

# RECORDS

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*Edited by the Director, Zoological Survey of India*

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# FAUNA OF THE BALANGIR DISTRICT (FORMERLY PATNA STATE), ORISSA.

## I. FISHES.

by *B. S. Chauhan*, M SC, PHD, FZS, FASC, FZSI, ASSIST. SUPERINTENDENT and *G. Ramakrishna*, B.SC. (HONS.), Zoological Survey of India, Calcutta.

## II. BIRDS.

by *B. Biswas*, M SC. D. PHIL., ASSIST. SUPERINTENDENT, Zoological Survey of India, Calcutta.

### PREFATORY NOTE.

In an earlier paper, one of us<sup>1</sup> gave a list of the fish fauna of the then Patna State, now the Balangir District, in Orissa, with an account of the fishing implements used, *viz.* nets, traps, lines, fishing boats, etc. It was mentioned therein that the systematic account of these fishes, along with their local names, etc. would be published at a later date. The present paper deals with those aspects.

A list of birds collected from the region and kindly identified by Dr. B. Biswas, now Officer-in-charge, Bird and Mammal Section of the Zoological Survey of India is appended as part II.

The collection under report was made by a field survey party of the Zoological Survey of India under Dr. B. S. Chauhan, who was deputed to conduct a survey of the fish and fisheries of the above district, during March, 1946. The various localities representing different types of habitats, with the list of fishes from each locality were given by Chauhan (1947).

Collections of Decapoda crustaceans made in this Survey were dealt with by Chopra and Tiwari<sup>2</sup> in 1947 and the collection of aquatic insects—Rhynchota by Hafiz and Pradhan<sup>3</sup> (1947) and Pradhan<sup>4</sup> (1950).

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<sup>1</sup> Chauhan, B. S. (1947) *Rec. Ind. Mus.* **45** (2 & 3) : 267-282.

<sup>2</sup> Chopra, B. and Tiwari, K. K. (1947) *Rec. Ind. Mus.*, **45** (2 & 3) : 213-224.

<sup>3</sup> Hafiz, H. A. and Pradhan, K. S. (1947) *Rec. Ind. Mus.*, **45** (2 & 3) : 347-376.

<sup>4</sup> Pradhan, K. S. (1950) *Rec. Ind. Mus.*, **48** (2 & 3) : 11-15.

## I FISHES.

The total number of species of fish collected in the course of this survey is 62, belonging to 16 families, as indicated below :—

Family <i>CLUPEIDÆ</i>	24 <i>Puntius ticto</i> (Ham.)
1 <i>Gadusia chapra</i> (Hamilton)	25 <i>Tor khudree</i> (Sykes)
	26 <i>Cirrhina reba</i> (Ham.)
Family <i>DOROSOMIDÆ</i>	27 <i>Garra mullya</i> (Sykes)
2 <i>Goniolosa manminna</i> (Ham.)	28 <i>Labeo ariza</i> (Ham.)
	29 <i>Labeo boggut</i> (Sykes)
Family <i>NOTOPTERIDÆ</i>	30 <i>Labeo calbasu</i> (Ham.)
3 <i>Notopterus notopterus</i> (Pallas)	31 <i>Labeo fimbriatus</i> (Bl.)
	32 <i>Labeo gonius</i> (Ham.)
Family <i>CYPRINIDÆ</i>	33 <i>Rohtee cotio</i> (Ham.)
4 <i>Oxygaster bacaila</i> (Ham.)	34 <i>Rohtee cotio</i> var. <i>cunma</i> (Day)
5 <i>Oxygaster boopis</i> Day	35 <i>Rohtee vigorsii</i> (Sykes.)
6 <i>Oxygaster clupeoides</i> (Bl.)	Family <i>COBITIDÆ</i>
7 <i>Oxygaster gora</i> (Ham.)	36 <i>Lepidocephalichthys guntea</i> (Ham.)
8 <i>Barilius barila</i> Ham.	37 <i>Nemachilus botia</i> (Ham.)
9 <i>Barilius bendelisis</i> (Ham.)	38 <i>Nemachilus botia</i> var. <i>aureus</i> (Day)
10 <i>Barilius vagra</i> (Ham.)	39 <i>Nemachilus dayi</i> (Hora.)
11 <i>Danio chrysops</i> (C.V.)	Family <i>SILURIDÆ</i>
12 <i>Danio devario</i> (Ham.)	40 <i>Callichrous bimaculatus</i> (Bl.)
13 <i>Danio malabaricus</i> (Jerdon)	41 <i>Callichrous pabda</i> (Ham.)
14 <i>Brachydanio rerio</i> (Ham.)	42 <i>Wallagoniaattu</i> (Bl.)
15 <i>Esomus danricus</i> (Ham.)	Family <i>SCHILBEIDÆ</i>
16 <i>Rasbora daniconius</i> (Ham.)	43 <i>Eutropiichthys vacha</i> (Ham.)
17 <i>Amblypharyngodon mola</i> (Ham.)	44 <i>Clupisoma garua</i> (Ham.)
18 <i>Aspidoparia morar</i> (Ham.)	Family <i>BAGRIDÆ</i>
19 <i>Puntius amphibius</i> (C.V.)	45 <i>Mystus bleekeri</i> (Day)
20 <i>Puntius chola</i> (Ham.)	46 <i>Mystus cavasius</i> (Ham.)
21 <i>Puntius conchoniis</i> (Ham.)	47 <i>Mystus seenghala</i> (Sykes)
22 <i>Puntius sarana</i> (Ham.)	48 <i>Rita chrysea</i> Day
23 <i>Puntius sophore</i> (Ham.)	

Family *SISORIDÆ*

- 49 *Erethistes hara* (Ham.)  
50 *Glyptothorax lonah* (Sykes)

Family *XENENTODONTIDÆ*

- 51 *Xenentodon cancila* (Ham.)

Family *AMBASSIDÆ*

- 52 *Ambassis baculis* (Ham.)  
53 *Ambassis nama* (Ham.)  
54 *Ambassis ranga* (Ham.)

Family *NANDIDÆ*

- 55 *Nandus nandus* (Ham.)

Family *GOBIIDÆ*

- 56 *Glossogobius giuris* (Ham.)

Family *OPHICEPHALIDÆ*

- 57 *Channa gachua* (Ham.)  
58 *Channa punctatus* (Bl.)  
59 *Channa striatus* (Bl.)

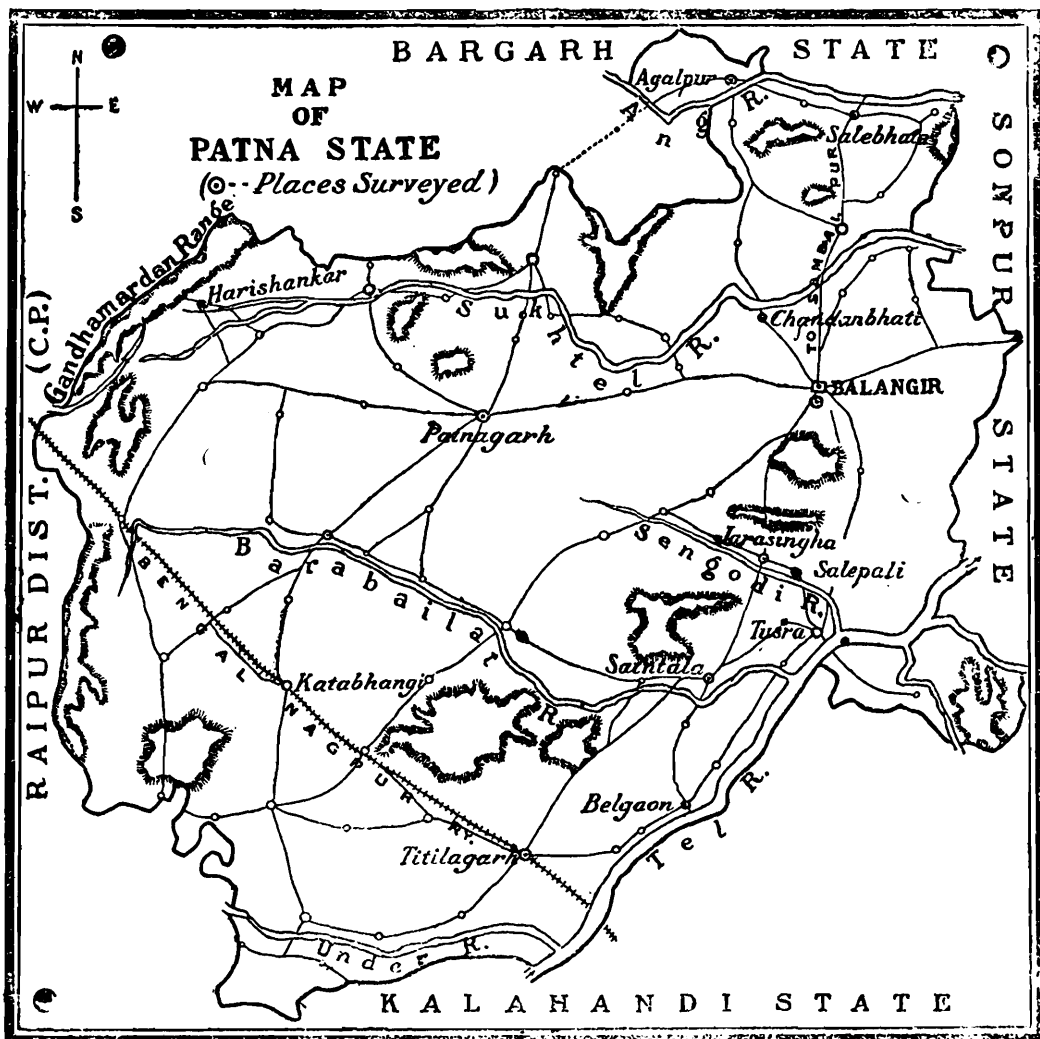
Family *MUGILIDÆ*

- 60 *Mugil (Liza) corsula* (Ham.)

Family *MASTACEMBELIDÆ*

- 61 *Mastacembelus armatus* (Lacep.)  
62 *Mastacembelus pancalus* (Ham.)

Of these 62 species, fishes of the order *Ostariophysi* seems to have preponderance over others, in that, they represent the majority, viz., 48 species. Fishes of the order *Isospondyli* are represented in the collection by three species, while those of *Synentognathi* by the rest



We take this opportunity to offer our thanks to Dr. K. S. Misra, Officer-in-charge, Fish Section, Zoological Survey of India, for perusal of the Mss. and help.

SYSTEMATIC ACCOUNT

Subclass *NEOPTERYGII*

Order *ISOSPONDYLI*

Suborder *CLUPEOIDEA*

Family *CLUPEIDAE*

1 *Gadusia chapra* (Ham.)

1822. *Clupanodon chapra*, Hamilton, *Fish. Ganges* : 248-983.  
 1869. *Clupea chapra*, Day, *Proc. zool. Soc. Lond.* : 385.  
 1938. *Gadusia chapra*, Hora, *Rec. Indian Mus.*, **46**(2) : 172.  
 1947. *Gadusia chapra*, Misra, *Rec. Indian Mus.*, **45**(4) : 391.

Local name : Khaira

1 From Chandi-sar of the Ang River at Salebhatta Rest house. 7-3-46. 7 specimens, 71-79 mm. in length.

2 From Sar of the Sukhtel River at Chandanbhatti. 12-3-1946. 12 specimens, 53-62 mm. in length.

*Distribution* :—According to Day, *Gadusia chapra* is known from ' Fresh waters of rivers and tanks of Sind and throughout India, as far south as the Kistna river, but is absent from the Malabar Coast and Madras.

Family *DOROSOMIDAE*

2 *Gonialosa manminna* (Ham.)

1889. *Chatoessus manminna*, Day, *Fauna Brit. India Fish.* **1** : 37.  
 1917. *Gonialosa manminna*, Regan, *Ann. Mag. Nat. Hist.* (8) **19** : 315.  
 1937. *Gonialosa manminna*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci.* **3** : 14.  
 1947. *Gonialosa manminna*, Misra, *Rec. Indian Mus.*, **45** : 397.

From the Ang river at Agalpur. 9-3-46. This species is represented in the collection by a single specimen measuring 111 mm. in total length.

*Distribution* :—Throughout India and Philippines,

Sub order *NOTOPTEROIDEA*

Family *NOTOPTERIDAE*

3 *Notopterus notopterus* (Pallas)

(Plate XII, fig. 10)

1937. *Notopterus notopterus*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci.* **3** : 16.

Local name : Bhadul ; Godai.

1 From tanks at Balangir. 10/11-3-46. 2 specimens, 201-249 mm. in length.

2 From tanks at Patnagarh. 14-3-46. 3 specimens, 102-177 mm. in length.

D. 1/8. P. 1/15. A. 1/107

The identity of this fish cannot be mistaken on any account as it possesses an unusually long anal fin which covers 2/3 of the body length of the fish. The longest specimen in the collection measures 249 mm.

*Distribution* :—India, Burma and farther east.

