), Phulchi (Oriya).

*Material examined* : Baleshwar district : 1 Male, and 1 Female, Daripokhari, coll. P. K. Das, 11 and 12. iv. 1976.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male :	54	32	19
1 Female :	53	32	18

*Weights* : 1 Male : 6; 1 Female : 7.

*Distribution* : India : Orissa : Baleshwar (recent record), Koraput (Majumdar 1988), Bihar, West Bengal, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Bangladesh.

*Remarks*: *Nectarinia zeylonica sola* (Vicillot) is synonymised with *Nectarinia zeylanica flaviventris* (Hermann).

175. *Nectarinia lotenia hindustanica* (Whistler)

1944. *Cinnyris lotenia hindustanicus* Whistler, *Spolia Zeylanica*, 23 : 199 (Kumta, North Kanara).

*Common name* : Indian Maroonbreasted Sunbird (English).

*Distribution* : India : Orissa : Puri (Majumdar 1981), Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh.

176. *Nectarinia asiatica asiatica* (Latham)

1790. *Certhia asiatica* Latham, *Index Orn.* 1 : 288 (India = Gurgaon).

*Common names* : Indian Purple Sunbird (English) and Phulchuhi (Oriya).

*Material examined* : Sambalpur district : 1 Female, Charnal, coll. N. Majumdar, 28. iii. 1976.

*Measurements* : 1 Female : wing 55, tail 39, bill 23.

*Distribution* : India : Orissa : Sambalpur (recent record), Bolangir (Biswas 1953), Koraput (Majumdar 1988), throughout India excepting eastern part of India including West Bengal. Elsewhere : Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

### 177. *Nectarinia asiatica intermedia* (Hume)

1870. *Arachnechthra intermedia* Hume, *Ibis* : 436 (Tippera).

*Common names* : Assam Purple Sunbird (English) and Phulchuhi (Oriya).

*Distribution* : India : Orissa : Koraput (Majumdar 1981), Assam. Elsewhere : Bangladesh, Burma and Indochinese Peninsula.

### 178. *Aethopyga siparaja seheriae* (Tickell)

1833. *Nectarinia (Sic) Seheriae* Tickell, *J. Asiat. Soc. Bengal.*, 2 : 577 (near Seheria in Borabhum).

*Common names* : Indian Yellowbacked Sunbird (English) and Phulchi, Phulchuhi (Oriya).

*Material examined* : Kalahandi district; 1 Male, Madanpur Rampur, coll. P. K. Das, 28. v. 1972.

*Measurements* : 1 Male : wing 56, tail 50, bill 22.

*Distribution* : India : Orissa : Kalahandi (recent record), Koraput (Majumdar 1988), Uttar Pradesh, Bihar, Sikkim, West Bengal and Madhya Pradesh. Elsewhere : Bangladesh.

### 179. *Arachnothera longirostris longirostris* (Lainam)

1790. *Certhia longirostra* Latham, *Index Orn.*, 1 : 299 (Bengal, restricted to Sylhet, Bangladesh, by Baker, *J. Bombay nat. Hist. Soc.*, 28 : 124).

*Common name* : Little Spiderhunter (English).

*Distribution* : India : Orissa : Phulbani (Majumdar 1979), Koraput (Majumdar 1988), West Bengal, Assam, Arunachal Pradesh, Manipur, Meghalaya, Goa, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Bangladesh, Burma and Thailand.

### 180. *Zosterops palpebrosa palpebrosa* (Temminck)

1824. *Sylvia palpebrosa* Temminck, *Pl. Col. d' Ois*, livr. 49, pl. 293, fig. 3 (Bengali = Bengal).

*Common name* : Indian White-eye (English).

*Distribution* : India : Orissa : Koraput (Majumdar 1988), throughout India excepting Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere : Pakistan, Nepal, Bangladesh, Sri Lanka, Burma, Indo-Chinese Peninsula, Tibet and China.

## Family 44. PLOCEIDAE

### Subfamily (i) PASSERINAE

#### 181. *Passer domesticus indicus* Jardine & Selby

1835. *Passer indicus* Jardine & Selby, *Ill. Orn.*, 3, pl. 118 (India, restricted to Bangalore by Kinnear, 1925, *Ibis* : 751).

*Common names* : Indian House Sparrow (English) and Gharachatia (Oriya).

*Material examined* : Mayurbhanj district : 3 Females, Kaptipoda, coll. P. K. Das, 24 and 31. iii. 1976; Cuttack district : 1 Female, Mahana, coll. V. C. Agrawal, 17. xii. 1971; Phulbani district : 1 Male and 3 Female, Kotagarh, coll. P. K. Das, 20 and 25. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male :	76	58	16
6 Females :	72-73 (72)	51-54 (53)	14-15 (14)

*Weight* : 1 Male : 20.

*Distribution* : India : Orissa : Mayurbhanj, Cuttack and Phulbani (recent records), Koraput (Majumdar 1988), throughout India including Jammu & Kashmir and Sikkim. Elsewhere : Pakistan, Bangladesh, Sri Lanka, Burma, Arabia; introduced in South Africa, Comoro and Mascarene Islands.

### 182. *Petronia xanthocollis xanthocollis* (Burton)

1838. *Fringilla xanthocollis* Burton, *Cat. Bds. Mus. Fort Pitt, Chatham* : 23, new name for *Fringilla flavicollis* Granklin, 1831 *nec. F. flavicollis* Gmelin, 1789. (Ganges between Calcutta and Benares = Varanasi, Uttar Pradesh, India).

*Common names* : Indian Yellowthroated Sparrow (English) and Chatia (Oriya).

*Material examined* : Sambalpur district : 1 Male, Charnal, coll. N. Majumdar, 28. iii. 1976; Phulbani district : 1 Female, Kotagarh, coll. N. Majumdar, 23. iii. 1976; Kalahandi district : 2 Males and 2 Females, Madanpur Rampur, coll. P. K. Das, 31. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
4 Males :	80-89 (84)	48-54 (51)	16-17 (16)
2 Females :	75, 81	45, 53	15, 16

*Weights* : 1 Male : 18; 1 Female : 20.

*Distribution* : India : Orissa : Sambalpur, Phulbani and Kalahandi (recent records), Koraput (Majumdar 1988), throughout India excepting eastern India beyond West Bengal. Elsewhere : Nepal, Bangladesh and Sri Lanka.

### Subfamily (ii) PLOCEINAE

#### 183. *Ploceus philippinus* (Linnaeus)

1766. *Loxia philippina* Linnaeus, *Syst. Nat., 12 ed., 1* : 305 (Philippines, errore = Ceylon = Sri Lanka).

*Common names* : Indian Baya (English) and Baya (Oriya).

*Material examined* : Sambalpur district : 1 Female, Rairakhol, coll. P. K. Das, 29. vii. 1973; Puri district : 1 Male, Balugaon, coll. A. K. Mondal, 23. vii. 1973; Phulbani district : 1 Female, Kalinga, coll. A. K. Mondal, 2. vii. 1974.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male :	74	45	16
2 Females :	67, 70	46, 47	16, 17

*Weight* : 1 Female : 25.

*Distribution*: India: Orissa: Sambalpur, Puri and Phulbani (recent records). Throughout India excepting Jammu & Kashmir, Himachal Pradesh, Bihar, West Bengal, Sikkim, Arunachal Pradesh, Meghalaya, Manipur, Nagaland, Tripura and Kerala. Elsewhere: Sri Lanka.

Subfamily (iii) ESTRILDINAE

184. *Estrilda formosa* (Latham)

1790. *Fringilla formosa* Latham, *Index Orn.* 1 : 441 (India)

*Common name*: Green Munia (English).

*Distribution*: India: Orissa: Koraput (Majumdar 1988). From Mt. Abu (Rajasthan), Madhya Pradesh, Maharashtra, Once recorded from Lucknow (U. P.) and Bihar. Elsewhere: Once recorded from Lahore (Pakistan).

185. *Lonchura striata striata* (Linnaeus)

1766. *Loxia striata* Linnaeus, *Syst. Nat.*, 12 ed., 1 : 306. (Isle of Bourbon, error = Ceylon = Sri Lanka).

*Common names*: Southern Whitebacked Munia (English) and Patruni (Oriya).

*Material examined*: Puri district: 1 Female, Dhuanali, coll. N. Majumdar, 15. iii. 1976. Phulbani district: 1 Male, Kotagarh, coll. P. K. Das, 24. v. 1972.

<i>Measurements</i> :	Wing	Tail	Bill
1 Male:	52	40	13
1 Female:	55	40	14

*Weights*: 1 Male: 12, 1 Female: 11.

*Distribution*: India: Orissa: Puri and Phulbani (recent records), Koraput (Majumdar 1988), Gujarat, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh. Elsewhere: Sri Lanka.

186. *Lonchura kelaarti vernayi* Whistler & Kinnear

1933. *Uroloncha kelaarti vernayi* Whistler & Kinnear, *J. Bombay nat. Hist. Soc.*, 36 : 835 (Sankrametta, Eastern Ghats, Andhra Pradesh, India)

*Common name*: Rufousbellied Munia (English).

*Distribution*: India: Orissa: Phulbani (Majumdar 1979) and Andhra Pradesh.

*Remarks*: The Eastern Ghats population of the Rufousbellied Munia, *Lonchura kelaarti vernayi* Whistler & Kinnear was synonymised with the *Lonchura kelaarti jerdoni* (Hume). Majumdar (1979) resuscitated *Lonchura kelaarti vernayi* Whistler & Kinnear as a distinct subspecies.

187. *Lonchura punctulata punctulata* (Linnaeus)

1758. *Loxia punctulata* Linnaeus, *Syst. Nat.* 10 ed., 1 : 173 (Asia = Calcutta).

*Common names*: Indian Spotted Munia (English) and Baramashi (Oriya).

*Material examined*: Cuttack district: 1 Female, Cuttack, coll. A. K. Mukherjee, 21. xi. 1971.

*Measurements* : 1 Female : wing 55, tail 38, bill 12.

*Distribution* : India : Orissa : Cuttack (recent record), Haryana, Punjab, Uttar Pradesh, Bihar, Sikkim, West Bengal, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh.

Family 45. FRINGILLIDAE

Subfamily CARDUELINAE

188. *Carpodacus erythrinus roseatus* (Blyth)

1842. *Pyrrhula roseata* "Tickell" = Blyth, *J. Asiat. Soc. Beng.*, 11 : 461 ("Sold..... in Calcutta").

*Common name* : Indian Rosefinch (English).

*Material examined* : Phulbani district : 1 Male, Kotagarh, coll. P. K. Das, 21. v. 1972.

*Measurements*: 1 Male : wing 87, tail 56, bill 13.

*Distribution* : India : Orissa : Phulbani (recent record), Koraput (Majumdar 1988), throughout Indian mainland excepting Jammu & Kashmir and Himachal Pradesh. Elsewhere : Nepal, Bangladesh, Burma, Indo-Chinese countries, China and Tibet.

Family 46. EMBERIZIDAE

189. *Melophus lathami* (J. E. Gray)

1831. *Emberiza lathami* Gray, *Zool. Misc.*, 1 : 2 (Canton, Kwangtung)

*Common name* : Crested Bunting (English).

*Material examined* : Cuttack district : 1 Male, Cuttack, coll. A. K. Mukherjee, 28. x. 1971.

*Measurements* : 1 Male : wing 84, tail 69, bill 14.

*Distribution* : India : Orissa : Cuttack (recent record), throughout Indian mainland, excepting Karnataka, Kerala and Tamil Nadu. Elsewhere : Nepal, Bhutan, Bangladesh, Burma and China.

### SUMMARY

1. A list of 189 species and subspecies based on collection of 685 birds belonging to 116 genera, 46 families and 17 orders from Orissa State is given.

2. Of these 189 species and subspecies 117 were reported earlier.

3. The family Muscicapidae with 22 species and subspecies forms the largest group in the bird fauna of Orissa State.

4. In the systematic account, the distribution of all the species and subspecies, along with some notes on ecology and behaviour, of some birds are given.

### REFERENCES

Ali, S. and Ripley, S. D. 1968 - 1974, Handbook of the birds of India and Pakistan, together with those of Nepal, Sikkim, Bhutan and Ceylon. 10 vol. Oxford University Press, Bombay.

- Ball, V. 1877. Notes on birds observed in the region between the Mahanadi and Godavari river. *Str. Feath.*, 5 : 410 - 420.
- Ball, V. 1878. From the Ganges to the Godavari : on the distribution of birds so far as it is at present known, throughout the hilly region which extends from the Rajmahal Hills to the Godavari valley. *Str. Feath.*, 7 : 191 - 236.
- Behura B. K. and GURU, G. B. 1969. Wild Life of Orissa. *Prakurti - Utkal University Journal Science*, 6 (2): 111 - 126.
- Biswas, B. 1953. Fauna of Bolangir district (formerly Patna State), Orissa. Pt. II. Birds. *Rec. Indian Mus.*, 51 (3) : 416 - 419.
- Champion, H. G. and SETT, S. K. 1968. A revised Survey of the forest types of India, Delhi 6.
- Dasgupta, J. M. 1976. Occurrence of Abbott's Babbler, *Trichastoma abbotti* (Blyth) in Orissa. *J. Bombay nat. Hist. Soc.*, 73 : 217 - 218.
- Dasgupta, J. M. and CHOWDHURY, R. L. 1977. Occurrence of the Great Crested Gerbe, *Podiceps cristatus* (Linnaeus) in northern Orissa. *Newsl. zool. Surv. India*, 3 (4) : 157 - 158.
- Majumdar, N. 1978. Occurrence of the Blueheaded Rock Thrush, *Monticola cinclorhynchus* (Vigors) (Muscicapidae : Turdinae) in Orissa. *J. Bombay nat. Hist. Soc.* 75 (2) : 493.
- Majumdar, N. 1978. On the taxonomic status of the eastern ghats Rufousbellied Munia, *Lonchura kelaarti vernayi* (Whistler and Kinnear, 1933) (Aves : Ploceidae). *J. Bombay nat. Hist. Soc. Bombay*, Vol. 75 (2) : 493 - 495.
- Majumdar, N. 1978. On the occurrence of the Blacknaped Green Woodpecker, *Picus canus hessei Gyldenstolpe* (Piciformes : Picidae) in Orissa, *J. Bombay nat. Hist. Soc. Bombay*, vol. 75 (3) : 924.
- Majumdar, N. 1979. New Records of Birds from Orissa. *J. Bombay nat. Hist. Soc.*, 76 (1) : 161 - 162.
- Majumdar, N. 1980. On the taxonomic validity of the South Indian Blackheaded Oriole, *Oriolus xanthornus maderaspatanus Franklin* (Aves : Oriolidae). *J. Bombay nat. Hist. Soc.*, 77 (1) : 139-142.
- Majumdar, N. 1981. On the taxonomic status of the Eastern Ghats Hill Myna, *Graula religiosa peninsularis* Whistler and Kinnear, 1933 (Aves : Sturnidae). *J. Bombay nat. Hist. Soc.*, 77 (3) : 331-333.
- Majumdar, N. 1981. Occurrence of the Bengal Black Robin, *Saxicoloides fulicata erythrura* (Lesson) (Muscicapidae : Turdinae), and the Assam Purple Sunbird, *Nectarinia asiatica intermedia* (Hume) (Nectariniidae) in Orissa State. *J. Bombay nat. Hist. Soc.*, 77 (3) : 334.
- Majumdar, N. 1981. Extension of range of the Indian Maroonbreasted Sunbird, *Nectarinia lotenia hindustanica* (Whistler) (Aves : Nectariniidae) (Aves : Sturnidae). *J. Bombay nat. Hist. Soc., Bombay*, vol. 78 (2) : 383-384.
- Majumdar, N. 1984a. On a collection of birds from Bastar district Madhya Pradesh. *Rec. zool. Surv., Occasional Paper No. 59* : 1-54.

- Majumdar, N. 1984b. On a collection of birds from Adilabad district, Andhra Pradesh. *Rec. zool. Surv., Occasional Paper No. 65* : 1 -63.
- Majumdar, N. 1988. On a collection of birds from Koraput district, Orissa, India, *Rec. zool. Surv., Misc. Pub., Occ. Paper No. 108*; 1 - 53.
- Majumdar, A. K. 1953. On a collection of birds from the Simlipal Hills Mayurbhanj district, Orissa. *Rec. Indian Mus.*, 50 (2): 157 - 172.
- Ripley, S. D. 1978. Changes in the bird fauna of a forest area : Simlipal Hills, Mayurbhanj district and Dhenkanal district, Orissa. *J. Bombay nat. Hist. Soc.*, 75 : 570 - 574.
- Ripley, S. D. 1961 and 1982. A synopsis of the Birds of India and Pakistan, together with those of Nepal, Sikkim, Bhutan and Ceylon. Bombay Natural History Society, Bombay.

## MAMMALIA

P. K. DAS, J. P. LAL and V. C. AGRAWAL  
*Zoological Survey of India, 'M' Block, New Alipur, Calcutta 700 053*

### INTRODUCTION

Our recent knowledge about the mammalian fauna of India owes largely to the 'Mammal Survey of India, Burma and Ceylon' conducted practically all over the present Indian Union, Pakistan, Burma and Sri Lanka, under the auspices of the Bombay Natural History Society during the period from 1911 to 1930. But some lacunae remained because of the fact that this Survey could not be undertaken within the territories of the then Princely States of Rajasthan, Orissa, etc. However, a team of the Indian Museum, Calcutta, led by Dr. S.W. Kemp did collect and observe a few species of mammals in and around Chilka Lake, Orissa, during February-March 1914 (Annandale 1915). Mr. C.A. Crump of the Mammal Survey collected some specimens of mammals from Koira, presently in Sambalpur district of Orissa but then under the undivided Province of Bihar and Orissa (Wroughton 1915).

Mammal Survey (Mr. H.W. Wells) also collected nine species of mammals from Chilka Lake area (*ide* Hinton & Lindsay 1926). Behura & Guru (1969) compiled a list of mammals, mostly larger ones, of Orissa.

Under the programme of survey of Indian states, the Zoological Survey of India sent out a series of survey parties to different parts of Orissa from 1970 to 1983, for collection of different groups of animals, including mammals. Das & Agrawal (1973) published the highlights of the mammal specimens collected during the years 1971 and 1972. Khaparde (1976, 1980) reported the occurrence of *Taphozous melanopogon*, and of *Rhinopoma kinneari* and *Ilioposideros speoris* respectively, and Acharjyo & Patnaik (1987), of the large Indian Civet (*Viverra zibetha*) from Orissa.

The present report is based mainly on the collection of mammals brought by the surveys, as mentioned above, from different parts of Orissa, as also on earlier specimens already present in the National Zoological Collections of India from that State, and partly on published literature.

Oriya names for different species of mammals have mostly been taken from Behura & Guru (1969).

All the measurements are in millimetres and have been taken after Pocock (1939, 1941) for Primates and Carnivora, Khajuria (1953) for Chiroptera and Ellerman (1961) for Rodentia. The figures in the parentheses, followed by the range of measurements, indicate arithmetic means (for more than two specimens). The whole number in the parenthesis placed before the range of a measurement indicates the number of specimens available for that particular measurement.

Following is a list of abbreviations used for various measurements :—

*apf* = Length of anterior palatal foramina;  
*b* = length of bulla;  
*c<sup>1</sup> - c<sup>1</sup>* = distance between outer surfaces of upper canines;  
*cb* = condylobasal length;  
*ccl* = condylocanine length;  
*cheek-tooth 1* = length of first upper cheek-tooth;  
*cheek-tooth stc1* = length of first lower cheek-tooth;  
*cw* = cranial width;  
*d* = length of diastema;  
*E* = length of ear;  
*Fa* = length of forearm;  
*F & C1* = length of foot and claw;  
*H & B* = length of head and body;  
*Hf* = length of hind foot;  
*iw* = least interorbital width;  
*l* = greatest length of skull;  
*m<sub>1</sub>* = length of first lower molar;  
*m<sup>1</sup> - m<sup>1</sup>* = distance between outer surfaces of first upper molars;  
*m<sup>2</sup> - m<sup>2</sup>* = distance between outer surfaces of second upper molars;  
*m<sup>3</sup> - m<sup>3</sup>* = distance between outer surfaces of third upper molars;  
*ml* = mandibular length;  
*mtr* = length of maxillary tooth-row;  
*mw* = maxillary width;  
*n* = nasal length;  
*on* = occipitonasal length;  
*orb* = length of orbit;  
*ow* = orbital width;  
*pl* = palatal length;  
*pm<sup>4</sup>* = length of fourth upper premolar;  
*pow* = postorbital width;  
*Tb* = length of tibia;  
*T1* = length of tail  
*Tr* = length of tragus;  
*zw* = zygomatic width.

#### SYSTEMATIC LIST OF MAMMALS REPORTED FROM ORISSA

The following species of mammals have been dealt with in this paper. The species which have been reported from different parts of Orissa by earlier workers but not examined by us, are each marked with an asterisk (\*).

#### Order I. INSECTIVORA FAMILY 1. SORICIDAE

##### 1. *Suncus murinus murinus* (Linnaeus)

2. *Suncus etruscus* (Savi)

## Order II. SCANDENTIA

## Family 2. TUPAIIDAE

3. *Anathana ellioti pallida* Lyon

## Order III. CHIROPTERA

## Suborder (i). MEGACHIROPTERA

## Family 3. PTEROPODIDAE

4. *Rousettus leschenaulti leschenaulti* (Desmarest)5. *Pteropus giganteus giganteus* (Brunnich)6. *Cynopterus sphinx sphinx* (Vahl)

## Suborder (ii). MICROCHIROPTERA

## Family 4. RHINOPOMATIDAE

\*7. *Rhinopoma microphyllum kinneari* Wroughton8. *Rhinopoma harkwickei harkwickei* Gray

## Family 5. EMBALLONURIDAE

9. *Taphozous longimanus longimanus* Hardwicke10. *Taphozous melanopogan melanopogan* Temminck\*11. *Taphozous saccolaimus crassus* Blyth

## Family 6. MEGADERMATIDAE

12. *Megaderma lyra lyra* E.Gcoffroy

## Family 7. RHINOLOPHIDAE

## Subfamily (i). RHINOLOPHINAE

13. *Rhinolophus rouxi rouxi* Temminck14. *Rhinolophus lepidus lepidus* Blyth

## Subfamily (ii). HIPPOSIDERINAE

\*15. *Hipposideros speoris* (Schneider)16. *Hipposideros lankadiva* Kelaart17. *Hipposideros fulvus pallidus* Andersen18. *Hipposideros ater ater* Templeton

## Family 8. VESPERTILIONIDAE

19. *Pipistrellus coromandra coromandra* (Gray)20. *Pipistrillus mimus* Wroughton21. *Pipistrellus ceylonicus indicus* (Dobson)22. *Pipistrellus dormeri* (Dobson)23. *Hesperoptenus tickelli* (Blyth)24. *Scotophilus kuhli kuhli* Leach25. *Scotophilus heathi heathi* (Horsfield)

- \*26. *Kerivoula picta picta* (Pallas)

Order IV. PRIMATES  
Family 9. CERCOPITHECIDAE

27. *Macaca mulatta mulatta* (Zimmermann)  
28. *Presbytis entellus entellus* (Dufresne)

Order V PHOLIDOTA  
Family 10. MANIDAE

29. *Manis crassicaudata* Gray

Order VI. CARNIVORA  
Family 11. CANIDAE

- \*30. *Canis lupus pallipes* Sykes  
31. *Canis aureus* Linnaeus  
32. *Vulpes bengalensis* (Shaw)  
\*33. *Cuon alpinus dukhunensis* (Sykes)

Family 12. URSIDAE

- \*34. *Melursus ursinus ursinus* (Shaw)

Family 13. MUSTELIDAE

- \* 35. *Mellivora capensis indica* (Kerr)  
36. *Lutra perspicillata perspicillata* I. Geoffroy

Family 14. VIVERRIDAE

- \*37. *Viverra zibetha* Linnaeus  
38. *Viverricula indica indica* (Desmarest)  
39. *Paradoxurus hermaphroditus hermaphroditus* (Pallas)  
40. *Herpestes edwardsi nyula* (Hodgson)

Family 15. HYANIDAE

- \*41. *Hyaena hyaena hyaena* (Linnaeus)

Family 16. FELIDAE

42. *Felis chaus kutas* Pearson  
\*43. *Felis caracal schmitzi* Matschie  
\*44. *Felis bengalensis* Kerr  
45. *Felis viverrina* Bennett  
\*46. *Panthera pardus fusca* (Meyer)  
\*47. *Panthera tigris* (Linnaeus)  
\*48. *Acinonyx jubatus venaticus* (Griffith)

Order VII. PROBOSCIDEA  
Family 17. ELEPHANTIDAE

- \*49. *Elephas maximus indicus* G. Cuvier

## Order VIII. ARTIODACTYLA

## Family 18. SUIDAE

50. *Sus scrofa cristatus* Wagner

## Family 19. TRAGULIDAE

51. *Tragulus meminna* (Erxleben)

## Family 20. CERVIDAE

52. *Muntiacus muntjac malabaricus* Lydekker  
 53. *Axis axis axis* (Erxleben)  
 \*54. *Cervus unicolor niger* Blainville  
 \*55. *Cervus duvauceli* G. Cuvier

## Family 21. BOVIDAE

- \*56. *Tetracerus quadricornis* (Blainville)  
 \*57. *Boselaphus tragocamelus* (Pallas)  
 \*58. *Bos gaurus gaurus* H. Smith  
 \*59. *Bubalus bubalis* (Linnaeus)  
 \*60. *Antelope cervicapra* (Linnaeus)

## Order IX. LAGOMORPHA

## Family 22. LEPORIDAE

61. *Lepus nigricollis ruficaudatus* Geoffroy

## Order X. RODENTIA

## Family 23. SCIURIDAE

62. *Petaurista petaurista philippensis* (Elliot)  
 63. *Funambulus palmarum palmarum* (Linnaeus)  
 64. *Funambulus pennanti* Wroughton  
 65. *Ratufa indica indica* Kerr

## Family 24. Hystricidae

- \*66. *Hystrix indica indica* Kerr

## Family 25. MURIDAE

67. *Vandeleuria oleracea dumeticola* (Hodgson)  
 68. *Rattus blanfordi* (Thomas)  
 69. *Rattus rattus rufescens* (Gray)  
 70. *Rattus rattus arboreus* (Horsfield)  
 71. *Mus musculus castaneus* Waterhouse  
 72. *Mus booduga booduga* (Gray)  
 73. *Golunda ellioti ellioti* Gray  
 74. *Bandicota bengalensis bengalensis* (Gray)  
 \*75. *Bandicota indica indica* (Bechstein)  
 \*76. *Tatera indica* (Hardwicke)

Order XI. CETACEA  
Family 26. DELPHINIDAE

77. *Orcaella brevirostris* (Owen)

SYSTEMATIC ACCOUNT  
ORDER I. INSECTIVORA  
Family 1. SORICIDAE

1. *Suncus murinus murinus* (Linnaeus)

1766. *Sorex murinus* Linnaeus, *Syst. Nat.*, 12th ed., 1 : 74 (Java).

