



Research Article

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# Distribution and Conservation Status of Ichthyospecies in River Monu in Tripura: First Detailed Taxonomic Report



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## Abstract

Fish faunal surveys in the River Monu at different locations in the Tripura province of the Eastern Himalayan Biodiversity hotspot region, portrayed the occurrence of 45 species of fishes under 38 genera, 21 families, 8 Sub-families and 9 orders. This included 22 species in Cypriniformes and 10 species in Sluriformes. Taxonomic studies along with conservation status of the fishes have been discussed in the communication.

**Keywords:** Fish fauna; Biodiversity; Taxonomy; River Monu; Tripura; Eastern Himalayan Biodiversity hotspot

## Introduction

There are innumerable water bodies (wetlands and rivers) in India. And, Tripura, situated in the Eastern Himalayan belt, is a hotspot of not only fish diversity but also abiotic diversity harbouring numerous wetlands and rivers of various kinds (including rheophilic hill streams and plainwater rivers and streams) spread across the length and breadth of the region. The aquatic life has been influenced by human interventions. A number of studies have been done on different aspects of fish and their habitats [1-46].

But not many taxonomic studies have been done on the fishes of River Monu in Tripura. As such, the present pioneering attempt is a humble contribution towards taxonomy of the fishes in River Monu in Tripura; and, revealed 45 species of fishes under 38 genera, 21 families, 8 Sub-families and 9 orders. The hills and the undulating valleys of Eastern Himalayan region in India give rise to a large number of torrential hill streams, which lead to big rivers that finally become part of the Ganga-Brahmaputra-Barak-Chindwin-Kolodyne-Gomati-Meghna system, earmarking North-Eastern (NE) region in the Eastern Himalayan (EH) stretch as a hotspot of biodiversity [17,27-30,38,47-49]. It may be noted here that, out of 2,500 species of fishes in India, 930 are freshwater (FW) inhabitants and 1,570 are marine [11,30,31]. This bewildering ichthyodiversity of this region has been attracting

many ichthyologists from different regions of the world.

The River Monu is said to have originated from the Longtarai hills in the province of Tripura. It has a typical but short stretch of rheophilic characteristics with mainly riffles and pools as microhabitats and boulders, cobbles and gravels as substratum. The River Monu is one of the principal rivers in Tripura. Fish specimens were collected from River Monu from the following sites (Table 1).

## Material and Procedure

Fish samples were collected through experimental fishing using cast nets (diameter 3.7m – 1.0m), gill nets (vertical height 1.0m – 1.5m; length 100m – 150m), drag nets (vertical height 2.0m), triangular scoop nets (vertical height 1.0m) and a variety of traps. Camouflaging technique had also been used to catch the fishes. At first, the collected fishes were preserved in concentrated formaldehyde in the field itself; and, then, in 10% formalin in the Laboratory. Fishes were identified after standard literature [36,37,50-56] and fishbase.org. The arrangement of classification, followed here, is that of Greenwood et al. [57], Jayaram [27-30] Kar & Khyndriam [20]. Fish specimens collected from River Monu on different dates and from different locations are systematically listed, tabulated and described below (Table 2).

**Table 1:** Fish specimen collection sites in River Monu in Tripura.

Site	Date of Collection	Lat-Long Position	Altitude (m MSL)
River Monu at Chakmabasti at Monughat	14 11 2000, 7 2 2001, 1 9 2001, 27 10 2001	N 23 59' 40.6"-E 91o 59' 29.3"	68.29 m MSL
River Monu at Chha Monu	27 10 2001, 8 2 2003	N 23 o51' 21.6" E 92o 0' 0.2"	88.41m MSL
River Monu at Kailasahar	11 9 2007	25° 51'06" N 92° 52 '49" E	99.01 m

**Table 2:** Fish Diversity on different dates and Collection Stations in River Monu in Tripura. (a) N 23 59 40.6, E 91 59 29.3, (b) N 23 51 21.6 E 92 0 0.2 Altitude 28 m MSL.

Fish Name	River Coll No. 21, Collection Date 23 10 2007 (No. of Fishes), Museum No.	River Coll No. 22, Collection Date 1 9 2001, Lot 1(No. of Fishes), Museum No.	River Coll No. 23, Collection Date 1 9 2001 (Lot 2) (No.of Fishes), Museum No.	River Coll No. 41, Collection date 22 6 2013 (No.of Fishes), Museum No.	River Coll No. 42, Collection date 19 3 2018 (No .of Fishes), Museum No.	River Coll No. 43, Collection date 12 10 2005 (No. of Fishes), Museum No.	No. of Fish Collect-ed	Conserva-tion Status (Global) (IUCN)	Conservation Status (Local) (based on oc-currence of Fish species in 1 or >1 locations 1 Location: of Concern(C) 2 Locations:Less Concern(LC) >2Locations:No Concern(NC)
<i>Notopterus notpterus</i>	+ (1), 21 / 2						1	Least Con-cern (LC)	C
<i>Gudusia chapra</i>	+ (2),21 / 4,5				+ (2),42 / 4 (i), 4 (ii)		4	LC	LC
<i>Securicula gora</i>	+ (1), 21/9	+ (2),22 / 17, 78					3	LC	LC
<i>Salmostoma bacaila</i>		+ (2),22 / 76, 77		+ (3), 41 / 2 (i), 2 (ii), 14 (i)	+ (1),42 / 9 (i)		6	LC	NC
<i>Cabdio morar</i>		+ (28),22 / 16 (ii), 21, 24,25,27,29 to 36; 39 to 41, 43 to 52,56,84	+ (51),23 / 12 to 40, 42 to 63	+ (7),41 / 3 (i) to 3 (vi), 19 (i)			87	LC	NC
<i>Barilius barila</i>		+ (9),22 / 1 to 6,16 (i),79,81					9	LC	C
<i>Opsarius bend-elisis</i>		+ (4),22 / 59 to 62	+ (18),23 / 68 to 85	+ (4),41 / 4 (i) to 4 (iv)			26	LC	NC
<i>Opsarius tileo</i>		+ (1),22 / 7		+ (3),41 / 6 (i) to 6 (iii)			4	LC	LC
<i>Laubuca laubuca</i>		+ (1),22 / 38					1	LC	C
<i>Amblypharyn-godon mola</i>					+ (4),42 / 1 (i) to 1 (iv)		4	LC	C
<i>Systemus sarana</i>						+ (1),43 / 5 (i)	1	LC	C
<i>Puntius chola</i>		+ (1),22 / 70						LC	C
<i>Puntius sophore</i>	+ (1), 21/7	+ (14), 22 / 9 to 13,19 , 20, 65 to 68, 71 to 73	+ (1),23 / 86	+ (1),41 / 25 (i)	+ (2),42 / 2 (i), 2 (ii)	+ (1),43 / 8 (i)	17	LC	NC
<i>Pethia conchoni-us</i>				+ (10),41 / 1 (i) to 1 (x)			10	LC	C
<i>Pethia ticto</i>		+ (2),22 / 14, 15					2	LC	C
<i>Cirrhinus mrigala</i>	+ (1), 21/3		+ (10),23 / 1, 2, 4 to 11			+ (2),43 / 2 (i), 2 (ii)	13	LC	NC
<i>Cirrhinus reba</i>		+ (1),22 / 82			+ (1),42 / 8 (i)		2	LC	LC

<i>Labeo gonius</i>						+ (1),43 / 4 (i)	1	LC	C
<i>Labeo rohita</i>						+ (1),43 / 1 (i)	1	LC	C
<i>Tariquilabeo latius</i>		+ (6), 22 / 8, 22, 26, 28, 64, 69		+ (2), 41 / 21 (i), 24 (i)			8	LC	LC
<i>Psilorhynchus homaloptera</i>			+ (1),23 / 88				1	LC	C
<i>Paracanthocobitis botia</i>		+ (1),22 / 57		+ (3), 41 / 10 (i), 10 (ii), 20 (i)			4	LC	LC
<i>Schistura multifasciata</i>				+ (4),41 / 5 (i) to 5 (iv)			4	LC	C
<i>Canthophrys gongota</i>				+ (1),41 / 18 (i)			1	LC	C
<i>Rita rita</i>				+ (1),41 / 16 (i)			1	LC	C
<i>Sperata seenghala</i>				+ (1),41 / 17 (i)	+ (1),42 / 5 (i)	+ (2),43 / 3 (i), 3 (ii)	4	LC	NC
<i>Mystus cavasius</i>				+ (2),41 / 8 (i), 8 (ii)			2	LC	C
<i>Mystus vittatus</i>	+ (1), 21/11		+ (1),23 / 87		+ (1),42 / 7 (i)		2	LC	NC
<i>Ailia coila</i>		+ (1),22 / 83					1	Near Threatened (NT)	C
<i>Clupisoma garua</i>				+ (1),41 / 15 (i)			1	LC	C
<i>Eutropiichthys vacha</i>				+ (2),41 / 7 (i), 7 (ii)			2	LC	C
<i>Sisor rhabdophorus</i>				+ (2),41 / 11 (i), 11 (ii)			2	LC	C
<i>Gagata cenia</i>				+ (3),41 / 9 (i) to 9 (iii)			3	LC	C
<i>Heteropneustes fossilis</i>					+ (1),42 / 6 (i)	+ (1),43 / 9 (i)	2	LC	LC
<i>Rhinomugil corsula</i>		+ (1),22 / 23					1	LC	C
<i>Xenentodon cancila</i>					+ (1),42 / 3 (i), 3 (ii)		1	LC	C
<i>Macrognaathus aral</i>		+ (1),22 / 90					1	LC	C
<i>Macrognaathus pancalus</i>				+ (2),41 / 13 (i), 23 (i)			2	LC	C
<i>Mastaembelus armatus</i>				+ (1),41 / 12 (i)			1	LC	C
<i>Parambassis ranga</i>		+ (1),22 / 89					1	LC	C
<i>Nandus nandus</i>		+ (1), 22 / 75					1	LC	C
<i>Badis badis</i>				+ (1), 41 / 22 (i)			1	LC	C
<i>Glossogobius giuris</i>		+ (1),22 / 88				+ (1),43 / 10 (i)	2	LC	C
<i>Trichogaster fasciata</i>						+ (1),43 / 7 (i)	1	LC	C
<i>Channa punctata</i>		+ (3),22 / 85 to 87				+ (1),43 / 6 (i)	4	LC	C

**Systematic List of Fish species recorded in River Monu**

Order (I): Osteoglossiformes  
 Family (A): Notopteridae  
 Genus (i): *Notopterus* Lacepede 1800  
 Species (1): *Notopterus notopterus* (Pallas, 1769)  
 Bronze featherback  
 Order (II): Clupeiformes  
 Family(B): Dorosomatidae  
 Genus (ii): *Gudusia* Fowler 1911  
 Species (2): *Gudusia chapra* (Hamilton, 1822)  
 Indian river shad  
 Order (III): Cypriniformes  
 Family (C): Danionidae  
 Sub-family(a): Chedrinae  
 Genus (iii): *Securicula* Guenther 1868  
 Species (3): *Securicula gora* (Hamilton, 1822)  
 Genus (iv): *Salmostoma* Swainson 1839  
 Species (4): *Salmostoma bacaila* (Hamilton, 1822)  
 Large razorbelly minnow  
 Genus: (v)*Cabdio* Hamilton 1822  
 Species (5): *Cabdio morar* (Hamilton, 1822)  
 Morari  
 Genus (vi): *Barilius* Hamilton, 1822  
 Species (6): *Barilius barila* (Hamilton, 1822)  
 Genus (vii): *Opsarius* McClelland, 1838  
 Species (7): *Opsarius bendelisis* (Hamilton, 1807)  
 Genus(vii): *Opsarius* McClelland, 1838  
 Species (8): *Opsarius tileo* (Hamilton, 1822)  
 Sub-family (b): Danioninae  
 Genus (viii): *Laubuka* Bleeker, 1859  
 Species (9) *Laubuka laubuca* (Hamilton, 1822)  
 Indian glass barb  
 Sub-family(c): Rasborinae  
 Genus (ix) *Amblypharyngodon* Bleeker, 1860  
 Species (10) *Amblypharyngodon mola* (Hamilton, 1822),Mola carplet