Order OSTARIOPHYSI

Suborder *CYPRINOIDEA*

Family *CYPRINIDAE*

Subfamily *ABRAMIDINAE*

**\*4 *Oxygaster bacaila* (Hamilton)**

1889. *Chela bacaila*, Day, *Fauna Brit. India Fish.* 1 : 367.

1937. *Chela bacaila*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci.* : 19-20

Local name : Kanchia

From tanks at Naya Bund, Balangir. 10/11-3-46. 6 specimens, 125-158 mm. in total length.

*Distribution* :—Throughout India, except Malabar and Burma.

**5. *Oxygaster boopis* (Day.)**

1889. *Chela boopis*, Day, *Fauna Brit. India Fish.* 1 : 366

1 From Ang river at Agalpur. 9th March 1946. 5 specimens, 93-95 mm. in length.

2 From Kudal Darh of the Tel river at Belgaon. 19th March 1946, 93-95 mm. in length.

*Distribution* :—Day reported this species from South Canara, Mysore and it is now recorded from the Balangir District, Orissa for the first time.

**6. *Oxygaster clupeoides* (Bl.)**

1889. *Chela clupeoides*, Day, *Fauna Brit. India, Fish.* 1 : 366

1938. *Chela clupeoides*, Hora, *Rec. Indian Mus.*, 40(2) : 172

1942. *Chela clupeoides*, Hora, *Rec. Indian Mus.*, 44(2) : 194

Local name : Chela or Chala.

1 Tanks at Salebhatta. 7th March 1946. 4 specimens, 81-98 mm. in total length.

2 From tanks at Balangir. 10/11th March 1946. 5 specimens, 92-113 mm. in length.

\*After Dr. K. S. Misra.—Check list of fishes of India, Burma and Ceylon. Part 3. (Mss.)

- 3 From tanks at Chandanbhatti. 12th March 1946. 12 specimens, 71-102 mm. in length.
- 4 From Desar of the Sungad river at Salepali. 18th March 1946. 2 specimens, 98 and 106 mm. in length.
- 5 Kudal Darh of the Tel river at Belgaon. 19th March 1946. 4 specimens, 79-114 mm. in total length.

*Distribution* :—According to Day, *Chela clupeoides* is found in Cutch, Jabalpur, Mysore, the Deccan, Madras Presidency and Burma. Hora (*loc cit.*) recorded the same species for the first time from Rajmahal hills. It is interesting to find this species for the first time from the Balangir District, Orissa.

### 7. *Oxygaster gora* (Hamilton)

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

Local name : Jadda or Zarda.

1. The Ang river at Agalpur. 9th March 1946. 1 specimen, 98 mm. in length.
2. Kudal Darh of the Tel river at Belgaon. 19th March 1946. 1 specimen, 232 mm. in total length.

*Distribution* :—Day gives its distribution as Sind, Punjab, N. W. Provinces, Bengal, Orissa and Assam.

### 8. *Barilius barila* Ham.

1889. *Barilius barila*, Day, *Fauna Brit. India Fish.* 1 : 348.
1935. *Barilius barila*, Hora & Mukerji, *Rec., Indian Mus.*, 37 : 3.
1937. *Barilius barila*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 21
1952. *Barilius barila*, Menon, *Rec. Indian Mus.*, 50 : 267.

From Kudal Darh of the Tel river at Belgaon. 19th March 1946. 5 specimens, 65-83 mm. in total length.

*Distribution* :—Common throughout India and Burma.

### 9. *Barilius bendelisis* (Ham.)

1878. *Barilius bendelisis*, Day, *Fish. India* : 590.
1938. *Barilius bendelisis*, Hora, *Rec. Indian Mus.*, 40 : 173.

Local name : Jhora or Jhore.

1. From the Ang river near Salebhatta Rest House. 7th/8th March 1946. 6 specimens, 45-75 mm. in length.
2. From the Sukhtel river at Chandanbhatti. 12th March 1946. 4 specimens, 93-105 mm. in length.
3. From Kudal Darh of the Tel river at Belgaon. 19th March 1946. 2 specimens 65 and 83 mm. in length.

*Distribution* :—According to Day this species is found in Assam Himalayas and through out the continent of India, as far as the Western Ghats, but it is not recorded from the coast of Malabar or Canara or from Sind. It is also found in Ceylon.

### 10. *Barilius vagra* (Hamilton)

1889. *Barilius vagra*, Day, *Fauna Brit. India Fish.* 1 : 345
1937. *Barilius vagra*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 26

1. The Ang river near Salebhatta Rest House. 8th March 1946. 32 specimens, 46-73 mm. in total length.
2. The Sukhtel river at Chandanbhatti. 12th March 1946. 4 specimens, 62-67 mm. in length.

*Distribution* :—According to Day—Sind Hills, rivers in the Himalayas and Sub-Himalayan range, the Jumna, the Ganges, also the Punjab, Assam, and Ceylon. Now it is recorded in the Balangir District, Orissa for first time.

### 11. *Danio chrysops* (C. V.)

1889. *Danio chrysops*, Day, *Fauna Brit. India* Fish. 1 : 357.

From Desar of the Sungad river at Salepali. 18th March 1946. 2 specimens, measuring 78 and 80 mm. in total length.

*Distribution* :—According to Day, this species is found in Bengal. Its occurrence from the Balangir District, Orissa is reported here for the first time.

### 12. *Danio devario* (Ham.)

(Plate XIII, fig. 11.)

1889. *Danio devario*, Day, *Fauna Brit. India* Fish. 1 : 354.

1937. *Danio devario*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 28.

From the Ang river at Agalpur. 9th March 1946. 5 specimens, 58-62 mm. in total length.

D. 4/15. P. 1/16. V. 2/6. A. 3/18. C. 19.

*Distribution* :—Common throughout India.

### 13. *Danio malabaricus* (Jerdon).

1889. *Danio malabaricus*, Day, *Fauna Brit. India* Fish. 1 : 355.

From streams up Harishankar Rest House. 15/16th March 1946. 2 specimens, 58 and 60 mm. in total length.

*Distribution* :—Western Coast of India and Ceylon. It is now reported for the first time from this region in Orissa.

### 14. *Brachydanio rerio* (Ham.)

1878. *Danio rerio*, Day, *Fish. India* : 597.

1938. *Brachydanio rerio*, Hora, *Rec. Indian Mus.*, 40(2) : 173.

1. The Ang river near Salebhatta Rest House. 8th March 1946. 10 specimens, 18-24 mm. in length.
2. The Sukhtel river at Chandanbhatti. 12th March 1946. 3 specimens, 23-25 mm. in length.
3. Streams from the Sukhtel river up Harishankar Rest House. 15/16th March 1946. 2 specimens, 28 mm. in length.
4. From streams below Harishankar Rest House. 16th March 1946. 5 specimens, 28-31 mm. in total length.
5. From Kudal Darh of the Tel river at Belgaon. 19th March 1946. 3 specimens, 27-31 mm. in length.

*Brachydanio rerio* is represented by a large number of specimens, mostly young ones. According to Day, this species is found in Bengal, as low down the Coromandel Coast as Masulipatam.

15. *Esomus danricus* (Ham.)

(Plate XII, fig. 6.)

1889. *Nuria danrica*, Day, *Fauna Brit. India* 1 : 334.  
 1937. *Esomus danricus*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 29-30.  
 1938. *Esomus danricus*, Hora, *Rec. Indian Mus.*, 40(2) : 173.
1. From tanks at Salebhatta. 7th March 1946. 4 specimens, 45-46 mm. in length.
  2. From tanks at Balangir. 10/11th March 1946. 2 specimens, 53 and 55 mm. in total length.
  3. From tanks at Patnagarh. 14th March 1946. Several specimens, ranging between 60 and 62 mm. in length.

D. 2/6. P. 1/11. V. 1/6. A. 3/5/1. C. 19.

*Distribution* :—*Esomus danricus* is common in India, Ceylon, Burma and the Nicobar Islands.

16. *Rasbora daniconius* (Ham.)

(Plate XIII, fig. 12.)

1889. *Rasbora daniconius*, Day, *Fauna Brit. India Fish.* 1 : 336-337  
 1937. *Rasbora daniconius*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 30-31.  
 1938. *Rasbora daniconius*, Hora, *Rec. Indian Mus.*, 40 : 173.  
 1941. *Rasbora daniconius*, Hora, *Rec. Indian Mus.*, 43 : 244.

Local name : Dandai.

1. From the Ang river near Salebhatta Rest House. 8th March 1946. 13 specimens, 43-50 mm. in length.
2. Tanks at Salebhatta. 7th March 1946. 1 specimen, 91 mm. in total length.
3. From the Ang river at Agalpur. 9th March 1946. 1 specimen, 77 mm. in length.
4. From tanks at Balangir. 10/11th March 1946. Several specimens varying in length from 57 to 69 mm.
5. Tanks at Chandanbhatti. 12th March 1946. 10 specimens, 53-74 mm. in total length.
6. From Desar of the Sungad river at Salepali. 18th March 1946. Several specimens ranging in length between 59-75 mm.
7. From tanks at Jarasingha. 18th March 1946. 6 specimens, 64-84 mm. in total length.
8. From Kudal Darh of the Tel river at Belgaon. 19th March 1946. 3 specimens, 56-62 mm. in length.
9. From tanks at Titilagarh. 21st March 1946. Several specimens 61-11 mm. in total length.

D. 2/8. P. 1/13. V. 1/7. A. 3/6. C. 19.

Out of the collection, *Rasbora daniconius* is represented by large number of specimens, collected from many of the localities visited by the Party. This species is commonly found throughout India, Burma and Ceylon.

Subfamily *CYPRININAE*17. *Amblypharyngodon mola* (Ham.)

(Plate XIII, fig. 13.)

1889. *Amblypharyngodon mola*, Day, *Fauna Brit. India Fish.* **1** : 291.  
 1937. *Amblypharyngodon mola*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci.* **3** : 31-32.  
 1938. *Amblypharyngodon mola*, Hora, *Rec. Indian Mus.*, **40**(2) : 174.

Local name : Maharel.

1. From tanks at Salebhatta. 7th March 1946. Several specimen measuring 30-51 mm. in length.
2. From tanks at Balangir. 10/11th March 1946. Several specimens ranging in length between 65 and 81 mm.
3. From Sar of the Sukhtel river at Chandanbhatti. 12th March 1946. 5 specimens, 39-42 mm. in total length.
4. From tanks at Patnagarh. 14th March 1946. 2 specimens, 42 and 45 mm. in length.
5. From Desar of the Sungad river at Salepali. 18th March 1946. One specimen measuring 47 mm. in total length.
6. From tank at Jarsingha. 18th March 1946. One specimen, 59 mm. in total length.
7. From tanks at Titilagarh. 21st March 1946. 4 specimens, 53-61 mm. in length.

D. 3/8. P. 1/13. V 2/6/1. A. 3/6. C. 20.

Next to *Rasbora daniconius*, this species is fairly well represented in the collection.

*Distribution* :—Common throughout India, except the Malabar Coast, Sind and Burma.

18. *Aspidoparia morar* (Ham.)

1889. *Aspidoparia morar*, Day, *Fauna Brit. India* **1** : 338.  
 1937. *Aspidoparia morar*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci.* **3** : 33.  
 1938. *Aspidoparia morar*, Hora, *Rec. Indian Mus.*, **40** (2) : 173.

Local name : Gendu.

From Kudal Darh of the Tel river at Belgaon. 19th March 1946. 5 specimens, 56-85 mm. in length.

*Distribution* :—*Aspidoparia morar* is recorded by Day to occur from Assam, Burma, Sind, Punjab and Continent of India, except the western coast and localities south of the Kistna river.

19. *Puntius amphibius* (C. V.)

1889. *Barbus amphibius*, Day, *Fauna Brit. India Fish.* **1** : 322.  
 1. From tanks at Balangir. 10/11-3-46. 2 specimens, measuring 65 and 72 mm. in total length.  
 2. From tanks at Chandanbhatti. 12-3-46. One specimen measuring 99 mm. in total length.  
 3. From Kudal Darh of the Tel river at Belgaon. 19-5-1946. 3 specimens, 82-88 mm. in length.

*Distribution* :—According to Day recorded from Central India, Deccan, Bombay, the Western Coast of India, Madras and up the coast as high as Orissa.

### 20. *Puntius chola* (Ham.)

1889. *Barbus chola* Day, *Fauna Brit. India Fish* 1 : 317.

1938. *Barbus chola*. Hora, *Rec. Indian Mus.*, 49(2) : 174.

1. From tanks at Patnagarh. 14th March 1946. 4 specimens, 128-130 mm. in total length.
2. From streams below Harishankar Rest House. 16th March 1946. 2 specimens measuring 50 and 65 mm. in length.
3. From Kudal Darh of the Tel river at Belgaon 19-3-46. One specimen, 72 mm. in total length.

*Puntius chola* is represented by seven specimens in the collections made from different localities. The largest specimen measures 130 mm. in length. This species is widely distributed in the Indian and Burmese waters.

### 21. *Puntius conchoni* (Ham.)

1889. *Barbus conchoni*, Day, *Fauna Brit. India Fish*. 1 : 325.