*Common names* : House Shrew (English), *Chuchundra* (Oriya).

*Material examined* : Baleshwar district : 1 Male, 4 Females, Daripokhari, coll. *P.K. Das*, 6, 8, 12 & 14. ix. 1976. Mayurbhanj district : 1 Male, 3 Females, Kaptipada, coll. *P.K. Das*, 26 & 31. iii. 1976; 2 Males, Joshipur, coll. *J.K. Sen*, 12 & 14. xi. 1972; 1 Female Chahala, coll. *A.K. Mandal*, 23.i.1971. Keonjhar district : 1 Male, 1 Female, Ghatgaon, coll. *J.K. Sen*; 1 Female, Gopalpur, coll. *A.K. Mandal*, 4.ii.1971. Cuttack district : 1 Female Kujang, coll. *V.C. Agrawal*, 15. ii. 1974; 1 Female, 3 Juv. unsexed, Nandan Kanan, coll. *D. P. Sanyal*, 3.xi.1971; coll. *S. Biswas*, 2. ii. 1974. Sambalpur district : 4 Males, Badrama, Coll. *A.K. Mandal*, 23, 26 & 27. xii. 1972. Ganjan district : 8 Males, 5 Females, Barkuda Island, coll. *N. Annandale*, 9-13. viii. 1919, 11-15. xii. 1919; coll. *C. Dover & W. Gabriel*, 24-26. ix. 1919, 2-4. x. 1919; 1 Female, Russellkonda, coll. *R. H. Beddome*, 25. iii. 1879

*Measurements* : External : 9 Males : H & B 117.0-146.0 (133.0); T1 50.0-96.0 (70.0); Hf 16.0-24.0 (20.5); E 14.0-16.0 (14.5). 11 Females H & B 110.0-178.0 (126.5); T1 54.0-83.0 (76.5); Hf 14.0-20.5 (17.5); E 11.0-18.0 (13.0). Cranial : 9 Males : *on* 25.9-27.5 (26.8); *cb* 30.1-35.8 (32.9); *mtr* 13.4-15.6 (14.5); *pl* 14.5-16.7 (15.8); *iw* 5.3-6.5 (6.0); *cw* 11.8-12.8 (12.1); *ml* 15.5-18.0 (16.2). 11 Females : *on* 25.8-29.7 (27.1); *cb* 27.6-32.9 (30.6); *mtr* 12.1-15.1 (13.6); *pl* 13.0-15.9 (14.7); *iw* 5.6-6.3 (5.8); *cw* 11.4-12.4 (11.9); *ml* 14.4-17.7 (16.1).

*Distribution* : India : Orissa (Ganjam district, *vide* Anderson 1881, Mayurbhanj, Keonjhar and Cuttack districts, *vide* Das & Agrawal 1973, also Baleshwar and Sambalpur districts, *vide* material as above), widely distributed in the Indian mainland. Elsewhere : Sri Lanka, Pakistan, Nepal, Bangladesh, Bhutan, China, Burma, Vietnam, Thailand, Malaysia and Indonesia.

2. *Suncus etruscus* (Savi)

1822. *Sorex etruscus* Savi, *Nuovo Giorn. de Letterati, Pisa*, 1 : 60 (Pisa, Italy)

*Common name* : Savi's Pigmy Shrew (English).

*Material examined* : Puri district : 1 Juv. unsexed, Chilka Lake, coll. *N. Annandale*, 21. vii. 1930.

*Measurements* : External : 1 Juv. unsexed : H & B 26.4; T1 27.2; Hf 5.8 (from preserved specimen). Cranial : —

*Distribution* : India : Orissa (Puri district, *vide* Annandale 1915, Sundargarh district, *vide* Wroughton 1915) and most parts of India. Sri Lanka, Nepal (Mitchell & Punzo 1976), Bruma, Yunan, Thailand, Malaya, Borneo and west to western Asia and Mediterranean zone of Europe.

*Remarks* : Since the specimen is a juvenile, it was not possible to identify it subspecifically.

Order II SCANDENTIA

Family 2. TUPAIIDAE

3. *Anathana ellioti pallida* Lyon

1913. *Anathana pallida* Lyon, *Proc. U. S. natn. Mus.*, 45 : 124 (Manbhum = Puruliya district, West Bengal, India)

*Common name* : Madras Tree-Shrew (English).

*Material examined* : Dhenkanal district : 1 Male, 1 Female, Tikarpara, coll. V. C. Agrawal, 8 & 10. i. 1972. Puri district : 1 Male, Chilka Lake, coll. H. W. Wells, 6.x. 1921. Phulbani district : 1 Male, Kotagarh, coll. N. Majumdar, 21. iii. 1976. Kalahandi district : 1 Male, Madanpur Rampur, coll. P. K. Das, 28. v. 1972.

*Measurements*: External: 3 Males: H & B 165.0-181.0(172.0); T1 159.0-187.0(175.0); Hf 40.0-41.0(40.5); E 16.0-18.0(17.0). 2 Females : H & B 153.0-168.0(160.5); T1 168.0-174.0(171.0); Hf 36.0-41.0(38.5); E 17.0-17.5(17.3). Cranial: 3 Males: *on* 41.2-43.7(42.5); *cb* 40.1-41.5(40.7); *n*(1) 13.5; *mtr* (2) 20.9-22.2(21.5); *apf*(1) 2.7; *pl*(2) 22.5; *iw* 12.7-14.0(13.4); *zw*(1) 22.0; *cw*(2) 16.9, 18.0; *b* 8.0-9.0(8.5); *ml* 27.8-29.0(28.3). 2 Females: -.

*Distribution*: India: Orissa (Puri district, *vide* Hinton & Lindsay 1926b, also Dhenkanal, Kalahandi and Phulbani districts, *vide* material as above), West Bengal, Bihar and Madhya Pradesh.

Order III. CHIROPTERA

Suborder (i). MEGACHIROPTERA

Family 3. PTEROPODIDAE

4. *Rousettus leschenaulti leschenaulti* (Desmarest)

1820. *Pteropus leschenaulti* Desmarest, *Encycl. Meth. Mammal.*, 1 : 110 (Environments of Pondicherry, India).

*Common name* : Indian Fulvous Fruit Bat (English).

*Material examined* : Keonjhar district : 1 Male, 1 Female, Joshipur, coll. J. K. Sen, 15. xi. 1972. Sundargarh district : 12 Males, 17 Females, Koira, coll. P. K. Das, 11-14. vii. 1973. Cuttack district : 1 Female, Nandan Kanan, coll. A. K. Mandal, 1. vii. 1973. Sambalpur District : 1 Male, Burkat, coll. A. K. Mandal, 1. i. 1973. Puri district : 2 Females, 1 unsexed, Banpur, coll. A. K. Mandal, 21. vii. 1973; 11 Females, Barbera, coll. A. K. Mandal, 2. viii. 1973, coll. V. C. Agrawal, 23, 25 & 30. i. 1974, coll. A. K. Poddar, 8. i. 1978; 1 Male, Bhubaneswar, coll. D. K. Ghosal, 12. ii. 1967; 1 unsexed, Khandagiri, coll. F. H. Gravely, 8. xi. 1912.

*Measurements*: External: 12 Males: Fa 73.3-88.7(81.0); E 18.8-22.1(20.3); Tb 31.5-43.7(37.4); F & C1 20.0-24.4 (22.1). 20 Females: Fa 72.5-85.7(80.9); E 17.2-20.8(19.6); Tb 29.7-41.8(38.1); F & C1 19.0-23.9(22.3). Cranial: 12 Males: *l* 35.6-41.8(36.7); *cb* 32.2-40.0(35.5); *mtr* 13.0-15.0(14.1); *pl*(7) 16.7-17.7(17.1); *c*<sup>1</sup> - *c*<sup>1</sup> 6.7-8.0(7.1); *m*<sup>2</sup>-*m*<sup>2</sup> 10.3-11.9(11.3); *zw* 18.8-24.4(21.2); *cw* 14.6-16.3(15.4); *ml* 24.9-32.5(27.2). 20 Females : *l* 33.1-39.5(36.1); *cb* 31.6-37.2(35.2), *mtr* 13.2-14.8(13.9); *pl* (8) 15.5-17.5(16.9); *c*<sup>1</sup>-*c*<sup>1</sup> 6.2-7.8(7.0); *m*<sup>2</sup>-*m*<sup>2</sup> 10.2-11.8(11.4); *zw* 18.8-23.4 (21.5); *cw* 14.3-16.2(15.2); *ml* 27.0-31.8(27.6).

*Distribution* : India : Orissa (Puri district, *vide* Das & Agrawal 1973, Khaparde 1980, also Keonjhar, Sundargarh, Cuttack and Sambalpur districts, *vide* material as above), widely distributed in the Indian mainland. Elsewhere : Pakistan, Nepal, Bhutan, Burma, southern China, Hong Kong, Vietnam, Laos, Kampuchea and Thailand (*vide* Das 1986).

### 5. *Pteropus giganteus giganteus* (Brunnich)

1782. *Vespertilio gigantea* Brunnich, *Dyrenes Historie*, 1:45 (Bengal = West Bengal, India).

*Common names* : Indian Flying Fox (English), *Baduri* (Oriya).

*Material examined* : Sundargarh district : 3 Males, 1 Female, Koira, coll. *P. K. Das*, 15. vii. 1973. Puri district : 1 Juv. Female, Chilka Lake, coll. *N. Annandale*, — . Bolangir district : 1 Male, 1 Female, Lather, coll. *A.K. Mandal*, 13 & 16. xii. 1972. Ganjam district : 1 Female, Barkuda Island, coll. *C. Dover & W. Gabriel*, 24. ix. 1919; 1 Male, Khejuripada, coll. *A. K. Mandal*, 16. viii. 1973. Kalahandi district : 1 subad. Male, Madanpur Rampur, coll. *P. K. Das*, 29. v. 1972. Koraput district : 3 Males, 2 Females, Kasipur, coll. *P. K. Das*, 4. vi. 1972.

*Measurements* : External : 7 Males : Fa 160.0-177.0(169.4); E(6) 38.1-41.2(38.6); Tb 75.0-87.5(83.0); F & C1(4) 45.2-54.3(54.1). 3 Females : Fa 159.0-161.0(160.0); E(3) 37.9-41.9(39.6); Tb(3) 80.0-86.0(84.0). Cranial : 6 Males : *l* 71.9-73.0(71.9); *cb* 65.7-70.6(68.2); *mtr* 22.5-27.5(26.0); *pl* 34.4-39.8(37.6); *c'-c'* 12.1-14.8(13.8); *m'-m'* 19.0-20.7(20.3); *zw* 38.0-41.6(40.6); *cw* 25.0-26.8(25.9); *ml* 44.9-57.0(54.7). 4 F : *l* 67.2-72.0(70.0); *cb*(3) 53.0-69.5(63.0); *mtr* 25.1-27.7(26.8); *pl* 33.0-39.0(36.1); *c'-c'* 11.1-13.4(12.4); *m'-m'* 18.6-19.2(18.9); *zw* 30.1-38.8(36.2); *cw* 24.5-25.1(24.0); *ml* 45.9-57.7(53.6).

*Distribution* : India : Orissa (Puri district, *vide* Hinton & Lindsay 1926b, Kalahandi and Koraput districts, *vide* Das & Agrawal 1973, Cuttack district, *vide* Khaparde 1980, also Sundargarh, Bolangir and Ganjam districts, *vide* material as above), widely distributed in the whole of Indian Union including Andaman Islands. Elsewhere : Pakistan, Nepal, Bangladesh, Burma and Sri Lanka.

*Remarks* : Ellerman & Morrison-Scott (1951) consider specimens from Nepal, Assam and Manipur as belonging to *Pteropus giganteus leucocephalus* Hodgson, 1835, which is but doubtfully valid (*vide* Agrawal & Bhattacharyya 1977).

### 6. *Cynopterus sphinx sphinx* (Vahl)

1797. *Vespertilio sphinx* Vahl. *Skr. Nat. Selsk Copenhagen*, 4 (1) : 123 (Tranquebar, Tanjavur district, Tamil Nadu, India).

*Common names* : Short-nosed Fruit Bat (English), *Chemani*, *Chiminia* (Oriya).

*Material examined* : Baleshwar district : 11 Males, 5 Females, Daripokhari, coll. *P. K. Das*, 3-8 & 15. iv. 1976. Mayurbhanj district : 14 Males, 17 Females, 1 suckling baby F, Kaptipada, coll. *P. K. Das*, 23 & 24, 26-28, 30 & 31. iii. 1976. Keonjhar district : 1 Male, 1 Female Gopalpur, coll. *A. K. Mandal*, 1 & 2. ii. 1971; 2 Males, 4 Females, Joshipur, coll. *A. K. Mandal*, 29 & 30. i. 1971. Sundargarh district : 2 Males, 2 Females, Bonaigarh, coll. *A. K. Mandal*, 6. i. 1973; 3 Males, Koira, coll. *P. K. Das*, 12. vii. 1973. Cuttack district : 1 Male, 1 Female, Cuttack, coll. *A. K. Mukherjee*, 27. x. 1971; 1 Male, 5 Females, Nandan

Kanan, coll. A. K. Mandal, 1. viii. 1973 4 Males, 6 Females, 1 juv. unsexed, Udaigiri, coll. A. K. Mandal, 3. viii. 1973. Dhenkanal district: 1 Female, Bagmundra, coll. V. C. Agrawal, 5. i. 1972. Sambalpur district: 5 Males, 9 Females, Badrama, coll. A. K. Mandal, 23, 26 & 27. xii. 1972, coll. P. K. Das, 19 & 21. vii. 1973; 1 Male, Bhutel, coll. A. K. Mandal, 25. xii. 1973; 1 Male, 1 Female, Burkat, coll. A. K. Mandal, 1. i. 1973; 1 Male, Deogarh, coll. A. K. Mandal, 29. xii. 1972; 2 Females, Kansar, coll. A. K. Mandal, 3. i. 1973; 2 Male, Pallahara, coll. A. K. Mandal, 31. xii. 1972; 1 Male, Rairakhola, coll. P. K. Das, 26. vii. 1973; 1 Female, Sambalpur, coll. A. K. Mandal, 22. xii. 1972. Puri district: 2 Males, 2 Females, Barbera, coll. A. K. Mandal, 24. viii. 1973, coll. V. C. Agrawal, 25 & 31. i. 1974; 1 Female, Bonpur, coll. A. K. Mandal, 21. viii. 1973; 5 Males, 3 Females, Konarak, coll. A. K. Mandal, 29. vii. 1973; 1 Male, 1 Female, Nayagarh, coll. A. K. Mandal, 20. vii. 1973; 2 Male, 2 Females, 1 unsexed, Pipli, coll. A. K. Mandal 28 & 30. vii. 1973; 1 Male, 4 Females, Pratap, coll. A. K. Mandal, 23. vii. 1973; 4 Males, 1 Female, Puri, coll. A. K. Mandal, 25 & 28. vii. 1973. Phulbani district: 9 unsexed, Kaling, coll. A. K. Mandal, 30. vi. 1974; 1 Female, Kotagarh, coll. P. K. Das, 21. v. 1972. Bolangir district: 9 Males, 8 Females, Harisankar, coll. A. K. Mandal, 16 & 18. xii. 1972, coll. P. K. Das, 4 & 7. viii. 1973; 1 Male, 1 Female, Nawapara, coll. A. K. Mandal, 15. xii. 1972. Ganjam district: 1 Male, 1 Female, Chandragiri, coll. A. K. Mandal, 15 & 29. vii. 1973; 2 Males, 2 Females, Khejuripada, coll. A. K. Mandal, 17. vii. 1973; 5 Males, 2 Females, Mohana, coll. V. C. Agrawal, 16. xii. 1971, coll. A. K. Mandal, 16. vii. 1973. Kalahandi district: 3 unsexed, Muniguda, coll. A. K. Mandal, —. Koraput district: 9 unsexed, Biswanathpur, coll. A. K. Mandal, —; 1 subad. Male, Kasipur, coll. P. K. Das, 8. vi. 1972; 3 unsexed, Raigarh, coll. A. K. Mandal.

*Measurements* : External : 26 Males : Fa 69.3-76.0(71.9); E 16.4-25.0(19.3); Tb 25.9-30.1(28.8); F & C1 16.4-24.5(19.2). 26 F: Fa 69.4-74.5(71.6); E 16.4-24.0(21.4); Tb 27.0-32.3(29.0); F & C1 16.3-22.8(17.2). Cranial : 26 Males : *l* 31.0-33.9(32.1); *cb* 30.0-32.2(30.7); *mtr* 10.0-11.3(10.8); *pl* 16.2-17.9(16.6); *c'-c'* 6.2-7.2(6.9); *m'-m'* 9.5-11.0(9.9); *zw* 19.3-21.3(20.0); *cw* 13.2-14.3(14.0); *ml* 23.7-25.2(24.2). 26 Females: *l* 30.8-33.5(31.6); *cb* 29.5-33.0(30.3); *mtr* 10.0-11.0(10.7); *pl* 16.0-17.9(16.5); *c'-c'* 6.3-7.1(6.7); *m'-m'* 9.1-10.3(9.6); *zw* 19.0-21.3(20.0); *cw* 13.2-14.2(13.9); *ml* 23.0-25.0(24.1).

*Distribution* : India : Orissa (Sundargarh district, *vide* Wroughton 1915, Keonjhar, Cuttack, Dhenkanal and Phulbani districts, *vide* Das & Agrawal 1973, Puri district, *vide* Khaparde 1980, Baleshwar, Mayurbhanj, Sambalpur, Bolangir, Ganjam, Kalahandi and Koraput districts, *vide* material as above), widely distributed in the Indian Union north to Jammu (Chakraborty 1983) and east to Nagaland (Hinton & Lindsay 1926a). This species has also been reported from Andaman Islands (Chaturvedi 1969). Elsewhere : Possibly Pakistan (Roberts 1977), Nepal, Xizang (=Tibet, *vide* Cai & Zhang 1980), Hainan Island (China), Burma, Bangladesh and Sri Lanka.

#### Suborder (ii). MICROCHIROPTERA

#### Family 4 RHINOPOMATIDAE

#### 7. *Rhinopoma microphyllum kinneari* Wroughton

1912. *Rhinopoma kinneari* Wroughton, *J. Bombay nat. Hist. Soc.*, 21 : 767 (Bhuj, Kachchh district, Gujarat, India)

*Common name* : Larger Rat-tailed Bat (English).

*Remarks*: Khaparde (1980) reported this species of bat from Bhubaneswar, Puri district.

### 8. *Rhinopoma hardwickei hardwickei* Gray

1831. *Rhinopoma hardwickii* Gray, *Zool. Misc.* : 37 (India).

*Common name* : Lesser Rat-tailed Bat (English).

*Material examined*: Puri district: 1 Male, 1 Female, Bhubaneswar, coll. *D.K. Ghosal*, 7 ii. 1967, coll. *V.C Agrawal*, 12. ii. 1974; 3 Males, 5 Females, Udaigiri, coll. *D.K. Ghosal*, 11 ii. 1976 coll. *V. C. Agrawal*, 8. ii. 1974.

*Measurements* : External : 4 Males : Fa 59.5-60.5(59.9); E(2) 20.0, 20.5; Tb 20.0-30.0(27.0); F & C1(3) 12.0-15.1(13.8); Tr(1) 6.8. 6 Females : Fa 56.5-60.7(58.0); E(4) 17.2-19.4(18.6); Tb 20.5-28.8 (26.6); F & C1(4) 12.8-14.0(13.4); Tr(2) 6.0(2). Cranial : 3 Males: *l* 18.5-19.4(19.3); *cb* 17.0-18.0(17.5); *mtr* 6.1-6.7(6.3); *pl*(2) 7.0, 7.1; *c<sup>1</sup>-c<sup>1</sup>* 4.5-5.0(4.8); *m<sup>3</sup>-m<sup>3</sup>*(2) 8.3, 8.6; *iw* (2) 2.9, 3.0; *zw* 11.0-11.5(11.3); *cw* 8.2-8.5(8.4); *ml* 12.7-13.0(12.9). 4F: *l* 18.1-19.5(18.6); *cb* 16.6-18.6(17.3); *mtr* 5.6-6.7(6.2); *pl*(3) 6.5-6.6(6.5); *c<sup>1</sup>-c<sup>1</sup>* 4.5-4.9(4.7); *m<sup>3</sup>-m<sup>3</sup>*(2) 8.2, 8.4; *iw* (3) 2.6-3.0(2.8); *zw* (2) 10.2, 11.5; *cw* 8.0-8.5(8.2); *ml* (3) 11.9-13.4(12.5).

*Distribution* : India : Orissa (Puri district, *vide* Das & Agrawal 1973, Khaparde 1980), widely distributed in the Indian Union from Jammu & Kashmir to Kerala, east to Bihar. Elsewhere : Afghanistan and Pakistan. Earlier reports of this bat from Burma and southern Thailand are problematical (*vide* Hill 1977).

## Family 5. EMBALLONURIDAE

### 9. *Taphozous longimanus longimanus* Hardwicke

1825. *Taphozous longimanus* Hardwicke, *Trans. Linn. Soc. Lond.*, 14 : 525 (Calcutta, West Bengal, India).

*Common names* : Long-armed Sheath-tailed Bat, Long-winged Tomb Bat (English).

*Material examined* : Puri district : 4 Males, 9 Females, Konarak, coll. *V.C. Agrawal*, 5. ii. 1974.

*Measurements* : External : 4 Males : Fa 58.8-60.7(59.0); E 14.7-16.0(15.0); Tb 24.4-25.7(25.2); F & C1 12.3-13.7(13.0). 9 Females : Fa 58.2-61.9(60.2); E 13.3-16.0(14.3); Tb 20.0-26.2(25.3); F & C1 12.5-13.3(12.7). Cranial : 4 Males : *l* 19.3-20.2(19.9); *cb* 18.5-19.3(19.0); *mtr* 8.0-8.5(8.3); *c<sup>1</sup>-c<sup>1</sup>* 4.2-4.3(4.2); *m<sup>3</sup>-m<sup>3</sup>* 8.7-9.0(8.9); *zw* 12.5-12.7(12.6); *cw* 9.5-9.9(9.7); *ml* 15.5-16.0(15.7). 9 Females : *l* 19.4-20.2(19.7); *cb* 18.9-19.5(19.2); *mtr* 8.3-8.6(8.5); *c<sup>1</sup>-c<sup>1</sup>* 4.2-4.4(4.3); *m<sup>3</sup>-m<sup>3</sup>* 8.8-9.3(9.0); *zw* 12.2-12.8(12.6); *cw* 9.7-10.3(10.0); *ml* 15.2-16.1(15.9).

*Distribution* : India : Orissa (Puri district, *vide* material as above), widely distributed in the Indian Peninsula, northwards to Gujarat on the west, and West Bengal and Tripura (Agrawal & Bhattacharyya 1977) on the east. Elsewhere : Sri Lanka, Nepal (Worth & Shah 1969), Bangladesh (Ahmed & Hussain 1982), Burma, possibly Thailand (Lekagul & McNeely 1977), and Kampuchea (Hill & Thonglongya 1972).