Family(D): Cyprinidae  
 Sub-family (d): Smiliogastrinae  
 Genus (x) *Systemus* McClelland, 1838  
 Species: (11) *Systemus sarana* (Hamilton, 1822)  
 Olive barb  
 Genus: (xi): *Puntius* Hamilton, 1822  
 Species (12): *Puntius chola* (Hamilton, 1822)  
 Swamp barb  
 Genus: (xi) *Puntius* Hamilton, 1822  
 Species (13): *Puntius sophore* (Hamilton, 1822)  
 Pool barb  
 Genus: (xii) *Pethia* Pethiyagoda, 2012  
 Species (14): *Pethia conchonius* (Hamilton, 1822)  
 Rosy barb  
 Species (15): *Pethia ticto* (Hamilton, 1822)  
 Ticto barb  
 Sub-family(e): Labeoninae  
 Genus (xiii) *Cirrhinus* Cuvier, 1817  
 Species (16): *Cirrhinus mrigala* (Hamilton, 1822)  
 Species (17): *Cirrhinus reba* (Hamilton, 1822)  
 Reba carp  
 Genus: (xiv)*Labeo* Cuvier, 1816  
 Species (18): *Labeo gonius* (Hamilton, 1822)  
 Kuria labeo  
 Species (19) *Labeo rohita* (Hamilton, 1822)  
 Roho labeo  
 Genus (xv)) *Tariqilabeo* Kuhl van Hasselt, 1823  
 Species(20): *Tariqilabeo latius* (Hamilton, 1822)  
 Gangetic latia  
 Family(E): Psilorhynchidae  
 Genus (xvi): *Psilorhynchus* McClelland, 1839  
 Species (21): *Psilorhynchus homaloptera* Hora & Mukerji, 1935  
 Torrent stone carp  
 Family(F): Nemacheilidae

- Genus (xvii): *Acanthocobitis* (Paracanthocobitis Peters, 1861  
 Species (22): *Acanthocobitis* (Paracanthocobitis) botia (Hamilton, 1822)  
 Mottled loach  
 Genus (xviii): Schistura McClelland, 1839  
 Species(23): Schistura multifasciata (Day, 1878)  
 Family(G): Cobitidae  
 Genus(xix): *Canthophrys* Swainson, 1838.  
 Species (24): *Canthophrys* gongota (Hamilton, 1822)  
 Gongota loach  
 Order (IV): Siluriformes  
 Family (H): Bagridae  
 Genus(xx): Rita Bleeker, 1853  
 Species (25): *Rita rita* (Hamilton, 1822)  
 Genus (xxi): *Sperata* Holly, 1939  
 Species (26): *Sperata* seenghala (Sykes, 1839)  
 Giant river-catfish  
 Genus (xxii) *Mystus* Scopoli, 1777,  
 Species (27): *Mystus* cavasius (Hamilton, 1822)  
 Gangetic mystus  
 Genus(xxii): *Mystus* Scopoli, 1777,  
 Species (28): *Mystus* vittatus (Bloch, 1794)  
 Striped dwarf catfish  
 Family (I): Ailiidae  
 Genus (xxiii): *Ailia* Gray, 1830  
 Species (29): *Ailia* coila (Hamilton, 1822)  
 Gangetic ailia  
 Genus (xxiv): *Clupisoma* Swainson, 1938  
 Species (30): *Clupisoma* garua (Hamilton, 1822)  
 Garua bachcha  
 Family (J): Schilbeidae  
 Genus (xxv): *Eutropiichthys* Bleeker, 1862  
 Species (31): *Eutropiichthys* vacha (Hamilton, 1822)  
 Batchwa vacha  
 Family (K): Sisoridae  
 Sub-family(f): Sisorinae  
 Genus (xxvi): *Sisor* Hamilton, 1822  
 Species (32): *Sisor* rabdophorus Hamilton, 1822  
 Genus (xxvii): *Gagata* Bleeker, 1856  
 Species (33): *Gagata* cenia (Hamilton, 1822)  
 Indian gagata  
 Family (L): Heteropneustidae  
 Genus (xxviii): *Heteropneustes* Muller, 1840  
 Species (34): *Heteropneustes* fossilis (Bloch, 1794)  
 Stinging catfish  
 Order (V): Mugiliformes  
 Family (M): Mugilidae  
 Genus(xxix): *Rhinomugil* Gill, 1863  
 Species (35): *Rhinomugil* corsula (Hamilton, 1822)  
 Corsula  
 Order (VI): Beloniformes  
 Family (N): Belonidae  
 Genus (xxx): *Xenentodon* Regan, 1911  
 Species (36): *Xenentodon* cancila (Hamilton, 1822)  
 Freshwater garfish  
 Order (VII): Synbranchiformes  
 Family(O): Mastacembelidae  
 Genus (xxxi): *Macrognathus* Lacepede, 1800  
 Species (37): *Macrognathus* aral (Bloch & Schneider, 1801)  
 One-stripe spiny eel  
 Genus (xxxi): *Macrognathus* Lacepede, 1800  
 Species (38): *Macrognathus* pancalus Hamilton, 1822  
 Barred spiny eel  
 Genus(xxxii): *Mastacembelus* Scopoli, 1777  
 Species (39): *Mastacembelus* armatus (Lacepède, 1800)  
 Zig-zag eel  
 Order (VIII): Anabantiformes  
 Family (P): Ambassidae  
 Genus(xxxiii): *Parambassis* Bleeker, 1874  
 Species (40): *Parambassis* ranga (Hamilton, 1822)

Indian glassy fish

Family(Q): Nandidae

Genus(xxxiv): *Nandus* Valenciennes, 1831

Species (41): *Nandus nandus* (Hamilton, 1822)

Gangetic leaffish

Family (R): Badidae

Genus(xxxv): *Badis* Bleeker, 1853

Species (42): *Badis badis* (Hamilton, 1822)

Order (IX): Gobiiformes

Family(S): Gobiidae

Sub-family (g): Gobiinae

Genus (xxxvi): *Glossogobius* Gill, 1859

Species (43): *Glossogobius giuris* (Hamilton, 1822)

Tank goby

Family (T) Osphronemidae

Sub-family (h): Trichogastrinae

Genus(xxxvii): *Trichogaster* Bloch and Schneider, 1801

Species (44): *Trichogaster fasciata* Bloch & Schneider, 1801

Banded gourami

Family (U): Channidae

Genus (xxxviii): *Channa* Scopoli, 1777

Species (45): *Channa punctata* (Bloch, 1793)

Spotted snakehead

### Observations and descriptions of the fishes are given below as per Systematic List mentioned above

*Notopterus notopterus* (Pallas, 1769)

Genus : *Notopterus* Lacepede (1800)

*Notopterus* Lacepede (1800). Hist.nat. Poiss., 2 :190 (Type species: *Gymnotus notopterus* Pallas, by absolute tautonomy); Roberts, 1992, Ichthyol.Explor. Freshwaters, 2 (4):361-383 (revisioin); Talwar and Jhingran, 1991, Inland Fishes 1: 62; Jayaram, 1999, FW Fishes of the Indian Region: 20; Menon [37], Rec. Zool. Surv. India Occ Paper No. 175: 9

#### 1.1.1.Generic characters

Body oblong, laterally compressed; cranio-dorsal profile straight or slightly concave. Abdomen with 25-28 pre-pelvic double serrations. Head compressed. Mouth wide, cleft of mouth extending upto or beyond posterior border of eyes. Eyes moderate, dorso-lateral. Gill membranes partly united. Dorsal fin small, tuft-

like, inserted near middle of body with 8-10 rays. Anal fin very long, low, ribbon-like, with 100-135 rays; confluent with the caudal fin. Pelvic fins rudimentary. Caudal fin small. Scales small. Lateral line complete, more or less arched with about 180 scales.

#### Material examined

River Monu in Tripura; River Coll No. 21; Collection date: 23 10 2007; 1 Ex Museum No.21/ 2, Coll. Professor D. Kar and Party: First Report.

Key to species: Cranio-dorsal profile straight of slightly concave.

*Notopterus notopterus* (Pallas, 1769)

#### Distribution

In different parts of India (including Baskandi Anua in Cachar, Assam: First report by Professor D Kar and Party): also in Bangladesh, Indonesia, Java, Laos, Malaysia, Myanmar, Nepal, Pakistan, Sumatra, Thailand, etc.

IUCN status: Least Concern (LC).

*Gudusia chapra* (Hamilton, 1822)

Genus: *Gudusia* Fowler, 1911

*Gudusia* Fowler, 1911. Proc Acad. Nat. Sci, Philad. 63 : 207 (Type species: *Clupanodon chapra* Hamilton-Buchanan, by original designation); Whitehead, 1985, FAO Fish Synopsis,(125) 7(1): 228-230; Talwar and Jhingran, 1999, Inland Fishes 1: 95; Menon, 1999, Rec. Zool. Surv.India,Occ.Paper No. 175 : 7; Jayaram, 1999, FW Fishes of the Indian Region : 41; Vishwanath, 2002, Fishes of North-East India, NATP Pub., 29.

#### Generic characters

Body well-compressed and oblong. Abdomen serrated with 18 to 19 pre-pelvic and 8 to 10 post-pelvic scutes. Head short and much compressed. Snout rounded. Mouth terminal. Cleft of mouth not extending upto orbit. Eyes large, lateral. With a broad adipose eyelid. Dorsal fin inserted above pelvic fin origin with 14 to 17 rays. Anal fin with 18 to 29 rays. Caudal fin forked. Scales small. Lateral line absent.

#### Material examined

1) River Monu in Tripura; River Coll No. 21; Collection date 23 10 2007; 2 Exs; Museum No, 21 / 4,5; Coll. Professor D. Kar and Party: First Report.

2) River Monu in Tripura; River Coll No. 42; Collection date 19 3 2018; 2 Exs; Museum No. 42 / 4(i), 4 (ii); Coll. Professor D. Kar and Party: First Report.

Key to species: Anal fin with 18 to 22 rays. Body with round spots and absence of any cross bars on sides.

*Gudusia* Chopra (Hamilton 1822)



### Distribution

Almost throughout India (including Salchapra Anua, Fulbari Anua; Rupairbala Anua, Shiv Narayanpur Anua (all first reports by Prof. D. Kar and Party) and; also, other water bodies in NE India, and rest of India; also in Bangladesh, Indonesia Malaya, Nepal, Pakistan, etc.

IUCN status: Least Concern (LC).

*Securicula* Gunther, 1868, Cat.Fis.Brit.Mus.,7: 332 (type species, *Cyprinus gora* Hamilton-Buchanan, by subsequent designation)-Howes, 1979, Bull. Brit. Mus.nat. Hist. Zool., 36 (3):191-Pseudoxygaster Banarescu, 1967, Rev. Roum. Biologie, Zoologie,12 (5): 306 (type-species, *Cyprinus gora* Hamilton-Buchanan, by original designation)- Mirza, 1970, Biologia, 16 (2): 92-Talwar and Jhingran,1999, Inland Fishes,1: 328- Jayaram, 1999, FW Fishes of the Indian Region: 64.

### Generic characters

Body elongates; strongly compressed. Abdomen strongly and sharply keeled, not covered by scales, extending from below opercle to anal origin. Head moderate; axis somewhat oblique comparatively to body axis. Snout blunt. Mouth oblique; cleft reaching anterior border of the orbit. Eyes moderate. Lips thin. Dorsal fin short, very posterior, inserted above anal fin. Pelvic fins inserted nearer to the anal fin than to pectoral. Caudal fin deeply forked. Scales very small.