1937. *Barbus conchoni*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 36-37.

Local name : Rani putia.

1. From tanks at Patnagarh. 14th March 1946. 3 specimens, 41-73 mm. in length.
2. From tanks at Titilagarh. 21st March 1946. One specimen, 83 mm. in total length.

*Distribution* :—Day gives its distribution as Assam, Lower Bengal, Orissa, Bihar, N. W. Provinces, Punjab and the Deccan.

### 22. *Puntius sarana* (Ham.)

(Plate XI, fig. 5.)

1889. *Barbus sarana*, Day, *Fauna Brit. India Fish*. 1 : 300-301.

1937. *Barbus sarana*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 41-42.

1952. *Puntius sarana*, Menon, *Rec. Indian Mus.*, 50 : 268.

Local name : Sarana.

1. From tanks at Salebhatta. 7th March 1946. One specimen, 177 mm. in total length.
2. From tanks at Balangir. 10/11 March 1946. 3 specimens, 82-88 mm. in length.
3. From the tanks at Chandanbhatti. 12th March 1946. One specimen. 150 mm. in length.
4. From streams below Harishankar Rest House. 16th March 1946. 2 specimens, 102 and 175 mm. in total length.
5. From Kudal Darh of the Tel river at Belgaon. 19th March 1946. 2 specimens, 107 mm. in length.

D. 4/7. P. 1/13. V. 1/8. A. 2/6. C. 6/17.

*Distribution* :—Common in India and Burma.

23. *Puntius sophore* (Ham.)1889. *Barbus stigma*, Day, *Fauna Brit. India Fish.* 1 : 329.1938. *Barbus sophore*, Hora, *Rec. Indian Mus.*, 40(2) : 174.

Local name : Putia or Gular Putia.

1. From tanks at Salebhhatta. 7th March 1946. 5 specimens, 60-78 mm. in total length.
2. From tanks at Balangir. 10/11th March 1946. 6 specimens, 49-79 mm. in length.
3. From Sar of the Sukhtel river at Chandanbhatti. 12th March 1946. 10 specimens, 50-73 mm. in length.
4. From tanks at Chandanbhatti. 12th March 1946. 1 specimen, 52 mm. in length.
5. From tanks at Patnagarh. 14th March 1946. 7 specimens, 67-105 mm. in total length.
6. From Desar of the Sungad river at Salepali. 18th March 1946. 6 specimens, 59-80 mm. in length.
7. From tanks at Jarsingha. 18th March 1946. 2 specimens, 77 and 92 mm. in length.
8. From tanks at Titilagarh. 21st March 1946. 5 specimens, ranging between 71 and 84 mm. in length.

*Distribution* :—This species is found in fresh and brackish waters of India and Burma.

24. *Puntius ticto* (Ham.)1889. *Barbus ticto*, Day, *Fauna Brit. India Fish.* 1 : 325.1937. *Barbus ticto*, Shaw & Shebbeare, *J. Asiat. Soc. Bengal Sci* 3 43.1938. *Barbus ticto*, Hora, *Rec. Indian Mus.*, 40(2) : 175.1941. *Barbus ticto*, Hora, *Rec. Indian Mus.*, 43 : 248.1952. *Puntius ticto*, Menon, *Rec. Indian Mus.*, 50 : 268.

Local name : Chakra putia or Karandi.

1. From the Ang river near Salebhhatta Rest House. 7th March 1946. 1 specimen, 35 mm. in length.
2. From Chandi Sar of the Ang river at Salebhhatta Rest House. 7th March 1946. One specimen, 38 mm. in length.
3. Tanks at Balangir. 10/11th March 1946. 4 specimens.
4. Sar of the Sukhtel river at Chandanbhatti. 12th March 1946. 2 specimens, 26 and 39 mm. in length.
5. Tanks at Chandanbhatti. 12th March 1946. One specimen, 38 mm. in length.
6. Tanks at Patnagarh. 14th March 1946. 3 specimens, 35-74 mm. in total length.
7. Streams below Harishankar Rest House. 16th March 1946. One specimen, 35 mm. in length.
8. Tanks at Jarsingha. 18th March 1946. 4 specimens, 44-80 mm. in length.
9. Kudal Darh of the Tel river at Belgaon. 19th March 1946. 1 specimen, 59 mm. in length.

It is represented in the collection from nine different localities out of the fifteen localities surveyed by the Party. Most of them

are small. The largest size recorded is from the Jarsingha tank, measuring 80 mm. in length.

*Distribution* :—This species is distributed throughout India and Ceylon.

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

(Plate XII, fig. 7.)

1938. *Barbus (Tor) khudree*, Hora. & Misra, *J. Bombay Nat. Hist. Soc.* **40** : 124-28.

1943. *Barbus (Tor) khudree*, Hora, *J. Bombay Nat. Hist. Soc.* **44** (2) : 164-168.

Local name : Kusra or Khursa or Suruktia.

1. From the Ang river near Salebhatta Rest House. 8th March 1946. 5 specimens, 66-78 mm. in length.

D. 4/10. P. 1/16. V 1/8. A. 2/6. C. 19.

*Distribution* :—*Barbus (Tor) khudree* is common throughout India and Ceylon. It is abundant in mountainous streams.

### 26. *Cirrhina reba* (Hamilton)

(Plate XII, fig. 9.)

1889. *Cirrhina reba*, Day, *Fauna Brit. India Fish.* **1** : 279-280.

1937. *Cirrhina reba*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* **3** : 46-47.

1938. *Cirrhina reba*, Hora, *Rec. Indian Mus.*, **40**(2) : 175.

Local name : Bhangon ; Dumla.

1. From the Ang river at Agalpur. 9-3-46. 2 specimens, 116 and 283 mm. in total length.
2. From Kudal Darh of the Tel river at Belgaon. 19-3-46. 9 specimens, ranging in length between 103 and 241 mm.

D. 3/9. P. 1/18. V 1/9. A. 2/6. C. 19.

*Distribution* :—Throughout India.

### 27. *Garra mullya* (Sykes)

1938. *Garra mullya*, Hora, *Rec. Indian Mus.*, **40** (2) : 239.

1941. *Garra mullya*, Hora, *Rec. Indian Mus.*, **43** : 248.

Local name : Pakhan chati.

1. Streams from the Sukhtel river up Harishankar Rest House. 16-3-46. Several specimens, 20-42 mm. in length.
2. Streams below Harishankar Rest House. 16-3-46. 2 specimens, 85 and 121 mm. in total length.

*Distribution* :—It is a common hill-stream fish of the Western Ghats. It is also found to occur in the Satpura Mountains, Kathiawar, through the hills of Madhya Pradesh, Chota Nagpur, and Orissa to the whole of Peninsular India.

**28. *Labeo ariza* (Hamilton)**

1889. *Labeo ariza*, Day, *Fauna Brit. India Fish.* 1 : 272.

From Kudal Darh of the Tel river at Belgaon. 19-3-46. 5 specimens, 157-196 mm. in total length.

*Distribution* :—According to Day found in Wynaad, the Bhavani river at the foot of Nilagiri Hills in Madras, and the Cauveri river. This species is reported now for the first time from this region.

**29. *Labeo boggut* (Sykes)**

(Plate XII, fig. 8.)

1889. *Labeo boggut*, Day, *Fauna Brit. India Fish.* 1 : 269.

1. The Ang river near Salebhatta Rest House. 8-3-46. 26 specimens, 76-93 mm. in length.
2. Tanks at Salebhatta. 7-3-46. One specimen, 111 mm. in length.
3. Tanks at Balangir. 10/11-3-46. 5 specimens, 103-140 mm. in total length.
4. The Sukhtel river at Chandanbhatti. 12-3-46. One specimen, 120 mm. in length.
5. From Kudal Darh of the Tel river at Belgaon. 19-3-46.. One specimen, 137 mm. in length.

D. 3/9. P. 1/16. V. 1/8. A. 2/5/1. C. 19.

*Distribution* :—According to Day, this species is found in Bengal, the Punjab, Madhya Pradesh, Bombay, the Deccan, common at Jabalpur from this region in and in Cutch, also found at Madras. Its occurrence from this region, in Orissa is recorded for the first time.

**30. *Labeo calbasu* (Hamilton)**

1889. *Labeo calbasu*, Day, *Fauna Brit. India Fish.* 1 : 259.

1937. *Labeo calbasu*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 52-53.

Local name : Kalanchi.

From Kuñal Darh of the Tel river at Belgaon. 19-3-46. 2 specimens, 235 and 320 mm. in total length.

*Distribution* :—This species is represented by only two specimens in the collection, the largest measuring 320 mm. in size. It is found in Punjab, Sind, Cutch, Deccan, Southern India and Malabar, from the Kistna river through Orissa, Bengal and Burma.

**31. *Labeo fimbriatus* (Bl.)**

(Plate XI, fig. 4.)

1889. *Labeo fimbriatus*, Day, *Fauna Brit. India Fish.* 1 : 258-259.

Local name : Pudsa.

1. Tanks at Salebhatta. 7-3-46. 7 specimens, 122-160 mm. in total length.
2. The Ang river at Agalpur. 9-3-46. 4 specimens, 110-127 mm in length.
3. Tanks at Balangir. 10/11-3-46. One specimen, measuring 178 mm. in length.

D. 3/17. P. 1/16. V. 1/8. A. 3/6. C. 19.

*Distribution* :—According to Day, *Labeo fimbriatus* is distributed in Sind, the Punjab, the Deccan, and probably N. E. Bengal; also Southern India at least to Orissa, but not recorded from Malabar or Canara.

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

1889. *Labeo gonius*, Day, *Fauna Brit. India Fish.* 1 : 261-262.  
 1937. *Labeo gonius*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 54-55.  
 1938. *Labeo gonius*, Hora, *Rec. Indian Mus.*, 40(2) : 176.

Local name : Bichhili.

From Kudal Darh of the Tel river at Belgaon. 19-3-46. One specimen, 216 mm. in length.

*Distribution* :—This species is found throughout Northern India as southwards as the Krishna river, and in Burma.

### 33. *Rohtee cotio* (Hamilton)

1889. *Rohtee cotio*, Day, *Fauna Brit. India Fish.* 1 : 340-341.  
 1937. *Rohtee cotio*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 58.  
 From Kudal Darh of the Tel river at Belgaon. 19-3-46. 2 specimens, 60 and 110 mm. in length.

*Distribution* :—According to Day, *Rohtee cotio* is found in Burma and Sind, throughout India except the Malabar Coast and south of the Kistna.

### 34. *Rohtee cotio* var. *cunma* (Day.)

1889. *Rohtee cunma*, Day, *Fauna Brit. India Fish.* 1 : 343.  
 1940. *Rohtee cotio* var. *cunma*, Hora, *Rec. Indian Mus.*, 42 : 168-169.  
 From Desar of the Sungad river at Salepali. 18-3-46. 7 specimens, 77-88 mm. in length.

*Distribution* :—This species is found in Peninsular India, Orissa, Bombay and Sind and also in Burma.

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

(Plate XI, fig. 3.)

1889. *Rohtee vigorsii*, Day, *Fauna Brit. India Fish.* 1 : 341.  
 1940. *Rohtee vigorsii*, Hora, *Rec. Indian Mus.*, 42 : 160-161.

Local name : Chilhati.

1. From the Ang river at Agalpur. 9-3-46. 2 specimens, 127-128 mm. in length.
2. From Tanks at Balangir. 10/11-3-46. 2 specimens, 190 and 232 mm. in length.
3. From Kudal Darh of the Tel river at Belgaon. 3 specimens, 105-165 mm. in total length.

D. 3/9. P. 1/15/1. V 1/8/1. A. 3/26. C. 19.

*Distribution* :—*Rohtee vigorsii* is distributed in Deccan, the Kistna and the Godavari rivers to their termination, according to Day.

## Family COBITIDAE.

36. *Lepidocephalichthys guntea* (Ham.)1889. *Lepidocephalichthys guntea*, Day, *Fauna Brit. India Fish.* 1 : 220-221.1937. *Lepidocephalichthys guntea*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 68-70.

Local name : Thoro or Thuru.

1. The Ang river near Salebhatta Rest House. 7/8-3-46. One specimen, 58 mm. in total length.
2. Tanks at Balangir. 10/11-3-46. 3 specimens, 61-90 mm. in total length.
3. The Sukhtel river at Chandanbhatti. 12-3-46. 1 specimen, 53 mm. in length.
4. Tanks at Patnagarh. 14-3-46. 1 specimen, 56 mm. in length.
5. Streams from the Sukhtel river up Harishanker Rest House. 15/16-3-46. 4 specimens, 45-61 mm. in length.
6. Streams below Harishankar Rest House. 16-3-46. 3 specimens, 52-62 mm. in total length.
7. Kudal Darh of the Tel river at Belgaon. 19-3-46. 1 specimen, 33 mm. in length.

*Distribution* :—According to Day this species is found in the Punjab, throughout India and except Mysore and South of the Kistna and also the Malabar Coast Darjeeling, several localities on the Himalayas.