*Remarks* : On the basis on the specimens mentioned above, *Taphozous longimanus longimanus* is reported for the first time form Orissa.

10. *Taphozous melanopogon melanopogon* Temminck

1841. *Taphozous melanopogon* Temminck, *Monogr. Mammal.*, 2 : 287 (Bantam, western Java).

*Common names*: Black-bearded Sheath-tailed Bat, Black-bearded Tomb Bat (English).

*Material examined*: Cuttack district : 2 Males, 1 Female, Cuttack, coll. *B. K. Behura*, - . Puri district : 18 Males, 9 Females, Bhubaneswar, coll. *F. H. Gravely*, 4-6. xi. 1912; coll. *D. K. Ghosal*, 11 & 12. ii. 1967, coll. *V. C. Agrawal*, 7 & 8. ii. 1974; 1 Female, Konarak, coll. *V. C. Agrawal*, 5. ii. 1974.

*Measurements*: External : 15 Males : Fa 61.9-66.6(64.1); E(10) 17.2-20.4(19.2); Tb 23.3-25.8(24.9); F & C1(13) 10.7-13.9(12.3); Tr 5.5-6.0(5.7). 8 F: Fa 57.5-64.8(63.7); E(6) 15.4-19.3(17.7); Tb 24.0-25.5(24.6); F & C1(9) 11.2-13.9(12.4). Cranial: 15 Males: *l* (12) 20.2-22.5(21.4); *cb*(12) 19.0-21.0(20.2); *mtr* 8.3-9.2(8.9); *pl*(8) 6.3-10.0(8.9); *c<sup>1</sup>-c<sup>1</sup>* 4.0-4.5(4.2); *m<sup>3</sup>-m<sup>3</sup>* 8.5-9.9(8.8); *zw* 12.5-13.6(12.8); *cw* 9.6-10.4(10.1); *ml* 15.3-16.5(15.9). 8 Females : *l* 20.5-22.4(21.4); *cb* 19.2-21.0(20.3); *mtr* 8.8-9.2(8.7); *pl* 6.4-9.8(8.5); *c<sup>1</sup>-c<sup>1</sup>* 3.8-4.2(4.0); *m<sup>3</sup>-m<sup>3</sup>* 8.7-9.1(8.9); *zw* 12.5-13.0(12.7); *cw* 9.5-10.7(10.1); *ml* 15.5-16.3(16.0).

*Distribution*: India : Orissa (Sambalpur district, *vide* Anderson 1881), Puri district, *vide* Khaparde 1977, also Cuttack district, *vide* material as above), widely distributed in the Indian Peninsula, north to Rajasthan (Sinha 1981a) on the west, and Bihar (Sinha 1981b) on the east; also Andaman Islands (Khajuria 1953). Elsewhere: Sri Lanka (Phillips 1935), Burma, southern China, Laos, (?) Vietnam, Java and possibly Bali, Savu and Timor (Goodwin 1977).

11. *Taphozous saccolaimus crassus* Blyth

1844. *T. [aphozous] crassus* Blyth, *J. Asiat. Soc. Beng.*, 13 : 491 (Mirzapur, Mirzapur district, Uttar Pradesh, India).

*Common name* : Pouch-bearing Bat (English).

*Remarks*: Mr. C. A. Crump, collector of the Mammal Survey of India, Burma and Ceylon, conducted by the Bombay Natural History Society, collected one male specimen of this bat from Koira, Sundargarh district, which was reported by Wroughton (1915).

## Family 6. MEGADERMATIDAE

12. *Megaderma lyra lyra* E. Geoffroy

1810. *Megaderma lyra* E. Geoffroy, *Ann. Mus. Hist. nat. Paris*, 15 : 190 (India, possibly Madras).

*Common name* : Indian False Vampire (English).

*Material examined* : Cuttack district : 1 Male, Cuttack, Coll. *A. K. Mukherjee*, 27. x. 1971. Dhenkanal district : 1 unsexed, Angul, coll. *J. Taylor*, 1913; 1 Female, Tikarpara, coll. *V. C. Agrawal*, 8. i. 1972. Puri district : 1 Male, Balugaon, coll. *J. W. Wells*, 13. x. 1921; 5 Males, 1 Female, Barbera, coll. *V. C. Agrawal*, 22 & 23. ii. 1974; 2 Males, 1 Female, Konarak, coll. *A. K. Mandal*, 29. vii. 1973, coll. *V. C. Agrawal*, 2. ii. 1974. Ganjam district; 4 Males, 4 Females, Mohana, coll. *V. C. Agrawal*, 18. & 19. xii. 1971.

*Measurements*: External : 10 Males : Fa 63.3-69.8(65.5); E 32.3-39.2(35.0); Tb 33.0-36.1(34.4); F & C1 16.6-18.9(17.8); Tr(4) 12.5-14.5(13.4). 6 Females: Fa 65.0-68.3(66.6);

E 33.0-37.1(35.6); Tb 34.1-36.0(34.8); F & C1(1) 18.2; Tr(5) 10.3-12.7(11.7). Cranial : 10 Males : *l* 27.4-28.5(28.0); *ccl* 24.5-25.7(25.2); *mtr* 10.5-11.1(10.8); *pl* 10.1-11.2(10.7); *c'-c'* 5.0-5.8(5.5); *m<sup>3</sup>-m<sup>3</sup>* 9.5-10.2(9.8); *zw* 16.1-16.7(16.3); *cw* 11.8-12.3(12.1); *ml* 19.2-20.0(19.8). 6 Females : *l* 27.5-28.4(28.0); *ccl* 24.8-25.5(25.1); *mtr* 10.3-11.0(10.6); *pl* 10.5-11.2(10.9); *c'-c'* 5.6-5.8(5.7); *m<sup>3</sup>-m<sup>3</sup>* 9.9-10.2(10.0); *zw* 16.5-17.1(16.7); *cw* 12.1-12.5(12.4); *ml* 19.5-20.1(19.7).

*Distribution* : India : Orissa (Puri district, *vide* Hinton & Lindsay 1926 b, Cuttack, Dhenkanal and Ganjam districts, *vide* Das & Agrawal 1973), widely distributed throughout the entire mainland of the Indian Union. Elsewhere : Afghanistan (Allen 1959), Pakistan, Nepal, Bangladesh and Sri Lanka.

*Remarks* : For the Indian mainland, Ellerman & Morrison-Scott (1966) recognise two subspecies of *Megaderma lyra*, *viz.*, *M.l. lyra* and *M.l. caurina* Andersen & Wroughton, 1907 (for western India). But, Sinha (1977) in a revisionary study, considers that the entire Indian population belongs to the nominate subspecies.

Family 7. RHINOLOPHIDAE  
Subfamily (i). RHINOLOPHINAE  
13. *Rhinolophus rouxi rouxi* Temminck

1835. *Rhinolophus rouxi* Temminck *Monogr. Mammal.*, 2 : 30b (Pondicherry and Calcutta, India).

*Common name* : Rufous Horseshoe Bat (English).

*Material examined* : Myurbhanj district : 1 Male, Joshipur, coll. A.K. Mandal, 30. viii. 1971. Sambalpur district : 1 Male, Jharsiguda, coll. P. K. Maiti, 6. i. 1972. Puri district : 1 Female, Salurdam, coll. A.K. Poddar, 9. i. 1978; 6 Males, 12 Females, Udaigiri, coll. D.K. Ghosal, 11. ii. 1967. Phulbani district : 1 Female, Kotagarh, coll. P.K. Das, 23. v. 1972. Bolangir district : 1 Female, Harisankar, coll. P.K. Das, 4. viii. 1973.

*Measurements* : External : 6 Males : Fa 47.7-49.6(48.9); E 18.5-20.8(19.0); Tb 21.1-23.5(22.6); T1 19.4-28.4(24.7). 12 Females : Fa 47.0-51.4(48.5); E 16.0-20.8(18.6); Tb 21.0-23.6(22.7); T1 22.0-27.8(25.3). Cranial : 6 Males : *l* (2) : 21.5, (2); *cb* (2) 19.2, 19.9; *mtr* 8.4-8.9(8.5); *pl* (2) 6.6, 7.0; *c'-c'* 5.8-6.1(6.0); *m<sup>3</sup>-m<sup>3</sup>* 7.9-8.4(8.1); *zw* 11.0-11.6(11.3); *cw* 9.0-9.3(9.1); *ml* 14.5-15.3(14.7). 12 Females : *l* (1) 21.0; *cb* (1) 19.4; *mtr* 7.6-8.3(7.9); *pl* (1) 7.1; *c'-c'* 5.3-5.7(5.5); *m<sup>3</sup>-m<sup>3</sup>* 7.4-7.9(7.7); *zw* 10.8-11.2(10.9); *cw* 8.5-9.3(9.0); *ml* 14.1-15.1(14.6).

*Distribution* : India : Orissa (Sambalpur, Puri and Phulbani districts, *vide* Das & Agrawal 1973, also Mayurbhanj and Bolangir districts, *vide* material as above), widely distributed in India—recorded from Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry, Andhra Pradesh, Madhya Pradesh, Uttar Pradesh, Himachal Pradesh and West Bengal. Elsewhere : Sri Lanka, Nepal and Burma (Das 1986).

14. *Rhinolophus lepidus lepidus* Blyth

1844. *Rh[inolophus] lepidus* Blyth, *J. Asiat. Soc. Beng.*, 13 : 486 (Vicinity of Calcutta, West Bengal, India).

*Common name* : Little Indian Horseshoe Bat (English).

*Material examined* : Sundargarh district : 1 Male, Koira, coll. P.K. Das, 10. vii. 1973.

Puri district: 1 Male, Khandagiri, coll. *F.H. Gravely*, 7. xi. 1912. Ganjam district: 1 Male, Mohana, coll. *V.C. Agrawal*, 20. vii. 1971.

*Measurements*: External: 3 Males: Fa 38.4 - 39.0(38.6); E(1) 17.9; T1 (1) 24.0; Tb 16.0-17.5(16.5); F & C1 (1) 7.0. Cranial: 2 Males: *l* (1) 16.3; *cb* (1) 14.5; *mtr* 6.3, 6.4; *pl* (1) 4.4; *c<sup>1</sup>-c<sup>1</sup>* 4.1, 4.5; *m<sup>3</sup>-m<sup>3</sup>* 6.0 (2); *iw* 2.2, 2.4; *zw* 8.1, 8.3; *cw* 7.3, 7.7; *ml* 10.4, 10.5.

*Distribution*: India: Orissa (Puri district, *vide* Das & Agrawal 1973, also Sundargarh and Ganjam districts, *vide* material as above), Andhra Pradesh, Tamil Nadu, Kerala, Karnataka, Maharashtra, Madhya Pradesh, Rajasthan, Delhi, Uttar Pradesh, Bihar, West Bengal and Meghalaya, (*vide* Das 1986). Elsewhere: Nepal.

*Remarks*: The validity of *Rhinolophus monticola* Andersen, 1905, as the northwestern subspecies of *Rhinolophus lepidus*, as also the southeastern limits of its distributional range has not yet been established (Das 1986). The material from Uttar Pradesh and possibly that from Nepal should be referred to *monticola*, if found valid.

#### Subfamily (ii). HIPPOSIDERINAE

#### 15. *Hipposideros speoris* (Schneider).

1800. *Vespertilio speoris* Schneider, *In Schreber, Die Säugethiere*: pl 159b (Tranquebar, Thanjavur district, Tamil Nadu, India).

*Common name*: Schneider's Leaf-nosed Bat (English).

*Remarks*: Khaparde (1980) reported this species of bat from Bhubaneshwar, Puri district.

#### 16. *Hipposideros lankadiva* Kelaart

1850. *Hipposideros lankadiva* Kelaart, *J. Ceylon Brch R. Asiat Soc.*, 2: 216 (Kandy, Ceylon = Sri Lanka).

*Common names*: Sri Lanka Gigantic Leaf-nosed Bat, Kelaart's Leaf-nosed Bat (English).

*Material examined*: Puri district: 3 Males, Khandagiri, coll. *F. H. Gravely*, 8. xi. 1912.

*Measurements*: External: 3 Males: Fa 86.3-86.5(86.4); E 21.0-21.7(21.4); Tb 33.5-34.2(33.9); F & C1 15.5-17.1(16.0). Cranial: 3 Males: *l* 31.2-31.8(31.4); *mtr* 13.0-13.3(13.1); *pl* 11.5-12.5(12.1); *c<sup>1</sup>-c<sup>1</sup>* 8.4-8.5(8.4); *m<sup>3</sup>-m<sup>3</sup>* 12.5-12.8(12.7); *zw* 18.0-18.3(18.1); *cw* 12.2-12.6(12.4); *ml* 22.5-23.0(22.8).

*Distribution*: India: Orissa (Puri district, *vide* material as above), Madhya Pradesh, Karnataka, Maharashtra (Sapkal & Bhandarkar 1984) and Meghalaya (Kemp 1924). Elsewhere: Sri Lanka.

*Remarks*: On the basis of specimens mentioned above, *Hipposideros lankadiva* is reported for the first time from Orissa. Ellerman & Morrison-Scott (1951) recognise three subspecies of *Hipposideros lankadiva* from the Indian mainland, viz. — *H. l. indus*, *H. l. mixtus* and *H. l. unitus*. These authors, though maintain *Hipposideros schistaceus* Andersen, as a distinct species, opine that *schistaceus* may also represent *lankadiva*. Brosset (1963) does not consider the variation in colour in the present species as zoogeographically related. According to this author, *Hipposideros lankadiva* is monotypic and *schistaceus* is its synonym. Hill (1963) in his review of the genus *Hipposideros*, however, maintains all the three mainland subspecies of *lankadiva*, as mentioned above. He also considers

*schistaceus* as a species distinct from *lankadiva*. Under the circumstances, further study of fresh material from the entire distributional range of the species may reveal the significance of variation in colour as well as morphometric variation, if any.

### 17. *Hipposideros fulvus pallidus* Andersen

1918. *Hipposideros fulvus pallidus* Andersen, *Ann. Mag. nat. Hist.*, (9) 2 : 381 (Junagadh, Kathiawar = Junagadh, Junagadh district, Gujarat, India).

*Common name* : Fulvous Leaf-nosed Bat (English).

*Material examined* : Puri district : 2 Males, 2 Females, Dhauli, coll. *F.H. Gravely*, 6. xi. 1912; 2 Males, 1 Female, Udaigiri, coll. *V.C. Agrawal*, 8. ii. 1974. Bolangir district : 1 Female, Harisankar, coll. *P.K.Das*, 7. vii. 1973.

*Measurements* : External : 4 Males : Fa 39.7-40.9(40.4); E 20.5-22.0(21.3); Tb 18.6-20.6(19.5); F & C1 7.3-8.6(8.1). 4 Females : Fa 40.0-42.0(41.2); E 20.4-23.5(21.6); Tb 19.0-21.9(20.1); F & C1 8.0-8.3(8.1). Cranial : 3 Males : *l* 18.2-18.8(18.4); *cb* 16.1-16.2(16.2); *mtr* 6.3-6.6(6.4); *pl* 6.3 (3); *c'-c'* 2.1-2.8(2.3); *m<sup>3</sup>-m<sup>3</sup>* (2) 4.1, 4.3; *zw* 9.3-9.7(9.4); *cw* 7.2-8.4(8.2); *ml* 10.5-11.2(10.8). 3 Females : *l* 18.0-18.4(18.1); *cb* 15.7-16.1(15.9); *mtr* 6.2-6.3(6.3); *c'-c'* 2.1(3); *zw* 9.2-9.3(9.3); *cw* 7.1-8.4(7.3); *ml* 10.7-11.0(10.8).

*Distribution* : India : Orissa (Puri district, *vide* material as above), Bihar, Madhya Pradesh, Gujarat and Rajasthan. Elsewhere : Pakistan.

*Remarks* : Hill (1963) includes Bihar and Orissa in the range of distribution of this bat possibly on the basis of material from Lohra, Nimiaghat and Sangajata (Wroughton 1915) which were in the erstwhile province of Bihar and Orissa, but are now in the state of Bihar. The specimens mentioned above constitute the first authentic record of *Hipposideros fulvus pallidus* from Orissa.

### 18. *Hipposideros ater ater* Templeton

1848. *Hipposideros ater* Templeton, *J. Asiat. Soc. Beng.*, 17 (pt. 1) : 252 (Colombo, Sri Lanka).

*Common name* : None.

*Material examined* : Puri district : 5 Females, Konarak, coll. *S. S. Saha*, 30.x.1965.

*Measurements* : External : 5 Females : Fa 35.7-37.7(36.2); E 15.3-17.8(16.4); Tb 14.0-16.7(15.3); F & C1 7.0-8.0(7.5). Cranial : 4 Females : *l* (3) 15.6-16.0(15.8); *cb* (3) 14.0-14.3(14.2); *mtr* 4.5-4.7(4.6); *pl* 5.5-5.9(5.6); *c'-c'* 3.2-3.6(3.5); *m<sup>3</sup>-m<sup>3</sup>* 5.4-5.5(5.4); *zw* 8.1-8.4(8.2); *cw* 7.6-7.9(7.7).

*Distribution* : India : Orissa (Puri district, *vide* material as above), Indian Peninsula north to approximately 20° N latitude. Elsewhere : Sri Lanka.

*Remarks* : *Hipposideros ater ater* is reported for the first time from Orissa, on the basis of the material mentioned above.

## Family 8. VESPERTILIONIDAE

### 19. *Pipistrellus coromandra coromandra* (Gray)

1838. *Scotophilus coromandra coromandra* Gray, *Mag. Zool. Bot.*, 2 : 498 (Pondicherry, India).

*Common name* : Indian Pipistrelle (English).

*Material examined* : Baleshwar district : 1 Female, Daripokhari, coll. *P.K. Das*, 11. iv. 1976. Sundargarh district : 2 Males, 8 Females, Koira, coll. *P.K. Das*, 13 & 14. vii. 1973. Ganjam district : 1 Female, Mohana, coll. *V.C. Agrawal*, 16. xii. 1972.

*Measurements* : External : 2 Males : Fa 32.0, 34.0; E10.6, 12.5; Tb 12.1, 13.2; F & C1 5.8, 9.2; Tr 4.7, 6.8. 10 Females : Fa 29.5-33.5(32.0); E10.0-12.1(11.0); Tb 11.9-13.5(12.5); F & C1 5.3-7.1(6.2); Tr 4.2-6.3(5.5). Cranial : 2 Males : *l* 12.8, 13.9; *cb* 12.2, 13.1; *mtr* 4.4, 5.2; *pl* (1) 7.8; *c'* - *c'* 3.8, 4.1; *m<sup>3</sup>-m<sup>3</sup>* 5.5, 6.2; *zw* 9.0, 9.5; *cw* 7.0, 7.5; *ml* (1) 9.9. 10 Females : *l* (9) 11.9-12.9(12.6); *cb* (8) 12.0-12.5(12.3); *mtr* 4.2-4.8(4.5); *pl* (8) 5.5-7.0(6.3); *c'* - *c'* (9) 4.0-4.4(4.2); *m<sup>3</sup>-m<sup>3</sup>* 5.3-6.0(5.6); *zw* (7) 7.7-8.9(8.4); *cw* 6.0-6.9(6.5); *ml* (8) 8.9-9.5(9.3).

*Distribution* : India : Orissa (Sundargarh district, *vide* Wroughton 1915, Ganjam district, *vide* Das & Agrawal 1973, Baleshwar district, *vide* material as above), widely distributed in peninsular India, north to Jammu & Kashmir, east to northeastern states, also Car Nicobar Island. Elsewhere : Pakistan, Nepal and Sri Lanka.

*Remarks* : The specimen of *Pipistrellus coromandra* Gray, 1838 recorded by Bhattacharyya (1977) from the Car Nicobar Island should better be referred here.

## 20. *Pipistrellus mimus* Wroughton

1899. *Pipistrellus mimus* Wroughton. *J. Bombay nat. Hist. Soc.*, 12 : 722 (Maheskatri, Dangs district, Gujarat, India).

*Common name* : Indian Pymy Pipistrelle (English).

*Material examined* : Mayurbhaj district : 4 Females : Kaptipada, coll. *P.K. Das*, 26.iii.1976. Keonjhar district : 2 Males, 6 Females, Gopalpur, coll. *A.K. Mandal*, 3 & 4. ii. 1971. Sundargarh district : 2 Males, 2 Females, Korias, coll. *P.K. Das*, 11, 13 & 14. vii. 1973. Sambalpur district : 1 Male, 1 juv. Male, Badrama, coll. *P.K. Das*, 20 & 21. vii. 1973. Ganjam district : 1 Male, Tarasingi, coll. *V.C. Agrawal*, 28.xii.1971

*Measurements* : External : 6 Males : Fa 26.9-28.2(27.4); T1 25.0-32.8(29.0); E 8.4-10.8(9.9); Tb 10.8-11.5(11.2); F & C1(5) 4.8-6.8(5.5); Tr(4) 3.0-5.8(4.7). 12 Females : Fa 26.0-29.9(28.1); T1(3) 30.0-31.0(30.5); E(5) 9.3-10.4(9.8); Tb 10.5-11.6(11.0); F & C1 4.3-6.3(5.0). Cranial : 5 Males : *l* 10.7-11.6(11.0); *cb* 9.9 - 10.9(10.4); *mtr* 3.5-3.8(3.6); *pl* 4.6-5.1(4.9); *c'* - *c'* 3.5-3.9(3.6); *m<sup>3</sup>-m<sup>3</sup>* 4.7-5.3(4.8); *zw* 7.1-7.7(7.3); *cw* 6.0-6.3(6.1). 8 Females : *l* 10.7-11.3(11.0); *cb* 10.1-10.6(10.3); *mtr* 3.4-3.8(3.6); *pl* 5.0-5.5(5.2); *c'* - *c'* 3.4-3.6(3.5); *m<sup>3</sup>-m<sup>3</sup>* 4.5-4.8(4.7); *zw* 7.0-7.4(7.2); *cw* 5.7-6.5(6.1).

*Distribution* : India : Orissa (Sundargarh district, *vide* Wroughton 1915, Ganjam district, *vide* Das & Agrawal 1973, Puri district, *vide* Khaparde 1980, Mayurbhanj, Keonjhar and Sambalpur districts, *vide* material as above), widely distributed throughout the Indian mainland. Elsewhere : Afghanistan (Meyer-Oehme 1965), Pakistan, Sri Lanka, Nepal (Mitchell 1980), Burma, Thailand and Vietnam.

*Remarks* : Sinha (1980) has synonymised *Pipistrellus mimus glaucillus* Wroughton, 1912, with *Pipistrellus mimus* Wroughton, 1899. Ellerman & Morisson-Scott (1951) consider *Pipistrellus principulus* Thomas, 1915 (type- locality : Gauhati = Guwahati Assam), as a subspecies of *Pipistrellus mimus*, with some doubt. Specimens of *Pipistrellus mimus* from Assam and adjoining areas, however, do not differ from those of other parts of India.

### 21. *Pipistrellus ceylonicus indicus* (Dobson)

1878. *Vesperugo indicus* Dobson, *Cat. Chiroptera Br. Mus.*: 222 (Mangalore, Dakshina Kannada district, Karnataka, India).

*Common name* : Kelaart's Pipistrelle (English).

*Material examined* : Sundargarh district : 1 Male, 1 Female, Bonaigarh, coll. A.K. Mandal, 8.ii.1973. Sambalpur district : 1 Male, 5 Females, Rairakhol, coll. P.K. Das, 26.vii.1973. Koraput district : 1 Male, 1 Female, Kashipur, coll. P.K. Das, 9. vi.1972.

*Measurements* : External : 3 Males : Fa 36.7-39.2(37.8); E(2) 12.4, 13.4; Tb 14.2-14.7(14.5); F & C1(1) 6.8. 7F : Fa 35.0-38.8(37.0); E(6) 11.6-14.0(13.1); Tb 13.0-14.8(13.9); F & C1(5) 7.0-8.2(7.3), Cranial : 3 Males : *l* 14.2-14.9(14.5); *cb* 13.9-14.4(14.1); *mtr* 5.5-5.6(5.5); *pl* (2) 7.0, 8.0; *c'*-*c'* 4.8-5.1(4.9); *m*<sup>3</sup>-*m*<sup>3</sup> 6.8-7.0(6.9); *zw* 10.0-10.1(10.0); *cw* 7.5-7.6(7.5). 7 Females : *l* 13.7-14.8(14.3); *cb* 13.2-14.2(13.8); *mtr* 5.2-5.5(5.4); *pl* 6.2-8.3(7.2); *c'*-*c'* 4.8-5.0(4.9); *m*<sup>3</sup>-*m*<sup>3</sup> 6.6-6.8(6.7); *zw* 9.7-10.4(9.9); *cw* 7.2-7.6(7.5).