### Material examined

1) River Monu in Tripura; River Coll No. 21; Collection date 23 10 2007; 1 Ex; Museum No, 21 / 9; Coll. Professor D. Kar and Party: First Report.

2) River Monu in Tripura; River Coll No. 22; Collection date 19 3 2018; 2 Exs; Museum No. 22 / 17, 78; Coll. Professor D. Kar and Party: First Report

Key to species: Anal fin with 11 to 18 rays. Caudal fin deeply forked. Only species so far known.

*Securicula gora* (Hamilton, 1822)

### Distribution

Almost throughout India, including river Barak at Katigora, river Barak at Sartuinek, North-East India (first reports by Professor D. Kar and Party); also, in Bangladesh, Nepal, Pakistan, etc.

IUCN Status: Least Concern (LC)

*Salmostoma bacaila* (Hamilton, 1822)

Genus: *Salmostoma* Swainson, 1839

*Salmophasia* Swainson, 1839, Nat. Hist.Fish., 2: 184 (Type species, *Cyprinus oblonga* Swainson= *Cyprinus bacaila* Hamilton-

Buchanan, by subsequent designation); Banarescu, 1968, Rev. Roum.Biol. Zool., 13: 13-14; Howes, 1979, Bull.Br.Mus. nat.Hist., (Zool.) 36(3):190-191; Talwar and Jhingran, 1999, Inland Fishes 1; Jayaram, 1999, FW Fishes of the Indian Region: 65; Menon, 1999, Rec.Zool. Surv. India Occ. Paper No. 175: 24; Vishwanath, 2002, Fishes of North-East India, NATP Pub.: 51.

### Generic characters

Body elongated, compressed. Abdomen keeled from below pectoral fins to anus; keel not hardened. Head moderate to long, compressed. Snout blunt. Mouth oblique to body axis; cleft reach anterior margin of orbit or slightly ahead. Lower jaw longer with a knob (generally present) at the symphysis of the 2 bones. Dorsal fin short; inserted mostly opposite to anal fin (or may be little ahead in some cases) with usually 7 to 10 rays. Pectoral fins long and presence of an elongated axillary scale. Anal fin short with 14-20 rays. Caudal fin deeply forked. Ll completes with usually 39 to 112 scales.

### Material examined

1) River Monu in Tripura; River Coll No. 22, Collection date 1 9 2001, (Lot 1), 2 Exs, Museum No.:22 / 76, 77; Coll. Professor D. Kar and Party: First Report.

2) River Monu in Tripura; River Coll No. 41, Collection date 22 6 2013; 2 Exs; Museum No. 41 / 2 (i), 2 (ii): Coll. Professor D. Kar and Party: First Report.

3) River Monu in Tripura; River Coll No. 42, Collection date 19 3 2018; 1 Ex; Museum No. 42/ 9 (i): Coll. Professor D. Kar and Party: First Report.

Key to species: Presence of 4-6 Ll scales between Lateral line (Ll) and pelvic fin base

*Salmostoma bacaila* (Hamilton, 1822)

Distribution: Almost throughout India including River Barak at Lakhipur, Assam (First Report by Professor D. Kar and Party); also, Bangladesh, Nepal, etc.

IUCN status: Least Concern (LC).

Genus: *Cabdio* Hamilton 1822

*Cabdio* Hamilton, an account of fishes found in the river Ganges: 333, 392.

### Generic characters

Body elongates. Abdomen rounded. Head moderate rounded anteriorly. Snout obtuse. Mouth small, inferior. Eyes lateral. Lips thin. Lower jaw without any lip and with a sharp crescent bony edge. Barbel absent. Dorsal fin inserted behind pelvic fins. Caudal fin forked. Lateral line much decurved. Scales of moderate size; eye, 17.2 to 25.3 % HL.

### Material examined

1) River Monu in Tripura; River Coll No. 22, Collection date 1 9 2001, Lot 1; 28 Exs, Museum No. 22 / 16 (ii), 21, 24,25,27,29 to 36; 39 to 41, 43 to 52,56,84; Coll. Professor D. Kar and Party: First Report

2) River Monu in Tripura; River Coll No. 23, Collection date 1 9 2001 (Lot 2); 51 Exs; Museum No. ,23 / 12 to 40, 42 to; 63; Coll. Professor D. Kar and Party: First Report

3) River Monu in Tripura; River Coll No. 41, Collection date 22 6 2013; 7 Exs.; Museum No. 41 /3 (i) to 3 (vi), 19 (i); Coll. Professor D. Kar and Party: First Report.

Key to species: Ll scales 38 to 42. Anal fin with 10 to 12 rays. 2.5 to 3 rows of scales between lateral line and pelvic fin base.

*Cabdio morar* (Hamilton, 1822)

### Distribution

Almost throughout India, including river Barak at Lakhipur and at Khangbor in NE India (First reports by by Prof. D Kar and Party); also, in Bangladesh, Nepal, Pakistan, etc.

IUCN Status: Least Concern (LC)

Genus *Barilius* Hamilton, 1822

*Barilius* Hamilton, 1822, Fish Ganges, 266, 384 (Type species: *Cyprinus barila* Hamilton).

### Generic characters

Body moderately elongate and compressed. Abdomen rounded. Head sharply pointed; might have “peral organs” and tubercles. Mouth anterior or obliquely directed upwards. Eyes large and superior in the anterior half of the head, not visible from below the ventral surface. Upper jaw longer than lower. Characteristic muscular pads present in front of the bases of the pectoral fins. Dorsal fin inserted opposite to the inter-space between pelvic and anal fins, nearer to caudal-fin base than to the tip of the snout. Caudal fin forked. Scales moderate. Lateral line concave. The body usually covered with vertical bands.

### Material examined

River Monu in Tripura; River Coll No. 22; Collection date 1 9 2001, Lot 1; 9 Exs.; Museum No. 22 / 1 to 6,16 (i),79,81; Coll. Professor D. Kar and Party: First Report

Key to species: Body with 14 or 15 short vertical bars extending from back to lateral line.

*Barilius barila* (Hamilton, 1822)

### Distribution

Throughout Nort- East India, river Barak at Thingkal, NE India (first report by Prof. D. Kar and Party); also in Bihar, Delhi, Jammu

and Kashmir, Madhya Pradesh, Mysore, Orrisa, Rajasthan, Uttar Pradesh, West Bengal. Bangladesh, Myanmar and Nepal.

IUCN Status: Least Concern (LC).

Genus: *Opsarius* McClelland, 1838

*Opsarius* McClelland, 1838. Journal of the Asiatic Society of Bengal 7: 944.

### Generic characters

Body long, mouth widely cleft and horizontal with symphyseal knob received into a corresponding depression in the apex of the upper jaw. Back straight, dorsal fin placed opposite to anal fin, both fins situated near the caudal extremity.

### Material examined

1) River Monu in Tripura; River Coll No. 22; Collection date 1 9 2001, Lot 1; 4 Exs.; Museum No. 22 / 59 to 62 (i),79,81; Coll. Professor D. Kar and Party: First Report

2) River Monu in Tripura; River Coll No. 23, Collection date 1 9 2001 (Lot 2); 18 Exs; Museum No. , 23 / 68 to 85; Coll. Professor D. Kar and Party: First Report

3) River Monu in Tripura; River Coll No. 41,Collection date 22 6 2013; 4 Exs.; Museum No. 41 / 4 (i) to 4 (iv); Coll. Professor D. Kar and Party: First Report Key to species: Anal fin short with 7-8 branched rays. Each scale usually with a black spot.

4) *Opsarius bendelisis* (Hamilton, 1807)

### Distribution

Almost Throughout India, including river Barak at Karong,Tamenglong, Vangai, Thingmun-Patpuihmun, Thingkal, Liben (Joining Barak) in North-East India, (first reports by Professor D. Kar and Party); Bangladesh, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, etc.

IUCN Status: Least Concern (LC). (1 River Monu in Tripura;) River Coll No. 22; Collection date 1 9 2001, Lot 1; 1 Ex.; Museum No. 22 / 7; Coll. Professor D. Kar and Party: First Report. (2) River Monu in Tripura; River Coll No. 41, Collection date 22 6 2013; 3 Exs.; Museum No. 41 /6 (i) to 6 (iii); Coll. Professor D. Kar and Party: First Report. Key to species: Dorsal fin is spineless and small...

*Opsarius tileo* (Hamilton, 1822). Distribution: In many rivers in India, particularly in the hill streams in North-East India, etc (2) IUCN Status: Least Concern (LC)

Genus: *Laubuka* Bleeker, 1859

*Laubuka* Bleeker, 1859, Ichth. Archipel.Indici.Prodr. 2: 438, Cyprini (Type- species, *Perilampus guttatus* McClelland = *Cyprinus* (Chela) *laubuca* (Hamilton), by subsequent monotypy



### Generic Characters

Body long, compressed. Abdomen keeled from below pelvic origin to anus. Head short, compressed. Snout blunt, mouth oblique, cleft reaching below front margin of eye. Dorsal fin inserted slightly behind anal fin origin with generally 9 to 13 rays. Pelvic fins inserted nearer to pectoral fins rather than to anal; outer pelvic ray elongated. Pectoral fins stout and elongate; considerably longer than head. Anal fin generally with 13 to 26 rays. Caudal lobes equal. Ll generally with 34 to 68 scales.

### Material examined

River Monu in Tripura; River Coll No. 22; Collection date 19 2001, Lot 1; 1 Ex.; Museum No. 22 /38; Coll. Professor D. Kar and Party: First Report.

Key to species: Ll scales 34 to 37. Body depth 22.3 to 28.6 % TL.

*Laubuka laubuca* (Hamilton, 1822)

### Distribution

Almost throughout India including Shiv Narayanpur Anua at Katigorah in Cachar, Assam; River Barak at Lakhipur (Fist Reports by Prof. D.Kar and Party); also in Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, etc. IUCN status: Least Concern (LC).

Genus: *Amblypharyngodon* Bleeker, 1860 *Amblypharyngodon* Bleeker, 1860. *Natuurkundig Tijdschrift voor Nederlandsch Indië* v. 20 (no. 3): 433 (Type species: *Cyprinus mola* Hamilton 1822 by being a replacement name).

### Generic characters

Body moderately long, sub-cylindrical. Abdomen round. Head much compressed. Snout obtusely rounded. Mouth wide, antero-lateral and not protractile. Eyes centrally-placed and large; they are not visible from below ventral surface. Upper lip absent. Lower lip with a short labial fold. Lower jaw prominent with a thin sharp edge and a symphysial knob which fits into the upper jaw. Barbel absent. Dorsal fin inserted little behind insertion of pelvic fins. Anal fin short. Caudal fin forked. Scales minute.

### Material examined

River Monu in Tripura; River Coll No. 42; Collection date 19 3 2018; 4 Exs; Museum No. 42 / 1 (i) to 1 (iv); Coll. Professor D. Kar and Party: First Report

Key to species: Lateral line incomplete with 65-91 scales. A silvery lateral band with dark markings on dorsal, anal and caudal fins present.

*Amblypharyngodon mola* (Hamilton, 1822)

### Distribution

Almost throughout India, including River Barak at Lakhipur,

Assam (First Report by Professor D. Kar and Party); Afghanistan, Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, etc.

IUCN status: Least Concern (LC).

Genus *Systemus* McClelland, 1838

*Systemus* McClelland, 1838, 948 (Masc. *Systemus immaculatus* McClelland 1839. Type by subsequent designation).

### Generic characters

Last simple dorsal-fin ray strongly serrated; soft dorsal fin rays usually eight. Presence of two pairs of well-developed barbels rostral and maxillary; some may have small maxillary barbels. Many of them have a longitudinal stripe extending the length of the

body dorsal to the lateral line.