37. *Nemachilus botia* (Hamilton)1937. *Nemachilus botia*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 71.

From Kudal Darh of the Tel river at Belgaon. 19-3-46. One specimen.

*Nemachilus botia* is represented by only one specimen in the collection. It is found throughout Ceylon and India except Malabar and south of the river Kistna.

38. *Nemachilus botius* var. *aureus* (Day.)1889. *Nemachilus botius* var. *aureus*, Day, *Fauna Brit. India Fish.* 1 : 227

From Kudal Darh of the Tel river at Belgaon. 19-3-46. 1 specimen.

*Distribution* :—Common throughout India.

39. *Nemachilus dayi* (Hora.)1935. *Nemachilus dayi*, Hora, *Rec. Indian Mus.*, 37 : 57.1938. *Nemachilus dayi*, Hora, *Rec. Indian Mus.*, 40(3) : 240.

1. From streams up Harishankar Rest House. 16-3-46. 7 specimens, 25-44 mm. in total length.
2. From streams below Harishankar Rest House. 16-3-46. 1 specimen, 41 mm. in total length.

*N. dayi* is represented by 8 specimens in the collection. Out of them the largest one measures 44 mm. in total length.

*Distribution* :—This species is reported from Bengal, N.W. Provinces, Pareshnath Hills. It is also found to be common in many of the smaller rivers of Peninsular India and the Indo-Gangetic plain according to Annandale.<sup>1</sup> He also recorded it from the Yenna river at Medha. Hora recorded this species from the Bailadila range, Bastar State,

<sup>1</sup>Annandale, N. *Rec. Indian Mus.*, 16 : 127 (1919).

Madhya Pradesh. This is the first record of its occurrence from this region in Orissa.

### Suborder *SILUROIDEA*

#### Family *SILURIDAE*.

#### 40. *Callichrous bimaculatus* (Bl.).

1889. *Callichrous bimaculatus*, Day, *Fauna Brit. India* Fish. 1 : 13.  
 1937. *Callichrous bimaculatus*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3, 82.
1. From the Ang river at Agalpur. 9-3-46. One specimen, 136 mm. in length.
  2. From streams below Harishankar Rest House. 16-3-46. One specimen, 201 mm. in length.
  3. From Kudal Darh of the Tel river at Belgaon. 19-3-46. 2 specimens. 178 and 242 mm. in total length.

*Distribution*.—According to Day this species is found in the freshwaters of Sind, and from the Punjab throughout India, Ceylon and Assam to the Malay Archipelago and beyond. Some times observed in Burma, according to Col. Tickell, within tidal influence.

#### 41. *Callichrous pabda* (Hamilton)

1889. *Callichrous pabda*, Day, *Fauna British India* Fish. 1 : 133.  
 1937. *Callichrous pabda*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 83.
- From the Ang river near Salebhatta Rest House. 7/8-3-46. One specimen, 110 mm. in length.

*Distribution*.—It is common in the Indus, the Ganges and the Bramhaputra rivers, ; as well as Orissa and Darjeeling.

#### 42. *Wallagonia attu* (Bl.).

1921. *Wallago attu*, Hora, *Rec. Indian Mus.* 22 : 178.  
 1937. *Wallago attu*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 84.  
 1941. *Wallagonia attu*, Sen, *J. Asiat. Soc. Bengal Sci.* 7 : 9.  
 1952. *Wallago attu*, Menon, *Rec. Indian Mus.* 50(2) : 267.

Local name : Balia.

From tanks at Chandanbhatti. 12-3-46.

*Distribution*.—*W attu* is found in all parts of India, Ceylon, and Burma.

#### Family *SCHILBEIDAE*

#### 43. *Eutropiichthys vacha* (Hamilton)

1889. *Eutropiichthys vacha*, Day, *Fauna Brit. India* Fish. 1 : 128.  
 1937. *Eutropiichthys vacha*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 86.

Local name : Katra.

Kudal Darh of the Tel river at Belgaon. 19-3-46.

This species is represented in the collections by two specimens, measuring 135 and 232 mm. in the total lengths.

*Distribution.*—According to Day *E. vacha* is found from the Punjab, through the large rivers of Sind, Bengal and Orissa.

#### 44. *Clupisoma garua* (Hamilton).

1889. *Pseudotropius garua*, Day, *Fauna Brit. India Fish*, 1 : 141-142.

1937. *Pseudotropius garua*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 87.

From Kudal Darh of the Tel river at Belgaon. 19-3-46. 4 specimens, 130-150 mm. in length.

*Distribution.*—Common throughout the rivers of India and Burma.

#### Family BAGRIDAE.

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

1937. *Mystus bleekeri*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 91.

Local name : Kantai or Tengri or Tangra.

From the Ang river at Agalpur. 9-3-46. One specimen, 106 mm. in total length.

*Distribution.*—According to Day this species is found in Sind, the Jumna, upper waters of the Ganges, and Burma. Shaw and Shebbeare recorded the species from all the streams in the Terai and Duars. Its occurrence from this region in Orissa, is now reported for the first time.

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

1889. *Macrones cavasius*, Day, *Fauna Brit. India Fish*, 1 : 155.

1937. *Mystus cavasius*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 91.

From Kudal Darh of the Tel river at Belgaon. 19-3-46. 3 specimens, ranging in length from 103 to 106 mm. in total length.

*Distribution.*—Common throughout India and Burma.

#### 47. *Mystus seenghala* (Sykes).

1937. *Mystus seenghala*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 93.

Local name : Singhal.

From the Ang river at Agalpur. 9-3-46. One specimen, 275 mm. in length.

It is represented in the collection by a single specimen measuring 275 mm. in total length.

*Distribution.*—Common throughout India.

#### 48. *Rita chrysea* Day.

1889. *Rita chrysea*, Day, *Fauna Brit. India Fish*, 1 : 167-168.

From Kudal Darh of the Tel river at Belgaon. 19-3-46. 12 specimens, ranging between 72 and 140 mm. in total length.

*Distribution.*—According to Day *Rita chrysea* is recorded from Orissa, where a single specimen was captured.

Family SISORIDAE.

49. *Erethistes hara* (Hamilton).

1937. *Erethistes hara*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 99-100.

From Kudal Darh of the Tel river at Belgaon. 19-3-46. 3 specimens, 30-51 mm. in total length.

*Distribution.*—Throughout Orissa, Bengal, Assam and Burma.

50. *Glyptothorax lonah* (Sykes).

1889. *Glyptosternum lonah*, Day, *Fauna Brit. India Fish*, 1 : 196.

Local name : Kath-budia.

From streams up Harishankar Rest House. 16-3-46. 2 specimens, 47 and 48 mm. in length.

*Distribution.*—According to Day *Glyptothorax lonah* is found in Deccan, Poona, and also head-waters of the Jumna. This is now recorded for the first time from the Balangir District, Orissa.

Order SYNENTOGNATHI.

Family XENENTODONTIDAE.

51. *Xenentodon cancila* (Hamilton).

(Plate XIV, fig. 17).

1937. *Xenentodon cancila*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 108.

1941. *Xenentodon cancila*, Hora, *Rec. Indian Mus.* 43 : 256.

Local name : Gour chula.

1. Chandisar of the Ang river at Salebhatta Rest House. 7-3-46. One specimen, 190 mm. in length.

2. From Desar of the Sungad river at Salepali. 18-3-46. 2 specimens, 190 and 215 mm. in total length.

3. From Kudal Darh of the Tel river at Belgaon. 19-3-46. 2 specimens, measuring 95 and 100 mm. in length.

D. 2/15. P. 1/8/1. V 1/5. A. 2/16. C. 15.

*Distribution.*—*Xenentodon cancila* is widely distributed in the fresh-waters of India, Ceylon and Burma.

Order PERCOMORPHI.

Suborder PERCOIDEA.

Family AMBASSIDAE.

**52. *Ambassis baculis* (Hamilton).**

1889. *Ambassis baculis*, Day, *Fauna Brit. India* Fish. 1 : 485-486.  
 1938. *Ambassis baculis*, Hora, *Rec. Indian Mus.* 40(2) : 180.

Local name : Chandi.

1. From Chandisar of the Ang river at Salebhata Rest House. 7-3-46. One specimen, 38 mm. in length.
2. From Desar of the Sungad river at Salepali. 18-3-46. Several specimens ranging in length between 40 and 70 mm.
3. From Kudal Darh of the Tel river at Belgaon. 19-3-46. 6 specimens, 47-56 mm. in total length.

*Distribution.*—According to Day found in fresh-waters of Orissa, Bengal and as far north as the Punjab and also in Burma.

**53. *Ambassis nama* (Hamilton).**

1889. *Ambassis nama*, Day, *Fauna Brit. India*, Fish. 1 : 484.  
 1937. *Ambassis nama*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 110-111.  
 1938. *Ambassis nama*, Hora, *Rec. Indian Mus.* 40(2) : 181.  
 From tanks at Balangir. 10/11-3-46.

This species is represented by two specimens in the collection, measuring 70 and 91 mm. in total length.

*Distribution.*—Throughout India and Burma.

**54. *Ambassis ranga* (Hamilton).**

1921. *Ambassis ranga*, Hora, *Rec. Indian Mus.* 22 : 204.  
 1937. *Ambassis ranga*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 111.  
 1938. *Ambassis ranga*, Hora, *Rec. Indian Mus.* 40(2) : 181.  
 1952. *Ambassis ranga*, Menon, *Rec. Indian Mus.* 50 : 270.

Local name : Patponia.

1. Chandisar of the Ang river at Salebhata Rest House. 7-3-46. 3 specimens, 37-38 mm. in length.
2. From tanks at Salebhata. 7-3-46. 3 specimens, 20-22 mm. in total length.
3. The Ang river at Agalpur. 9-3-46. 2 specimens, 54 and 59 mm. in length.
4. Desar of the Sungad river at Salepali. 18-3-46. Several specimens, 52-71 mm. in length.
5. Kudal Darh of the Tel river at Belgaon. 19-3-46. One specimen, 70 mm. in length.
6. Tanks at Titilagarh. 21-3-46. One specimen, measuring 73 mm. in total length.

*Distribution.*—Common throughout India and Burma.

Family NANDIDAE.

**55. *Nandus nandus* (Hamilton.)**

(Plate XIII, fig. 14.)

1937. *Nandus nandus*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 115.  
 1938. *Nandus nandus*, Hora, *Rec. Indian Mus.* 40(2) : 181.

Local name : Bhadra.

1. From tanks at Balangir. 10/11-3-46. 2 specimens 122 and 125 mm. in length.
2. From tanks at Titilagarh. 21-3-46. 2 specimens, 35 and 100 mm. in total length.

D. 13/1/11/1. P. 2/11/3. V 1/7. A. 3/7. C. 14.

*Distribution.*—Throughout India and Burma.

Suborder *GOBIOIDEA*.

Family *GOBIIDAE*.

56. *Glossogobius giuris* (Hamilton).

(Plate XI, fig. 1.)

1937. *Glossogobius giuris*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* **3** : 114.
1938. *Glossogobius giuris*, Hora, *Rec. Indian. Mus.* **40**(2) : 181.

Local name : Mutla or Ghaisra.

1. From tanks at Balangir. 10/11-3-46. One specimen, measuring 34 mm. in length.
2. From tanks at Chandanbhatti. 12-3-46. One specimen, 110 mm. in length.
3. From tanks at Patnagarh. 14-3-46. 6 specimens, 26-95 mm. in total length.
4. From Kudal Darh of the Tel river at Belgaon. 19-3-46. 6 specimens, 94-159 mm. in length.
5. From tanks at Titilagarh. 21-3-46. 2 specimens, measuring 122 and 133 mm. in length.

D.<sup>1</sup> 6. D.<sup>2</sup> 1/11. P. 3/15/2. A. 2/8. C. 14.

*Distribution.*—Common throughout India.

Suborder *OPHICEPHALOIDEA*.

Family *OPHICEPHALIDAE*.

57. *Channa gachua* (Hamilton).

1889. *Ophicephalus gachua*, Day, *Fauna Brit. India Fish.* **2** : 364.
1937. *Ophicephalus gachua*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* **3** : 121-122.
1952. *Channa gachua*, Menon, *Rec. Indian Mus.* **50** : 270.

Local name : Jeea.

1. From the Ang river near Salebhatta Rest House. 8-3-46. 2 specimens, 118 and 119 mm. in length.
2. Tanks at Salebhatta. 7-3-46. One specimen, 50 mm. in length.
3. The Ang river at Agalpur. 9-3-46. One specimen, 70 mm. in length.
4. Tanks at Balangir. 10/11-3-46. One specimen, measuring 90 mm in length.
5. Streams below Harishankar Rest House. 16-3-36. 1 specimen, 107 mm. in length.

*Distribution.*—According to Day, *Channa gachua* is found in freshwaters throughout India, Ceylon, Burma and the Andamans; also near Gwadar on the Mekran Coast.

### 58. *Channa punctatus* (Bl.)

(Plate XI, fig. 2.)

1889. *Ophicephalus punctatus*, Day, *Fauna Brit. India* Fish. 2 : 364-365.