*Distribution* : India : Orissa (Koraput district, *vide* Das & Agrawal 1973, Sundargarh and Sambalpur districts, *vide* material as above), Andhra Pradesh, Tamil Nadu, Kerala, (Lal 1984), Karnataka, Goa, Maharashtra, Gujarat, Rajasthan, Haryana, Uttar Pradesh (Lal 1984), Madhya Pradesh, Bihar and West Bengal. Elsewhere: Pakistan and Bangladesh (Lal 1984).

*Remarks* : Lal (1984) has synonymised *Pipistrellus chrysothrix* Wroughton, 1899, and *Pipistrellus ceylonicus subcanus* Thomas, 1915, with *Vesperugo indicus* Dobson, 1878.

### 22. *Pipistrellus dormeri* (Dobson)

1875. *Scotozous dormeri* Dobson, *Proc. zool. Soc. Lond.* : 373 (Bellary Hills, Bellary district, Karnataka, India).

*Common name* : Dormer's Bat (English).

*Material examined* : Sundargarh district : 5 Males, 4 Females, Koira, coll. P.K. Das, 11, 13 & 14. vii. 1973. Sambalpur district : 2 Females, Badrama, coll. P.K. Das, 21 & 22. vii. 1973. Bolangir district : 1 Female, Harisankar, coll. D.P. Sanyal, 23.v.1972. Ganjam district : 1 Male, Tarasingi, coll. V.C. Agrawal, 25. xii. 1971.

*Measurements* : External : 6 Males : Fa 32.0-36.2(35.1); E 10.5-12.7(11.5); Tb 12.0-13.3(12.8); F & C1(5) 5.5-8.0(7.2). 7 Females : Fa 33.5-39.5(36.2); E(6) 11.4-13.4(12.1); Tb 12.2-14.2(13.1); F & C1 6.4-7.5(7.0). Cranial : 6 Males : *l* 12.8-13.9(13.4); *cb* (4) 12.8-13.8(13.1); *mtr* 5.0-5.4(5.2); *pl* (4) 6.5-7.4(7.1); *c'*-*c'* (5) 4.2-4.8(4.5); *m*<sup>3</sup>-*m*<sup>3</sup> 5.9-6.8(6.5); *zw* (3) 8.6-10.2(9.8); *cw* 7.0-7.4(7.2). 7 Females : *l* 13.7-14.3(14.1); *cb* 13.1-14.2(13.7); *mtr* 5.2-5.7(5.3); *pl* 6.5-8.1(7.6); *c'*-*c'* 4.2-5.0(4.6); *m*<sup>3</sup>-*m*<sup>3</sup> 6.1-6.9(6.7); *zw* (5) 9.9-10.3(10.2); *cw* 7.1-7.8(7.5).

*Distribution* : India : Orissa (Sundargarh district, *vide* Wroughton 1915, Ganjam district, *vide* Das & Agrawal 1973. Sambalpur and Bolangir districts, *vide* material as above), widely distributed in the Indian mainland from Jammu & Kashmir (Chakraborty 1983) south at least to Karnataka, and from Gujarat east to West Bengal. Elsewhere : Pakistan (Roberts 1977), and possibly Taiwan (= Formosa).

**Remarks:** Ellerman & Morrison-Scott (1966) recognise two subspecies, viz., *Pipistrellus dormeri dormeri* and *Pipistrellus dormeri caurinus* (Thomas, 1915) for this species. But Agrawal (1973) considers *P.d. caurinus* as a synonym of the nominate subspecies.

### 23. *Hesperoptenus tickelli* (Blyth)

1852. *Nycticejus tickelli* Blyth, *J. Asiat. Soc. Beng.*, 20 : 157 ("Chaibasa in Central India" = Chaibasa, Singbhum district, Bihar, India).

**Common name :** Tickell's Bat (English).

**Material examined :** Koraput district : 2 Males, 4 Females, Kasipur, coll. *P.K. Das*, 9 & 10. vi. 1972.

**Measurements:** External : 2 Males: Fa 55.0, 56.1; T1 51.0, 54.0; E 18.1, -; Tb 23.4, 24.3; Tr 5.6, 6.5, 4 Females : Fa 55.2-58.4(56.2); T1 52.6-55.5 (53.7); E 16.6 -19.1(17.8); Tb 21.2-25.3(23.3); Tr 5.5-7.0(6.7). Cranial : 2 Males : *l* 18.9, 19.2; *cb* 19.1, 19.7; *mtr* 7.5, 7.7; *pl* 8.5, 9.3; *c<sup>l</sup>-c<sup>l</sup>* 6.8, 7.0; *m<sup>3</sup>-m<sup>3</sup>* 9.6, 10.0; *iw* (2) 5.0, *zw* 14.4, 15.0; *cv* 9.6, 9.8; *ml* 15.1, 15.7. 4 Females : *l* 18.4-19.5(19.1); *cb* 18.8-19.3(19.0) ; *mtr* 7.3-7.6(7.5); *pl* 9.1-10.1(9.3); *c<sup>l</sup>-c<sup>l</sup>* 6.6-7.5(7.2); *m<sup>3</sup>-m<sup>3</sup>* 9.5-10.0(9.7); *iw* 5.1-5.5(5.4); *zw* 14.2 - 15.1(14.8); *cv* 9.2-10.2(9.8); *ml* 14.5-15.9(15.4).

**Distribution :** India : Orissa (Sundargarh district, *vide* Wroughton 1915, Koraput district, *vide* Das & Agrawal 1973), West Bengal, Bihar, Madhya Pradesh, Rajasthan, Maharashtra, Karnataka, Tamil Nadu, and Andaman and Nicobar Islands. Elsewhere : Sri Lanka, Nepal (Mitchell 1980), Burma, Thailand (Hill & Thonglongya 1972) and possibly southwestern China.

### 24. *Scotophilus kuhli kuhli* Leach

1822. *Scotophilus kuhlii* Leach, *Trans. Lin., Soc. Lond.*, 13 : 72 (India, according to Hill & Thonglongya 1972).

**Common name :** Lesser Yellow Bat (English).

**Material examined:** Baleshwar district: 1 Male, Daripokhari, coll. *P.K. Das*, 11. iv. 1976. Mayurbhanj district : 1 Male, 3 Females, Kaptipada, coll. *P.K. Das*, 12. iii. 1976. Keonjhar district : 11 Males, 21 Females, Joshipur, coll. *A.K. Mandal*, 29 & 30. i. 1971. Dhenkanal district : 1 Female, Angul, coll. *J. Taylor*, —. Puri district : 1 Female, Chilka Lake, coll. *S.W. Kemp*, 26. ii. 1914; 1 Male, Puri, coll. *N. Annandale & F.H. Gravely*, —. Phulbani district : 1 Male, 7 Females, Kotagarh, coll. *P.K. Das*, 19-21 & 23. v. 1972. Ganjam district : 1 Male, Tarasingi, coll. *V.C. Agrawal*, 25. xii. 1971.

**Measurements:** External : 13 Males: Fa 46.1-49.9(49.0); E 13.8-14.5(14.2); Tb 18.5-20.5(19.8); F & C 18.4-11.7(10.3). 20 Females: Fa 47.1-51.9(49.6); E (11) 11.2-15.9(13.9); Tb 18.2-22.5(19.5); F & C 19.0-11.7(10.3). Cranial : 10 Males : *l* 17.5-18.5(18.1); *cb* (5) 16.7-17.5(17.1); *mtr* 6.3-6.7(6.5); *pl* 8.0-9.7(8.8); *c<sup>l</sup>-c<sup>l</sup>* 6.2-6.6(6.3); *m<sup>3</sup>-m<sup>3</sup>* 8.2-8.5(8.4); *zw* 12.8-13.4(13.1); *cv* 8.8-9.2(9.0); *ml* 13.1-14.0(13.5). 18 Females: *l* 17.2-19.4(18.2); *cb* 16.8-17.7(17.2); *mtr* 6.2-6.7(6.5); *pl* 7.0-9.6(8.6); *c<sup>l</sup>-c<sup>l</sup>* 6.0-6.5(6.3); *m<sup>3</sup>-m<sup>3</sup>* 8.3-8.7(8.5); *zw* 12.8-13.4(13.0); *cv* 8.7-9.4(9.1); *ml* 12.7-14.0(13.4).

**Distribution:** India: Orissa (Puri district, *vide* Annandale 1915, Hinton & Lindsay 1926 b, Phulbani and Ganjam districts, *vide* Das & Agrawal, Baleshwar, Mayurbhanj, Keonjhar and Dhenkanal districts, *vide* material as above), widely distributed in the Indian mainland. Elsewhere : Pakistan, Bangladesh (Siddiqi 1961), Burma and Sri Lanka.

*Remarks* : On re-examination of the type-specimen of *Scotophilus kuhlii* Leach, Hill & Thonglongya (1972) have concluded that it originated from India, the name *Scotophilus kuhlii* Leach, 1822, should replace *Vespertilio temminckii* Horsfield, 1824, and *Scotophilus wroughtoni* Thomas, 1897, hitherto considered the Indian subspecies, should become a synonym of *Scotophilus kuhlii kuhlii*.

### 25. *Scotophilus heathi heathi* (Horsfield)

1831. *Nycticejus heathii* Horsfield, *Proc. zool. Soc. Lond.* : 113 (Madras, Madras district, Tamil Nadu, India).

*Common name* : Greater Yellow Bat (English).

*Material examined* : Baleshwar district : 1 Male, Nilgiri, coll. D. Sanyal, 23.x.1971. Cuttack district : 2 Males, 2 Females, Kujang, coll. V.C. Agrawal, 12.xi.1974. Sambalpur district : 7 Males, 7 Females, Rairakhol, coll. P.K. Das, 25-29. vii. 1973. Puri district : 1 Male, 6 Females, Barbera, coll. A.K. Mandal, 22. vii. 1973; 3 Females, Nayagarh, coll. A.K. Mandal, 20. vii. 1973.

*Measurements* : External : 8 Males : Fa 56.2-61.4(60.2); E 13.0-18.0(16.1); Tb 22.7-26.3(24.8); F&C1(7) 11.0-17.3(14.1); Tr(7) 6.3-10.0(8.1). 19 Females : Fa 59.4-64.2(61.5); E 13.9-17.8(16.2); Tb 24.0-27.2(25.6); F & C1 11.5-18.2(13.6); Tr 6.5-9.8(8.0). Cranial: 8 Males : *l* (5) 21.1-21.5(21.4); *cb* (6) 19.7-21.0(20.4); *mtr* 7.5-7.9(7.7); *pl* 7.3-9.5(8.2); *c<sup>1</sup>-c<sup>1</sup>* 7.1-7.5(7.4); *m<sup>3</sup>-m<sup>3</sup>* 9.8-10.3(10.1); *zw* (6) 15.3-15.8(15.5); *cw* 10.0-10.9(10.4); *ml* (7) 15.1-16.0(15.7). 19 Females : *l* (17) 20.9-22.3(21.6); *cb* (18) 20.0-21.3(20.6); *mtr* 7.5-8.0(7.7); *Pl* 7.7-8.8(8.2); *c<sup>1</sup>-c<sup>1</sup>* 7.0-7.8(7.3); *m<sup>3</sup>-m<sup>3</sup>* (18) 9.7-10.3(10.0); *zw* (14) 15.0-16.2(15.5); *cw* 9.8-10.8(10.3); *ml* (18) 15.0-16.4(15.8).

*Distribution* : India : Orissa (Puri district, *vide* Annandale 1915, Sundargarh district, *vide* Wroughton 1915, Baleshwar district, *vide* Das & Agrawal 1973, Cuttack and Sambalpur districts, *vide* material as above), widely distributed throughout the Indian subcontinent. Elsewhere : Afghanistan (Meyer-Oehme 1965), Pakistan, Nepal (Agrawal & Chakraborty 1971), Burma and Sri Lanka.

*Remarks* : Most of the specimens designated as *Scotophilus kuhlii* in the various reports of the Bombay Natural History Society's Mammal Survey of India, Burma and Ceylon, have subsequently been identified as *Scotophilus heathi*, so that Wroughton's (1918) *Scotophilus kuhlii* should be referred here. The taxonomy of *Scotophilus heathi* is in a state of confusion. Ellerman & Morrison - Scott (1951, 1966) recognise two subspecies, *viz.*— *Scotophilus heathi heathi* and *Scotophilus heathi belangeri* (I. Geoffroy, 1834) for the Indian mainland and Sri Lanka. However, Siddiqi (1961) considers, and rightly so, *belangeri* as a synonym of the nominate subspecies. At present, a number of ill-defined subspecies are recognised for this species, revision of which is but badly required.

### 26. *Kerivoula picta picta* (Pallas)

1767. *Vespertilio pictus* Pallas, *Spicil. Zool.*, 3: 7 (Ternate Island, Molucca Islands, Indonesia).

*Common name* : Painted Bat (English).

*Remarks* : Blyth (1863) reported a specimen of *Kerivoula picta* from Jeypore (=Jaipur), Koraput district, which was presented to the Asiatic Society of Bengal by J. Payter in 1852.

Order IV. PRIMATES  
Family 9. CERCOPITHECIDAE  
27. *Macaca mulatta mulatta* (Zimmermann)

1780. *Cercopithecus mulatta* Zimmermann, *Geogr. Gesch. Mensch.*, 2 : 195 (India).

*Common name* : Rhesus Macaque (English), *Pati* (Oriya).

*Material examined*: Sambalpur district: 1 Male, Deogarh, coll. A.K. Mandal, 30.xii.1972. Bolangir district : 1 Male, 1 Female, Harisankar, coll. P.K. Das, 3. viii. 1973.

*Measurements* : External : 2 Males : H & B 444.0, 510.0; T1 198.0, 245.0; Hf 123.0, 155.0; E 36.0, 42.0. 1 Female : H & B 460.0; T1 160.0; Hf 127.0; E 35.7. Cranial : 2 Males : *l* 97.3, 110.0; *cb* 70.0, 85.6; *zw* 65.0, 75.9; *ow* 53.0, 59.4; *mw* 22.0, 29.0; *mtr* 32.4, 36.9; *l* 63.8; 78.0. 1 Female : *l* 97.5; *cb* 69.5; *zw* 70.0; *ow* 56.0; *mw* 22.4; *mtr* 34.0; *ml* 67.3.

*Distribution* : India : Orissa (Puri district, *vide* Mukherjee 1984, Sambalpur and Bolangir districts, *vide* material as above), widely distributed in northern India, the northern limits being Jammu and southern Himachal Pradesh, the southern limits being marginally south of Tapti river in the southwest and Prakasam district of Andhra Pradesh in the southeast (Fooden *et al.* 1981). Elsewhere: Nepal, Bangladesh, Bhutan, China, Hong Kong, Burma, Thailand, Laos, Vietnam and Kampuchea.

28. *Presbytis entellus entellus* (Dufresne)

1797. *Simia entellus* Dufresne, *Bull. Soc. Philom., Paris*, 1, 7 : 49 (Bengal, India).

*Common name* : Hanuman Langur (English), *Hanuman* (Oriya).

*Material examined*: Sambalpur district: 1 Male, Burkat, coll. A.K. Mandal, 1. i. 1973; 1 Male, Badrama, coll. P.K. Das, 21.vii.1973. Phulbani district: 1 Female, Kotagarh, coll. P.K. Das, 22. v. 1972. Ganjam district: 1 Male, Tarasingi, coll. V.C. Agrawal, 25. xii. 1971.

*Measurements* : External : 2 Males : H & B 451.0, 640.0; T1 803.0, 990.0; Hf 174.0, 191.0; E 36.0, 47.0. 1 Female : H & B 690.0; T1 850.0; Hf 200.0; E 35.0. Cranial : 2 Males: *l* 114.0, 115.0; *cb* 79.7, 89.0; *zw* 77.8, 87.1; *ow* 52.3, 69.2; *mw* 28.2, 30.5; *mtr* 33.5, 40.7; *ml* 70.9, 81.0. 1 Female : *l* 107.7; *cb* 83.3; *zw* 83.0; *ow* 65.8; *mw* 28.4; *mtr* 37.3; *ml* 75.6.

*Distribution* : India : Orissa (Sambalpur, Phulbani and Ganjam districts, *vide* material as above), widely distributed in northern India from Gujarat to West Bengal, except the northern hilly region of Kashmir, Himachal Pradesh, northern Uttar Pradesh and Sikkim. Elsewhere : Bangladesh.

*Remarks* : Bhura & Guru (1969) included *Presbytis entellus* in their list of mammals of Orissa. These authors, however, did not mention any specimen or specific locality for this species. On the basis of the specimens mentioned above, the occurrence of *Presbytis entellus entellus* in Orissa is authenticated.

Order V PHOLIDOTA  
Family 10. MANIDAE  
29. *Manis crassicaudata* Gray

1827. *Manis crassicaudatus* Gray, *In Griffith's Cuvier Anim. Kingd.*, 5 : 282 (India).

*Common name* : Indian Pangolin (English), *Bajrakapta* (Oriya).

*Remarks* : Behura & Guru (1969) reported the occurrence of the Indian Pangolin in Orissa, but did not mention any specific locality. However, Tikader (1983) reports its occurrence in Mayurbhanj district.

Order VI. CARNIVORA  
Family 11. CANIDAE  
30. *Canis lupus pallipes* Sykes

1831. *Canis pallipes* Sykes, *Proc. zool. Soc. Lond.* : 101 (Deccan, India).

*Common names* : Indian Wolf (English), *Hundra*, *Heta-bagha*, *Nekeda-bagha* (Oriya).

*Remarks* : Behura & Guru (1969) reported the occurrence of the Indian Wolf in the Mahurbhanj, Sundargarh, Sambalpur and Koraput districts. However, these authors considered this animal to be extremely rare in Orissa.

31. *Canis aureus* Linnaeus

1758. *Canis aureus* Linnaeus, *Syst. Nat. 10th ed.*, 1 : 40 (Province of Lar, Iran).

*Common names* : Asiatic Jackal (English), *Siala* (Oriya).

*Material examined* : Baleshwar district : 3 Male, 1 juv. Female, Daripokhari, coll. P.K. Das, 11 & 12. iv. 1976. Dhenkanal district : 1 Female, Tikarpara, coll. V.C. Agrawal, 9. i. 1972. Puri district : 1 Male, Barbera, coll. V.C. Agrawal, 22. i. 1974.

*Measurements* : External 1 Male : H & B 740.0; T1 225.0; Hf 150.0; E 76.0. 1 Female : H & B 730.0; T1 230.0; Hf 143.0; E 66.0. Cranial : 1 Female : *l* 143.6; *cb* 138.8; *zw* 77.5; *pow* 28.7; *iw* 23.6; *mw* 25.6; *pm*<sup>4</sup> 16.0; *m*, 19.1; *ml* 105.2.

*Distribution* : India: Orissa (Puri district, *vide* Hinton & Lindsay 1926b, Baleshwar and Dhenkanal districts, *vide* material as above), widely distributed in the Indian mainland. Elsewhere: Northern and eastern Africa, south to Senegal, Nigeria and Tanzania, southeastern Europe, southwestern, central, southern Asia to Thailand, including Sri Lanka.

*Remarks* : Following Corbet (1980), *Canis aureus* has been treated here as a monotypic species.

32. *Vulpes bengalensis* (Shaw)

1800. *Canis bengalensis* Shaw, *Gen. Zool.*, 1, 2 : 330 (Bengal = West Bengal, India).

*Common names* : Bengal Fox (English), *Kokisiali* (Oriya).

*Material examined* : Baleshwar district : 1 Male, Daripokhari, coll. P.K. Das, 14. iv. 1976.

*Measurements* : External 1 Male : H & B 510.0; T1 280.0; Hf 105.0; E 54.5. Cranial : 1 Male : *on* 110.0; *cb* 108.7; *iw* 20.0; *mtr* 50.5; *b* 20.3; *pl* 54.6; *zw* 62.3; *pm*<sup>4</sup> 9.6; *m*, 10.5; *ml* 82.3.

*Distribution* : India : Orissa (all the districts, *vide* Behura & Guru 1969, Baleshwar district, *vide* material as above), distributed throughout the Indian mainland. Elsewhere: Pakistan, Nepal and Bangladesh.

33. *Cuon alpinus dukhunensis* (Sykes)

1831. *Canis dukhunensis* Sykes, *Proc. zool. Soc. Lond.* : 100 (Deccan, India).

**Common names** : Indian Wild Dog or Dhole (English), *Bali: kukura, Dhole, Kok* (Oriya).

**Remarks** : Behura & Guru (1969) reported the occurrence of the Indian Wild Dog in all the districts of Orissa, while the Zoological Survey of India party observed an individual at Chahala in Mayurbhanj district, in January 1971.

#### Family 12. URSIDAE

##### 34. *Melursus ursinus ursinus* (Shaw)

1791. *Bradypus ursinus* Shaw, *Nat. Misc.*, 2 (unpaged) : pls. 58-59 (Patna, Patna district, Bihar, India).

**Common names** : Sloth Bear (English), *Bhalu, Bhalluka* (Oriya).

**Remarks** : Behura & Guru (1969) listed the Sloth Bear as occurring in all the districts of Orissa. Tikader (1983), however, reported its occurrence in Cuttack, Dhenkanal, Sambalpur, Puri and Phulabani districts. The Zoological Survey of India parties noted the existence of the Sloth Bear in Keonjhar and Mayurbhanj (in 1971), Ganjam (in 1972), Phulbani (in 1972) and Baleshwar (in 1976) districts.

#### Family 13. MUSTELIDAE

##### 35. *Mellivora capensis indica* (Kerr)

1792. *Ursus indicus* Kerr, *Anim. Kingd.* : 188 (India).

**Common names** : Honey Badger or Ratel (English), *Gadabhalu, Chhotabhalu* (Oriya).

**Remarks** : Behura & Guru (1969) reported the occurrence of the Honey Badger, *Mellivora capensis* (Schreber), in Ganjam district. As per records available with the Zoological Survey of India, a mounted specimen of the Honey Badger was present in the galleries of the Indian Museum. This specimen was collected from Khurda, Puri district by R.G.A. Hannah on 2nd November, 1912. Unfortunately, this specimen is not traceable at the moment.

##### 36. *Lutra perspicillata perspicillata* I. Geoffroy

1826. *Lutra perspicillata* I. Geoffroy, *Dict. Class. Hist. Nat.*, 9 : 519 (Sumatra).

**Common names** : Smooth-coated Indian Otter (English), *Odha Odhua* (Oriya).

**Material examined** : Puri district : 1 unsexed, Barkul, coll. *S.W. Kemp*, — .

**Measurements** : External (from flat skin) : 1 unsexed : H & B 780.0; T1 400.0; Hf 110.0. Cranial : 1 unsexed : *l* 123.0; *cb* 117.0; *zw* 73.9; *pow* 20.6; *iw* 20.2; *mw* 26.0; *pm*<sup>4</sup> 13.7; *m*, 16.3.

**Distribution** : India : Orissa (Puri district, *vide* Annandale 1915), widely distributed throughout the Indian Union excepting the northwestern parts. Elsewhere : Iraq, Iran, Afghanistan, Nepal, Bhutan, Bangladesh, Burma, east to Vietnam, south to Malaya, Sumatra and possibly Borneo.

#### Family 14. VIVERRIDAE

##### 37. *Viverra zibetha* Linnaeus

1758. *Viverra zibetha* Linnaeus, *Syst. Nat.*, 10th ed., 1 : 44 (Bengal = West Bengal, India).

*Common name* : Large Indian Civet (English).

*Remarks* : Acharjyo & Patnaik (1987) reported the occurrence of this species in Orissa on the basis of a specimen caught in Fulnakhara area of Cuttack district. Incidentally, Sclater (1891) included Cuttack in the distributional range of *Viverrazibetha*. He, however, did not list any specimen from that area.

### 38. *Viverricula indica indica* (Desmarest)

1817. *Viverra indica* Desmarest. *Nouv. Dict. nat. Hist.*, 7 : 170 (India).

*Common names* : Small Indian Civet (English), *Saliapatini*, *Saliaputani*, *Sariapatani*, *Gandhanakula*, *Gandha marjara*, *Musa bilei* (Oriya).

*Material examined* : Dhenkanal district : 1 Female, Tikarpara, coll. V. C. Agrawal, 9.i.1972. Puri district : 1 Male, 1 Female, Satpara, Chilka Lake, coll. S.W. Kemp, 14. & 17. iii. 1914.

*Measurements* : External : 1 Male : H & B 560.0; T1 360.0; Hf—; E 38.0. 2 Females: H & B 565.0, 570.0; T1 355.0, 370.0; Hf(1) 92.0; E 40.0, 41.0. Cranial : 1 Female : l 94.0; cb 92.3; zw 43.6; iw 12.5; pow 11.1; mw 14.5; ml 61.0.

*Distribution* : India : Orissa (Puri district, *vide* Annandale 1915, Ganjam district, *vide* Behura & Guru 1969, Mayurbhanj district, *vide* Tikader 1983, Dhenkanal district, *vide* material as above), widely distributed throughout the Indian mainland except Rajasthan. Elsewhere : Nepal and Sri Lanka.

*Remarks* : Chakraborty (1983) has synonymised *Viverricula indica bengalensis* (Gray & Hardwicke, 1831), *V. i. mayrio* Pocock, 1933, *V. i. wellsii* Pocock, 1933 and *V. i. baptistae* Pocock, 1933 with *V. i. indica* (Desmarest, 1817).