### Material examined

River Monu in Tripura; River Coll. No.43; Collection date 12 10 2005; 1 Ex.; Museum No. 43 / 5; Coll. Professor D. Kar and Party: First Report.

Key to species: Body oblong, head, small, barbels 2 pairs. Maxillary pair longer than orbit, rostral pair shorter. *Systemus sarana* (Hamilton, 1822)

### Distribution

In different parts of India, including River Kushiara at Tila Bazar, Karimganj (First Report by Professor D Kar and Party), Assam, India; also in Afghanistan, Pakistan, India, Nepal, Bangladesh, Bhutan and Sri Lanka, Myanmar, Thailand, etc. IUCN Status: Least Concern Genus: *Puntius* Hamilton, 1822 *Puntius* Hamilton, 1822, Fish Ganges :310, 388 (Type species, *Cyprinus sophore*, Hamilton-Buchanan, by subsequent designation); Jayaram, 1991, rec.Zool. Surv. India Occ. Paper No.135: 1-178 (revision); Talwar and Jhingran, 1991, Inland Fishes 1: 250; Jayaram, 1999, FW Fishes of the Indian Region: 108; Menon, 1999, Rec Zool.Surv. India., Occ. Paper No. 175: 65; Nath and Dey, 2000. Fish and Fisheries of NE India (Arunachal Pradesh): 39; Vishwanath, 2002, Fish and Fisheries of NE India, NATP Pub.: 69.

### Generic characters

Body short to moderately long, deep, compressed. Abdomen round. Head short. Snout obtuse, conical or pointed; sometimes, may be with tubercles. Mouth arched, anterior or inferior. Upper jaw may be protractile. Eyes moderate to large, dorso-lateral; they are not visible from below ventral surface. Lips thin, cover the jaws; without any horny covering. Jaws simple without any tubercle at the symphysis. Barbels four, two or may be absent. Dorsal fin short inserted nearly opposite to pelvic fins. Anal fin short. Caudal fin forked. Scales small, moderate or large.

### Material examined

River Monu in Tripura; River Coll No. 22; Collection date 19 2001, Lot 1; 1 Ex.; Museum No. 22 / 70; Coll. Professor D. Kar and Party: First Report. Key to species: Body marked with two conspicuous dark blotches.

*Puntius chola* (Hamilton 1822. Distribution: Almost throughout India, Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, etc. IUCN Status: Least Concern

### Material examined

1) River Monu in Tripura; River Coll No. 21; Collection date 23 10 2007; 1 Ex.; Museum No. 21/7; Coll. Professor D. Kar and Party: First Report

2) River Monu in Tripura; River Coll No. 22, Collection date 19 2001, Lot 1; 14 Exs, Museum No. 22 / 9 to 13, 19, 20, 65 to 68, 71 to 73; Coll. Professor D. Kar and Party: First Report

3) River Monu in Tripura; River Coll No. 23, Collection date 19 2001 (Lot 2); 1 Ex.; Museum No. 23 / 86; Coll. Professor D. Kar and Party: First Report

4) River Monu in Tripura; River Coll No. 41, Collection date 22 6 2013; 1 Ex.; Museum No. 41 / 25 (i); Coll. Professor D. Kar and Party: First Report

5) River Monu in Tripura; River Coll No. 42, Collection date 19 3 2018; 2 Exs; Museum No. 42 / 2 (i), 2 (ii); Coll. Professor D. Kar and Party: First Report

6) River Monu in Tripura; River Coll No. 43, Collection date 12 10 2005; 1 Ex.; Museum No. 43 / 8 (i); Coll. Professor D. Kar and Party: First Report

Key to Species: Pre-dorsal scales 8-10. Presence of a black spot on the dorsal fin and also on the caudal peduncle.

*Puntius sophore* (Hamilton, 1822)

Distribution: Almost through India, including River Barak at Lakhipur; Rupairbala Anua in Cachar Assam First Report by Professor D. Kar and Party. Also, found in Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, etc. IUCN Status: Least Concern (LC)

Genus: *Pethia* Pethiyagoda, 2012

*Pethia*, 2012, Pethiyagoda, Meegaskumbura and Maduwage: 80 (Type species: *Barbus nigrofasciatus* Gunther, 1868. Type by original designation). Pethiyagoda, Meegaskumbura and Maduwage, 2012.

### Generic characters

Body short to moderately long, deep, and compressed. Abdomen rounded. Head short. Snout obtuse, conical, or pointed; sometimes, it may have tubercles. Mouth arched, anterior or inferior. The upper jaw may be protractile. Eyes moderate to large,

dorso-lateral; they are not visible from below the ventral surface. Lips thin, cover the jaws, without any horny covering. Jaws simple without any tubercle at the symphysis. Barbels four, two or may be absent. Dorsal fin short inserted nearly opposite to pelvic fins. Anal fin short. Caudal fin forked. Scales small, moderate, or large.

### Material examined

1) River Monu in Tripura; River Coll No. 41, Collection date 22 6 2013; 10 Exs; Museum No. 41 / 1 (i) to 1 (x); Coll. Professor D. Kar and Party: First Report.

Key to species: Barbel absent, lateral line incomplete, and caudal peduncle with a black blotch.

*Pethia conchoni* (Hamilton, 1822)

Distribution: Almost throughout India including river Vomvadung and river Khuolzangvadung in Dima Hasa District, Assam; River Kopili: at Panimur (first reports by Professor. D. Kar and Party); also in Bihar, Uttar Pradesh, Punjab, Maharashtra, Orissa, Eastern, and western Himalaya, Deccan, Afghanistan, Bangladesh, Myanmar, Nepal, Pakistan, and Sri Lanka, etc.

IUCN Status: Least Concern (LC).

### Material examined

1) River Monu in Tripura; River Coll No. 22, Collection date 19 2001, Lot 1; 2 Exs.; Museum No. 22 / 14, 15; Coll. Professor D. Kar and Party: First Report.

Key to species: Presence of 22-25 Lateral line scales. Pre-dorsal scales (PDS) usually 9. Presence of a long transverse black blotch above pectoral fin and another almost similar on caudal peduncle over the end of anal fin, generally in fresh/live fishes. Usually, presence of a red border in the dorsal fins of males.

*Pethia ticto* (Hamilton, 1822)

Distribution: Almost throughout India, including Baskandi Anua, Shiv Narayanpur Anua, in Cachar Assam (First reports by Prof. D. Kar and Party); also in Bangladesh, Myanmar, Nepal, Thailand, etc.

IUCN Status: Least Concern (LC). Genus: *Cirrhinus* Cuvier, 1817 *Cirrhinus* (Oken), Cuvier, 1817, V.KI. Fische. IN: Isis order Encyclopadische Zeitung, 8: 113 (type species, *Cyprinus cirrhus* Bleeker, by monotypy), -Banarescu, 1983, Rev.Roum. Biol. (Zool).28 (1): 13-17 (revision)

### Generic characters

Body moderate, elongate, compressed. Abdomen rounded. Head short. Snout obtusely rounded, with thin skin covering it. Mouth wide, transverse. Eyes moderately large. Upper lip fringed or entire, not continuous with lower. Lower jaw sharp with a small

tubercle at the symphysis. Barbels four, two or none. Dorsal fin inserted ahead of pelvic fins. Anal fin short. Scales of varying sizes. Lateral line complete.

#### Material examined

1) River Monu in Tripura; River Coll No. 21, Collection date 23 10 2007; 1 Ex.; Museum No. 21/3; Coll.: Professor D. Kar and Party: First Report.

2) River Monu in Tripura; River Coll No. 23, Collection date 1 9 2001 (Lot 2), 10 Exs.; Museum No. 23 / 1, 2, 4 to 11; Coll.: Professor D. Kar and Party: First Report.

3) River Monu in Tripura; River Coll No. 43, Collection date 12 10 2005; 2 Exs.; Museum No. 43 / 2 (i), 2 (ii); Coll. Professor D. Kar and Party: First Report.

Key to species: Lateral line scales 40 to 45. Dorsal fin with 15 or 16 rays.

*Cirrhinus mrigala* (Hamilton, 1822)

Distribution: Almost throughout India including River Monu in Tripura (first Report: present work); Salchapra Anua, in Cachar, Assam (First report by Professor D. Kar and Party); also in Bangladesh, Darjeeling, and Eastern Himalaya. South and South-Eastern Asia, etc.

IUCN Status: Least Concern (LC).

#### Material examined

1) River Monu in Tripura; River Coll. No. 22; Collection date 1 9 2001, Lot 1; 1 Ex.; Museum No. 22 / 82; Coll. Professor D. Kar and Party: First Report.

2) River Monu in Tripura; River Coll No. 42; Collection date 19 3 2018; 1 Ex.; Museum No. 42 / 8 (i); Coll. Professor D. Kar and Party: First Report

Key to species: Lateral line scales 34 to 38. Dorsal fin less than body height.

*Cirrhinus reba* (Hamilton, 1822) Distribution: Almost throughout India, including River Monu in Tripura (present report: first Report), Bangladesh, Pakistan, Punjab, etc.

IUCN Status: Least Concern (LC).

Genus: *Labeo* Cuvier, 1816

*Labeo cuvier*, 1816, Regne Animale, 2 (ed.1): 194 (Type species, *Cyprinus niloticus* Forskal, by subsequent designation); Jayaram and Dhas, 1998, Occ.Papers Zool. Surv.India, No. 183: 1-143; Talwar and Jhingran, 1991, Inland Fishes I: 193; Jayaram, 1999, FW Fishes of the Indian Region: 132; Menon, 1999, Rec.Zool. Surv. India Occ. Paper No., 175: 125; Nath and Dey, 2000, Fish and Fisheries of NE India (Arunachal Pradesh): 45; Vishwanath, 2002, Fish and Fisheries of NE India, NATP Pub: 611.

#### Generic characters

Body of moderate size; sometimes, could be much big in size; elongated, abdomen rounded. Head quite large. Snout more or less swollen, rounded or truncated ; often projecting beyond mouth.; covered by a groove across and with or without tubercles; generally overhanging the mouth. Mouth usually semi-lunar and inferior. Eyes moderately large, generally placed at the commencement of the posterior half of the head. Lips thick, fleshy and fringed; continuous at the angle of the mouth forming a labial fold. Post-labial groove may be continuous or discontinuous. Barbels may be present or absent. Dorsal fin inserted above anterior to origin of pelvic fins with 11 to 26 rays. Anal fin short with 7 or 8 rays. Caudal fin deeply forked or emarginated. Lateral line (Ll) complete.

#### Material examined

1) River Monu in Tripura; River Coll No. 43, Collection date 12 10 2005; 1 Ex.; Museum No. ,43 / 4 (i); Coll. Professor D. Kar and Party: First Report.

Key to species: Barbels two very short pairs, rostral and maxillary. Dorsal fin with 16-18 branched rays. Lateral line with 65 - 84 scales. Lips thick and fringed.

*Labeo gonius* (Hamilton, 1822)

Distribution: Almost throughout India, (including Salchapra Anua, Rupairbala Anua in Cachar district, Assam: First Report by Prof. D. Kar and Party), other parts of North and North-East India, Afghanistan, Bangladesh, Myanmar, Nepal, Pakistan, etc

IUCN Status: Least Concern (LC).

#### Material examined

1) River Monu in Tripura; River Coll No. 43; Collection date: 12 10 2005; 1 Ex.; Museum No. 43 / 1 (i): Coll. Professor D. Kar and Party: First Report.