1937. *Ophicephalus punctatus*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 123.

Local name : Khugsi or Khugsa.

1. From tanks at Salebhatta. 7-3-46. 7 specimens, ranging in length between 44 and 160 mm.
2. From tanks at Balangir. 10/11-3-46. One specimen, 142 mm. in length.
3. From tanks at Patnagarh. 14-3-46. One specimen, measuring 161 mm. in total length.
4. From Desar of the Sungad river at Salepali. 18-3-46. One specimen, 53 mm. in length.

D. 30. P. 2/15. V. 1/15.

*Distribution.*—According to Day, this species is found in freshwaters generally in the plains of India; stagnant waters preferred to running.

### 59. *Channa striatus* (Bl.)

1937. *Ophicephalus striatus*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 124.

1952. *Channa striatus*, Menon, *Rec. Indian Mus.* 50 : 270.

From tanks at Salebhatta. 7-3-46. One specimen, measuring 335 mm. in total length.

*Distribution.*—Throughout plains of India, Ceylon, Burma, China and the Philippines.

## Suborder MUGILOIDEA.

### Family MUGILIDAE.

### 60. *Mugil (Liza) corsula* (Ham.).

(Plate XIV, fig. 16.)

1889. *Mugil corsula*, Day, *Fauna Brit. India* Fish. 2 : 349.

From Kudal Darh of the Tel river at Belgaon. 19-3-46. One specimen measuring 276 mm. in length.

D<sup>1</sup>. 4. D<sup>2</sup>. 2/7. P. 1/13. V. 1/5. A. 2/7. C. 14.

*Distribution.*—According to Day, this species is found in Rivers and estuaries of Bengal and Burma; found far above tidal influence in freshwater. This is the first time it is recorded from this region in Orissa.

## Order OPISTHOMI.

## Family MASTACEMBELIDAE.

61. *Mastacembelus armatus* (Lacep).

1937. *Mastacembelus armatus*, Shaw and Shebbeare, *J. Asiat. Bengal Sci.* 3 : 126.  
 1941. *Mastacembelus armatus*, Hora, *Rec. Indian Mus.* 43 : 256.

Local name : Khara Baira.

1. From tanks at Balangir. 10/11-3-46. One specimen, 345 mm. in length.
2. From Kudal Darh of the Tel river at Belgaon. 19-3-46. 1 specimen measuring 110 mm. in total length.

*Distribution.*—*Mastacembelus armatus* is found throughout India, Ceylon, Burma and China.

62. *Mastacembelus pancalus* (Ham.).

(Plate XIV, fig. 15.)

1937. *Mastacembelus pancalus*, Shaw and Shebbeare, *J. Asiat. Soc. Bengal Sci.* 3 : 126-127.

Local name : Baira.

1. From the Ang river at Agalpur. 9-3-46. One specimen, 147 mm. in total length.
2. From tanks at Balangir. 10/11-3-46. 2 specimens, 95 and 119 mm. in length.
3. From tanks at Patnagarh. 14-3-46. One specimen measuring 148 mm. in length.
4. From tanks at Titilagarh. 21-3-46. 3 specimens, 102-110 mm. in total length.

D. 20/2/48. P. 2/19. A. 3/40. C. 13.

*Distribution.*—According to Day *Mastacembelus pancalus* is found in large rivers of India and localities near the Sea.

## II. BIRDS.

The following is the list of birds collected by the party during the Survey of the Fish and Fisheries of the then Patna State, now Balangir District, in Orissa, during March 1946. The specimens were kindly identified by Dr. B. Biswas, now Officer-in-charge, Bird & Mammal Section, Zoological Survey of India.

## Order CICONIIFORMES.

## Family ARDEIDAE.

*Ardea cinerea rectirostris* Gould.

(The eastern gray heron.)

One female on the Ang river at Agalpur.

*Ardeola grayi* (Sykes).

(The pond heron.)

One female at Salebhatta.

**Bubulcus ibis coromandus** (Boddaert).

(The cattle egret.)

One juvenile female at Harishankar.

## Family THRESKIORNITHIDAE.

**Threskiornis melanocephala** (Latham.)

(The white ibis).

One male and a juvenile female at Chandanbhatti.

A specimen of the black ibis (*Pseudibis papillosa*) was also seen in the flock of white ibis.

## Order CHARADRIIFORMES.

## Family JACANIDAE.

**Metopidius indicus** (Latham).

(The bronze-winged jacana).

One female at Salebhatta. Also seen in large numbers at Titilagarh.

## Family MOTACILLIDAE.

**Motacilla alba dukhunensis** Sykes.

One female at Salebhatta.

## Family NECTARINIIDAE.

**Nectarinia asiatica asiatica** (Latham).

(The Indian purple sunbird.)

One female at Belgaon.

## Family STURNIDAE.

**Arcidotheres tristis tristis** (Linne.).

(The common myna.)

Two males at Salebhatta.

## Family ORIOLIDAE.

**Oriolus xanthornus xanthornus** (Linne.).

One male at Harishankar.

## Family DICRURIDAE.

**Dicrurus macrocercus macrocercus** Vieillot.

(The Indian black drongo.)

One male at Belgaon.

## Family CORVIDAE.

**Corvus macrorhynchus culminatus** Sykes.

(The Indian jungle crow.)

One male at Harishankar.

Family MEROPIDAE.

**Merops orientalis orientalis** Latham.

(The common Indian bee-eater.)

One male and a female at Salebhatta.

Family UPUPIDAE.

**Upupa epops epops** Linne.

(The European hoopoe.)

One unsexed, at Lerkipalli Agr. Farm.

Order PICIFORMES.

**Chrysocolaptes festivus festivus** (Boddaert).

(The black-backed woodpecker.)

One juvenile male at Belgaon.

Order PASSERIFORMES.

Family ALAUDIDAE.

**Mirafra erythroptera erythroptera** Blyth.

(The red-winged bush lark.)

One male at Salebhatta.

Family HIRUNDINIDAE.

**Hirundo smithi filifera** Stephens.

(The Indian wire-tailed swallow.)

One female at Salebhatta.

Family PYCNONOTIDAE.

**Pycnonotus cafer pallidus** Baker.

(The central Indian red-vented bulbul.)

One male at Belgaon.

Family CHARADRIIDAE.

**Hoplopterus duvauceli** (Lesson.)

(The spur-winged plover.)

One female at Salebhatta on the Ang river.

**Tringa ochropus** Linne.

(The green sandpiper.)

One female at Salebhatta.

***Tringa glareola* (Linne.).**

(The wood sandpiper.)

One male at Chandanbhatti on the Sukhtel river.

***Calidris minutus minhtus* (Leisler).**

(The little stint.)

One female on the Tel river at Belgaon.

## Order COLUMBIFORMES.

## Family COLUMBIDAE.

***Streptopelia decaocto decaocto* (Frivaldszky).**

(The Indian ring dove.)

One male at Balangir ; one male at Patnagarh.

***Streptopelia chinensis suratensis* (Gmelin).**

(The Indian spotted dove.)

One male at Salebhatta.

## Order CORACIIFORMES.

## Family CORACIDAE.

***Coracias benghalensis benghalensis* (Linne.).**

(The Indian roller.)

One male at Chandanbhatti.

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EXPLANATION OF PLATE XI.

FISHES OF BALANGIR.

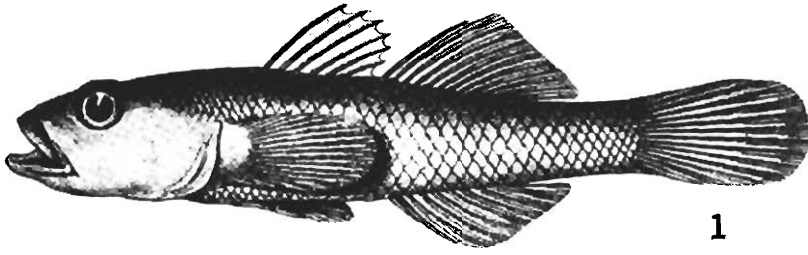
FIG. 1.—*Glossogobius giuris* (Ham.) :  $\times 3$ .

FIG. 2.—*Channa punctatus* (Bl.) :  $\times 1\frac{1}{2}$ .

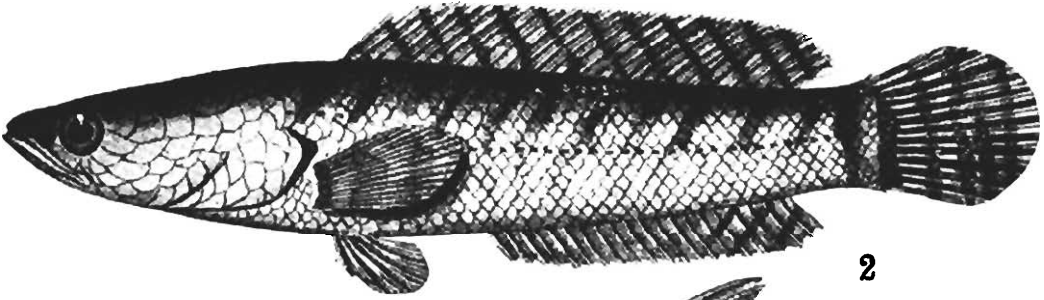
FIG. 3.—*Rohtee vigorisii* (Sykes) :  $\times \frac{3}{4}$

FIG. 4.—*Labeo fimbriatus* (Bl.) :  $1\frac{1}{4}$ .

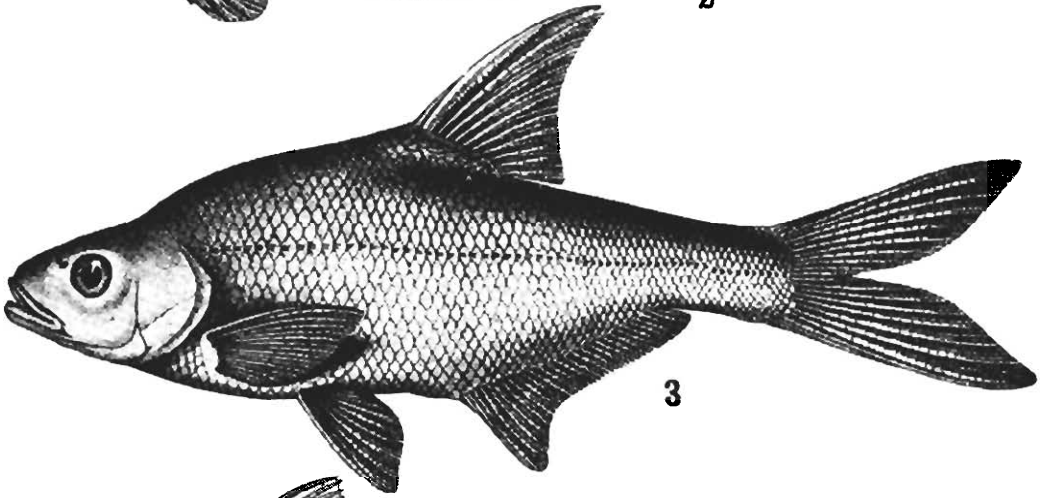
FIG. 5.—*Puntius sarana* (Ham.)  $\times 1\frac{1}{4}$ .



