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Original Paper

DISTRIBUTION AND CONSERVATION STATUS OF FISH SPECIES IN RIVER KARNAFULI IN MIZORAM: PIONEERING DETAILED TAXONOMIC STUDY AND REPORT

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Abstract

Fish biodiversity and taxonomic surveys in the River Karnafuli (River Sajek Lui) at different locations from the headwaters to the downstream region in the province of Mizoram, done as a pioneering work (since updated), revealed the occurrence of 30 species of fishes belonging to 27 genera, 6 sub-families, 13 families and 7 Orders. These include 13 species under Cypriniformes, 10 species under Siluriformes, 3 species under Anabantiformes; and, 1 speices each under Osteoglossiformes, Clupeiformes: Beloniformes and Synbranchiformes, Conservation status and Distrubution of each species of fish have been discussed in the present communication..

Keywords

Fish taxonomy and diversity, River Karnafuli, Sajek Lui, Mizoram, North-East India Himalayan Biodiversity Hotspot, Conservation

Order: Osteoglossiformes: 1 Fish Species

Order: Clupeiformes: 1 Fish Species

Order: **Cypriniformes: 13 Fish species**

Order: Siluriformes: 10 Fish species

Order: Beloniformes: **1 Fish species**

Order: Synbranchiformes 1 Fish species only

Order: Anabantiformes: 3 Fish species only

1. Introduction

Fish forms approximately half of the total vertebrate population in the world. They live almost in all aquatic domains on the globe. *c* 21,723 species of living fishes have been noted out of *c* approx. 39,900 species of vertebrates in the world (Jayaram, 2003, 2010; Nelson *et al.,* 2016, Kar, 2025 a, b, c, d). Out of these, *c* 8411 live in freshwater (FW) and *c* 11,650 are marine. Incidentally, India is one of the Megabiodiversity countries in the world (Mittermeier & Mittermeier, 1997). In fact, in India, *c* 2500 species of fishes are said to have been recorded. Out of this, *c* 930 species are believed to live in freshwater (FW) and *c* 1570 are marine (Jayaram, 2010; Kar, 2003, 2007, 2010, 2019, 2025 a,b,c,d). This large-scale fish biodiversity of this region had been attracting many ichthyologists both from India and abroad. Concomitantly, North-East (NE) region of India has been identified as a "Hotspot" of Biodiversity in the Eastern Himalayan belt, by the World Conservation Monitoring Centre (WCMC, 1998) This rich biodiversity of this region could be assigned to certain reasons, like, the geomorphology and the tectonics of this zone. The mountains and the undulating terrains of this region are said to give rise to innumerable torrential hill streams, which lead to big rivers; and,ultimately, become integral components of the Ganges-Brahmaputra-Barak-Chindwin-Kolodyne-Gomati-Meghna lotic system (Kar, 2000, 2007, 2013, 2019, 2021a, b, c, d, 2025a b c d).

There are innumerable lentic and lotic water bodies in India. And, the province of Mizoram, situated in the NE Himalayan belt, is a hotspot of fish biodiversity harboured in many lentic and lotic water bodies of various kinds, including rheophilic hill streams; and, to some extent, plainwater rivers and streams. Nevertheless, the water bodies and the biota in them, have been much affected by human interventions.

A modest review of literature on Fish taxonomic works revealed that, Menon (1978) had dealt with an appraisal of Satpura Hypothesis of Distribution of the Malayan biota to Peninsiular India.

Concomitant to above, Kar (1990, 1996, 1999, 2000, 2003 a,b, 2005, 2007, 2013, 2015, 2019, 2021 a,b,c,d, 2022, 2024 a, b; 2025 a b c d; Kar and Kumar(2023), Kar and Das (2024) have been doing large-scale research studies in NE India on different aspects of fish and their habitats. Kar and Sen (2007) published a detailed study on fish' biodiversity in NE India with particular reference to Barak drainage, Mizoram, and Tripura. Recently, Kar and Khynriam (2020, 2022, 2023, 2024; and, Kar *et al.,* 2007, 2008, 2011, 2018, 2020 did extensive and intensive research studies on the fish systematics and diversity and other related parameters in many water bodies in NE India.