### 39. *Paradoxurus hermaphroditus hermaphroditus* (Pallas)

1777. *Viverra hermaphroditus* Pallas, *In Schreber, Saugeth.*, 3 : 426 (? India).

*Common names* : Common Palm Civer (English), *Katasha*, *Odha* (Oriya).

*Material examined* : Kalahandi district : 1 Female, Madanpur Rampur, Coll. P.K. Das, 28. v. 1972.

*Measurements* : External : 1 Female : H & B 455.0; T1 500.0; Hf 70.0; E 45.0. Cranial 1 Female : l 95.5; cb 94.0; zw 47.5; nw 15.8; pow 13.5; iw 16.1; pm<sup>d</sup> 5.9; m<sup>l</sup> 9.6; ml 68.3.

*Distribution* : India : Orissa (Mayurbhanj district, *vide* Acharjyo & Tripathy 1976, Kalahandi district, *vide* material as above), widely distributed in peninsular India. Elsewhere : Sri Lanka.

*Remarks* : Recently, Ali *et al.* (1988) have described a new species of palm civet *Paradoxurus jorandensis* from Mayurbhanj district, Orissa. This species is, in fact, based on a single partially albinistic specimen (examined) of *Paradoxurus hermaphroditus*.

### 40. *Herpestes edwardsi nyula* (Hodgson)

1836. *Mangusta (Herpestes) nyula* Hodgson, *J. Asiat. Soc. Beng.*, 5 : 236 (Nepal, lowlands).

*Common names* : Indian Grey Mongoose (English), *Itatia neula* (Oriya).

**Material examined:** Baleshwar district : 2 subad. Male, 1 subad. Female, Daripokhari, coll. *P.K. Das*, 8 & 9. iv. 1976. Mayurbhanj district : 3 subad. Female, Kaptipada, coll. *P. K. Das*, 25. iii. 1976. Keonjhar district : 1 Male, Gopalpur, coll. *A.K. Mandal*, 6. ii. 1971. Kalahandi district : 1 subad. Male 1 subad. Female, Madanpur Rampur, coll. *P.K. Das*, 28 & 31.v.1972.

**Measurements:** External : 1 Male : H & B 340.0; T1 340.0; Hf 67.0; E 14.0. Cranial: 1 Male : *l* 71.5; *cb* 70.0; *pow* 14.8; *iw* 12.8; *zw* 33.7; *mw* 12.9; *pm*<sup>4</sup> 6.5; *m*<sub>1</sub> 10.0; *ml* 45.7.

**Distribution:** India: Orissa (Puri district, *vide* Annandale 1915, Keonjhar district, *vide* Das & Agrawal 1973, Baleshwar, Mayurbhanj and Kalahandi districts, *vide* material as above), and from Nepal to Assam, north of the Ganga, and from Gujarat to West Bengal south of that river.

#### Family 15. HYAENIDAE

##### 41. *Hyaena hyaena hyaena* (Linnaeus)

1758. *Canis hyaena* Linnaeus, *Syst. Nat.*, 10th ed., 1 : 40 (Benna Mountains, Laristan, southern Iran).

**Common names:** Striped Hyaena (English), *Gadhia*, *Hetabaghi*, *Hundala* (Oriya).

**Remarks:** Behura & Guru (1969) reported the occurrence of the Striped Hyaena in all the districts of Orissa, while Tikader (1983) mentioned its occurrence in Mayurbhanj and Cuttack districts. The Zoological Survey of India parties noted the existence of this animal in Dhenkanal (in 1972) and Sambalpur (in 1973) districts.

#### Family 16. FELIDAE

##### 42. *Felis chaus kutas* Pearson

1832. *Felis kutas* Pearson, *J. Asiat. Soc. Bengal*, 1 : 75 (Midnapore, Bengal = Medinipur, Medinipur district, West Bengal, India).

**Common name:** Jungle Cat (English).

**Material examined:** Cuttack district : 1 Juv. Male, Nandan Kanan, donor *L. N. Acharjyo*, 2. ii. 1974. Puri district : 1 Female : Barbera, coll. *A.K. Mandal*, 19.vii.1973. Kalahandi district : 1 Male, Madanpur Rampur, coll. *P.K. Das*, 28. v.1972. Koraput district : 1 Male, Kasipur, coll. *P.K. Das*, 8.vi.1972.

**Measurements:** External 2 Males : H & B 570.0, 620.0; T1 250.0, 270.0; Hf 133.0, 145.0; E 65.0, 67.0. 1 Female : H & B 550.0; T1 217.0; Hf 125.0; E 61.0. Cranial : 2 Males : *l* 103.0, 113.7; *cb* 94.2, 102.4; *zw* 69.8, 76.0; *iw* 18.7, 20.7; *pow* 32.5, 38.1; *mw* 24.1, 26.8, *pm*<sup>4</sup> 11.2, 11.7; *m*<sub>1</sub> 9.0, 9.9; *ml* 68.8, 75.0. 1 Female : *l* 96.3; *cb* 91.0; *zw* 66.7; *iw* 18.0; *pow* 33.9; *mw* 14.5; *ml* 65.0.

**Distribution:** India : Orissa (Cuttack district, *vide* Sclater 1891, Sundargarh district, *vide* Wroughton 1915, all the districts, *vide* Behura & Guru 1969) Cuttack district, *vide* Tikader 1983, Kalahandi and Koraput districts, *vide* Das & Agrawal 1973, Puri district, *vide* material as above), widely distributed from Gujarat to West Bengal. Elsewhere : Bangladesh.

##### 43. *Felis caracal schmitzi* Matschie

1912. *Felis (Caracal) caracal schmitzi* Matschie, *S.B. Ges. Nat. Fr. Berlin* : 64 (The Dead Sea region, Israel).

*Common name* : Caracal (English).

*Remarks* : On the basis of a newspaper report, Behura & Guru (1969) accepted the occurrence of the Caracal in Mayurbhanj district.

#### 44. *Felis bengalensis* Kerr

1792. *Felis bengalensis* Kerr, *Anim. Kingd.* : 151 (Southern Bengal = southern West Bengal, India).

*Common names* : Leopard Cat (English), *Baghata* (Oriya).

*Remarks* : According to Behura & Guru (1969), the Leopard Cat occurs in all the districts of Orissa.

#### 45. *Felis viverrina* Bennett

1833. *Felis viverrinus* Bennett, *Proc. zool. Soc. Lond.* : 68 (India, probably the Malabar coast).

*Common name* : Fishing Cat (English).

*Material examined* : Puri district: 1 juv. Female, Satpara, coll. S. W. Kemp, 16. iii. 1974.

*Measurements* : External : 1 Juv. Female : H & B 500.0; T1 170.0; Hf 30.0; E 42.0.

*Distribution* : India: Orissa (Puri district, *vide* Annandale 1915, Keonjhar district, *vide* Acharjyo & Misra 1975), practically throughout the Indian Union except northwestern parts, in suitable pockets. Elsewhere : Sri Lanka, Nepal, east to Vietnam and Taiwan, south to Sumatra, Java and Bali.

#### 46. *Panthera pardus fusca* (Meyer)

1794. *Felis fusca* Meyer, *Zool. Ann.*, 1 : 394 (Bengal, = West Bengal, India).

*Common names* : Leopard, Panther (English), *Karlapatria*, *Kalarapatria bagha*, *Kalarapaturia*, *Kendua*, *Pendra* (Oriya).

*Remarks* : The Panther was reported from the forests of all the districts of Orissa by Behura & Guru (1969). These authors found this large cat more common in the forests of Ganjam, Kalahandi and Koraput. Tikader (1983) reported the Leopard from Mayurbhanj, Cuttack, Dhenkanal, Puri and Phulbani districts.

#### 47. *Panthera tigris tigris* (Linnaeus)

1758. *Felis tigris* Linnaeus, *Syst. Nat.*, 10th ed., 1 : 41 (Bengal = West Bengal, India).

*Common names* : Tiger (English), *Bagha*, *Mahabala* (Oriya).

*Remarks* : Behura & Guru (1969) reported the occurrence of the Tiger in all the districts of Orissa. According to Tikader (1983), this large cat occurs in Mayurbhanj, Cuttack, Dhenkanal, Puri and Phulbani districts.

#### 48. *Acinonyx jubatus venaticus* (Griffith)

1821. *Felis venatica* Griffith, *Vert. Anim. Carnivora* : 93 (India).

*Common names* : Cheetah (English), *Cita bagha*, *Chita* (Oriya).

*Remarks* : As per Behura & Guru (1969), a *shikari* saw an individual of the Cheetah in an isolated corner of the forest of Dhenkanal district, in 1960. According to Mukherjee

(1982), James Milne had an encounter with a Cheetah on the Orissa - Andhra Pradesh border, in 1952 and K.M. Kirkpatrick reported seeing one near Chandragiri, Chittoor district, Andhra Pradesh, in 1952. These are generally accepted as the last two authentic sight records of the Cheetah in India.

Order VII. PROBOSCIDEA

Family 17. ELEPHANTIDAE

49. *Elephas maximus indicus* G. Cuvier

1797. *Elephas indicus* G. Cuvier, *Tabl. Elem. Hist. Nat.* : 148 (Sri Lanka).

*Common names* : Indian Elephant (English), *Hati* (Oriya).

*Remarks* : Behura & Guru (1969) reported the occurrence of the elephant in small numbers in the forests of Mayurbhanj, Keonjhar, Dhenkanal, Sambalpur, Puri, Phulabani and Ganjam districts. According to Tikader (1983), this species occurs in Mayurbhanj, Keonjhar, Sambalpur, Puri and Phulbani districts.

Order VIII. ARTIODACTYLA

Family 18. SUIDAE

50. *Sus scrofa cristatus* Wagner

1839. *Sus cristatus* Wagner, *Munch. Gelehrt. Anz.*, 9 : 435 (Probably the Malabar coast, India).

*Common names* : Wild Boar (English), *Baraha*, *Barha* (Oriya).

*Material examined* : Cuttack district : 1 Male (skull only), Cuttack, coll. *T. Shave*, 1845.

*Measurements* : Not taken.

*Distribution* : India : Orissa (Cuttack district, *vide* Sclater 189<sup>1</sup>, all the districts, *vide* Behura & Guru 1969, Mayurbhanj district, *vide* Tikader 1983), and throughout the Indian Union. Elsewhere : Pakistan, Nepal, Bangladesh and Sri Lanka.

Family 19. TRAGULIDAE

51. *Tragulus meminna* (Erxleben)

1777. *Moschus meminna* Room. *Syst. Regn. Anim., Mamm., al.* 322 (Sri Lanka).

*Common names* : Mouse-Deer (English), *Khuranta*, *Guranta*, *Guranti*, *Khuranti* (Oriya)

*Material examined* : Baleshwar district : 1 Juv.F, Daripokhari, coll. *P.K. Das*, 15. iv. 1976.

*Measurements* : Not taken.

*Distribution* : India : Orissa (all the districts, *vide* Behura & Guru 1969, Mayurbhanj district, *vide* Tikader 1983, Baleshwar district, *vide* material as above), throughout the Indian Peninsula, the northern limit being Rajasthan (Tehsin 1981) and Bihar. Elsewhere : Nepal (Mitchell & Punzo 1976) and Sri Lanka.

Family 20. CERVIDAE

52. *Muntiacus muntjak malabaricus* Lydekker

1915. *Muntiacus muntjak malabaricus* Lydekker, *Cat. Ungulate Mammal. Br. Mus.*, 4 : 24 (Nagarhol, Kodagu district, Karnataka, India).

*Common names* : Indian Muntjak or Barking Deer (English), *Kutra, Kutura* (Oriya).

*Material examined* : Mayurbhanj district : 1 Male, Chahala, coll. A.K. Mandal, 25. i. 1971.

*Measurements* : External : 1 Male : H & B 900.0; T1 175.0; E 105.0; height at shoulder 600.0; horn 91.0. Cranial : 1 Male : *l* 198.0; *cb* 184.0; *orb* 85.5; *iw* 50.5; *zw* 89.0; *cheek-tooth*<sup>l</sup> 63.0; *cheek-tooth*<sup>r</sup> 70.0; *ml* 155.5.

*Distribution* : India : Orissa (all the districts, *vide* Behura & Guru 1969, Mayurbhanj district, *vide* material as above), Malabar coast in southern India. Elsewhere : Sri Lanka.

*Remarks* : The above specimen tallies well with the description of *M. muntjak malabaricus* (*vide* Lydekker 1915). This obviously extends the range of this subspecies from Sri Lanka, and Malabar coast of India to much northeast in Orissa. In absence of sufficient material it is not possible to state with certainty if specimens from the Eastern Ghats will prove to be of this subspecies.

### 53. *Axis axis axis* (Erxleben)

1777. *Cervus axis* Erxleben, *Syst. Regn. Anim.* : 312 (Banks of the Ganga, India).

*Common names* : Spotted Deer (English), *Chitala, Jiada, Singala* (Male) and *Nandi* (Female) (Oriya).

*Material examined* : Mayurbhanj district : 1 subad. Female, Lulang, coll. A.K. Mandal, 19. i. 1971.

*Measurements* : External 1 Male : H & B 1250.0; T1 290.0; E 130.0; height at shoulder 760.0.

*Distribution* : India : Orissa (all the districts, *vide* Behura & Guru 1969, Mayurbhanj, Keonjhar, Cuttack, Dhenkanal, Sambalpur, Puri and Phulbani districts, *vide* Tikader 1983, Mayurbhanj district, *vide* material as above), practically throughout the Indian mainland except the northeastern region, Jammu & Kashmir and Himachal Pradesh. Elsewhere : Nepal and Bangladesh.

### 54. *Cervus unicolor niger* Blainville

1816. *Cervus niger* Blainville, *Bull. Soc. Philom. Paris* : 76 (Probably northern India).

*Common names* : Sambar (English), *Sambar* (Oriya).

*Remarks* : Behura & Guru (1969) reported the occurrence of the Sambar in all the districts of Orissa, while Tikader (1983) reported this deer from Cuttack, Dhenkanal, Sambalpur, Puri and Phulbani districts. The Zoological Survey of India parties observed the Sambar in the forests of Bolangir district.

### 55. *Cervus duvauceli* G. Cuvier

1823. *Cervus duvauceli* G. Cuvier, *Oss. Foss., 2nd ed.*, 4 : 505 (Northern India).

*Common names* : Swamp Deer (English), *Barasinga* (Oriya).

*Remarks* : According to Behura & Guru (1969), "The swamp deer once common in restricted areas of Sambalpur district about twenty five years back are now extinct from the State ...."

## Family 21. BOVIDAE

56. *Tetracerus quadricornis* (Blainville)

1816. *Cerophorus (Cervicapra) quadricornis* Blainville, *Bull. Soc. Philom. Paris* : 75, 78 (Plains of peninsular India).

*Common names* : Four-horned Antelope (English), *Charisinga* (Oriya).

*Remarks* : In 1969, the Four-horned Antelope was known to exist in the districts of Cuttack, Sambalpur, Puri and Phulbani (Behura & Guru 1969). Tikader (1983) reported this species from Cuttack, Dhenkanal, Puri and Phulbani districts. The Zoological Survey of India party could see a mutilated skin of the Four - horned Antelope in June 1972 at Kasipur, Koraput district, which was claimed to be of an animal killed in a nearby forest.

57. *Boselaphus tragocamelus* (Pallas)

1766. *Antilope tragocamelus* Pallas, *Misc. Zool.* : 5 (Plains of peninsular India).

*Common names* : Nilgai, Blue Bull (English), *Nilgai* (Oriya).

*Remarks*: Behura & Guru (1969) reported the occurrence of the Nilgai in all the districts of Orissa. Tikader (1983), however, reported this bovid from the Satkosia Gorge Sanctuary covering Cuttack, Dhenkanal, Puri and Phulbani districts, in part.

58. *Bos gaurus gaurus* H. Smith

1827. *Bos gaurus* H. Smith, *Griffith's Cuvier Anim. Kingd.*, 4 : 399 (Mainpat, Surguja district, Madhya Pradesh, India).

*Common names* : Gaur (English), *Gayala* (Oriya).

*Remarks*: Behura & Guru (1969) reported the occurrence of the Gaur in all the districts of Orissa. Tikader (1983), however, reports its occurrence in Mayurbhanj and Sambalpur districts only.

59. *Bubalus bubalis* (Linnaeus)

1758. *Bos bubalis* Linnaeus, *Syst. Nat.*, 10th ed., 1 : 72 (Rome, Italy).

*Common names* : Indian Buffalo (English), *Bana mahisi* (Oriya).

*Remarks* : In 1969, two herds of the Indian Buffalo existed in Orissa, one in the Kalahandi district and the other in the Koraput district (Behura & Guru, 1969).

60. *Antilope cervicapra* (Linnaeus)

1758. *Capra cervicapra* Linnaeus, *Syst. Nat.*, 10th ed., 1 : 69 (Trivandrum, Trivandrum district, Kerala, India).

*Common names* : Blackbuck (English), *Bali harina*, *Bautia*, *Krushnasara* (Oriya).

*Remarks* : Behura & Guru (1969) reported the Blackbuck as occurring in depleted numbers in Baleswar, Puri and Ganjam districts. According to these authors, this antelope was already scarce in Kalahandi district, in 1969.

## Order IX. LAGOMORPHA

## Family 22. LEPORIDAE

61. *Lepus nigricollis ruficaudatus* Geoffroy

1826. *Lepus ruficaudatus* Geoffroy, *Dict. Class. Hist. Nat.*, 9 : 381 (Bengal).

*Common names* : Indian Hare (English), *Sasapa, Sasa, Thekua* (Oriya).

*Material examined* : Mayurbhanj district : 1 Male, Chahala, coll. A.K. Mandal, 25. i. 1971. Puri district : 4 Males, Barbera, coll. A.K. Mandal, 19 & 20. vii. 1973, 1 Male, coll. V.C. Agrawal, 24. i. 1974; 2 Males, Dhuanali, coll. N. Majumdar, 10 & 13. iii. 1976. Ganjam district : 1 juv. Male, Mohana, coll. V.C. Agrawal, 22. xii. 1971; 1 Male, Khejuripada, coll. A.K. Mandal, 17. vii. 1973.

*Measurements* : External : 6 Males : H & B 403.0-465.0(436.0); T1 65.0-91.0(76.0); Hf 91.0-117.0(104.0); E 82.0-101.0(91.0). 1 Female : H & B 375.0; T1 85.0; Hf 105.0; E 113.0. Cranial : 6 Males : *on* 87.4-95.0(91.7); *cb* 76.3-83.2(79.9); *n* 39.3-42.2(40.6); *d* 22.1-25.9(24.0); *mtr* 14.3-15.5(14.8); *apf* 20.7-23.9(22.8); *pl* 34.5-35.7 (35.0); *iw* 12.5-15.9(14.3); *zw* 39.0-42.5(40.7); *b* 10.0-11.3(10.6); *ml* 65.0-69.1(66.5). 1 Female : *on* 78.1; *cb* 69.6; *n* 33.2; *d* 31.3; *mtr* 13.1; *apf* 19.3; *pl* 30.7; *iw* 16.8; *b* 12.0; *ml* 58.0.

*Distribution* : India : orissa (Puri district, *vide* Annandale 1915, all the districts, *vide* Behura & Guru 1969, Mayurbhanj and Ganjam districts, *vide* material as above), and widely distributed in northern India except the desert region. Elsewhere : Bangladesh, Bhutan and Nepal.

## Order X. RODENTIA

## Family 23. SCIURIDAE

62. *Petaurista petaurista philippensis* (Elliot)

1839. *Pteromys philippensis* Elliot, *Madras J. Litt. Sci.*, 10 : 217 (South Maharatta country = near Madras, Tamil Nadu, India).

*Common names* : Common Giant Flying Squirrel (English), *Uzanta qunduchi musa, Urki musa* (Oriya).

*Material examined* : Mayurbhanj district : 1 Male, 1 Female, Kaptipada, coll. P.K. Das, 30. iii. 1976. Sambalpur district : 1 Female, Badrama, coll. A.K. Mandal, 29. xii. 1972; 3 Males, 1 Female, Rairakhol, coll. P.K. Das, 24-27. vii. 1973. Kalahandi district : 1 Male, Madanpur Rampur, coll. P.K. Das, 31. v. 1972.

*Measurements* : External : 5 Males : H & B 335.0-401.0(369.0), T1 352.0-420(393.0); Hf 65.0-71.0(69.0); E 42.6-45.8(44.0). 3 Females : H & B 324.0-402.0(361.0); T1 320.0-438.0(361.0) Hf 60.0-72.5(68.0); E 35.0-48.0(43.0). Cranial : 4 Males : *on* 69.8-72.0(71.2); *cb* 65.0-66.3(65.6); *mtr* 14.8-15.0(14.9); *pl* 33.4-33.9(33.7); *n* 19.6-20(19.8); *d* 14.3-14.7(14.5); *b* 13.7-14.2(13.9), *apf* 5.0-5.3(5.2); *zw* 16.5-17.3(16.9); *ml* 43.9-45.1(44.8). 3 Females : 68.5-72.0(70.2); *cb* 64.0-66.9(65.7); *mtr* 14.7-15.2(14.9); *pl* 33.5-34.1(33.8); *n* 19.5-20.1(19.8); *d* 14.2-14.6(14.4); *b* 13.7-14.1(13.9); *apf* 4.8-5.3(5.0); *zw* 16.4-17.3(16.8); *ml* 44.3-45.3(44.9).

*Distribution* : India : Orissa (Sundargarh and Dhenkanal districts, *vide* Behura & Guru 1969, Kalahandi district, *vide* Das & Agrawal 1973, Mayurbhanj and Sambalpur districts, *vide* material as above), Bihar, Madhya Pradesh, Rajasthan (Tehsin 1981), Gujarat, Maharashtra, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh.

63. *Funambulus palmarum palmarum* (Linnaeus)

1766. *Sciurus palmarum* Linnaeus, *Syst. Nat. 12th ed.*, 1 : 86 (Madras, Madras district, Tamil Nadu, India).

*Common names* : Indian Palm Squirrel (English), *Patta musa* (Oriya).

*Material examined* : Mayurbhanj district : 1 Female, Champagarh, coll. *J.K. Sen*, — ; 1 Female, Jshipur, coll. *A.K. Mandal*, —, Dhenkanal district : 2 Males, Tikarpara, coll. *V.C. Agrawal*, 9.i.1972. Puri district : 2 Males, Balugaon, coll. *Y. Chaturvedi*, i. x. 1972; 1 Male, 1 Female, Chilka Lake, coll. *C.A. Crump*, 5. x. 1921. Phulbani district : 4 Males, 5 Females, Kotagarh, coll. *P.K. Das*, 19, 21-24. v. 1972, Ganjam district : 1 Male, 1 Female, Tarasingi, coll. *V.C. Agrawal*, 26. xii. 1971. Kalahandi district : 1 Male, 4 Females, Madanpur Rampur, coll. *P.K. Das*, 31. v. 1972. 1 & 8. vi. 1972. Koraput district : 1 Male, 1 Female, Kasipur, coll. *P.K. Das*, 8. vi. 1972.

*Measurements*: External: 8 Females: H 7 B 141.0-156.0(152.0); T 125.9-169.0(140.0); Hf 34.5-37.0(35.5); E 15.7-17.0(16.0). 9 Females: H & B 120.0-159.0(144.0); T 105.0-143.0(120.0); Hf 31.9-36.5(34.5); E 12.0-16.5(14.5). Cranial: 6 Males: *on* 37.8-39.6(38.9); *cb* 35.7-37.1(36.0); *n* (5) 11.1-11.6(11.4); *d* 9.0-9.6(9.4); *mtr* (3) 6.7-7.5(7.0); *apf* (4) 1.8-2.1(2.0); *iw* 10.3-12.2(11.2); *zw* (5) 21.3-22.3(21.7); *b* 7.1-7.9(7.5); *ml* 20.7-21.3(20.9). 6 Females: *on* 37.7-39.2(38.3); *cb* 34.8-36.6(35.8); *n* (5) 10.8-12.7(11.3); *d* 8.8-9.6(9.2); *mtr* 7.1-7.6(7.3); *apf* 1.5-2.2(2.0); *iw* 10.3-11.4(11.0); *zw* 21.5-22.2(21.8); *b* 7.1-7.3(7.2); *ml* (5) 21.1-21.5(21.2).

*Distribution* : India : Orissa (Puri district, *vide* Hinton & Lindsay 1926, Agrawal & Chakraborty 1979b, Khenkanal, Phulbani, Kalahandi and Ganjam districts, *vide* Das & Agrawal 1973, Koraput and Mayurbhanj districts, *vide* material as above), West Bengal, Bihar, Andhr Pradesh, Tamil Nadu, Kerala, Karnataka and Maharashtra. Elsewhere : Sri Lanka (Agrawal & Chakraborty 1979a).

64. *Funambulus pennanti* Wroughton

1905. *Funambulus pennanti* Wroughton, *J. Bombay nat. Hist. Soc.*, 16 : 411 (Mandvi taluka, Surat district, Gujarat, India).