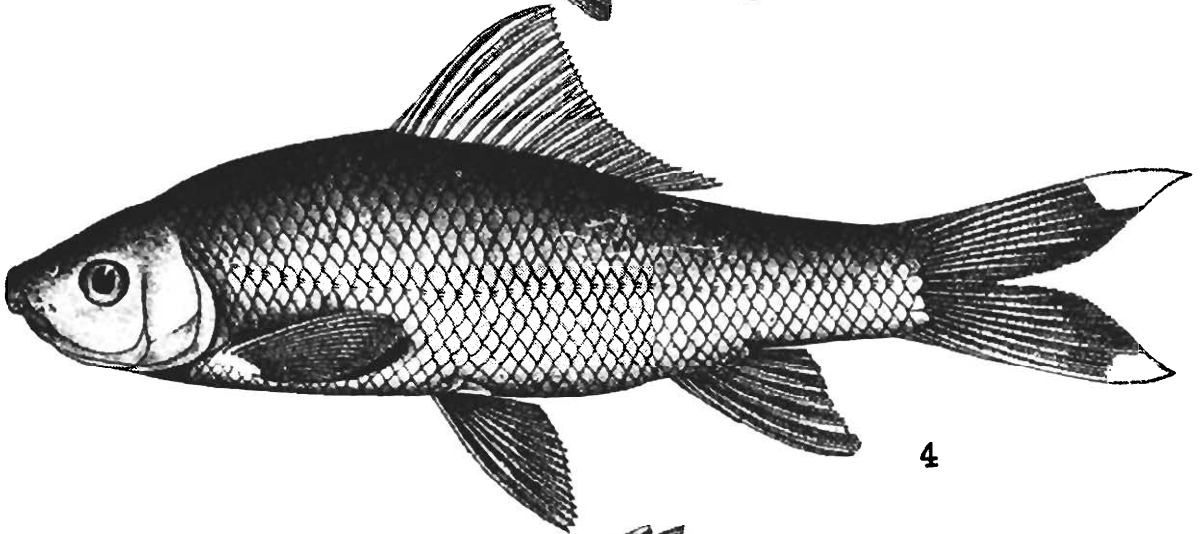
1



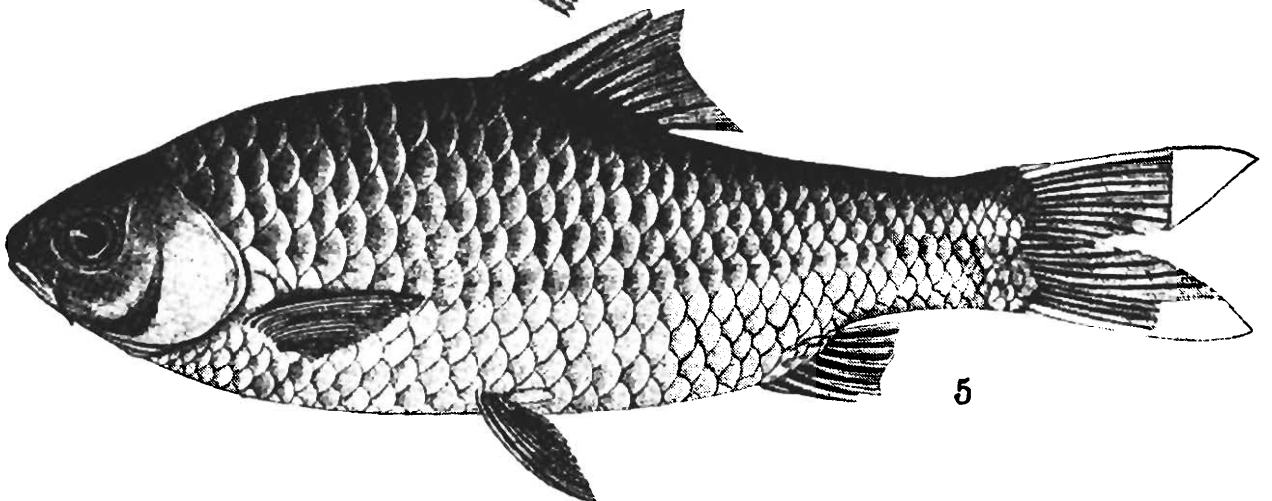
2



3



4



5

EXPLANATION OF PLATE XII.

FISHES OF BALANGIR.

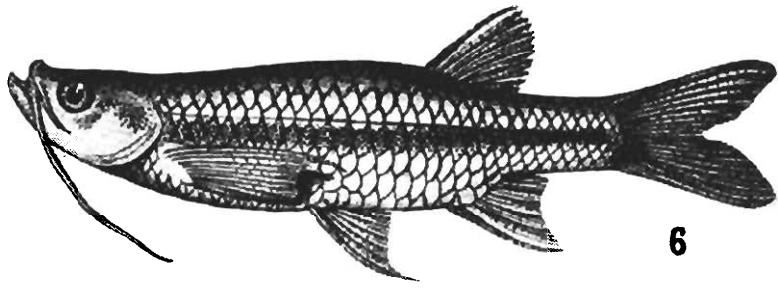
FIG. 6.—*Esomus danricus* (Ham.) : x 2.

FIG. 7.—*Tor khudree* (Sykes) : x 2.

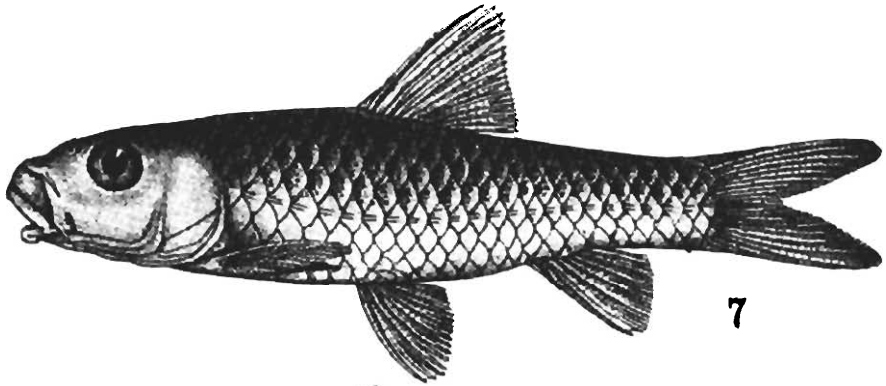
FIG. 8.—*Labeo boggut* (Sykes) : x 2.

FIG. 9.—*Cirrhina reba* (Ham.) : x 1.

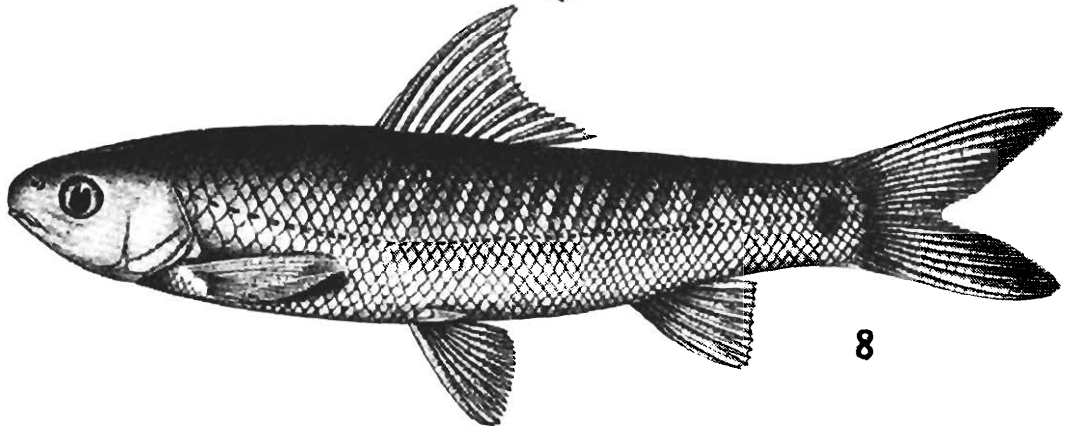
FIG. 10.—*Notopterus notopterus* (Pallas) :  $1\frac{1}{4}$ .



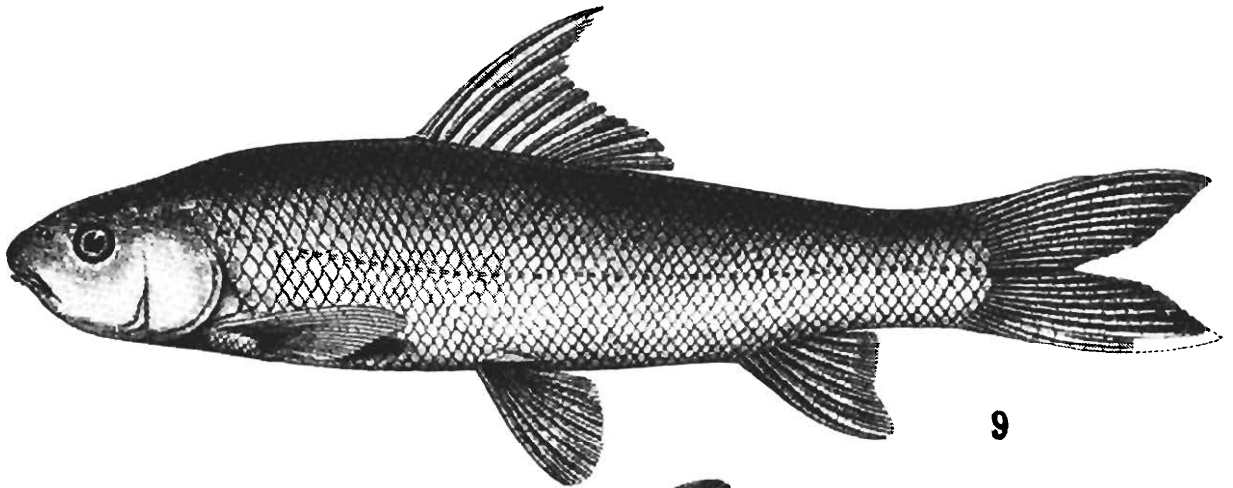
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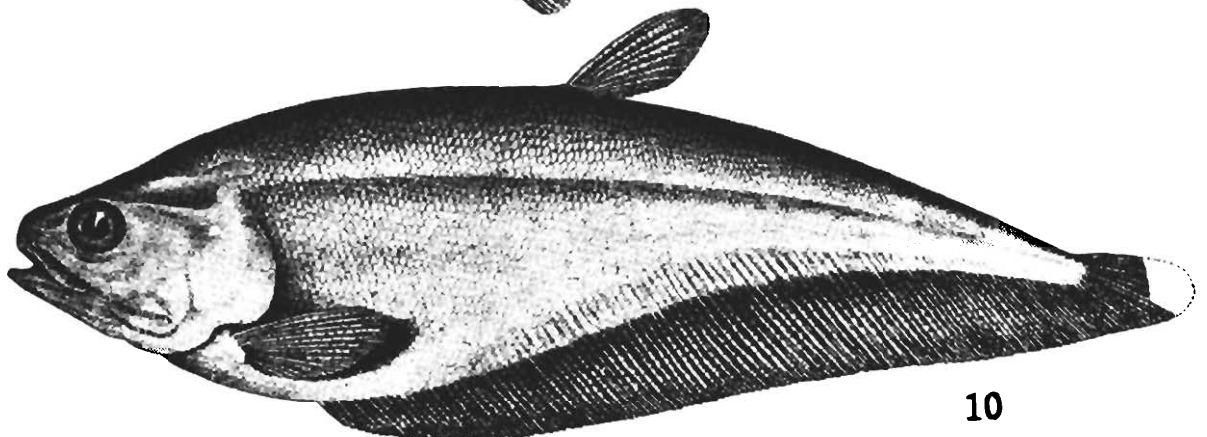
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EXPLANATION OF PLATE XIII.

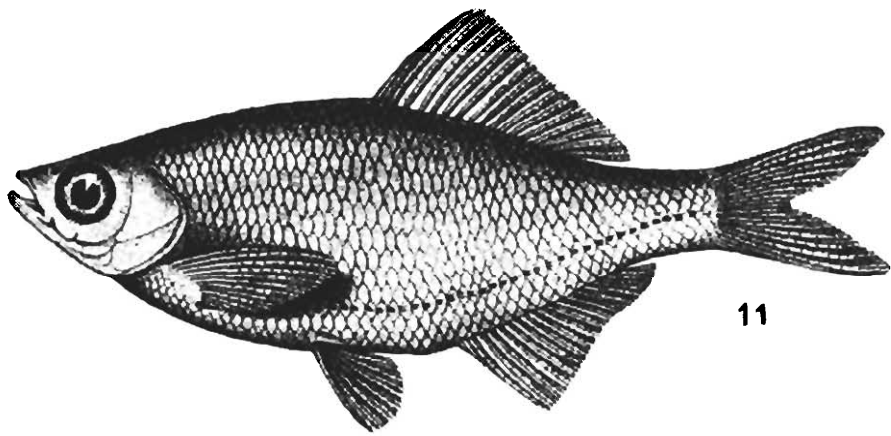
FISHES OF BALANGIR.

FIG. 11.—*Danio devario* (Ham.): x 2.

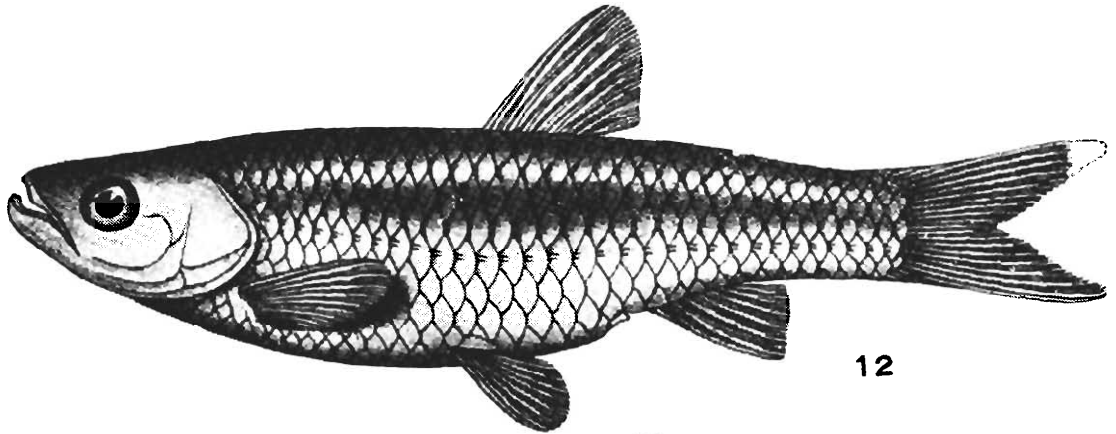
FIG. 12.—*Rasbora daniconius* (Ham.): 2.

FIG. 13.—*Amblypharyngodon mola* (Ham.): x 2.