Key to species: Presence of generally 6 to 6.5 scales between lateral line (Ll) and pelvic fin base

*Labeo rohita* (Hamilton, 1822) Distribution: Almost throughout India (including River Dhansiri at Bokajan, Karbi Anglong district: First detailed taxonomic report by Professor. D. Kar and Party); also in Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, etc. IUCN Status: Least Concern (LC)

Genus: *Tariqilabeo* Kuhl van Hasselt, 1823

*Tariqilabeo* Kuhl van Hasselt, 1823, Algem-Konst.Letter-Bode,2, p:132 (Type species, *Tariqilabeo oblongus* (*Crossocheilus oblongus*) Kuhl and van Hasselt, by monotypy); Mukerji, 1934, J.Bombay nat. Hist. Soc., 37 (1): 49-54; Banarescu, 1986, Trans Mus. Hist. natn. Gr.Antipa. 28: 142-154; Kottelat, 1987, Jap. J. Ichthyol., 33 (4): 371; Talwar and Jhingran, 1999, Inland Fishes 1: 413; Jayaram, 1999, FW Fishes of the Indian Region: 152; Menon,

1999, Rec. Zool. Surv., India, Occ. Paper No. 175: 139.

### Generic Characters

Body more or less elongate. Ventral profile horizontal or slightly curved. Abdomen rounded. Head small. Snout obtusely pointed. Mouth inferior. Eyes large. Post-labial groove generally present. Rostral cap thick; its margin fimbriate. Presence of a pair of rostral and maxillary barbels only; latter may be absent. Dorsal fin inserted midway between pectoral and pelvic fins; considerably nearer to tip of snout than base of caudal fin with 10 or 11 rays and without any spine. Anal fin short with 7 rays. Caudal fin deeply forked. Lateral line scales 33 to 46.

### Material examined

1) River Monu in Tripura; River Coll No. 22; Collection date 19 2001, Lot 1; 6 Exs.; Museum No. 22 / 8, 22, 26, 28, 64, 69; Coll. Professor D. Kar and Party: First Report.

2) River Monu in Tripura; River Coll No. 41; Collection date 22 6 2013; 2 Exs.; Museum No. 41 / 21 (i), 24 (i); Coll. Professor D. Kar and Party: First Report.

Key to species: Presence of 37-39 Ll scales. Diameter of eye 21.3 to 23.8 % of HL.

*Tariqilabeo latius* (Hamilton, 1822) Distribution: Almost throughout NE India, including Salchakra Anua in Cachar, Assam (First Report by Professor D. Kar and Party); River Monu in Tripura ((First present Report by Professor D. Kar and Party); also in Arunachal Pradesh, Bangladesh, Nepal, etc

IUCN status: Least Concern (LC)

Genus: *Psilorhynchus* McClelland, 1839

*Psilorhynchus* McClelland, 1839, Asiatic Researches, 19: 300, 428 (Type species: *Cyprinus suctatio* Hamilton, by subsequent designation).

### Generic characters

Body spindle-shaped, arched dorsally and flattened ventrally; anteriorly depressed. Ventral surface markedly flattened. Snout flat obtusely pointed anteriorly. A shallow depression may be present on the cheek. Mouth small, inferior, transverse. Eyes large, dorsolateral in the posterior half of the head; not visible from below ventral surface. Lips entire, fleshy, continuous at the angle of mouth; reflected off from both the jaws; and, with glands and folds. Presence of a distinct lateral groove on either side passing along the sides of the snout. The upper jaw overhangs the mouth. Absence of barbel. Dorsal fins inserted ahead of pelvic fins with 10-12 rays. Pectoral fins simple with four-six rays. Anal fin short with seven rays. Caudal fin forked; upper lobe longer. Scales relatively large along the lateral line. Lateral line complete with 32-34 scales.

### Material examined

River Monu in Tripura; River Coll No. 23; Collection date 19 2001 (Lot 2); 1 Ex.; Museum No. 23 / 88: Coll. Professor D. Kar and Party: First Report.

Key to species: Body brown on back. Head looks little flat. Abdomen pale with 7 to 10 dark spots along the Lateral line. *Psilorhynchus homaloptera* (Hamilton, 1822)

Distribution: In many regions in India, particularly, in the hill streams including: river Khuolzangvadung in Dima Hasao District, Assam (first report by Prof. D. Kar and Party),

in some water bodies in West Bengal; Jamuna River; Bangladesh, Myanmar, Nepal, etc.

IUCN Status: Least Concern (LC). Genus: *Paracanthocobitis* Peters, 1861. *Paracanthocobitis* Peters, 1861, Monats. Akad. Wiss. Berlin for 1861: 712 (Type species: *Acanthocobitis longipinnis* Peters = *Cobitis pavonaceus* McClelland, by monotypy); Menon, 1987, Fauna India, 4 (1): 140; Kottelat, 1990, Verlag Dr. Friedrich Pfeil, Munchen: 18 (as a valid genus); Banarescu and Nalbant, 1995, Trav. Mus.Hist. nat. "Grigore Antipa", 35: 430 (as a valid genus); Jayaram, 1999, FW Fishes of the Indian Region: 173; Vishwanath, 2002, Fish and Fisheries of NE India, NATP Pub: 101.

Generic characters: Body deep and strongly compressed posteriorly. Head slightly compressed. Nostrils close together. Presence of a slight indication of an adipose keel. Upper lip covered by 2 or 3 rows of papillae. Lower lip interrupted in the middle and with numerous papillae. Dorsal fin usually with 10 to 18 branched rays. Caudal fin slightly emarginated. Presence of conspicuous black spot at upper extremity of caudal fin.

### Material examined

1) River Monu in Tripura; River Coll No. 22, Collection date 19 2001, Lot 1; 1 Ex.; Museum No. ,22 / 57; Coll. Professor D. Kar and Party: First Report.

2) River Monu in Tripura; River Coll No. 41, Collection date 22 6 2013; 3 Exs.; Museum No. (3), 41 / 10 (i), 10 (ii), 20 (i); Coll. Professor D. Kar and Party: First Report.

Key to species: Dorsal fin with 9-11 branched rays. Body depth about 20.00 to 23.63 % SL.

*Paracanthocobitis botia* (Hamilton, 1822)

Distribution: Almost throughout India (including Baskandi Anua in Cachar, Assam: First report by Prof. D. Kar and Party); River Monu in Tripura (this present First report by Prof. D. Kar and Party); also in Manipur, Myanmar, etc.

IUCN Status: Least Concern (LC).

Genus: *Schistura* McClelland, 1839. *Schistura* McClelland, 1839, Asiat. Res.,19: 306, 439 (Type species: *Cobitis* (*Schistura*))



rupecula McClelland by subsequent designation; Menon, 1987, Fauna India 4 (1): 37; Kottelat, 1990, Vela Dr.Friedrich Peel, Munchen, 90; Banarescu and Nalbant, Trav.Mus. Hist. nat.,Grigore Antipa, 35: 438; Talwar and Jhingran, 1999; Inland Fishes 1: 462; Jayaram, 1999, FW Fishes of the Indian Region: 178; Menon, 1999, Rec. Zool. Surv. India, Occ.Paper No.,175 :168.

Generic characters: Body elongate with almost uniform depth; compressed posteriorly. Head either depressed or compressed. Snout usually blunt. Upper lip slightly furrowed. Dorsal fin short; inserted ahead or opposite to pelvic fins with 7 or 8 (rarely 10) branched rays. Caudal fin never rounded.

#### Materials examined

1) River Monu in Tripura; River Coll No. 41, Collection date 22 6 2013; 4 Exs.; Museum No. 41 / 5(i) to 5 (iv); Coll. Professor D. Kar and Party: First Report.

Key to species: Presence of 17 bars on the body. Dorsal and caudal fins with many rows of spots which are, sometimes, irregularly distributed

*Schistura multifasciata* (Day, 1878).

Distribution: Almost throughout India mainly in the hill streams (may be sometimes in the wetlands connected with rivers being swept away: including Baskandi Anua in Cachar, Assam : First report by Prof. D. Kar and Party); River Monu in Tripura (this present First report by Prof. D. Kar and Party); also, from River Teesta through the bases of Nepal Himalayas; also, in Manipur, Myanmar, etc.

IUCN Status: Least Concern (LC).

Genus: *Canthophrys* Swainson, 1838. *Canthophrys* Swainson, 1838, Nat.Hist. Fishes: 364 (Type species *Canthophrys albescens*, said to be an unnecessary replacement name for *Cobitis gongota* Hamilton-Buchanan: as in Jayaram, 2010); Vishwanath, 2002, Fish and Fisheries of NE India, NATP Pub.:123.

#### Generic characters

Body cylindrical, stout, elongated. Abdomen rounded. Head swollen; wider than deep. Nostrils are close together. Snout long, straight, broadly anteriorly with soft warty tubercles. Mouth small, inferior, horse-shoe shaped. Eyes bulging, fairly large, superior, situated in the middle of the head. Presence of a sub-orbital bifid spine below the eyes. Presence of 6 barbels; one pair each of rostral and maxillary. Dorsal fin inserted behind the pelvic origin with 11 rays and without a spine. Anal fin short with 7 rays. Lateral Line distinct and complete.

#### Materials examined

1) River Monu in Tripura; River Coll No. 41; Collection date, 22 6 2013; 1 Ex.; Museum No. 41 / 18 (i); Coll. Professor D. Kar and Party: First Report.

Key to species: Dorsum dark, with indications of 7 or 8 broad dark vertical bands; a prominent large dark patch on cheek. *Canthophrys gongota* (Hamilton, 1822). Distribution: Almost throughout India mainly in the hill streams including River Barak around Lakhimpur, 2001, also, in River Monu in Tripura (In all these, First report by Prof. D. Kar and Party); also, in India (Himalaya foothills). Manipur, Bangladesh, Nepal, Myanmar, Pakistan Myanmar, etc.

IUCN status: Least Concern (LC)

Genus: *Rita* Bleeker, 1853

*Rita* Bleeker, 1853, Verh. Bartav. Genootsch Kunst. Wet., 25: 122; Jayaram 1966, Int Re. ges.Hydrobiol, 51 (3) : 434; Jayaram, 2006, Catfishes of India; 12; Ferraris, 2007, Zootaxa , 1418: 105. Gogrius Day. 1867, Proc. Zool. Soc. London: 563

#### Generic Characters

Body short, compressed. Abdomen rounded. Head large, depressed. Eyes moderate, dorso-lateral. Presence of 3 pairs of barbels: one each maxillary, anal and only one of mandibular. Rayed dorsal fin inserted above half of pectoral fin with 6 or 7 rays and a spine. Adipose dorsal fin low. Pectoral fins with 7 to 10 rays and a spine. Anal fin short with 8 to 13 rays. Caudal fin forked.

#### Materials examined

1) River Monu in Tripura; River Coll No. 41; Collection date: 22 6 2013; 1 Ex.; Museum No. 41 / 16 (i); Coll. Professor D. Kar and Party: First Report.

Key to species: Dorsal spine generally reach to origin of adipose dorsal fin base.

*Rita rita* (Hamilton, 1822)

Distribution: Almost throughout India mainly in the rivers, including River Monu in Tripura (this present First report by Prof. D. Kar and Party); also, in Manipur, Myanmar, etc.

IUCN Status: Least Concern (LC).

Genus: *Sperata* Holly, 1939

*Sperata* Holly, 1939, Zool. Anzeiger 125:14, 1939 (replacement name for *Macrones Dumeril*, 1856; therefore, taking the same type species *Bagrus lamarii Valenciennes*, 1840 (Type species: *Sperata vittatus* (Bloch) in error); Ferraris and Runge, 1999, Proc.Acad. Nat. Sci. Philad. 51 (10): 400 (Revision); Jayaram, 2006, Catfishes of India: 23; Ferraris, 2007, Zootaxa, 1418: 106. *Macrones Dumeril*, 1856, Ichthyologie analytique: 484 (Type species *Bagrus lamarii Valenciennes*, 1840, by original designation; preoccupied by *Macrones Newman*, 1841, Insecta (Coleoptera). *Aoria* Jordan, 1856, Proc Acad. Nat. Sci. Philad. 70: 341 (substitute name for *Macrones Dumeril*, 1856, preoccupied by *Aoria baly*, 1863. Insecta, Coleoptera).