*Common names* : Northern Palm Squirrel (English), *Gunduchi musa*, *Patta musa* (Oriya).

*Material examined* : Baleshwar district : 2 Females, Daripokhari, coll. *P.K. Das*, 4 & 7.iv.1976. Mayurbhanj district : 2 Males, 3 Females, Kaptipada, coll. *P.K. Das*, 29 & 30. iii. 1976. Khenkanal district : 1 Male, Bagmunda, coll. *V.C. Agrawal*, 1.i.1972; 3 Males, 1 Female, Tikarpara, coll. *V.C. Agrawal*, 8 & 10.i.1972, coll. *Y. Chaturvedi*, 14 & 15.ix. 1972. Sambalpur district : 1 Male, Badrama, coll. *A.K. Mandal*, 23. xii. 1972; 2 Males, 2 Females, Rairakhol, coll. *P.K. Das*, 24-26. vii. 1973. Puri district : 2 Females, Balighai, coll. *N. Annandale*, 23. x. 1908; 1 Male, 1 Female, Pipli, coll. *A.K. Mandal*, 29. vii. 1973. Phulbani district : 1 Female, Kotagarh, coll. *P.K. Das*, 21.v.1972. Ganjam district : 1 Male, 1 Female, Tarasingi, coll. *V.C. Agrawal*, 24 & 25. xii. 1971. Kalahandi district : 1 Male, Madanpur Rampur, coll. *P.K. Das*, 29. v. 1972.

*Measurements*: External: 9 Males: H & B 140.0-160.0(149.4); T 120.0-160.0(142.2); Hf 33.0-38.5(37.5); E 11.6-19.0(15.6). 12 Females: 126.0-160.0(146.8); T(9) 116.0-172.0(138.5); Hf(10) 33.0-40.0(36.6); E(11) 14.0-18.0(15.6). Cranial : 4 Males : *on* 34.6-

39.5(37.5); *cb* 32.5-37.1(35.0); *n* 10.0-11.7(11.1); *d* 8.5-9.3(8.9); *mtr* 6.5-7.4(7.0); *apf* 1.5-1.9(1.8); *iw* 9.5-10.6(10.1); *zw* 18.7-21.8(20.7); *b* 7.1-8.2(7.5); *ml* 21.0-23.0(21.5). 7 Females : *on* 37.8-39.4(38.8); *cb* 35.0-37.1(36.0); *n* 11.3-12.8(11.8); *d* 8.4-9.6(9.1); *mtr* 6.8-7.4(7.1); *apf*(6) 1.7-2.5(2.2); *iw* 9.8-10.6(10.2); *zw* 19.3-22.4(21.2); *b* 7.6-8.1(7.7); *ml* 20.5-23.0(21.6).

**Distribution** : India : Orissa (Mayurbhanj, Dhenkanal, Cuttack, Phulbani, Kalahandi and Ganjam districts, *vide* Das & Agrawal 1973, Puri district, *vide* Agrawal & Chakraborty 1979b, Sambalpur and Baleshwar districts, *vide* material as above), and whole of northern India, the southern limits being Maharashtra and northern portion of Andhra Pradesh. Elsewhere : Pakistan, Nepal and Bangladesh.

### 65. *Ratufa indica centralis* Ryley

1913. *Ratufa indica centralis* Ryley. *J. Bombay nat. Hist. Soc.*, 22 : 436-437. (Bori, 488 m, Hoshangabad district, Madhya Pradesh, India).

**Common names** : Indian Giant Squirrel (English), *Belara mus*. *Nepali musa*, *Belari musa* (Oriya).

**Material examined** : Baleshwar district : 1 Male, 2 Females, Daripokhari, coll. *P.K. Das*, 6 & 11. iv. 1976. Mayurbhanj district : 2 Males, 2 Females, Chahala, coll. *A.K. Mandal*, 22, 23 & 25. i. 1971. Dhenkanal district : 2 Females, Bagmunda, coll. *V.C. Agrawal*, 3 & 4. i. 1972; 1 Male, Tikarpara, coll. *V.C. Agrawal*, 11. i. 1972; 1 Male, Purnakot, coll. *J.K. Sen*, 27. xi. 1972. Sambalpur district : 1 Male, Badrama, coll. *A.K. Mandal*, 31. xii. 1972. Puri district : 1 Male, 2 Females, Barbera, coll. *V.C. Agrawal*, 23-25. i. 1974; 2 Males, 1 Female, Dhuanali, coll. *N. Majumdar*, 10 & 11. iii. 1976. Phulbani district : 2 Males, Kotagarh, coll. *P.K. Das*, 20 & 22. v. 1972. Ganjam district : 1 Male, Taptapani, coll. *A.K. Mandal*, 13. vii. 1973. 1 Female, Tarasingi, coll. *V.C. Agrawal*, 27. xii. 1971.

**Measurements** : External : 11 Males : H & B 310.0-388.0(348.0); T1 358.0-462.0(430.0); Hf 58.0-78.5(72.3); E 20.0-30.0(24.1). 12 Females : H & B (10) 326.0-398.0(358.0); T1(10) 383.0-470.0(436.0); Hf 56.0-80.0(73.5); E 20.0-25.0(23.2). Cranial : 10 Males : *on* (9) 70.2-76.8(72.5); *cb* 62.7-68.0(65.8); *n* 21.0-25.5(23.2); *d* 13.7-16.3(15.1); *mtr* 13.6-14.9(14.3); *apf* 4.2-6.1(5.5); *pl* 28.7-32.3(30.2); *iw* 21.3-28.5(24.3); *zw* 40.8-45.5(43.2); *b* 14.3-15.2(14.3); *ml* 39.0-48.8(44.9). 10 ♀ : *on* 70.9-74.5(72.5); *cb* 64.2-67.2(65.5); *n* 21.3-24.7(22.8); *d* 14.0-16.0(15.2); *mtr* 13.9-15.3(14.6); *apf* 4.1-6.2(5.3); *pl* 30.0-32.0(30.7); *iw* 22.3-29.1(24.3); *zw* 41.9-45.7(42.6); *b* 13.8-15.6(15.0); *ml* 40.9-45.5(43.8).

**Distribution** : India : Orissa (all the districts, *vide* Behura & Guru 1969, Mayurbhanj, Dhenkanal, Phulbani and Ganjam districts, *vide* Das & Agrawal 1973, Koraput district, *vide* Agrawal & Chakraborty 1979b, Sambalpur, Puri and Baleshwar districts, *vide* material as above), Bihar, Madhya Pradesh, Andhra Pradesh, Karnataka and Tamil Nadu.

### Family 24. HYSTRICIDAE

#### 66. *Hystrix indica indica* Kerr

1792. *Hystrix cristatus* var. *indica* Kerr, *Anim. Kingd.*:213 (India).

**Common names** : Indian Crested Porcupine (English), *Jhinka*, *Saye musa* (Oriya).

**Remarks** : Behura & Guru (1969) reported the occurrence of the Indian Crested Porcupine in the forests of all the districts of Orissa.

## Family 25. MURIDAE

67. *Vandeleuria oleracea dumeticola* (Hodgson)

1845. *Mus dumeticola* Hodgson, *Ann. Mag. nat. Hist.*, 15 : 268 (Nepal).

*Common name* : Indian Long-tailed Tree Mouse (English).

*Material examined* : puri district : 1 Male, Barbera, coll. A.K. Mandal, 19.vii.1973.  
Bolangir district : 2 Male, 1 juv. Male, Harisankar, coll. D.P. Sanyal, 21.v.1972.

*Measurements*: External: 20: H & B 94.0, 95.0; T1 108.0, 110.0, Hf 16.9, 17.1; E 14.9, 15.1. 10: H & B 74.0; T1 113.0; Hf 16.0; E 17.0. Cranial: 20: *on* 21.0, 21.4; *cb* 20.3, 20.6; *d* 5.6, 5.7; *mtr* 3.5, 3.5; *apf* 3.8, 3.8; *pl* 9.5, 10.4; *iw* 3.3, 3.4; *zw* 11.6, 12.2; *b* 3.8, 3.8; *ml* 11.1, 11.8.

*Distribution*: India: Orissa (Sundargarh district, *vide* Thomas 1915, Wroughton 1915, Bolangir and Puri districts, *vide* material as above), Sikkim, northern West Bengal, Assam, Meghalaya, Nagaland and Manipur. Elsewhere : Nepal, Burma and Yunnan (China).

*Remarks* : Thomas (1915) described the material from Koira, Sundargarh district, as *Vandeleuria oleracea marica*, which was later synonymised with *V. oleracea dumeticola* by Ellerman (1961). The present specimens extend the range of distribution of *V.o. dumeticola* further south.

68. *Rattus blanfordi* (Thomas)

1881. *Mus blanfordi* Thomas, *Ann. Mag. nat. Hist.*, 7 : 24 (Kadapa, Tamil Nadu, India).

*Common name* : Blanford's Rat (English).

*Material examined* : Mayurbhanj district : 1 Female, Chahala, coll. A.K. Mankal, 26.i.1971. Keonjhar district : 1 Female, Gopalpur, coll. A.K. Mankal, 6.ii.1971.

*Measurements* : External : 2 Females : H & B 158.0, 170.0; T1 183.0, 198.0; Hf 34.0, 36.0; E 25.0, 26.0. Cranial : 2 Females : *on* (1) 39.6; *cb* (1) 36.0; *n* 14.5, 15.0; *d* 10.2, 10.3; *mtr* 6.1, 6.3; *apf* (1) 8.2; *pl* 19.8, 20.0; *iw* 5.6, 5.7; *zw* (1) 18.3; *b* (1) 7.5; *ml* 19.9, 20.8.

*Distribution* : India : Orissa (Mayurbhanj and Keonjhar districts, *vide* material as above), Maharashtra, Goa (Agrawal 1973), Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Madhya Pradesh, Bihar and West Bengal. Elsewhere : Sri Lanka.

*Remarks* : On the basis of the material mentioned above, *Rattus blanfordi* is reported for the first time from Orissa. Palatal length in the above - mentioned specimens are more than one-half of the occipitonasal length rather than less than one-half as mentioned by Ellerman (1961).

69. *Rattus rattus rufescens* (Gray)

1837. *Musrufescens* Gray, *Ann. Mag. nat. Hist.*, 1 : 585 (Dharwad, Dharwad district, Karnataka, India).

*Common name* : Rufous House Rat (English).

*Material examined* : Ganjam district : 1 Female, Barkuda Island, coll. C., Dover & W. Gabriel, i.x.1919; 1 juv. unsexed, Taptapani, coll. A.K. Mandal, 14.vii.1973.

*Measurements* : External : 1 Juv. unsexed : H & B 83.0; T1 106.0; Hf 23.0; E 17.0. Cranial : 1 juv. unsexed *on* 28.4; *cb* 25.8; *n* 9.0; *mtr* 5.1; *d* 6.9; *pl* 14.7; *apf* 5.2; *b* 5.7; *ml* 14.9.

*Distribution* : India : Orissa (Ganjam district, *vide* material as above), and throughout the Indian mainland except the northeastern part.

*Remarks* : On the basis of the material from Ganjam district, *Rattus rattus rufescens* is reported for the first time from Orissa.

#### 70. *Rattus rattus arboreus* (horsfield)

1851. *Mus arboreus* Horsfield, *Cat. E. Ind. Mus.* 141 (Bengal, India).

*Common names* : Common White-bellied House Rat (English), *Musa* (Oriya).

*Material examined* : Mayurbhanj district : 3 Females, Chahala, coll. A.K. Mandal, 24-26.i.1971; 9 Males, 4 Females, Kaptipada, coll. P.K. Das, 27-30. iii. 1976, Keonjhar district : 4 Males, Joshipur, coll. A.K. Mandal, 21, 29 & 31.i.1971. Sundargarh district : 1 Female, Koira, coll. P.K. Das, 14. vii.1973. Dhenkanal district : 1 Male, 1 Female, Bagmuda, coll. V.C. Agrawal, 3.i.1972. Sambalpur district : 1 Female, Sambalpur, coll. P.K. Das, 18. vii. 1973. 1 Male, Rairakhol, coll. P.K. Das, 28. vii. 1973. Bolangir district : 1 Male, Harisankar, coll. P.K. Das, 4.viii. 1973. Ganjam district : 2 Males, 6 Females, 1 unsexed, Barkuka Island, coll. N. Annandale, 15.vii.1916, 13. viii. 1919; coll. C. Dover & W. Gabriel, 26-31. ix. 1919; 3 Males, 3 Females, Mohana, coll. V.C. Agrawal, 17, 20 & 21. xii. 1971; 1 Male, Tarasingi, coll. V.C. Agrawal, 26.xii. 1971. Koraput district : 1 Male, Kasipur, coll. P.K. Das, 7.i.1972.

*Measurements* : External : 20 Males : H & B 132.0-168.0(145.0); T1 156.0-230(189.0); Hf 27.0-35.0(31.5); E 18.0-26.0(21.6). 28 Females : H & B 135.0-191.0(150.0); T1 162.0-238.0(198.0); Hf 29.0-35.0(31.2); E 16.0-24.5(20.3) : Cranial : 20 Males : 32.2-42.1(37.8); *cb* 29.3-40.0(35.0); *mtr* 6.0-6.8(6.3); *pl* 16.6-23.1(20.0); *n* 11.5-15.2(12.9); *b* 6.0-7.4(6.7); *apf* 6.0-7.5(7.0); *d* 8.6-14.8(10.0); *zw* 15.0-20.4(17.7); *iw* 4.9-6.3(5.5); *ml* 17.2-23.0(20.1). 240 : *on* 35.6-41.5(37.4); *cb* 31.9-39.6(36.0); *mtr* 5.7-6.7(6.2); *pl* 17.6-22.4(20.7); *n* 11.8-15.1(13.3) ; *b* 6.2-7.3(6.9); *apf* 6.2-8.0(6.9); *d* 8.7-11.1(9.4); *zw* 16.4-20.3(17.9); 5.2-6.3(5.6); *ml* 17.9-24.6(20.8).

*Distribution* : India : (Puri district, *vide* Hinton & Lindsay 1926, Mayurbhanj, Keonjhar, Sundargarh, Dhenkanal, Sambalpur, Bolangir, Ganjam and Koraput districts, *vide* material as above), Uttar Pradesh, Bihar, West Bengal and Tripura (Agrawal & Bhattacharyya 1977). Elsewhere : Nepal and Bangladesh.

#### 71. *Mus musculus castaneus* Waterhouse

1843. *Mus castaneus* Waterhouse, *Ann. Mag. nat. Hist.*, 12 : 134 (Philippine Islands).

*Material examined* : Baleshwar district : 1 Male, 1 Female, Darinokhari, coll. P.K. Das, 6 & 7.iv.1976.

*Measurements* : External : 1 Male : H & B 82.0; T1 93.0; Hf 16.0; E. 13.5. 1 Female : H & B 84.0; T1 100.0; Hf 16.5; E 13.0. Cranial : 1 Male : *on* 21.3; *cb* 19.8; *n* 7.6; *d* 5.3; *mtr* 3.2; *apf* 5.0; *iw* 3.7; *zw* 10.7; *b* 3.7; *ml* 10.8. 1 Female : *on* 21.4; *cb* 19.9; *n* 7.7; *d* 5.4; *mtr* 3.3; *apf* 4.6; *b* 3.7; *ml* 11.3.

*Distribution* : India : Orissa (Baleshwar district, *vide* material as above) and almost throughout the Indian Union.

*Remarks* : Ellerman (1961) listed *Mus musculus castaneus* from Chaibasa, then under the undivided province of Bihar and Orissa, but now under the state of Bihar. Behura & Guru

(1969) included *Mus musculus castaneus* in their list of mammals of Orissa, but did not mention any specific locality or specimen for this taxon. On the basis of the material listed above, *Mus musculus castaneus* is, therefore, authentically reported for the first time from Orissa.

### 72. *Mus booduga booduga* (Gray)

1837. *Leggada booduga* Gray, *Charlesworth's Maq. nat. Hist.*, 1 : 586 (Southern Mahratta country, India).

*Common name* : Little Indian Field Mouse (English).

*Material examined* : Puri district : 1 Female, Barbera, coll. V.C. Agrawal, 23.i.1974. Phulbani district : 1 Female; Kotagarh, coll. P. K. Das, 24.v.1972. Bolangir district : 1 Female, Mahakhand, coll. D.P. Sanyal, 27.v.1972; 1 Female, Harisanker, coll. P.K. Das, 4. viii. 1973. Ganjam district : 1 Male, Barkuda Island, coll. N Annandale, 4. viii. 1919; 1 unsexed, Rambha, coll. N. Annandale, —; 4 unsexed, - , coll. R.H. Beddome, -

*Measurements* : External : 3 Females : H & B 58.0-72.0(65.7); T1 50.0-59.0(55.6); Hf 14.0-15.0(14.6); E 12.0-13.0(12.2). Cranial : 3 Females : *on* 19.0-19.5(19.2); *cb* 18.0-19.1(18.6); *n*(2) 7.6; *d* 5.0-5.9(5.35); *mr* 3.4-3.7(3.6); *apf* 4.1-4.2(4.1); *pl* 10.0-10.6(10.3); *iw* 3.2-3.5(3.3); *zw* 9.2-10.1(9.7); *b* 3.1-4.2(3.8); *ml* 10.4-12.0(11.2).

*Distribution* : India : Orissa (Sundargarh district, *vide* Wroughton 1915, Bolangir and Phulbani districts, *vide* Das & Agrawal 1973, Puri and Ganjam districts, *vide* material as above), and almost throughout the Indian mainland. Elsewhere : Nepal, Pakistan and Sri Lanka.

### 73. *Golunda ellioti ellioti* Gray

1837. *Golunda ellioti* Gray, *Charlesworth's Mag. nat. Hist.*, 1 : 576 (Dharwad districts, Karnataka, India).

*Common name* : Indian Bush Rat (English).

*Material examined* : Puri district : 1 Female, Balugaon, coll. N. Majumdar, 14.iii.1976.

*Measurements* : External : 1 Male : H & B 90.0; T1 78.0; Hf 21.0; E 15.0. Cranial : Skull damaged.

*Distribution* : India : Orissa (Puri district, *vide* material as above), and practically the whole of India, except southern Rajasthan and Gujarat. Elsewhere : Nepal, Pakistan and Sri Lanka.

*Remarks* : On the basis of the material mentioned above, *Golunda ellioti ellioti* is reported for the first time from Orissa. Ellerman (1961) recognised seven subspecies of *Golunda ellioti*, viz., *ellioti*, *gujerati*, *nuwara*, *paupera*, *myothrix*, *coenosa* and *watsoni*. Of these, the last four subspecies were subsequently synonymised with the nominate subspecies by Agrawal & Chakraborty (1982). The geographical distribution given above applies to *Golunda ellioti ellioti* Gray, as understood by Agrawal and Chakraborty (1982).

### 74. *Bandicota bengalensis bengalensis* (Gray)

1833. *Arvicola bengalensis* Gray, *Illustr. Indian Zool.*, 2, pl. 21 (Bengal, India).

*Common names* : Lesser Bandicoot-Rat (English), *Gatua musa* (Oriya).

*Material examined* : Balaswar district : 7 Males, 8 Females, Daripokhari, coll. P.K. Das, 4-11. iv. 1976. Mayurbhanj district : 3 Females, Kaptipada, coll. P.K. Das, 26 & 29. iii. 1976, 1. iv. 1976. Ganjam district : 1 unsexed, Rambha, coll. N. Annadale, —

*Measurements* : 7 Males : H & B 157.0-194.0(176.7); T1 136.0-178.0(153.9); Hf 29.5-34.7(32.7); E 18.0-21.0(19.7). 10 Females : H & B 150.0-182.0(164.8); T1 120.4-165.0(136.7); Hf 30.5-34.5(32.2); E 17.5-22.5(19.9). Cranial : 7 Males : *on* 35.7-39.3(36.9); *cb* 37.2-40.5(38.4); *n* 11.1-12.2(11.6); *mtr* 6.4-7.0(6.7); *apf* 7.4-8.4(7.9); *pl* 21.2-23.4(22.4); *iw* 5.9-6.6(6.2); *zw* 21.9-23.0(22.5); *b* 7.5-8.4(7.8); *ml* 21.0-25.0(22.8). 7 Females : *on* 34.0-36.5(35.3); *cb* 35.3-39.0(37.6); *n* 10.2-12.2(11.3); *mtr* 6.3-6.7(6.5); *apf* 5.9-9.0(7.3); *pl* 20.3-22.9(21.7); *iw* 5.8-6.2(6.0); *zw* 20.2-23.3(22.0); *b* 7.0-8.2(7.7); *ml* 21.0-24.2(22.4).

*Distribution* : India : Orissa (Balaswar, Mayurbhanj and Ganjam districts, *vide* material as above) and almost throughout India, except Himachal Pradesh and Jammu and Kashmir. Elsewhere : Nepal, Bangladesh, Burma and Sri Lanka.

*Remarks* : Ellerman (1961) reported *Bandicota b. bengalensis* from Luia, Chaibasa, then under the undivided province of Bihar and Orissa, but now under Bihar. Behura & Guru (1969) included *Bandicota bengalensis* in their list of mammals of Orissa. These authors, however, did neither mention any specimen, nor any specific locality for this species. *Bandicota b. bengalensis* is, therefore, hereby authentically reported for the first time from Orissa on the basis of the material mentioned above. Ellerman (1961) recognised five subspecies of *Bandicota bengalensis*, viz., *bengalensis*, *kok*, *gracilis*, *varius* and *warke*. Of these, *kok* and *gracilis* have been synonymised with the nominate subspecies by Agrawal & Chakraborty (1976). The geographical distribution given above applied to *Bandicota b. bengalensis* (Gray), as understood by Agrawal and Chakraborty (1976).

#### 75. *Bandicota indica indica* (Bechstein)

1800. *Mus indicus* Bechstein, *Veber. Vierf. Thiere*, 2 : 497 (Pondicherry, India).

*Common names* : Large Bandicoot Rat (English), *Musa* (Oriya).

*Remarks* : Hinton & Lindsay (1926) reported one male specimen of *Bandicota* sp. which they thought as near to *Bandicota malabaricus*, now considered as *Bandicota indica indica*. Ellerman (1961) reports this taxon from Chilka Lake, Puri district.

#### 76. *Tatera indica indica* (Hardwicke)

1807. *Dipus indicus* Hardwicke, *Trans. Linn. Soc. Lond.*, 8 : 279 (Between Varanasi and Hardwar, Uttar Pradesh, India).

*Common names* : Antelope Rat (English), *Musa* (Oriya).

*Remarks* : According to Behura & Guru (1969), the Antelope Rat occurs in Orissa. These authors, however, did not mention any specific locality for this species.

### Order XI CETACEA

#### Family 26. DELPHINIDAE

#### 77. *Orcaella brevirostris* (Owen)

1866. *Phocaena (Orca) brevirostris* Owen, *Trans. zool. Soc. Lond.*, 6, 1 : 24, pl. 9, figs. 1, 2, 3 (Vishakhapatnam, Vishakhapatnam district, Andhra Pradesh, India).

*Common name* : Irrawadi Dolphin (English).

*Material examined* : Puri district : 2 unsexed (skull only), 1 Male (skeleton), Chilka Lake, coll. L. Schwendler, 1875, W.C. Taylor, - , S.W. Kemp, 1914.

*Measurements* : Not taken.

*Distribution* : India : Orissa (Puri district, vide Sclater 1891, Annandale 1915), West Bengal and Andhra Pradesh. Elsewhere : South East Asian countries, northern Australia and Papua New Guinea.

### SUMMARY

Based on the material available in the National Zoological Collections of India (Zoological Survey of India) as also in earlier published literature, a total of 77 species of mammals have been reported from Orissa, of which 50 species are based on specimens present in the Zoological Survey of India. Detail locality - records for every species have been provided for Orissa. External and cranial measurements of available specimens have been given. English and Oriya common names of various species of mammals have been appended, as far as possible. Detailed distribution have been given for those taxa for which specimens were available for study. Four species of bats, viz., *Taphozous longimanus longimanus* Hardwicke, *Hipposideros lankadiva* Kelaart, *Hipposideros fulvus pallidus* Andersen and *Hipposideros ater ater* Templeton, and five species of rats, viz., *Kattus blanfordi* (Thomas), *Rattus rattus rufescens* (Gray), *Mus musculus castaneus* Waterhouse, *Golunda ellioti ellioti* Gray and *Bandicota bengalensis bengalensis* (Gray) have been reported for the first time from Orissa.

### ACKNOWLEDGEMENTS

We are thankful to the Director, Zoological Survey of India, for providing facilities for this work. We sincerely thank the Officer-in -charge and members of the staff of the Mammal and Osteology Section of the Zoological Survey of India for various help and assistance. The assistance provided by the Chief Conservator of Forests, Orissa, during the survey work, is gratefully acknowledged.