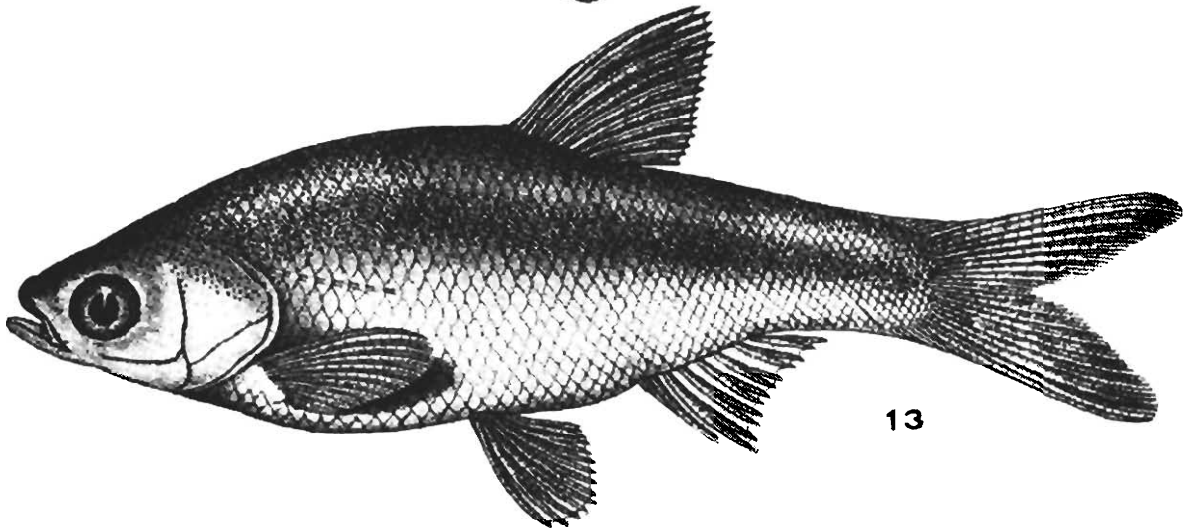
FIG. 14.—*Nandus nandus* (Ham.): x 2.



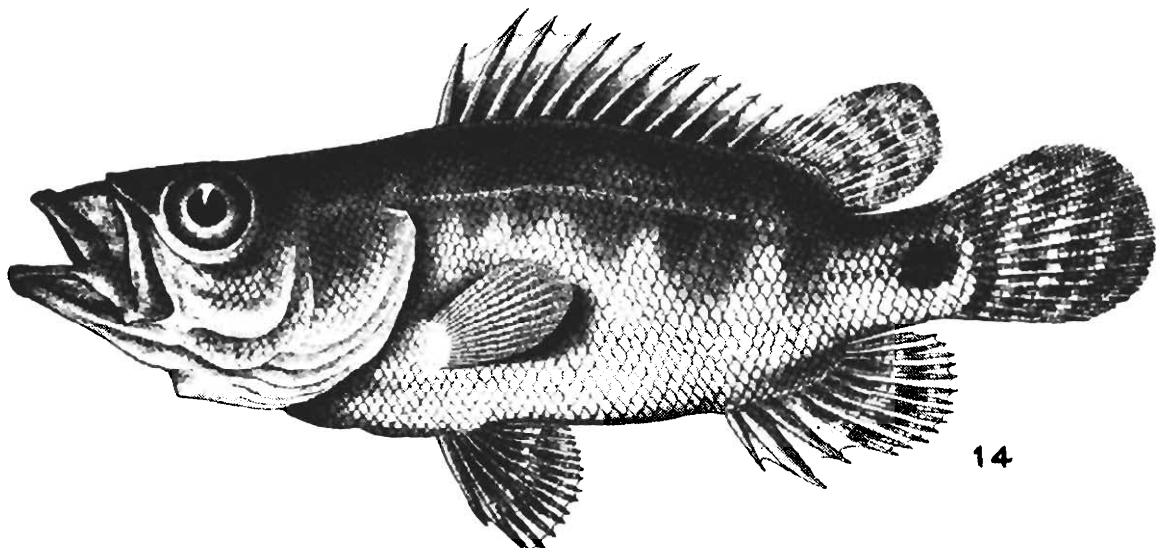
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14

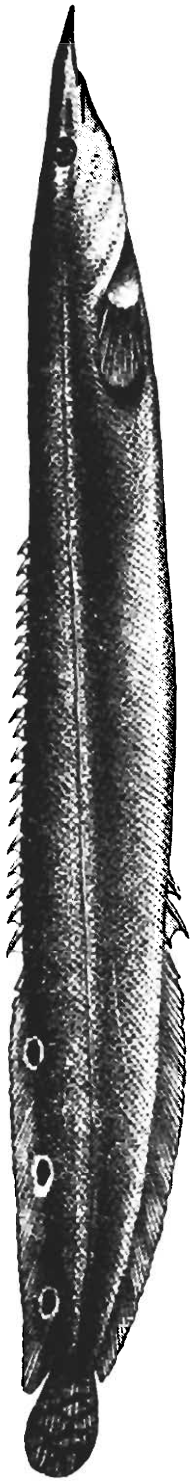
## EXPLANATION OF PLATE XIV

### FISHES OF BALANGIR.

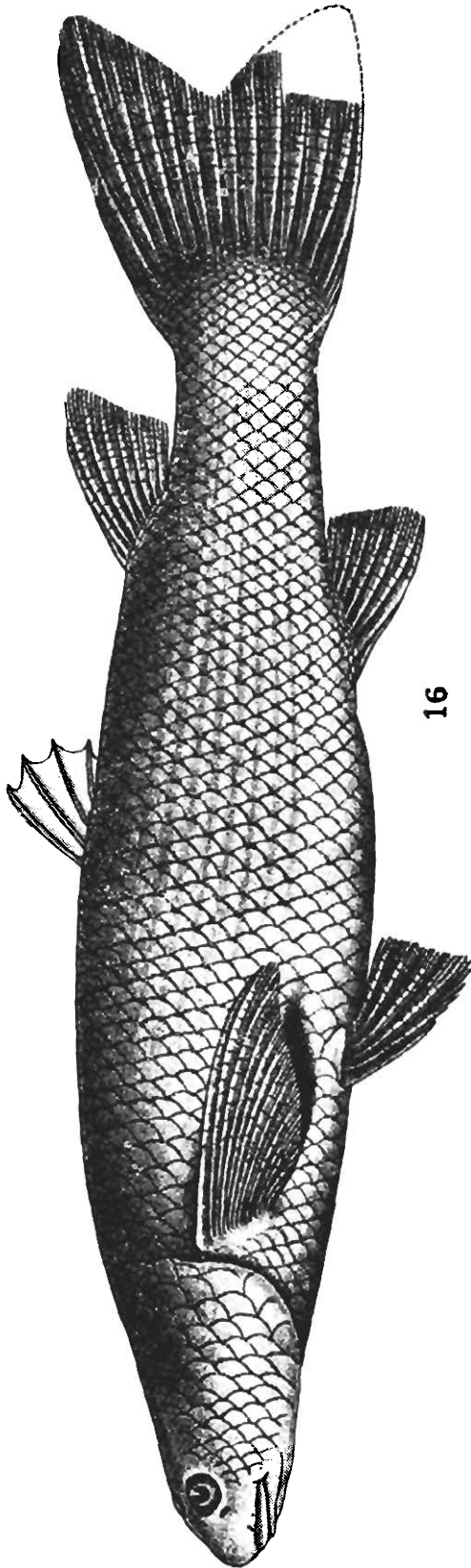
FIG. 15.—*Mastacembelus pancalus* (Ham.) : x  $1\frac{1}{4}$ .

FIG. 16.—*Mugil (Liza) corsula* (Ham.) :  $\frac{3}{4}$ .

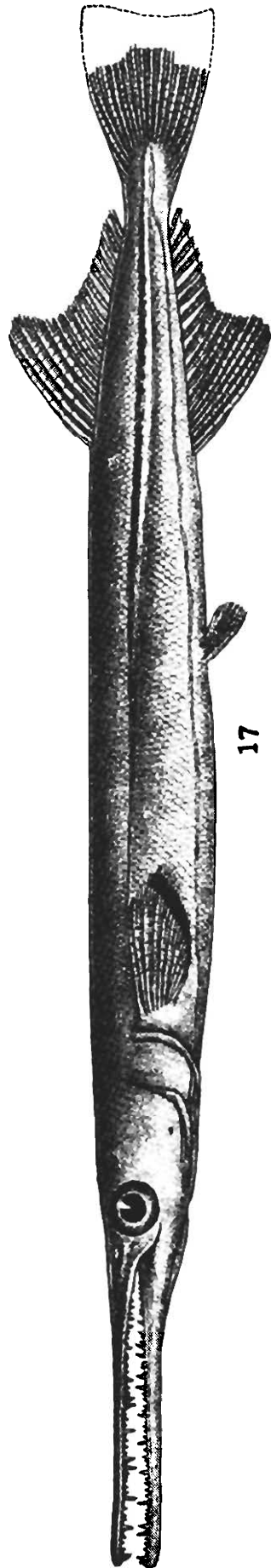
FIG. 17.—*Xenentodon cancila* (Ham.) :  $1\frac{1}{4}$ .



15



16



17

A. K. Mondal *del*

Fishes of Balangir Dist. (Orissa)

TEMNOCEPHALA SEMPERI WEBER, 1890 FROM THE NARMADA RIVER, WITH A NOTE ON OTHER TEMNOCEPHALID MATERIAL IN THE ZOOLOGICAL SURVEY OF INDIA CALCUTTA.

By *B. S. Chauhan*, MSc, PHD, FZS, FASC, FZSI, and  
*G. Ramakrishna*, BSc. (HONS.), Zoological Survey of India,  
 Calcutta.

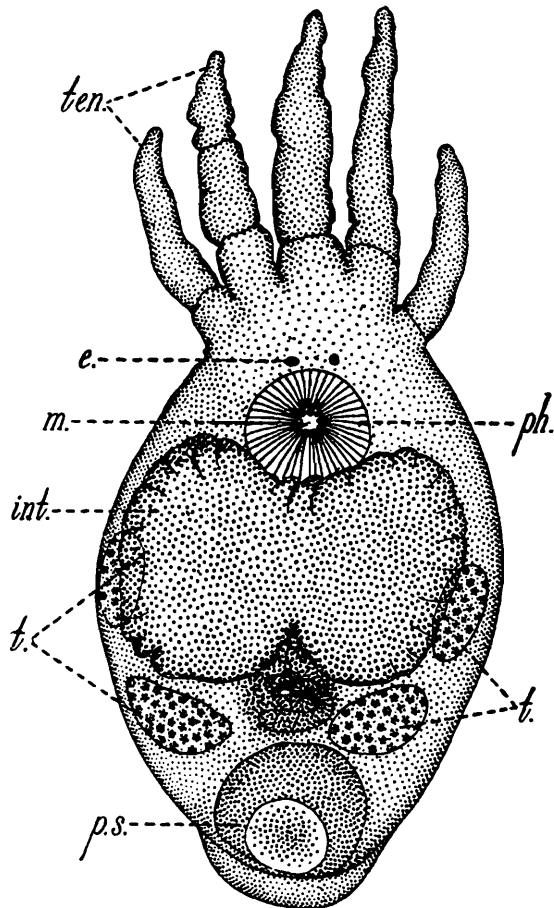
There have been up till now only two records of the occurrence of representatives of the genus *Temnocephala* Blanchard, 1849, from the Indian region. Wood Mason (1875) found a single specimen of *T. chiliensis* amongst a collection of specimens belonging to various groups, collected and sent to him for study by Maj. Godwin-Austen from Dafflas (N. E. frontier of India). Gravely (1912-22) recorded *T. semperi* Weber, 1890 from the Dawna Hills of Tennasserim, Burma, where it was found attached to the fresh-water crabs of the species *Potamon manii* and probably also on *P. andersonianum*. He further remarked that "in the absence of any record of another species of *Temnocephala* from Asia, it is probable that the specimen found by Wood Mason in a bottle of fish from the Daffla Hills (1875, p. 337) was also *T. semperi* and has become associated with the fish accidentally". As the specimen referred to above is now not available in the collections of the Zoological Survey of India, it has not been possible to re-examine it and give its exact specific identity.

The present note is based on a small collection of ten specimens preserved in the Zoological Survey of India. These were collected by Shri D. D. Mukherjee, from the river Narmada (Madhya Pradesh), parasitic on tortoises. Exact locality is lacking, but one of the authors thinks that it was most probably Hoshangabad. On examination, it was found that these specimens also belong to *T. semperi* Weber. The colour of these specimens is not discernible on account of long preservation in spirit. However, it is observed that the nature of sucker in these specimens is oval and not circular, as will be evident from the table of measurements of suckers. In the preserved state the measurements of these specimens are as below.

TABLE OF MEASUREMENTS (*In millimeters*).