Generic characters: Dorsal profile arched. Head large elongate, slightly depressed. Snout spatulate or rounded. Mouth moderately wide. Presence of a distinct inter-neural shield in between basal bone of dorsal fin and occipital process. Presence of 4 pairs of barbels; one each maxillary and nasal and two mandibular. Gill membranes free from each other and also from isthmus. Rayed dorsal fin generally with 7 rays and a robust spine. Adipose dorsal fin low with slightly convex margin. Pectoral fins with 9 or 10 rays and a spine. Pelvic fins generally with 6 rays. Anal fin short with 11 to 15 rays. Caudal fin deeply forked. Presence of a large round or ovoid dark spot near the posterior margin of the adipose fin.

#### Material examined

1) River Monu in Tripura; River Coll No. 41, Collection date 22 6 2013; 1 Ex.; Museum No. 41 / 17 (i): Coll. Professor D. Kar and Party: First Report.

2) River Monu in Tripura; River Coll No. 42, Collection date 19 3 2018; 1 ex.; Museum No 42 / 5(i)

3) River Monu in Tripura; River Coll No. 43, Collection date 12 10 2005; 2 xs; Museum No.

No.43/3(i), 3 (ii); Coll. Professor D. Kar and Party: First Report.

Key to species: Snout spatulate. Pectoral fin with 8 or 9 rays.

Species: *Sperata seenghala* (Sykes, 1839)

Distribution: In many large rivers in India, notably, Barak, Brahmaputra, Ganges and their tributaries (including Chatla Haor and Bakri Haor in Barak valley region of Assam: First report by Professor D. Kar and Party); also in Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka etc.

IUCN status: Least Concern (LC) Genus: *Mystus* Scopoli, 1777, *Mystus* Scopoli, 1777, *Introductio ad historiam naturalem*: 451 (Type by subsequent designation: Masc. *Bagrus halepensis* Valenciennes 1840).

#### Generic characters

Body short or moderately elongated. Head short, flattened. Snout obtuse or rounded. Mouth sub-terminal, transverse. Eyes anteriorly situated, moderately large. Teeth numerous. Upper surface of head mostly smooth with one or two median longitudinal grooves of varying length. Occipital process long or short, situated superficially concealed under skin. Four pairs of barbels; one each of maxillary, nasal and two mandibular; two dorsal fins; an anterior rayed dorsal with seven or eight rays and a spine; a posterior smooth low adipose fin of varying lengths. Pectoral fins with seven to 11 rays and a strong spine serrated along the inner edge. Pelvic fins with six rays. Anal fin with nine to 14 rays. Caudal fin forked, bilobed with unequal lobes; lobes may be rounded, pointed or prolonged into filamentous extensions. Lateral line simple, complete.

#### Material examined

1) River Monu in Tripura; River Coll No. 41, Collection date 22 6 2013; 2 Exs.; Museum No. 41 / 8 (i), 8 (ii): Coll. Professor D. Kar and Party: First Report.

Key to species: Maxillary barbels very long and reach almost end of caudal fin. Adipose dorsal fin quite long

*Mystus cavasius* (Hamilton, 1822)

Distribution: Almost throughout India, (including wetlands in Assam: First report by Prof. D. Kar and Party), River Monu in Tripura (First present report by Prof. D. Kar and Party), other parts of India, Bangladesh, Myanmar, Sri Lanka, etc.

IUCN status: LC

#### Material examined

1) River Monu in Tripura; River Coll No. 21, Collection date 23 10 2007; 1 Ex.; Museum No 21/11; Coll. Professor D. Kar and Party: First Report.

2) River Monu in Tripura; River Coll No. 23, Collection date 1 9 2001 (Lot 2); 1 Ex.; Museum No. 23 / 87; Coll. Professor D. Kar and Party: First Report.

3) River Monu in Tripura; River Coll No. 42, Collection date 19 3 2018; 1 Ex.; Museum No. 42 / 7 (i); Coll. Professor D. Kar and Party: First Report.

Key to species: Body with two parallel stripes on each side of lateral line. There may also be a dark humeral spot.

*Mystus vittatus* (Bloch, 1794)

Distribution: Almost throughout India, (including wetlands in Assam, notably, Salchapra Anua and Fulbari Anua : First report by Prof. D. Kar and Party), River Monu in Tripura (First present report by Prof. D. Kar and Party), other parts of India, Bangladesh, Myanmar, Sri Lanka, etc.

IUCN status: LC. Genus: *Ailia* Gray, 1830

*Ailia* Gray, 1830, *Zool Miscellany*, Pl. 85 (Type species: *malapterus* (sic) (*Ailia*) *bengalensis* Gray= *Malapterus coila* Hamilton-Buchanan, by monotypy); Hora, 1941, *Rec. Indian Mus.*, 43: 110-112; Jayaram, 2006, *Catfishes of India*: 117; Ferraris, 2007, *Zootaxa*, 1418: 356 (*Ailichthys*).

#### Generic characters

Body short compressed. Abdomen rounded. Head short, greatly compressed. Mouth moderately wide. Eyes small lateral. Presence of 4 pairs of barbels: one pair each maxillary and nasal; and two pairs mandibular; all these barbels are usually longer than head. Rayed dorsal fin absent. Adipose dorsal fin small, short and posteriorly free. Pectoral fins with 13 to 16 rays and a spine. Pelvic



fins with six rays; may sometimes be vestigial or absent. Caudal fin forked.

#### Material examined

1) River Monu in Tripura; River Coll No. 22, Collection date 19 2001, Lot 1; 1 Ex.; Museum No. 22 / 83; Coll. Professor D. Kar and Party: First Report.

Key to species: Pelvic fins absent. Rayed dorsal fin also absent. Anal fin long with 48 to 90 rays.

*Ailia coila* (Hamilton, 1822)

Distribution: In many water bodies Almost throughout India (including Beels in Assam like Rani Meghna Beel: First report by Prof. D. Kar and Party); also in Bangladesh, Nepal, Pakistan, etc.

IUCN Status: Near threatened.

Genus: *Clupisoma* Swainson, 1938

Genus: *Clupisoma* Swainson, 1838

*Clupisoma* Swainson, 1838, Nat. Hist. Animal. Fish., 2: 347, 351, 354 (Type species, *Pimelodus argentea* Swainson = *Silurus garua* Hamilton, by monotypy); Hora, 1937, J. Bombay nat. Hist., Soc., 39(4) : 659-678; Jayaram, 2006, Catfishes of India : 121; Ferraris, 2007, Zootaxa 1458 : 357.

#### Generic characters

Body elongates, compressed with the portion between pelvic fins and vent keeled. Head of moderate size. Snout rounded. Cleft of mouth does not reach front edge of eyes. Presence of 4 pairs of barbels: one pair each of maxillary, nasal; and, two pairs of mandibular. Rayed dorsal fin inserted above near base of pectoral fins with 6-9 rays and a spine. Pelvic fin with 6 rays. Anal fin moderately long with 29 to 54 rays. Caudal fin deeply forked.

#### Material examined

1) River Monu in Tripura; River Coll No. 41, Collection date 22 6 2013; 1 Ex.; Museum No. 41 / 15(i); Coll. Professor D. Kar and Party: First Report.

Key to species: Maxillary barbels generally extend beyond pectoral fins or just reach pelvic fins. Anal fin with 29-36 fin rays.

*Clupisoma garua* (Hamilton, 1822) Distribution: In many water bodies almost throughout India (including Baskandi Anua wetlands in Assam: First Report by Prof. D Kar and Party); also in Bangladesh, Myanmar, Nepal, etc.

IUCN status: Least Concern (LC)

Genus: *Eutropiichthys* Bleeker, 1862

*Eutropiichthys* Bleeker, 1862, versl. Akad. Amsterdam, 14: 398 (Type species: *Pimelodus vacha* Hamilton-Buchanan, by original

description); Hora, 1937, J. Bombay nat. Hist. Soc., 39: 431-446 (review); Jayaram, 2006, Catfishes of India: 132; Ferraris, 2007, Zootaxa 1418: 358.

#### Generic characters

Body elongates, compressed. Abdomen rounded. Head of moderate size, conical, snout pointed or blunt. Cleft of mouth reaching below orbit or slightly beyond. Eyes moderately large, lateral. Presence of 4 pairs of barbels; one pair each maxillary, nasal and two pairs mandibular. Rayed dorsal fin inserted above half of pectoral fins with 7 rays and a spine. Adipose dorsal fin short, posteriorly free. Pectoral fins with 10 to 16 rays and a spine. Pelvic fins with six rays. Anal fin long with 38 to 54 rays. Caudal fin deeply forked

#### Material examined

1) River Monu in Tripura, River Coll No. 41, Collection date 22 6 2013; 2 Exs.; Museum No. 41 / 7 (i), 7(ii); Coll. Professor D. Kar and Party: First Report.

Key to species: Nasal barbels reach hind border of head or slightly beyond

*Eutropiichthys vacha* (Hamilton, 1822)

Distribution: In many water bodies almost throughout India (including River Barak at Fulertal in Assam: First Report by Prof. D. Kar and Party.); also in Bangladesh, Myanmar, Thailand, etc.

IUCN status: Least Concern (LC)

Genus: *Sisor* Hamilton, 1822

*Sisor* Hamilton, 1822, Fish Ganges: 375, (Type species, *Sisor rhabdophorus* Ham; de Pinna, 1996, Fieldiana New Series No. 84, 1996 (phylogneti analysis, new classification); Jayaram, 2006, Catfishes of India, 168; Ferraris, 2007, Zootaxa, 1418: 402.

#### Generic characters

Dorsal profile gently rising up to dorsal fin thereafter descending towards caudal fin, Body very narrow; whip-like; very strongly depressed anteriorly and compressed posteriorly. With a long tapering tail. Presence of a fleshy post-labial groove on lower jaw. Lower lip with median thickened triangular pad. Eyes small, dorso-lateral. Barbels 6 pairs; one pair each of maxillary and five short mandibular pairs arising from lower labial fold. Rayed dorsal fin inserted above in between pectoral and pelvic fins with a weak spine. Adipose dorsal fin modified in the form of a spine. Pectoral fins inserted horizontally with a flat spine.

#### Material examined

1) River Monu in Tripura, River Coll No. 41, Collection date 22 6 2013; 2 exs.; Museum No. 41 / 11 (i), 11 (ii); Collector, Prof. D. Kar and Party: First Report.

Key to species: Posteriorly, the body is compressed like a tapering tail

Distribution: In many water bodies almost throughout India (including River Monu in Tripura: First Report by Prof. D. Kar and Party.); also in Bangladesh, Myanmar, Thailand, etc.

IUCN Status: LC

Genus: *Gagata* Bleeker, 1858

*Gagata* Bleeker, 1858. Ichthyol. ArchipelIndiciProdr., 1: 204 (type species: *Pemelodusgagata* Hamilton-Buchanan, by absolute tautonymy)- Hora and Law 1941, Rec. Indian Mus. 43 (10): 9 (revision)- Roberts and Ferraris, 1998. Proc. Calif. Acad. Sci. 50 (14): 317- Jayaram, 2006, Catfishes of India: 187; Thompson ad Page, 2006, Zootaxa, 1345: 29 (Check list)- Ferraris, 2007, Zootaxa 1418: 385 (Check list).

### Generic characters

Dorsal profile rising not very sharply upto dorsal fin base; thereafter, slopes very gently; nearly straight. Head and body compressed. Head short. Snout obtusely rounded. Mouth inferior, small and narrow. Median longitudinal groove on head distinct. Eyes large, dorso-lateral. Maxillary barbells with an osseous base and lying in a groove anteriorly. Nasal pair of barbels with broad flaps, separating the 2 nostrils. Mandibular barbels inserted in a transverse row but at the same level. Rayed dorsal fin inserted above middle of pectoral fins. Caudal deeply forked. Lateral line complete with pores on anterior half.