### REFERENCES

- Acharjyo, L.N. and Misra, R. 1975. Occurrence of Fishing Cat (*Felis viverrina*) in Orissa. *J. Bombay nat. Hist. Soc.*, 72 : 195-196.
- Acharjyo, L.N. and Patnaik, S.K. 1987. Occurrence of Large Indian Civet (*Viverra zibetha*) in Orissa. *J. Bombay nat. Hist. Soc.*, 84 : 201-202.
- Acharjyo, L.N. and Tripathy, A.P. 1976. A note on body colour and breeding habits in captivity of Common Palm Civet (*Paradoxurus hermaphroditus*) of Orissa. *J. Bombay nat. Hist. Soc.*, 71 : 601-603.
- Aellen, V. 1959. Contribution a l' etude de la faune d' Afghanistan 9. Chiropteres. *Revue suisse Zool.*, 66 : 353-386.
- Agrawal, V.C. 1973. Notes on a collection of mammals from Goa. *Rec. zool. Surv. India*, 67 : 261-280.
- Agrawal, V.C. and Bhattacharyya, T.P. 1977. Report on a collection of mammals from Tripura. *Rec. zool. Surv. India*, 73 : 135-157.

- Agrawal, V.C. and Chakraborty, S. 1971. Notes on a collection of small mammals from Nepal, with the description of a new mouse-hare (Lagomorpha : Ochotonidae). *Proc. zool. Soc., Calcutta*, **24** : 41-46.
- Agrawal, V.C. and Chakraborty, S. 1976. Revision of the subspecies of the Lesser Bandicoot Rat, *Bandicota bengalensis* (Gray) (Rodentia : Muridae). *Rec. zool. Surv. India*, **69** : 267-274.
- Agrawal, V.C. and Chakraborty, S. 1979a. Taxonomic notes on Oriental squirrels. *Mammalia*, **43** : 161-192.
- Agrawal, V.C. and Chakraborty, S. 1979b. Catalogue of mammals in the Zoological Survey of India. Rodentia : Part 1. Sciuridae. *Rec. zool. Surv. India*, **74** : 333-481.
- Agrawal, V.C. and Chakraborty, S. 1982. Intraspecific geographical variations in the Indian Bush Rat, *Golunda ellioti* J.E. Gray. *Rec. zool. Surv. India*, **79** : 521-530.
- Ahmed, S.K. and Husain, K.Z. 1982. Bats of Bangladesh. *J. Asiat. Soc. Bangladesh (Sci.)*, **8**(2) : 89-99.
- Ali, S.M., Chattopadhyaya, S., Kankane, P.L. and Gayen, N.C. 1988. A new species of palm civet from Orissa. *India. Rec. zool. Surv. India*, **85** : 45-48 + 2 pls.
- Anderson, J. 1881. *Catalogue of Mammalia in the Indian Museum, Calcutta*. Pt. 1. Indian Museum, Calcutta.
- Annandale, N. 1915. Fauna of the Chilka Lake : Mammals, Reptiles and Batrachians. *Mem. Indian Mus*, **5**(2) : 165 : 174.
- Behura, B. K. and Guru, G.B. 1969. Wild life of Orissa. *Prakruti (Utkal Univ. J. - Sci.)*, **6** : 95-126.
- Bhattacharyya, T.P. 1977. Occurrence of Indian Pipistrelle, *Pipistrellus cormandra* (Gray) [Mammalia : Chiroptera : Vespertilionidae] in Car Nicobar, Andaman and Nicobar Islands. *J. Bombay nat. Hist. Soc.*, **73** : 516.
- Blyth, E. 1963. *Catalogue of the Mammalia in the Museum Asiatic Society*. Asiatic Society of Bengal, Calcutta.
- Brosset, A. 1962. the bats of central and western India. Part 2. *J. Bombay natm Hist. Soc.*, **59** : 583-624.
- Cai, and Zhang, N. 1980. On mammalian fauna in Medog region, Xizang. *Geological and ecological studies of Oinghai-Xizang Plateau : Proc. Oinghai-Xizang (Tibet) Plateau*, **2** : 1021-1026.
- Chakraborty, S. 1983. Contribution to the knowledge of the mammalian fauna of Jannu and Kashmir, *India. Rec. zool. Surv. India, Occ. Pap., No. 38* : i-iii + 1 -129.
- Chaturvedi, Y. 1969. Two new records of bats from Assam and Andaman Islands. *Labdev J. Sci. Technol., India*, **7-B**(1) : 74-75.
- Corbet, G.B. 1980. The mammals of the Palaearctic region : a taxonomic review, (reprinted with amendments). British Museum (Natural History), London and Cornell University Press, Ithaca.

- Das, P.K. 1986. Studies on the taxonomy and geographical distribution of the species of bats obtained by the Silent Valley (Kerala, India) Expedition, '980. *Rec. zool. Surv. India*, **84** : 259-276.
- Das, P.K. and Agrawal, V.C. 1973. New records of mammals from Orissa. *Sci. Cult.*, **39** : 429-430.
- Ellerman, J.R. 1961. Fauna of India including Pakistan, Burma and Ceylon. *Mammalia*. ed. 2, vol. 3 (in two parts). Govt. of India, Delhi.
- Ellerman, J.R. and Morrison-Scott, T.C.S. 1951. *Checklist of Palaearctic and Indian mammals 1758-1946*. British Museum (Natural History), London.
- Ellerman, J.R. and Morrison-Scott, T.C.S. 1966. *Checklist of Palaearctic and Indian mammals 1758-1946*, ed. 2. British Museum (Natural History), London.
- Fooden, J., Mahabal, A. and Saha, S.S. 1981. Redefinition of Rhesus Macaque-Bonnet Macaque boundary in peninsular India (Primates : *Macaca mulatta*, *M. radiata*). *J. Bombay nat. Hist. Soc.*, **78** : 463-474.
- Goodwin, R.E. 1979. The bats of Timor: systematics and ecology. *Bull. Am. Mus. nat. Hist.*, **163** : 73-122.
- Hill, J.E. 1963. A revision of the genus *Hipposideros*. *Bull. Br. Mus. nat. Hist. (Zool.)*, **11** : 1 - 129.
- Hill, J.E. 1977. A review of the Rhinopomatidae. *Bull. Br. Mus. nat. Hist. (Zool.)*, **32** : 29-43.
- Hill, J.E. and Thonglongya, K. 1972. Bats from Thailand and Cambodia. *Bull. Br. Mus. nat. Hist. (Zool.)* **22** : 171-196.
- Hinton M.A.C. and Lindsay, H.M. 1926a, Bombay Natural History Society's Mammal Survey of India, Burma and Ceylon. Report No. 41. Assam and Mishmi Hills. *J. Bombay nat. Hist. Soc.*, **31** : 383-402.
- Hinton, M.A.C. and Lindsay, H.M. 1926b. Bombay Natural History Society's Mammals Survey of India, Burma and Ceylon. Supplement to Report No. 41. *J. Bombay nat. Hist. Soc.*, **31** : 402-403.
- Kemp, S. 1924. Notes on the mammals of the Siju Cave, Garo Hills, Assam. *Rec. Indian Mus.*, **26** : 23-25.
- Khajuria, H. 1953. Taxonomic studies on some Indian Chiroptera. *Rec. Indian Mus.*, **50** : 113-128.
- Khapardey, M.S. 1980. Inter-specific relationship in some species of Indian bats with a note on bat fauna of Bhubaneswar. *J. Bombay nat. Hist. Soc.*, **76** : 499-500.
- Lal, J.P. 1984. Taxonomic status of the Indian subspecies of the Kelaart's Pipistrelle, *Pipistrellus ceylonicus* Kelaart (Chiroptera : Vespertilionidae). *Bull. zool. Surv. India*, **6** : 159-161.
- Lekagul, B. and McNeely, J.A. 1977. Mammals of Thailand. Association for the Conservation of Wildlife; Sahakarnbhat Co., Bangkok.
- Lydekker, R. 1915. Catalogue of the Ungulate mammals in the British Museum (Natural History), Vol. 4. British Museum (Natural History), London.

- Meyer-Ochme, D. 1965. Die saeugetiere Afghanistan (Tiel III) : Chiroptera. *Science* (Fac. Science, Kabul University), August 1965 : 42 - 58.
- Mitchell, R.M. 1980. New records of bats (Chiroptera) from Nepal. *Mammalia*, **44** : 339-342.
- Mukherjee, A.K. 1982. *Endangered animals of India*. Zoological Survey of India, Calcutta.
- Mukherjee, R.P. 1984. Behaviour of rhesus macaque (*Macaca mulatta*) at Puri (Orissa) during the total solar eclipse of 1980. IN: CURRENT PRIMATE RESEARCHES: 259-262. M.L. Roonwal, S.M. Mohnot and N.S. Rathore (Eds.), Jodhpur University, Jodhpur, India.
- Phillips, W.W.A. 1935. Manual of the mammals of Ceylon. Colombo Museum, Ceylon and Dulau & Co. Ltd., London.
- Pocock, R.I. 1939. The fauna of British India, including Ceylon and Burma. *Mammalia*, vol. 1. Taylor and Francis., London.
- Pocock, R.I. 1941. The fauna of British India, including Ceylon and Burma. *Mammalia*, vol. 2. Taylor and Francis, London.
- Roberts, T.J. 1977. The mammals of Pakistan. Ernest Benn Ltd., London & Tonbridge.
- Sapkal, V.M. and Bhandarkar, W.R. 1984. Breeding habits and associated phenomena in some Indian bats. Part IX - *Hipposideros lankadiva* (Kelaart) - Hipposideridae. *J. Bombay nat. Hist. Soc.*, **81** : 380-386.
- Sclater, W.L. 1891. *Catalogue of Mammalia in the Indian Museum, Calcutta. Part 2*. Indian Museum, Calcutta.
- Siddiqui, M.S.U. 1961. Notes on the status of bats of the genus *Scotophilus* from southern Asia with key to the recognized forms. *Ann. Mag. nat. Hist.*, (13) **3** : 449-454.
- Sinha, Y.P. 1980. The bats of Rajasthan: Taxonomy and zoogeography. *Rec. zool. Surv. India*, **76** : 7-63.
- Sinha, Y.P. 1981a. New records of Tomb Bat (Chiroptera : Emballonuridae) from Bihar with some ecological remarks. *J. Bombay nat. Hist. Soc.*, **78** : 362-363.
- Sinha, Y.P. 1981b. New record of Black-bearded Tomb Bat, *Taphozous melanopogon melanopogon* Temminck from Rajasthan. *Geobios, Jodhpur*, **8** : 225-226.
- Tehsin, R.H. 1981. Occurrence of the Large Brown Flying Squirrel and Mouse Dear near Udaipur, Rajasthan. *J. Bombay nat. Hist. Soc.*, **77** : 498.
- Tikader, B.K. 1983. *Threatened animals of India*. Zoological Survey of India, Calcutta.
- Thomas, O. 1915. Scientific results from the Mammal Survey. No. III. - On some specimens of *Vandeleuria* from Bengal, Bihar and Orissa. *J. Bombay nat. Hist. Soc.*, **24** : 29-65.
- Worth, R. M. and Shah, N.K. 1969. *Nepal health survey, 1965-1966*. University of Hawaii Press, Hanolulu.
- Wroughton, R.C. 1915. Bombay Natural History Society's Mammal Survey of India, Burma and Ceylon. Report No. 19. *J. Bombay nat. Hist. Soc.*, **24** : 96-110.
- Wroughton, R.C. 1918. Summary of the results from the Indian Mammal Survey of the Bombay Natural History Society. Part I. *J. Bombay nat. Hist. Soc.*, **25** : 547-598.

## INSECTA : LEPIDOPTERA : SATYRIDAE

D.N. NANDI

*Zoological Survey of India, Calcutta.*

### INTRODUCTION

Thirteen species and subspecies of the family Satyridae are hitherto known from the state, of Orissa of which eleven species were recorded from Puri district by Taylor and de Niceville (1888), two from Ganjam district by Annandala & Dover (1921) and only one, i.e., *Mycalesis lepcha bethami* (Moore) from Orissa by Evans (1932). The present paper deals with the study of material of these insects collected from several other districts by the various survey parties of the Zoological Survey of India. The seven species dealt with have already reported from the coastal districts and are new reported from other districts of the state. Besides these species, a list of other species / subspecies reported earlier, is given at the end.

### SYSTEMATIC ACCOUNT

Order LEPIDOPTERA

Family SATYRIDAE

#### 1. *Mycalesis perseus tabitha* (Fabricius)

1793. *Papilio tabitha* Fabricius, *Ent. Syst.*, 3 (1) : 243.

1947. *Mycalesms perseus tabitha* : Talbot, *fauna Brit. India, Butterflies*, 2 : 131.

*Material examined* : Dist. SUNDERGARH One Male, near P. W. D. quarters, 1 Male, 2 kms. on the way to Rourkella, 2 Males, 1 Female, Jharsuguda, 24, 25, 30. x., 1. xi. 1972 (coll. J. M. Julka & Party); Dist MAYURBHANJ 1 Male, Baripada Stadium, 9. viii.- ; 1 Male Environs of Asana, c 18 kms. south of Bisoi, 16. viii. 1972. (coll. S. K. Mitra & Party), 1 Female, Meghasoni, 19.iii. 1973; Dist. KEONJHAR : 1 Female, Anandapur, 2. iv. 1973 (coll. S. K. Gupta & Party).

*Wing expanse* : Males, 45 - 48; Females, 43- 50 mm.

*Distribution* : India : madhya Pradesh; Orissa Puri, (Sundargarh, Mayurbhanj and keonjhar Dists.); Southern Peninsula. Sri Lanka.

*Remarks* : This subspecies was recorded earlier from the Puri district of Orissa by Taylor & de Niceville (1888).

#### 2. *Mycalesis mineus polydecta* (Cramer)

1777. *Papilio polydecta* Cramer, *Pap. Exot.*, 2 : 76, pl. cxliv, figs. E. F.

1974. *Mycalesis mineus polydecta* : Talbot, *Fauna Brit. India, Butterflies*, 2 : 136.

*Material examined* : Dist. : SUNDARGARH : One Female, H. S. L. rest house, Barsuam, 13. ix. 1972., at light, (coll. S. Khera & Party).

*Wing expanse* : Male, 37 mm.

**Distribution** : India : Southern, Western and eastern peninsular areas including Orissa (Sundargarh dist.). Sri Lanka.

**Remarks** : This reportedly very common subspecies was earlier recorded from the Puri district of Orissa by Taylor & de - Niceville (1888).

### 3. *Mycalesis lepcha bethami* (Moore)

1891. *Samnta bethami* Moore, *lep. Indica*, 1 : 226.

1947. *Mycalesis lepcha bethami* : Talbot, *Fauna Brit. India, Butterflies*, 2 : 161.

**Material examined** : Dist. : SUNDARGARH : One Female, 2 km. on the way to Rourkella, 25. x. 1972 (Coll. J. M. Julka & party); Dist. : DHENKANAL : 1 Female, on the way to Tukla, Angul, 12. v. 1973 (Coll. S. K. Gupta & Party).

**Wing expanse** : Male, 43 mm.; Female, 54 mm.

**Distribution** : India : Madhya Pradesh, Orissa (Sundargarh and Dhenkanal dists.).

**Remarks** : Amongst a total of four Indian subspecies, this is rare in status. The subspecies was recorded from Orissa by Evans (1932).

### 4. *Ypthima ceylonica ceylonica* Hewitson

1865. *Ypthima* (sic) *ceylonica* Hewitson, *Trans ent. Soc. Lond.* (3) : 288, pl. xviii, figs. 14, 15.

1947. *Ypthima ceylonica ceylonica* : Talbot, *Fauna Brit. India, Butterflies*, 2 : 328.

**Material examined** : Dist. : SUNDARGARH : One Female, in and around Brundamal Rly Stn., 19. ix. 1972. (Coll. S. Khera & party); Dist. PURI : 1 Male, c 3 km. south of berbera camp, 6. i. 1947. (Coll. R. L. Chowdhury).

**Wing expanse** : Male, 32 mm.; Female, 33 mm.

**Distribution** : India : West Bengal, Orissa (Sundargarh and Puri dists.). Southern peninsula.

**Remarks** : This subspecies is extremely common in Orissa (*vide* Taylor & de Niceville, 1888).

### 5. *Ypthima ceylonica hubneri* Kirby

1871. *Ypthima hubneri* Kirby, *Cat. Diurn. lep.*, p 95.

1947. *Ypthima ceylonica hubneri* : Talbot, *Fauna Brit. India, Butterflies*, 2 : 329.

**Material examined** : Dist. : MAYURBHANJ : Three Males, 5 Females, Lulang, c 8 km. N. W. of Camp, 14, 16, 18, 20, 21. xi. 1975 (Coll. R. L. Chowdhury & Party); dist. BOLANGIR : 1 Female, Titlagarh, 17. xi. 1972 (Coll. J. M. Julka); Dist. : GANJAM : 1 Male. Rambha, 31. xii. 1973 (Coll. R. L. Chowdhury and party).

**Wing expanse** : Males, 28-33 mm.; Females, 32-35 mm.

**Distribution** : India : Assam; throughout the peninsular areas including Orissa (Mayurbhanj, Bolangir and Ganjam dists.). Burma. Malaya.

**Remarks** : This subspecies was also recorded from Khorda in Orissa by Taylor & de Niceville (1888).

### 6. *Melanitis leda ismene* (Cramer)

1775. *Papilo ismene* Cramer, *pap. Exot.*, 1 : 40.

1947. *Melanitis leda ismene* : Talbot, *fauna Brit. India, Butterflies*, 2 : 366.

**Material examined** : Dist. : SUNDARGARH : One Male, 1 Female, Barsuan, 13, 15. ix. 1972., 2 Males, 2 Females, compound of Insepection Bungalow, 19. ix. 1972, (coll. S. Khera & party); 1 Male, 1 Female, Jharsuguda, 31. x. 1972 (Coll. J. M. Julka & party); Dist. SAMBALPUR : 2 Females, farm garden at Rest House, Kharier, 10. xi. 1972, (Coll. K. V. S. and party); 5 Males, 4 Females, 3, 5, 6. xi. 1972, (Coll. J. M. Julka & party); Dist. MAYURBHANJ : 1 Female, c. 3. km. N. W. of Forest Rest House, 11. xii. 1975., (Coll. D. P. Sanyal & Party); Dist. KEONJHAR : 1 Female, Kashipur, 19. ix. 1972., 2 Female, Gobindapur, 21. ix. 1972, 1 Male, 1 Female, Tangarpadsi, 24. ix. 1972, 1 Male, Circuit house, at light, 25. ix. 1972., (Coll. K. Rai & party); Dist. BOLANGIR : 3 Males, Rajbari, 30. ix. 1972, (Coll. S. Khera & party); 3 Females, Titlagarh, 17. xi. 1972., (Coll. J. M. Julka & party); Dist. CUTTACK : 1 ex. (Without abdomen), Cuttack and environs, 21. xii. 1970, at light, (Coll. S. Khera & party); 1 Male, 1 Female, Cuttack, C. R. R. I. Farm, 14. iv. 1973, (Coll. S. Khera & party); dist. PURI : 1 Female, Nandan Kanan, 27. iii. 1974, (Coll. R. K. Kacker & party).

**Wing expanse** : Males, 56-75 mm.; Females, 60-80 mm.

**Distribution** : India : Eastern and western Himalaya; northern, southern and eastern peninsula (including Orissa : Sundargarh, Sambalpur, Mayurbhanj, Keonjhar, Bolangir and Puri districts); Andaman and Nicobar Islands. Pakistan. China. Nepal. Burma. Sri Lanka. Extending further to Japan in the Eastern palaeartic and also the malayan subregion.

**Remarks** : This is the only Indian of *M. leda* (Dr.) and, very common in status. It was earlier recorded from Orissa by Taylor & de Niceville (1888) and also Annandale & Dover (1921).

### 7. *Elymnia hypermnestra undularis* (Drury)

1773. *Papilio undularis* Drury, Ill. exot. Ins., 2 : pl. x., figs. 1, 2.

1947. *Elymnia hypermnestra undularis* : Talbot, *Fauna Brit. India, Butterflies*, 2 : 386.

**Material examined** : Dist. : SAMBALPUR : one Male, Brook Hill, 29. ix. 1972 (Coll. S. Khera & party).

**Wing expanse** : Male, 74 mm.

**Distribution** : India : West Bengal, Orissa (Sambalpur) and also east to west Himalaya. Northern burma.

**Remarks** : This is one of the two Indian subspecies and common in status. It was earlier recorded from Orissa by Taylor & de Niceville (1888).

### LIST OF SPECIES REPORTED EARLIER FROM ORISSA

[ +, recorded by Annandale & Dover (1921); \*, by Taylor & de Niceville (1888) ]

- 1.+ *Mycalesis visala subdita* (Moore)
2. \* *Mycalesis malsara* Moore, f. *rudis* (Moore)
- 3.\* *Lethe europa europa* (Fabricius)
- 4.\* *Lethe drypetis todara* Moore
- 5.\* *Ypthima philomela tabella* Marshall
- 6.\* *Orsotrioena medus medus* (Fabricius)
- 7.\* *Melanitis zitenius zitenius* (Herbst)

## SUMMARY

Six species of Satyridae, collected from different districts of Orissa by different survey parties of Zoological Survey of India, have been dealt with here. Besides, a list of seven species reviewed from literature is also included.

## ACKNOWLEDGEMENTS

The author is grateful to the Director, Zoological Survey of India, for providing laboratory facilities. He is also thankful to Drs. O. B. Chotani, Scientist 'SF', G. S. Arora, scientist 'SE' and Sri D. K. Mandal, Scientist SD, for numerous courtesies.

## REFERENCES

- Annandale, N. and Dover, C. 1921. The butterflies of Barkuda Island. *Rec. Indian Mus.*, **22** (4): 349 - 375.
- Evans, W. H. 1932. *The identification of Indian Butterflies*, ed. 2 : 1 - 454, 32 plates, 9 text figures. Madras.
- Taylor, W. C. and De Niceville, L. 1888. *List of Butterflies of Khorda in Orissa*, Calcutta.

**INSECTA : COLEOPTERA : CERAMBYCIDAE**

P. K. BASAK and S. BISWAS  
*Zoological Survey of India, Calcutta*

**INTRODUCTION**

Our present state of knowledge of longicorn beetles of the state of Orissa is very incomplete and fragmentary. In *Colcopterorum Catalogus* (Aurivillius, 1912, 1922; Lameere 1913) and *Fauna of British India* (Gahan 1906), there is no specific record of Cerambycidae from Orissa. Stebbing (1914) recorded only 4 species, Arrow (1923) added two more species and Breuning (1962, 1964) added another 5 from the State. Beeson and Bhatia (1939) and Beeson (1941) have contributed extensively to our knowledge of the group but no comprehensive work on the longicorn beetles from Orissa is available.

In recent years Zoological Survey of India has made several extensive surveys in the State and in the present paper material collected during these surveys has been studied. Earlier materials collected by Drs. N. Annandale and F. H. Gravely have also been included. Altogether 32 species of 27 genera under 3 subfamilies have been dealt with in this paper of which 19 species are new records from Orissa. Selected references, detailed collection data and geographical distribution of each of the species, included in this paper, have been provided.

**LIST OF THE SPECIES RECORDED FROM ORISSA**

**FAMILY CERAMBYCIDAE**

**Subfamily (i) PRIONINAE**

**Genus 1. *Prionomma* White**

1. *Prionomma atratum* (Gmelin)

**Genus 2. *Acanthophorus* Serville**

2. *Acanthophorus serraticornis* (Oliver)

**Subfamily (ii) CERAMBYCINAE**

**Genus 3. *Gnatholea* Thomson**

3. *Gnatholea simplex* Gahan

**Genus 4. *Plocaederus* Thomson**

4. *Plocaederus obesus* Gahan

**Genus 5. *Neocerambyx* Pascoe**

5. *Neocerambyx paris* (Wiedemann)

Genus 6. *Aeolesthes* Gahan

6. *Aeolesthes holosericea* (F.)

Genus 7. *Hoplocerambyx* Thomson

7. *Hoplocerambyx spinicornis* (Newman)

Genus 8. *Kunbir* Lameere

8. *Kunbir telephoroides* Lameere

Genus 9. *Pachyteria* Serville

9. *Pachyteria fasciata* (F.)

Genus 10. *Rhaphuma* Pascoe

10. *Rhaphuma fallax* Chev.

Genus 11. *Xylotrechus* Chevrolat

11. *Xylotrechus smeii* (Lap & Gory)

## Subfamily (iii) LAMIINAE

Genus 12. *Myagrus* Pascoe

12. *Myagrus hynesi* Pascoe

Genus 13. *Celosterna* Blanchard

13. *Celosterna scrabrator* F.

Genus 14. *Batocera* Castelnau

14. *Batocera titana* Thomson  
15. *Batocera rubus* Linneus

Genus 15. *Coptops* Serville

16. *Coptops* sp.

Genus 16. *Palimna* Pascoe

17. *Palimna mouhoti* Pascoe

Genus 17. *Xylorhiza* Castelnau

18. *Xylorhiza adusta* (Wiedmann)

Genus 18. *Olenocamptus* Chevrolat.