	1	2	3	4	5	6	7	8	9	10
Length of the body :	0.33	0.325	0.36	0.27	0.31	0.28	0.44	0.30	0.35	0.26
Diameter of the Sucker (Lengthwise) :	0.073	0.057	0.072	0.043	0.054	0.061	0.087	0.061	0.087	0.052
(Breadthwise) :	0.082	0.073	0.080	0.056	0.057	0.072	0.112	0.070	0.089	0.070

*T. semperi* Weber seems to be generally found on the freshwater crabs of the genus *Potamon*. It is reported so far to occur on *P. manii* Rathb.; *P. andersonianum*; *P. adiatretum* and *P. superciliosum*. However, on examination of the collections preserved in the Zoological Survey, it is found to occur at least in one instance on another genus of the freshwater crabs, viz. *Paratelphusa*. It was collected by Dr. H. S. Rao from *Paratelphusa* (*Barytelphusa*) *lugubris* Wood Mason, from Jaintia Hills, in Assam.

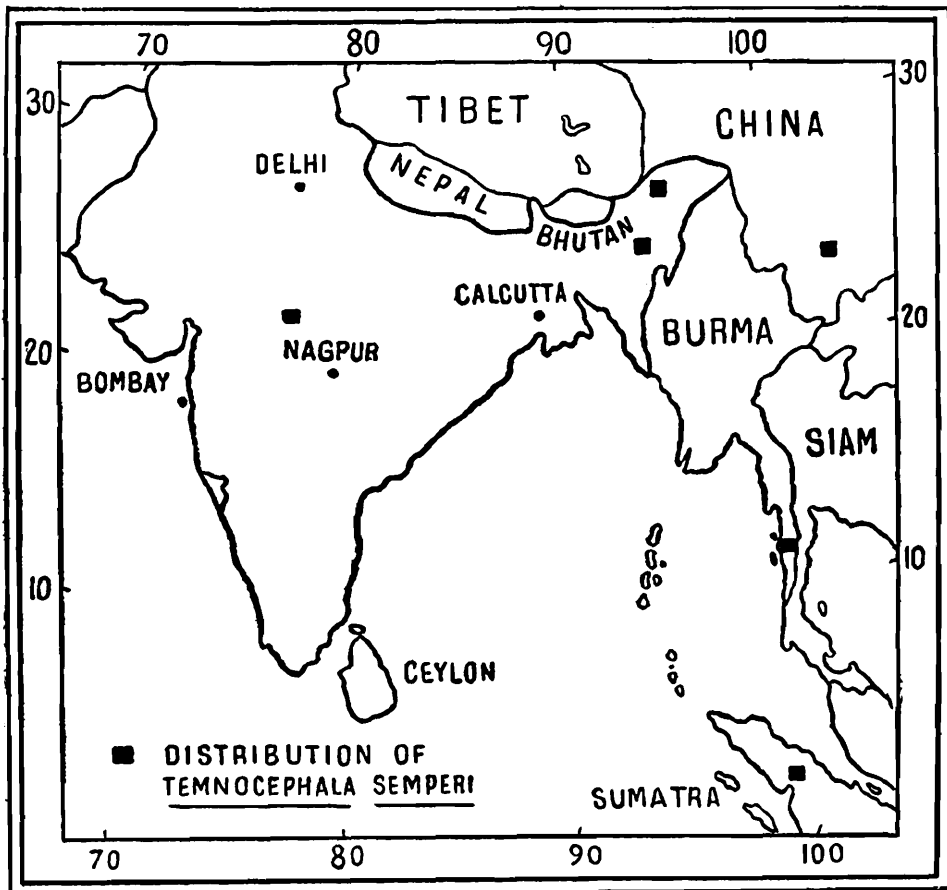


TEXT FIG. 1.—*Temnocephala semperi* Weber (Dorsal view): *e.*, Eyes; *int.*, Intestine; *m.*, Mouth; *ph.*, Pharynx; *ps.*, Posterior sucker; *t.*, Testis; *ten.*, Tentacles.

Most of these *Temnocephalids* are found attached to the Decapod Crustacea. Only very few seem to have been attracted by other hosts. The West Australian species, *T. chaeropsis* inhabits the gill chambers of the Cray fishes. One South American species is reported from a tortoise, while another from the pulmonary chamber of the gastropod Mollusc, *Ampullaria* (Annandale, 1912). The so-called Malayo-Burman species, *T. semperi* lives generally on the ventral surface of the freshwater crabs. But these ten specimens reported upon here seem to be an exception to the general rule, in the sense that they were found attached to a new host, viz., a tortoise. Statement of Annandale (1912, p. 244) that "Each species affects a single host or a group of closely allied hosts" does not seem to hold good in this particular instance.

The distribution of *T. semperi* also seems to be very interesting as will be observed from the accompanying map, in as much as, it throws a new evidence on the Satpura theory propounded by Hora (1937) and later supported by many other research workers. It has a very wide range

in the Indo-Pacific region. This species was first found by Semper (1872) on crabs in Luzon and Mindanao, Philippine Islands (from plains to an altitude of 5,000 ft.). Max Weber (1890) described it first as a distinct species on *Telphusa* sp. from Sumatra, Java and various parts of Celebes. Lee (1936) reported the occurrence of the same from South China. Since then, it has been found to occur on the freshwater crabs from Dawna Hills (Gravely 1912), Abor Country and Daffa Hills (Gravely) and the present record of collection from the Narmada river, Madhya Pradesh. Thus it is quite interesting to find that the above extends the limits of its distribution further westward along the Vindhyan—Satpura range, far away from the Eastern Himalayan region from which the previous records were published.



Besides the ten specimens of *T. semperi* referred to above, the collection of the Zoological Survey of India consists of the following :—

Reg. No.	Locality, Location, Host, etc.	Collector or Donor.	No. and Nature of Specimens.
1. <i>Temnocephala semperi</i> Weber			
ZEV 5367/7	Sumatra .	M. Weber	7 specimens.
ZEV 5367/7	Lake of Maniyani, Sumatra	Ditto	Slide.
ZEV 5373/7	Sukli, E. side of Dawna Hills ca. 2,100 ft.	F. H. Gravely .	Several specimens.

Reg. No.	Locality, Location, Host, etc.	Collector or Donor.	No. and Nature of Specimens.
ZEV 5375/7	Sukli, E. side of Dawna Hill sca. 2,100 ft.	F. H. Gravely	Three specimens.
ZEV 5378/7	Ditto . . .	Ditto . . .	Slide (Section),
ZEV 5378/7	Ditto . . .	Ditto . . .	Ditto.
Ditto . . .	Ditto . . .	Ditto . . .	Ditto,
Ditto . . .	Ditto . . .	Ditto . . .	Ditto.
Ditto . . .	Ditto . . .	Ditto . . .	Ditto.
ZEV 5377/7	Misty Hollow, W. side of Dawna Hills Ca. 2,200 ft.	Ditto . . .	Slide.
ZEV 5376/7	Third camp, W. base of Dawna Hills, Ca. 400 ft.	Ditto . . .	Ditto.
ZEV 5374/7	Thingannyianung to Sukli, Dawna Hills, 900-2,100 ft.	Ditto . . .	Ditto.
ZEV 6213/7	Eggs of <i>T. semperi</i> on <i>P. manii</i> (Hills between Burma & Siam)	S. W. Kemp . . .	Several.
ZEV 5372/7	Lalek stream between Renging and Rotung (Abor Expdn.)	Ditto . . .	Slide.
ZEV 5370/7	Yembung stream	Ditto . . .	8 specimens.
ZEV 5380/7	Ditto (Abor Expdn.)	Ditto . . .	Slide.
ZEV 5368/7	Yembung Alt. 1,100 ft. (Abor Expdn.).	Ditto . . .	8 specimens.
ZEV 5371/7	Yembung 1,100 ft. . .	Ditto . . .	Slide.
ZEV 5369/7	Yembung 1,100 ft. (Abor Expdn.)	Ditto . . .	Two Slides.
ZEV 5368/7	Ditto . . .	Ditto . . .	Ditto.
ZEV 5368/7	Below Damda Banks of the Siyom river ?	..	Slide.
ZEV 6218/7	Eggs of <i>T. semperi</i> on <i>P. superciliosum</i> from Abor Country.	..	Several specimens.
P. 772/1	Myantang valley, Nantiang, Jantia Hills, Assam.	Dr. H. S. Rao . . .	Several specimens.
2. <i>Temnocephala comes</i> — , — .			
ZEV 5135/7	From <i>Astacopsis serratus</i> , New South wales.	..	Slide.
3. <i>Temnocephala fasciata</i> — , — .			
ZEV 5234/7	From <i>Astacopsis serratus</i> , New South wales.	..	Ditto.
4. <i>Temnocephala (Dactylocephala) madagascariensis</i> Vay,—.			
ZEV 6214/7	. . . . .	A. Vayssiere	3 specimens.
5. <i>Temnocephala mexicana</i> Vay.—			
ZEV 6215/7	. . . . .	A. Vayssiere	Several specimens.

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-



A LIST OF REFERENCES RELATING TO INDIAN ZOOLOGY  
(EXCLUDING INSECTA, FISHES AND HELMINTHS)  
PUBLISHED DURING THE YEARS, 1938-1950.

Compiled by B. S. Chauhan,  
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I. INTRODUCTION.

The Zoological Survey of India started publishing in 1921, a yearly list of literature referring to Indian Zoology (excluding Insecta) received in Calcutta during a year, in the *Rec. Indian Mus.*, upon the decision of the Government of India, that the lists of Scientific literature published till then in the Reports of the Board of Scientific Advice shall in future be issued separately by the Departments represented on the Board. References to the Insecta were excluded from that list and they were to be found in the publication of the Entomological section of the Agricultural Research Institute, then at Pusa. The Survey published such lists till 1931, when it was held in abeyance, presumably on grounds of financial stringency.

In the meantime, the National Institute of Sciences of India was founded in 1935 and under grant from Government of India they decided to issue a publication under the title "*Indian Science Abstracts*" with the sub-title "Being an Annotated Bibliography of Science in India". Their first publication was issued in July 1936. However, this publication had to be temporarily suspended by the Institute in 1939, on grounds of paper economy, due to World War II. Their last complete issue was for the year 1938.

In 1949, UNESCO, Regional Office for Scientific Co-operation for South East Asia, at Delhi, decided for obvious reasons to compile and issue a periodical, half-yearly, regional bibliographical list of Scientific papers. Their first number covered the period from January to June 1949 and geographically the list covers India, Burma and Ceylon. They are, however, handicapped in presenting a complete Bibliography on various grounds one of which also being presumably the vastness of the geographical area covered.

The Zoological Society of Bengal started publishing, a half-yearly Bibliographical supplement in each issue of its *Proceedings*, with a view to providing a ready means of reference to recent literature (original papers, etc.) on Zoology published by zoologists of India, Pakistan, Ceylon and Burma. Their first such number, issued in September 1948, covered some of the references published between July and December, 1948. It will be observed that the geographical area regarded to be covered by the society is even greater than that intended by UNESCO,

Regional office. A good reference Library like that of the Zoological Survey of India is also very necessary.

Recently, in 1950, the National Institute of Sciences of India decided to replace the *Indian Science Abstracts*, the publication of which, as pointed out above, had been under suspension since 1939, by a report on the "Progress of Science in India". The decade 1938-1950 is covered in one Volume and from 1951 it will be an annual publication.

The *Section of Zoology* of this Volume (1938-50), to be published by the Institute under the editorship of Dr. H. S. Rao, Chief Research Officer, Central Inland Fisheries Research Station, Calcutta, will contain four sub-sections, each under a separate author, viz. 1. *General Zoology* (Dr. B. S. Chauhan); 2. *Fisheries* (Dr. N. K. Panikkar); 3. *Entomology* (Dr. M. L. Roonwal) and 4. *Parasitology* (Dr. G. S. Thapar). On account of the vastness of literature published on Indian Zoology during the period, these sub-sections will contain list of only those references, which have been actually referred to in the text. However, the large amount of bibliographical material collected, during the preparation of these reviews, is being published separately. The Entomological Society of India is publishing bibliography of the literature of the Entomology Sub-section. The literature collected for the Sub-section of General Zoology is published here. It is hoped that such literature relating to Fisheries and Parasitology Sub-sections will also be published in due course. About Protozoans, helminths, etc. references, generally of non-parasitic forms only are included here. For the sake of convenience of reference, the references in this publication have been arranged alphabetically under each sub-heading, according to main groups of animals and disciplines of Zoology, e.g., *Protozoa*, *Porifera*, *Cytology*, *Experimental Zoology*, etc. It is needless to mention here that this list is far from complete. The author will feel grateful if omissions are brought to his notice for inclusion in future lists.

My thanks are due to Dr. S. L. Hora, Director, Zoological Survey of India for giving various suggestions and offering necessary facilities. I am also grateful to various members of the staff of the Zoological Survey of India, who helped me in various ways, specially Shri G. Ramakrishna, Shri A. K. Bose, Shri S. Ghoshal, Librarian, Zoological Survey of India Library and Shri T. D. Soota.

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13. PISCES.

Separate Sub-Section.

14. HERPETOLOGY.

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