### Materials examined:

1) River Monu in Tripura, River Coll No. 41, Collection date 22 6 2013; 3 Exs.; Museum No. 41 / 9 (i) to 9 (iii): Collector, Prof. D. Kar and Party. First Report.

Key to species: Tip of snout acutely pointed in lateral profile with a distinct notch anteriorly. Maxillary barbels shorter than head length.

*Gagata cenia* (Hamilton, 1822)

Distribution: In many water bodies in India (including River Barak at Khangbor : First Report by Prof. D Kar and Party); also in Manipur, Nepal,; Indus river (Pakistan), etc.

IUCN status: Least Concern (LC)

Genus: *Heteropneustes* Muller, 1840. *Heteropneustes* Muller, 1840, Arch. Anat. Physiol.: 115 (Type species: *Silurus fossilis* Bloch); Hora, 1935, Rec. Indian Mus., 38 (2): 134; Jayaram, 2005, Catfishes of India: 313; Ferraris, 2007, Zootaxa: 1418.

### Generic characters

Body slender, elongated, compressed. Abdomen rounded. Head gently depressed. Snout flat. Mouth small, terminal. Eyes small, lateral and situated in the anterior part of the head. Rayed

dorsal fin short; inserted above tip of pectoral fin with 6 to 8 rays and without any spine. Pectoral fin not much big, with 7 or 8 rays and a strong spine.

### Material examined

1) River Monu in Tripura, River Coll No. 42, Collection date 19 3 2018; 1 Ex, Museum No. 42 / 6 (i); Collector, Prof. D. Kar and Party. First Report

2) River Monu in Tripura, River Coll No. 43, Collection date 12 10 2005; 1 Ex.; Museum No. 43 / 9 (i); Collector, Prof. D. Kar and Party. First Report

Key to species: Body slender to deep; eyes small; pectoral fin short and rounded; half to one-third the distance between pectoral and pelvic fin origin. Presence of a strong pectoral spine. Caudal fin rounded.

Species: *Heteropneustes fossilis* (Bloch, 1794). Distribution: In many water bodies almost throughout India (including Beels in Assam like Dholi Beel and Karbhala Beel in Barak valley of Assam : First reports by Professor D Kar and Party ); also in Bangladesh, Myanmar, Lao PDR, Nepal, Pakistan, etc.

IUCN status: Least concern

Genus: *Rhinomugil* Gill, 1863

*Rhinomugil* Gill, 1863. Proceedings of the Academy of Natural Sciences of Philadelphia v. 15: 169 (Type species: *Mugil corsula* Hamilton 1822 by monotypy).

### Generic characters

Body moderately elongate, cylindrical or slightly compressed. Head broad and depressed; snout obtuse and short; interorbital space broad. Mouth small, terminal or inferior. Two short widely separated spinous and soft dorsal fins present. Pectoral fins placed rather high on body; pelvic fins subabdominal. Caudal fin moderately forked, emarginated or truncate. Scales fairly large on head and body. Lateral line absent.

### Material examined

1) River Monu in Tripura, River Coll No. 22, Collection date 1 9 2001; Lot 1; 1 Ex.; Museum No. 22 / 23; Collector, Prof. D. Kar and Party. First Report.

Key to species: Body rather stout, head moderate. Operculum without spine. Mouth ventral, protrusible. First dorsal fin inserted nearer to caudal fin base than to tip of snout. Caudal fin slightly emarginate, scales in lateral series 48-52.

*Rhinomugil corsula* (Hamilton, 1822). Distribution: In different water bodies in almost throughout India (including River Jamuna at Silvetta in Karbi Anglong district of Assam: First detailed taxonomic report by Professor. D. Kar and Party); Meghalaya, Tripura, Uttar Pradesh, Bihar, Orissa, Tamil Nadu, West Bengal, Bangladesh, Myanmar, Nepal, etc.

IUCN Status: Least Concern (LC)

Genus: *Xenentodon* Regan, 1911. *Xenentodon* Regan, 1911, Ann Mag nat Hist (8)7: 332 (type-species, *Belone cancila* Hamilton-Buchanan, by subsequent designation); - Roberts, 1989, Mem Calif Acad Sci No 14: 152 (review).

#### Generic characters

Body very elongate, compressed. Abdomen rounded. Head pointed. Snout sharply pointed. Mouth superior, wide, cleft extending to orbit. Eyes moderate. Both the jaws prolonged into a beak. Presence of a deep longitudinal groove along upper surface of the head. Dorsal fin usually inserted above anal fin. Caudal fins truncate. Scales small. Lateral line present on posterior half of the body, without a keel.

#### Material examined

1) River Monu in Tripura, River Coll No. 42, Collection date 19 3 2018; 2 Exs.; Museum No. 42 / 3 (i), 3 (ii); Collector, Prof. D. Kar and Party. First Report.

Key to species: Dorsal fin rays 15 – 18. Anal fin rays 16 – 18. Pre-dorsal scales >200.

*Xenentodon cancila* (Hamilton, 1822). Assam, Cachar district, Salchapra Anua, 2 ex., May, 2007. 1 ex., 17.01.2009. Coll. Prof. D. Kar and Party. First report.

Distribution: In different water bodies in almost throughout India (including Salchapra Anua in Cachar, Assam: First report by Prof. D. Kar and Party); also in Manipur, Nepal, etc.

IUCN status: Least Concern (LC)

Genus: *Macrogathus* Lacepede, 1800

*Macrogathus* Lacepede, 1800, Hist.Nat. Poiss.,2: 283 (Type species, *Ophidium aculeatum* Bloch, by subsequent designation); Sufi, 1953; Bull. Raffles Mus. No. 27: 99-105; Robert, 1980, Copeia, No.3: 385-391 (revision); Roberts, 1986, Jap.J.Ichthyol, 33 (2);97-103; Bloch and Schneider, 1801, Syst.Ichth., 478.

#### Generic characters

Body deep, eel-like, compressed. Head long, pointed. Snout long, fleshy; and, accommodate a concave prolongation of the upper jaw. Mouth inferior, cleft narrow. Dorsal fin inserted far behind the end of pectoral fins with 13 to 32 detached depressible spines and 42-58 rays. Anal fin with 3 spines and may be with 40 to 60 rays. Caudal fin rounded, distinctly separated from dorsal and anal fins. Scales small. Lateral line present.

#### Material examined

(1 River Monu in Tripura) River Coll No. 22, Collection date 1 9 2001, Lot 1; 1 Ex.; Museum No.,22 / 90; Collector, Prof. D. Kar and Party. First Report.

Key to species: Dorsal fin spines 16-23.

*Macrogathus aral* (Bloch and Schneider, 1801). 1 example from Rani Meghna Beel, 23.3. 2018 and 3 examples from Javda Beel, 15. 3. 2008; both in Barak valley, Assam and first reports; Collector: Professor D Kar and Party

Distribution: In many water bodies in India (including Wetlands in Assam like Rani Meghna Beel, Javda Beel, etc.; : First report by Prof. D. Kar and Party); also in Bangladesh, Myanmar, Nepal, etc.

IUCN status: Least Concern (LC)

#### Material examined

River Monu in Tripura, River Coll No. 41, Collection date 22 6 2013; 2 Exs.; Museum No. 41 / 13 (i), 23 (i); Collector, Prof. D. Kar and Party. First Report.

Key to species: Dorsal fin with 24 – 26 spines and with 30 – 42 soft rays.

*Macrogathus pancalus* Hamilton, 1822

Distribution: In many water bodies in India (including Wetlands in Assam like Dholi Beel, Sat Beel, Javda Beel, etc.; : First report by Prof. D. Kar and Party);also in Bangladesh, etc.

IUCN status: Least Concern (LC)

Genus: *Mastacembelus* Scopoli, 1777

*Mastacembelus* Scopoli, 1777, Introd. Hist. Nat.: 458 (type –species, *Ophidium mastacembelus* Banks and Solander, by subsequent monotype); Travers, 1984, Bull. Brit. Mus. nat. Hist. (zool.)47 (2): 141-145 (review); Roberts, 1986, Jap. J. Ichthyol., 23 (2): 103-107 (review); - Sufi, 1956, Bull. Raffles. Mus., No. 27: 105-143 (systematic review).

#### Generic characters

Body eel-like, elongated, compressed, long, pointed. Snout long, conical. Mouth inferior; cleft narrow. Eyes small, superior. Rim of anterior nostrils with two finger-like fimbriae and two flaps. Dorsal fin inserted above middle of pectoral fins. Pelvic fins absent. Caudal fin rounded. Dorsal and anal fins may or may not be confluent with caudal fin. Pelvic fins absent.

#### Material examined

1) River Monu in Tripura, River Coll No. 41, Collection date 22 6 2013; 1 Ex.; , Museum No. 41 / 12 (i); Collector, Prof. D. Kar and Party. First Report.

Key to species: Dorsal fin with 32 – 40 detached, depressible spines and 67 to 90 rays. Anal with three spines and 46 to 90 rays. Caudal fin merged and continuous with dorsal and anal fins, Caudal fin rays 14 to 17. *Mastacembelus armatus* (Lacepede, 1800. Distribution: In many water bodies in India (including Wetlands in Assam like Baskandi Anua,, Salchapra Anua, : First report by Prof. D. Kar and Party); also in Bangladesh, South China, Malaya, Java, Myanmar, Nepal, etc.

IUCN status: Least Concern (LC)

Genus: *Parambassis* Bleeker, 1874. *Parambassis* Bleeker, 1874, Nat.Verh. Holland. Maatsch.Wetensch.,2 (2): 102 (Type species, *Ambassis apogonoides* Bleeker by original designation); Guha and Talwar, 1975, J. Inland Fish, Soc.India, 8: 76; Roberts, 1994, Nat. Hist.Brit. Siam. Soc., 42:271-289.

## Generic characters

Body elongates, compressed. Abdomen round. Head short, compressed. Snout pointed. Mouth large; gape oblique; extending to anterior border of orbit. Eyes large, superior. Jaws straight or only slightly upturned. Supra-orbital ridge smooth or serrated, with one or two spines posteriorly. Presence of 2 dorsal fins with 6 or 7 spines and 11 to 14 rays, which are closely placed with a notch in between. Anal fin with 3 spines and with 11 to 16 rays.

## Material examined

1) River Monu in Tripura, River Coll No. 22, Collection date 19 2001, Lot 1; 1 Ex.; Museum No. 22 / 89; Collector, Prof. D. Kar and Party. First Report.

Key to species: Body depth 41.7 to 43.4 %; caudal peduncle depth 0.9 to 12 % SL.

*Parambassis ranga* (Hamilton, 1822)

Distribution: In many water bodies in India (including Wetlands in Assam like Sat Beel in Barak Valley: : First report by Prof. D. Kar and Party); also in Bangladesh, Myanmar, Nepal, etc.

IUCN status: Least Concern (LC).

Genus: *Nandus*, Valenciennes, 1831

*Nandus*, Valenciennes, 1831, In: Cuvier and Valenciennes, Hist, Nat. Poiss., 7 : 481(Type species, *Nandus marmoratus* Cuvier = *Coius nandus* Hamilton-Buchanan, by absolute tautonomy; Liem, 1970, Fieldiana (zool.), 56 : 1-166.

## Generic characters

Body oblong, compressed. Abdomen rounded. Head large, compressed. Snout pointed, conical. Mouth terminal, very protractile; its cleft very wide extending to below posterior border of eyes or slightly beyond. Eyes large and situated in the anterior part of the head. Opercle with one spine. Dorsal fin inserted above pectoral fin base with 12 to 14 spines and 11 to 13 rays; spinous portion longer than soft portion. Anal fin with 3 spines and 7-9 rays. Caudal fin rounded. Lateral line scales 46 to 57.