19. *Olenocamptus bilobus* (F.)

Genus 19. *Niphona* Mulsant

20. *Niphona fuscatrix* (Fabr.)

Genus 20. *Sthenias* Castelnau

- 21. *Sthenias albicollis* Gahan
- 22. *Sthenias maculiceps* Gahan
- 23. *Sthenias microphthalmus* Breuning

Genus 21. *Desisa* Pascoe

- 24. *Desisa subfasciata* (Pascoe)

Genus 22. *Apomecyna* Latreille

- 25. *Apomecyna saltator* (F.)

Genus 23. *Sybra* Pascoe

- 26. *Sybra praeusta* (Pascoe)
- 27. *Sybra ceylonensis* Breuning

Genus 24. *Leprodera* Thomson

- 28. *Leprodera beta* Gahan

Genus 25. *Ropica* Pascoe

- 29. *Ropica elongata* Pic

Genus 26. *Stibara* Hope

- 30. *Stibara tetraspilota* Hope
- 31. *Stibara nigricornis* F.

Genus 27. *Pothyne* Thomson

- 32. *Pothyne variegata* Thomson

SYSTEMATIC ACCOUNT

Subfamily (i) PRIONINAE

Genus 1. *Prionoma* White

1. *Prionomma atratum* (Gmelin)

1789. *Prionus atratum* Gmelin, *Syst. Nat.* (1) 4 : 1818.

1906. *Prionomma atratum* : Gahan, *Fauna Brit. India (Ceram)*, 1 : 17-18.

*Material examined* : 1 ex, Bisoi, Mayurbhanj dist., 16.viii. 1972, S. K. Mitra coll.

*Distribution* : India : Orissa (as above), Southern India. Elsewhere : Sri Lanka.

*Remarks* : This species is being recorded for the first time from Orissa. Besson (1941) reported this species to infest *Boswellia serrata*.

Genus 2. *Acanthophorus* Serville

2. *Acanthophorus serraticornis* (Olivier)

1875. *Prionus serraticornis* Olivier, *Ent. iv*, 66: 14, pl.9, fig. 33.

1906. *Acanthophorus serraticornis*: Gahan, *Fauna Brit. India (Ceram.)*, 1: 23.

*Material examined* : Fourteen specimens of this species have been examined from the collection of Zoological Survey of India. A few of these specimens are without locality data.

*Distribution* : India : Orissa, Bihar, West Bengal, Tamil Nadu, Karnataka and Kerala.

*Remarks* : Stebbing (1914) recorded this species from Ganjam district of Orissa. No specimen could be found in the collection brought by several survey parties from Orissa in recent years. We have a single specimen from Raniganj in West Bengal which is an extension of the known range of this species.

#### Subfamily (ii) CERAMBYCINAE

##### Genus 3. *Gnatholea* Thomson

##### 3. *Gnatholea simplex* Gahan

1890. *Gnatholea simplex* Gahan, *Ann. Mag. nat. Hist.*, (6) 5 : 53.

1906. *Gnatholea simplex* : Gahan, *Fauna Brit. India* (Ceramb.) 1 : 111.

*Material examined* : 4 exs., Saptasajya Dist., 1. x. 72, K. Rai coll; 2 exs., Angul (Dhenkanal), 1. x. 72, K. Rai coll.

*Distribution* : India Orissa (as above), Sikkim, West Bengal, Assam.. Elsewhere : Burma.

*Remarks* : This is the first record of this species from Orissa. Beeson (1941) records this species from *Albizia odoratissima*, *Hardwickia binata*, *Milletia penicula*, *Pongania glabra* and *Shorea robusta*.

##### Genus 4. *Plocaederus* Thomson

##### 4. *Plocaederus obesus* Gahan

1890. *Plocaederus obesus* Gahan, *Ann. mag. nat. Hist.* (6) 5 : 51.

1906. *Plocaederus obesus* : Gahan, *Fauna Brit. India* (Ceramb.), 4 : 21-22.

*Distribution* : Throughout India except Maharashtra.

*Remarks* : This species is a heartwood borer chiefly of soft woods and is reported to infest a large number of host trees (Beeson 1941). Stebbing (1941) records this species from Ganjam in Orissa.

##### Genus 5. *Neocerambyx* Pascoe

##### 5. *Neocerambyx paris* (Wied)

1821. *Cerambyx paris* Wied, *Germ. Mag. Ent.* iv : 167.

1906. *Neocerambyx paris* : Gahan, *Fauna Brit. India* (Ceramb.), 1 : 124-125.

*Material examined* : 1 ex., Ghatgaon, Keonjhar dist., 20. xi. 1972, J. K. Sen coll.

*Distribution* : India : Orissa, Karnataka. Elsewhere : Thailand, Singapore, Burma.

*Remarks* : This species is being recorded for the first time from Orissa. Beeson (1941) reports this species to infest *Quercus* sp. in Burma.

##### Genus 6. *Aeolesthes* Gahan

##### 6. *Aeolesthes holosericea* (Fabr.)

1787. *Cerambyx holosericea* Fabr., *Mant. Ins.* 1 : 135.

1906. *Aeolesthes holosericea* : Gahan, *Fauna Brit. India* (Ceramb.), 1 : 127.

*Material examined* : 1 ex, Mayurbhanj, 22. ii. 1975, R. L. Choudhury coll.

*Distribution* : India : Orissa (Ganjam and Mayurbhanj), Andaman and Nicobar Islands, Uttar Pradesh, Andhra Pradesh, Madhya Pradesh, Maharashtra. Elsewhere : Pakistan (Dera Ismail Khan). Malaya Peninsula and Thailand.

*Remarks* : Stebbing (1914) reported this species from Ganjam in Orissa besides other places in India. It is a serious pest in the plains infesting a wide range of host trees.

Genus 7. *Hoplocerambyx* Thomson  
7. *Hoplocerambyx spinicornis* (Newman)

1842. *Hammaticherus spinicornis* Newman, *Entom*, 1 : 245.

1906. *Hoplocerambyx spinicornis* : Gahan, *Fauna Brit. India* (Ceramby), 1 : 131.

*Material examined* : 1 ex., Mayurbhanj Dist., Bisoi, 16.viii. 1972, S. K. Mitra coll.

*Distribution* : India : Orissa (as above), West Bengal, Bihar, Assam, Uttar Pradesh, Madhya Pradesh. Elsewhere : Borneo, Philippines, Singapore, Sumatra, South Afghanistan, Nepal, Burma.

*Remarks* : This is the first record of this species from Orissa. It is a noted Indian forest pest occurring predominantly in Sal (*Shorea robusta*) growing areas to which it causes serious depredation.

Genus 8. *Kunbir* Lameere  
8. *Kunbir telephoroides* Lameere

1890. *Kunbir telephoroides* Lameere, *Ann. Soc. Ent. Belg. C. R.* : cexiii.

1906. *Kunbir telephoroides* : Gahan, *Fauna Brit. India* (Ceramby), 1 : 174.

*Material examined* : 1 ex., Ganjam Dist, Barkuda Id., 7-10. vii. 1973, N. Annandale coll.

*Distribution* : India : Orissa (as above), Bihar (Chotta Nagpur).

*Remarks* : This species is being recorded for the first time from Orissa and has been reported by Beeson (1941) to infest *Bauhinia vahlii*, *Mallotus philippinensis*, *Ventilago calyculata*.

Genus 9. *Pachyteris* Serville  
9. *Pachyteria fasciata* (Fab.)

1775. *Cerambyx fasciata* Fab., *Syst. Ent.* : 168.

1906. *Pachyteria fasciata*, Gahan, *Fauna Brit. India* (Ceramby.), 1 : 195.

*Material examined* : 2 exs., Mayurbhanj dist., Bisoi, 16. viii. 1972, S. K. Mitra coll; 1 ex., Keonjhar dist., 23. ix. 1972, K. Rai coll.

*Distribution* : India : Orissa, Bihar (Ranchi, Chota Nagpur), Kerala (Travancore), Himalayas. Elsewhere : Thailand and Sri Lanka

*Remarks* : This is a new record of this species from Orissa.

Genus 10. *Rhaphuma* Pascoe  
10. *Rhaphuma fallax* Chevrollet

1863. *Rhaphuma fallax* Chevrollet, *Mem. Soc. R. Sci. Liege.*, 18 : 176.

1923. *Rhaphuma fallax*, Arrow. *Rec. Indian Mus.*, 25 (2) : 262.

*Distribution* : India : Orissa : Chilka lake, Barkuda Id., Ganjama dist., West Bengal.

*Remarks* : The species was described from West Bengal. We did not find any specimen from Orissa.

Genus 11. *Xylotrechus* Chevrolat

11. *Xylotrechus smeii* (Lap and Gosy)

1841. *Clytus vicinus* Lap et Gosy, *Hist. Nat. et. Iconogrdes Ins. Coleopt.* (Mon du genre clytus) : 37, pl. 8, fig. 46.

1906. *Xylotrechus smeii* : Gahan, *Fauna Brit. India* (Ceramb), 1 : 241.

*Material examined* : 1 ex., Kenkargarh, Circuit House, 26. ix. 1972, K. Rai coll.

*Distribution* : India : Orissa (as above), West Bengal, Deccan, Siwaliks, N. India. Elsewhere : Bhutan, Burma.

*Remarks* : This is a new record of this species from Orissa. It is a common sapwood borer which attacks a wide variety of trees within a month of their felling.

Subfamily (iii) LAMIINAE

Genus 12. *Myagrus* Pascoe

12. *Myagrus hynesi* Pascoe

1878. *Myagrus hynesi* Pascoe, *Ann. Mag. Nat. Hist.* (5) 11 : 372.

1941. *Myagrus hynesi* : Beeson, *Forest Insecta* : 150.

*Material examined* : 1 ex., Ganjam dist, Barkuda Island, Chilka Lake, 16. vii. 1914, coll. ? 2 exs., Barkuda Island, Chilka Lake, 3-19. viii. 1909, F. H. Garvely coll; 2 exs., Barkuda Island, Chilka Lake, Oct. 1920, F. H. Garvely coll; 1 ex, Barkuda Island, Chilka Lake, 3-6.viii. 1922, N. Annandale coll; 2 exs, Barkuda Island, Chilka Lake, Aug. 1923, N. Annandale coll.

*Distribution* : India : Orissa (as above), Maharashtra (Bombay).

*Remarks* : This species has so far been reported from Bombay only and is now being recorded from Orissa for the first time. Beeson (1941) reports this species to infest *Ficus glomerata*, *Ficus* sp. and *Grewia* sp.

Genus 13. *Celosterna* Blanchard.

13 *Celosterna scabrator* Fabr.

1781. *Celosterna scabrator* Fabr. *Spec. Ins.*, 1 : 224.

*Material examined* : 1 ex., Sundergarh, 22. ix. 1922, S. Khera coll.

*Distribution* : India : Orissa, Eastern India.

*Remarks* : This species is being recorded for the first time from Orissa. It is a notorious pest of babul (*Asacia arabica*) and also seriously injurious to Casuarina, Teak and *Prosopis spicigers*. Its emergence is profoundly accelerated with the onset of monsoon (Beeson 1941).

Genus 14. *Batocera* Castelnau

14. *Batocera titana* Thomson

1859. *Batocera titana* Thomson, *Mon. Arcon. Nat.* : 82

1914. *Batocera titana* : Stebbing, *Ind. For. Ins, Coleoptera* : 367.

*Distribution* : India : Orissa (Ganjam), Madras. Elsewhere : Burma.

*Remarks* : This species was reported from Orissa by Stebbing (1914) and is a pest of Mango (*Mangifera indica*) and Oak (*Quercus griffithi*) trees.

### 15. *Batocera rubus* Linneus

1758. *Cerambyx rubus* Linneus, *Syst. Nat. ed.* 10 : 390.

1940. *Batocera rubus* : Gressitt, *Lingn. Sci., J.* 19 : 8.

*Material examined* : 1 ex, Monoda, Bangriposi, Mayurbhanj Dist., 14. ix. 1972, R. Rai coll; 1 ex, Ghatgaon, Keonjhar dist., 30. iii. 1973, S. K. Mitra coll; 1 ex, Balugaon, Puri dist., 23.ii. 1950, B. S. Chauhan and K. K. Tiwari coll.

*Distribution* : India : Orissa (as above), Assam (Darrang). Widely distributed in Oriental Region.

*Remarks* : This species is being recorded for the first time from Orissa. It infests a number of trees and is particularly harmful to Indian Rubber (*Ficus elastica*) (Stebbing 1914).

### Genus 15. *Coptops* Serville

#### 16. *Coptops* sp.

*Material examined* : 1 ex, Sambalpur, 6.xi. 1972, J. M. Julka coll.

*Remarks* : The specific identification of this species could not be ascertained with certainty. It comes closest to *Coptops aedifactor* Fab. in general facies but differs from it in being larger and the pronotum having a distinct median fissure along its length.

### Genus 16. *Palimna* Pascoe

#### 17. *Palimna mouthoti* Pascoe

1866. *Palimna mouthoti* Pascoe, *Proc. Zool. Soc. Lond.*, 1866 : 237.

*Material examined* : 1 ex, Baripada, Mayurbhanj dist., 10. viii. 1972, S. K. Mirta coll.

*Distribution* : India : Orissa (as above). Elsewhere : Laos, Malaysia (Penang).

*Remarks* : This species appears to be the first record not only from Orissa but from India, but this requires confirmation.

### Genus 17. *Xylorhiza* Castelnau

#### 18. *Xylorhiza adusta* (Wiedmann)

1819. *Lamia adusta* Wied. *Zool. Mag.* 1 (3) : 182.

*Material examined* : 1 ex, Sundargarh, 22.ix. 1972, S. Khera coll, 1 ex, Mayurbhanj dist., Bisoi, 16. viii. 1972, S. K. Mitra coll.

*Distribution* : India : Orissa, Madras., Elsewhere : Indochina, China, Laos, Burma, Sri Lanka.

*Remarks* : This is the first record of the species from Orissa. Beeson (1941) contends that this beetle eats the shoots of *Premna* sp. and *Wnghtia tinctoria* during May to September.

Genus 18. *Olenecamptus* Chevrolat19. *Olinocamptus bilobus* (Fabr.).

1801. *Saperda biloba* Fabr., *Syst. El.* 2 : 324.

1866. *Olenecamptus bilobus* Pascoe, *Trans. Ent. Soc. Lond.*, (3) 3 : 316.

*Material examined* : 1 ex, Ganjam dist, Barkuda Island, Chilka Lake, 25. vii. - 4. viii. 1917, coll.

*Distribution* : India : Orissa (as above), Dehra Dun, Gangetic Plains. Widely distributed in Oriental Region.

*Remarks* : This species is being recorded for the first time from Orissa. The beetle emerges from May to November and infests a large number of host trees particularly figs (Beeson 1941).

Genus 19. *Niphona* Mulsant20. *Niphona fuscatrix* Fabr.

1792. *Lamia fuscator* Fabricius, *Ent. Syst. 1/2* : 291.

1962. *Niphona fuscatrix* : Breuning, *Ent. Arb. Mus. Frey*, 13 : 399.

*Material examined* : 1 ex, Orissa, 7. ix. 1972, K. Rai coll.

*Distribution* : India : Orissa, Kerala (Tranquebar), Tamil Nadu (Salem), Punjab, Uttar Pradesh (Dehra Dun), Himachal Pradesh (Kulu).

*Remarks* : This species is being recorded for the first time from Orissa.

Genus 20. *Sthenias* Castelnau21. *Sthenias albicollis* Gah.

1890. *Sthenias albicollis* Gahan, *Ann. Mag. Nat. Hist.*, (6) v : 61, pl.vii, fig.6.

1962. *Sthenias albicollis* : Breuning, *Ent. Arb. Mus. Frey*, 13 : 440.

*Material examined* : 3 exs, Ganjam dist. Barkuda Island, Chilka Lake, 24. vii. 1922, N. Annandale coll.

*Distribution* : India : Orissa, Tamil Nadu (Nilgiri Hills, Madura, Anamalai Hills).

*Remarks* : This species, which is a new record from Orissa, has been collected from a wall in a mound of *Odontotermes obesus*.

22. *Sthenias maculiceps* Gah.

1890. *Sthenias maculiceps* Gahan, *Ann. Mag. Nat. Hist.*, (6)v : 62.

1962. *Sthenias maculiceps* : Breuning, *Ent. Arb. Mus. Frey*, 13 : 436.

*Material examined* : 2 exs, Ganjam dist, Barkuda Island, Chilka Lake, no other data.

*Distribution* : India : Orissa (Ganjam dist., Chilka Lake), Tamil Nadu (Madras). Elsewhere : Sri Lanka.

*Remarks* : This species has been reported by Breuning (1962) from Orissa.

23. *Sthenias microphthalmus* Breuning

1962. *Sthenias microphthalmus* Breuning, *Ent. Arb. Mus. Frey*, 13 : 441.

*Distribution* : India : Orissa (Puri, Balukhand Range).

*Remarks* : Breuning (1962) described this as a new species from Orissa and the type is deposited in Forest Research Inst., Dehra Dun Museum and could not be examined.

Genus 21. *Desisa* Pascoe

24. *Desisa subfasciata* (Pascoe)

1862. *Praonetha subfasciata* Pascoe, *Journ Ent*, 1 : 348.

1939. *Desisa subfasciata* : Gressitt, *Lingn. Sc. Journ*, xviii : 76.

*Material examined* : 1 ex., Ganjam dist, Barkuda Island, Chilka Lake, x. 1920, *F. II*. Gravelly coll.

*Distribution* : India : Orissa (as above), Uttar Pradesh (Dehra Dun), and Andamans. Elsewhere : Cambodia, Tonkin, China and Sumatra.

*Remarks* : This species is being recorded for the first time from Orissa. The species infests *Anogeissus acuminata*, *Bauhinia vahhi*, and *Mallotus philippinensis* and its emergence period is from May to October (Beeson 1941).

Genus 22. *Apomecyna* Latreille

25. *Apomecyna saltator* (Fabr.)

1781. *Lamia saltator* Fabricius, *Mant. Ins.*, 1 : 141.

*Material examined* : 1 ex., Sambalpur: Chipuma, 10. i. 1980, coll. –

*Distribution* : India : Orissa (as above), Andaman Island and West Bengal (Calcutta, Maldah, Darjeeling). Elsewhere : Singapore, Taiwan Island and Sri Lanka.

*Remarks* : This is the first record of the species from Orissa. It has been reported in *Coccinia indica*, *Cucurbita moschaeta*, *Laganaria vulgaris*, *Luffa acutangula* and *L. aegyptiaca*. It produces 3 or 4 generations a year and emerges from May to September (Beeson 1941).

Genus 23. *Sybra* Pascoe

26. *Sybra praeusta* (Pascoe)

1859. *Ropica praeusta* Pascoe, *Trans. ent. Soc. Lond*, (2) v : 51.

1964. *Sybra praeusta* : Breuning, *Entom. Abh. mus. Tierk. Dresden*, 30 : 298.

*Material examined* : 1 ex., Ganjam Dist., Barkuda Island, Chilka Lake, 25. vii. - 4. viii. 1917, coll. ?.

*Distribution* : India : Orissa (Ganjam), Tamil Nadu (Madras), Bihar (Chapra). Elsewhere : Sri Lanka.

*Remarks* : Breuning (1964) recorded this species from Orissa.

27. *Sybra ceylonensis* Breuning

1939. *Sybra ceylonensis* Breuning, *Festschr E. Strand*, v : 274.

1964. *Sybra ceylonensis* : Breuning, *Entom. Abh. Mus. Tierk. Dresden*, 30 : 301-302.

*Distribution* : India : Orissa (Balukhand, Puri). Elsewhere : Sri Lanka.

*Remarks* : Breuning (1964) reports this species to occur in Orissa and it infests fruits of *Calotropis procera* (Beeson 1941).

Genus 24. *Leprodera* Thomson28. *Leprodera lecta* Gahan

1888. *Leprodera lecta* Gahan, *Ann. Mag. Nat. Hist.*, (6) 2 : 389.

1923. *Leprodera lecta* : Arrow, *Rec. Indian Mus.*, 25 (2) : 263.

*Distribution* : India : Orissa (Chilka Lake, Ganjam dist.) West Bengal, Sikkim. Elsewhere : Siam.

*Remarks*: Arrow recorded this species on the basis of a single specimen. We had no access of the specimen from Orissa.

Genus 25. *Ropica* Pascoe29. *Ropica signata* Pic

1932. *Ropica signata* Pic, *Mel. exot. ent.*, 1x : 26.

1957. *Ropica signata* : Breuning, *Fauna de Madagascar*. iv, Lamiinae, 302-303, fig. 97.

*Distribution* : India : Orissa, Pondicharry, Tamil Nadu (Anamalai Hills, Kottur, Vellore, Nilgiri Hills.), Maharashtra (Nagrapalli). Elsewhere : Sri Lanka, Indonesia, Sumatra, Madagaskar.

*Remarks* : This species has been reported to occur in Orissa (Breuning 1964). Beeson (1941) records it in *Vitis araneosa*.

Genus 26. *Stibara* Hope30. *Stibara tetraspilota* Hope

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

1970. *Stibara tetraspilota* : Rondon and Breuning, *Pacif. Ins., Monogr.*, 24 : 554.

*Material examined* : 1 ex, Sundergarh, 22.ix. 1972, S. Khara coll.

*Distribution* : India : Orissa (as above), Sikkim. Elsewhere : Thailand, N. Vietnam, Laos, Burma.

*Remarks* : This is the first record of the species from Orissa.

31. *Stibara nigricornis* Farb.

1781. *Stibara nigricornis* Farb. *Spec. Ins.*, 1 : 218.

1817. *Stibara perforata* Schonh, *Svnon. Ins.* I. 3 : 418.

*Material examined* : 92 exs, Bilangir, Sundargarh, Keonjhar, Balangir Districts, September to November.

*Distribution* : India : Orissa (as above), Tamil Nadu (Coromandal).

*Remarks* : This is perhaps the most common species in Orissa and has been represented in the collection of all Survey parties, but is a new record from Orissa.

Genus 27. *Pothyne* Thomson32. *Pothyne variegata* Thomson

1864. *Pothyne variegata* Thoms, *Syst. Car.*, 97.

1966. *Pothyne variegata* Breuning, *Entom. Abh. Mus. Tierk. Dresden*, 34 : 9

*Material examined* : 1 ex., Ganjam dist, Barkuda Island, Chilka Lake, 15. vii. 1916, coll?

*Distribution* : India : Orissa (as above), Assam. Elsewhere : Vietnam, Tonkin, Thailand, Malayasia, Burma.

*Remarks* : This species is also being recorded for the first time from Orissa.

#### SUMMARY

This paper is a consolidated report of the Cerambycidae from Orissa, both as recorded in literature and from the material present in the National Zoological Collections. Thirty two species of 27 genera under 3 subfamilies are dealtwith, of which 19 species are new records from Orissa. Detailed collection data and geographical distribution of each species are provided.

#### ACKNOWLEDGEMENTS

We are grateful to the Director, Zoological Survey of India, Calcutta, for providing laboratory facilities and to Dr. T. Sengupta, Supreintending Zoologist for his valuable suggestions. Authors are thankful to Dr. O. B. Chhotani for going through the manuscript and making valuable suggestions.

#### REFERENCES

- Aurivillius, C. 1912. Cerambycidae : Cerambycinae. *Col. Cat.*, 22 (39) : 1-574 pp.
- Aurivillius, C. 1912. Cerambycidae : Laminae I. *Col. Cat.*, 22 (73) : 1 - 322 pp.
- Aurivillius, C. 1922. Cerambycidae : Laminae II. *Col. Cat.*, 23 (74) : 323 - 704 p.
- Arrow, G.J. 1923. Certain Coleoptera of Barkuda. *Rec. Indian Mus., Calcutta*, 25 (2) : 259-263.
- Beeson, C.F. C. and Bhatia, B. M. 1939. On the biology of the Cerambycidae (Colcopt.) *Ind. For. Rec.*, V : 1-235.
- Beeson, C.F.C. 1941. *The Ecology and Control of the Forest Insects of India and the Neighbouring Countries*. 1-767 pp. (The Vasant Press, Dehra Dun).
- Breuning, S. V. 1962. Bestimmungstabelle der Lemiiden - Triben nebst Revision der asiatischen Region (Col. Cerambycidae) I. *Teil Ent. Arb. Mus. Fery*, 13 : 371-493.
- Breuning, S. V. 1964. Revision der Apomecynini der asiatisch- australischen Region. *Entom. Abh. Mus. Tierk Dresden*, 30 : 1-528.
- Gahan, C.J. 1906. The Fauna of British India Including Ceylon and Burma, Coleoptera, Vol I, Cerambycidae xvii + 329 (Taylor and Francis Ltd, London).
- Lameere, A. 1913. Cerambycidae: Prioninae, *Col. Cat.*, 22 (52): 1-108.
- Stebbing, E. P. 1914. Indian Forest Insects of Economic Importance, Coleoptera, xvi + 648 pp. (Eyre & Spottiswoods Ltd, London).