## Material examined

(1) River Monu in Tripura, River Coll No. 22, Collection date 19 2001, Lot 1; 1 Ex.; Museum No., 22 / 75; Collector, Prof. D. Kar and Party. First Report.

Key to species: Scales smaller on nape than on body.

*Nandus nandus* (Hamilton, 1822)

Distribution: In many water bodies in India (including Wetlands in Assam like Javda Beel in Barak Valley: : First report by Prof. D. Kar and Party); also in Bangladesh, Myanmar, Nepal, Thailand; etc.

IUCN status: Least Concern (LC)

Genus: *Badis* Bleeker, 1853

*Badis* Bleeker, 1853, Verh. Bat. Genootsch., 25: 106 (Type species: *Labrus buchanani* Bleeker = *Labrus Hamilton-Buchanan*, by tautonomy); Kullander & Britz, 2002, Ichthyol. Explor. Freshwaters, 13 (4): 303.

Generic Characters: Body moderately elongated, compressed. Abdomen rounded. Head usually large, compressed. Snout bluntly rounded. Mouth relatively small, slightly upturned, slightly protractile; cleft not extending to anterior margin of eye. Eyes large. Lower jaw longer. Opercle with one sharp spine. Presence of a single dorsal fin, inserted above base of pectoral fins; the spinous portion longer than soft portion with 16 to 18 spines and 7 to 10 rays. Anal fin with 3 spines and 6 to 8 rays. Caudal fin rounded. Lateral line scales generally 26 to 33. Unique characters include a black stripe along middle of dorsal fin and dark bars on trunk.

## Material examined

1) River Monu in Tripura, River Coll No. 41, Collection date 22 6 2013; ! Ex., Museum No. 41 / 22 (i); Collector, Prof. D. Kar and Party. First Report.

Key to species: Presence of usually 26 scales in lateral row.

*Badis badis* (Hamilton, 1822).

Distribution: In many water bodies in India (including Karbhala Beel Wetland in Assam :: First report by Prof. D. Kar and Party); also in Bangladesh, Myanmar, Nepal, etc.

IUCN status: Least Concern (LC)

Genus: *Glossogobius* Gill, 1859

*Glossogobius* Gill, 1859, Proc. Acad. nat. Sci. Philad., : 46 (Type species, *Gobius platycephalus* Richardson, by monotypy); Akihito, In: Masuda et.al., 1984, Fish. Jap.Archipel., : 274; Rema Devi, 1992, Rec.zool. Surv. India, 90 (1-4): 174 (Ennore estuary)

## Generic characters

Body elongates, anteriorly cylindrical, compressed. Abdomen rounded. Head depressed, little pointed. Snout obtusely rounded or pointed. Mouth a little oblique. Cleft not extending to eyes. Eyes large, superior, almost in middle of head. Gill openings continued far below the eyes. Presence of 2 dorsal fins, separated by a short interspace; first dorsal inserted above half or three-fourth of pectoral fins with six rays. Second dorsal fin with 6 to 10 rays.



Pelvic fins united, oblong. Anal fin with 8 or 9 rays. Caudal fin oblong to rounded. Scales ctenoid on body; cycloid on head.

## Material examined

1) River Monu in Tripura; River Coll No. 22, Collection date 19 2001, Lot 1; 1 Ex.; Museum No., 22 / 88; Collector, Prof. D. Kar and Party. First Report.

2) River Monu in Tripura; River Coll No. 43, Collection date 12 10 2005; 1 Ex.; Museum No. 43 / 10 (i); Collector, Prof. D. Kar and Party. First Report.

Key to species: First dorsal fin with one black spot or without it. Gill membranes connected to ischmus.

*Glossogobius giuris* (Hamilton, 1822)

Distribution: In many water bodies in India (including Karbhala Beel Wetland in Assam: First report by Prof. D. Kar and Party); also in Bangladesh, Myanmar, Nepal, etc.

IUCN status: Least Concern (LC)

Genus: *Trichogaster* Bloch and Schneider, 1801

*Trichogaster* Bloch and Schneider, 1801, Syst. Ichth., p.164 (Type species, *Trichogaster fasciatus*; *Trichopodus* Lacepede, 1801, Hist. Nat. Poiss., 3, p. 125 (Type species: *Labrus trichopterus* Pallas, by subsequent designation; *Colisa* Cuvier, 1831. IN: Cuvier and Valenciennes, Hist. Nat. Poiss., 7 : 359 (Type species, *Colisa vulgaris* Cuvier=*Trichopodus colisa* Hamilton-Buchanan (by absolute tautonymy).

## Generic characters

Body elevated, compressed. Head moderate, compressed. Snout blunt. Mouth upturned, terminal, cleft small. Eyes large, lateral, in middle of head, not visible from below ventral surface of head. Jaws a little protractile. Ventral border of pre-opercle usually serrated. Number of spines in dorsal and anal fins variable. Pelvic fins in the form of single long filiform ray, and a rudimentary adnate spine. Caudal fin slightly emarginated or truncate. Lateral Line (LL) may be interrupted with 6-29 scales.

## Material Examined

1) River Monu in Tripura, River Coll No. 43, Collection date 12 10 2005; 1 Ex.; Museum No. 43 / 7 (i); Collector, Prof. D. Kar and Party. First Report.

Key to species: Bands on body 14 or more. Caudal fin may be slightly notched or cut-square.

*Trichogaster fasciata* Bloch & Schneider, 1801

Distribution: In many water bodies in India (including Dholi Beel, Rani Meghna Beel, Javda Beel, and Karbhala Beel, Sat Beel in Rongpur, Silchar; First report from each wetland. By Professor D. Kar and Party); also in Bangladesh, Myanmar, Nepal, etc.

IUCN status: Least Concern (LC)

Genus: *Channa* Scopoli, 1777

*Channa* Scopoli, 1777, Introd. Hist. Nat.: 459 (Type species, *Channa orientalis* Bloch and Schneider, by subsequent designation).

## Generic characters

Body elongated, sub-cylindrical anteriorly. Abdomen rounded. Head large depressed with plate-like scales. Snout somewhat obtuse. Mouth reasonably large; opening moderate to wide; may extend to below orbit. Eyes lateral, moderate; in the anterior part of the head. The lower jaw protrudes beyond the upper. Gill openings wide. Membranes of two sides connected beneath the isthmus. Dorsal fin long; inserted almost above the pectoral fins with 29-55 rays and no spine. Anal fin long with 21 to 36 rays. Both dorsal and anal fins are free from caudal fin. Caudal fin rounded; scales small; cycloid or ctenoid; scales on the head are more extensive than those on the body. Lateral line abruptly curved or almost interrupted with 37 to 110 scales.

## Material examined

1) River Monu in Tripura, River Coll No. 22, Collection date 19 2001, Lot 1; 3 Exs.; Museum No. 22 / 85 to 87; Collector, Prof. D. Kar and Party. First Report.

2) River Monu in Tripura, River Coll No. 43, Collection date 12 10 2005; 1 Ex.; Museum No. 43 / 6 (i); Collector, Prof. D. Kar and Party. First Report.

Key to species: Dorsal fin with 28-33 rays. A number of dark blotches on flanks; some with many black spots on body and also on dorsal and caudal fins. Ventral side of body usually white or pale yellow.

*Channa punctata* (Bloch, 1793)

Distribution: In many water bodies in India (including Sat Beel in Rongpur, Silchar; First report by Professor D. Kar and Party); also in Bangladesh, Myanmar, Nepal, China, Malayasia, etc.

IUCN Status: Least Concern (LC)

## Results and Discussion

Pioneering taxonomic studies on the fishes in River Monu at Chakmabasti (23° 59' 40.6" N to 91° 59' 29.3" E; Altitude: 68.29m MSL), and at Chha Monu (23° 51' 21.6" N and 92° 0' 0.2"; Altitude : 88.41m MSL) from different collection sites in the eastern Himalayan Biodiversity hot spot, revealed the occurrence of 45 species under 38 genera, 21 families, 8 Sub-families, and 9 orders. The different study locations are presented in (Table 1); while, the ichthyospecies diversity has been presented taxonomically in (Table 2).

The tropical Asian ichthyofauna account for a large part of the total lotic and lentic fish community. It may be noted here that,

the peninsular region of India harbours, c 930 species of native FW fishes, belonging to 87 families. Likewise, the North-Eastern (NE) region contains 267 species [49] number of freshwater (FW) fishes portraying one of the richest biodiversity hotspot regions in the globe.

Concomitant to above, Kar [21] reported the occurrence of 133 species of fishes through a pilot survey conducted in 19 rivers spread in Barak drainage (Assam), Mizoram and Tripura. Kar [7], further, reported the occurrence of 103 species of fishes through an extensive survey conducted in six principal rivers in Barak valley (Assam), Mizoram and Tripura. Kar [7] and Kar & Sen [18] have done detailed study on the biodiversity of fishes in North-East India with particular reference to Barak drainage, Mizoram and Tripura. Further, Kar [1-22] worked on different aspects of fish and environment; as well as, reported pioneering piscian taxonomic studies on different water bodies in North-East (NE) India.

The ichthyospecies identified from different sampling sites of River Monu in Tripura have been presented in Table 2, as already stated. There appeared to be more abundance of *Cabdio morar*, *Opsarius bendelisis*, *Puntius sophore* and *Cirrhinus mrigala* in the River Monu in Tripura; while, *Pethia conchoniuis*, *Tariquilabeo latius* seemed to be next species in abundance.

The current communication is based on a pioneering taxonomic study in River Monu by the present author. Our main aim is to depict and report the present status of fish biodiversity in the hitherto taxonomically yet unreported fish biodiversity in River Monu in Tripura. The River Monu; although somehow has three flowing stretches, the upstream rheophilic stretch seemed to be not very distinctly rheophilic, with not much portrayal of the different microhabitat types, viz., fall, cascade and riffle-pool; and, concomitantly with not much bedrocks and boulders as substrata. Although, there are some pool types of microhabitats; but they are mainly found in the downstream plain water stretch with some in midstream stretch. As a whole, in River Monu, rather, there are only a few riffles type of microhabitats with mainly gravels and pebbles and few bedrocks and boulders. The maximum length of the River Monu seemed to be less turbulent and dominated mainly by plain water laminar flow. The most striking feature of this river is quite a rich diversity of ichthyospecies which are adapted to various depths of the river. Fresh Water (FW) inputs coming from various smaller streams enrich the river not only with ichthyodiversity; but, also, replenishes the physico-chemical characteristics of its water.

The habitat preferences of certain ichthyospecies, like *Barilius barilia*, *Opsarius benedelisis*, *O. tileo*, *Laubuka laubuka*, *Tariquilabeo latius* etc., are said to be not very well known in River Monu. It was believed that, these fishes were usually caught from the lower part of upstream and upperpart of midstream stretch of the river. It appears that, such fishes dwell in regions with enough

of plankton and benthos population.

Notwithstanding the above, there are not many detailed taxonomic studies on the fish fauna of River Monu; the present communication happened to be one of the pioneering taxonomic studies in this biotope. Further, the concomitant occurrence of *Securicula gora*, *Salmostoma bacaila*, *Amblypharyngodom mola* along with the other fishes is noteworthy. Occurrence of the above-mentioned fishes in their respective niches is a striking example of River Monu providing with habitats for diverse kinds of fishes. Furthermore, there seemed to be a lack of information on the age and growth of fishes, sexual maturity, diet composition, and reproductive biology of the different fish species in R Monu. Such studies could also add to the existing information on the ichthyofauna of River Monu. Further studies could throw some amount of light on the noted aspect [58-63].

The present study also has depicted the conservation status of recorded fishes of River Monu from a local stand point (based on one of the IUCN criteria of occurrence of a fish species in one or more than one locations). It is because a local data collected from the field studies may reflect the actual status of the fish locally. A fish species of least concern globally may be of concern locally based on local data.

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