Kar and Das (2015) , Kar and Kumar (2023), Barbhuiya, Singha and, Kar (2021) had studied the present status of water bodies and human influence *vis-a-vis* sustainability of fishes, particularly the endangered mahseer fishes. Kar and Das B (2024) published the fish diversity in rivers in Karbi Anglong in Assam. Kar and Khynriam (2020 a, b) reported pioneering taxonomic research publications on the fishes of rivers Diyung, Vombadung, Khuolzangvadung, Tuikoi and Mahur; and, in River Jinam in Dima Hasao district of Assam. Kar and Khynriam (2022) reported published their research works on the fishes of River Barak at Karong. along Manipur-Nagaland border. In addition, Kar and Khynriam (2023) did Pioneering research works on the Taxonomic Diversity of Fishes in the Headwaters of River

Barak in Assam, Manipur and Mizoram in NE India. Further, Kar and Khynriam (2024), in continuation of their reconnaissance pilot survey, did further pioneering works on the Taxonomy, Distribution and Conservation of Ichthyospecies in the Headwaters of River Barak (Assam, Manipur and Mizoram) in NE India. Kar (2015) and Kar and Roy (2021 a, b) dwelt upon the *hitherto* unknown, virulent and enigmatic fish disease called Epizootic Ulcerative Fish Disease Syndrome (EUS). Kar *et al.* (2008 a, b, c, d; 2003, 2007, 2008, 2011, 2018 a, b) worked on various aspects of fishes, including fish taxonomy, fish disease and fish parasites, zooplankton as fish food fauna, fishing gears and fish catching devices ; and, so on. Incidentally, Das *et al.* (2018) worked on the zooplankon assemblage in Assam.

Notwithstanding the above, Kar, D. (2005 b) presented on the Fish Diversity in the Major Rivers in Southern Assam, Mizoram and Tripura at the 2nd International Symposium on GIS and Spatial Analyses in Fisheries and Aquatic Sciences, held at the University of Sussex at Brighton in the UK. In addition, Kar, D. (2007 b) deliberated upon his research findings on the Sustainability issues of Inland Fish Biodiversity and Fisheries in Barak drainage (Assam), in Mizoram and in Tripura at the International Symposium on "Improved sustainability of Fish Production Systems and Appropriate Technologies for Utilisation" ("Sustain Fish"), held at the Cochin University of Science and Technology (CUSAT) at Cochin in Kerala. Further, Kar D (2016 a) presented an overview of the Wetlands, Rivers, ichthyo-resources and Fish Disease in NE India at the International Symposium on Aquaculture and Fisheries (as part of the International Conference on Environmental Sustainability for Food Security (ENFOSE, 2016), held at Fisheries College and Research Institute (FCRI), Tamil Nadu Fisheries University (TNFU). In addition, Kar, D (2016 b) delivered his research findings on the Wetlands, Rivers, Fish, Plankton resources and Fish disease and Aquaculture in North-East India as an Overview at the International Symposium, entitled, `Lake 2016 orgaised by the Indian Institute of Science, Bengaluru, and the Alva's Education Foundation, Mengaluru (India).

Concomitant to above, some of the other important works on the fishes and water bodies in India in general and NE India, in particular, are those of Ghosh. and Lipton,1982; Barman, 1984, 1992, 1994; Jayaram, 1981, 1999, 2003, 2010; Sen, 1985; Kar *et al.,* 2007, 2008, 2011, 2018, 2020; Menon, 1974,1999; Yadava *et al.,*(1994); Nath and Dey, 1989,1997; Sinha, 1994; Sen, 2000; Sen and Khynriam, 2014; Arunachalam, *et al.,* 2013; Das *et al.,* 2015; Dey *et al.,* 2015; Lalramliana *et al.*, 2018; Lokeshwor *et al.,* 2013; Khynriam & Sen, 2014; and Bănăduc *et al*., 2020).

Notwithstanding the above, Bailey (1994) had worked on the fishes of River Nile in the Congo Republic. Further, Bailey (1996) had dwelt upon the alterations in the Fish and Fisheries Ecology of a big human -made lentic system in Tanzania for the period from 1965-94. Bailey and Hickley (1986) had reported on a collection of *Nothobranchius virgatus* Chambers, which is a new killifish from southern Sudan. Further, Didem *et al.* (2012) had reported a New Record of occurrence of *Symphodus bailloni* (Osteichthuyes: Perciformes: Labridae) in the Western Black Sea Cooast of Turkey. Notably, Kullander, Sven O and Ralf Britz (2008) had reported a new species of cyprinid fish from Myanmar.

Further, Kevin W. Conway and Maurice Kottelat (2007) had published a new species of *Psilorhynchus* from thr Ataran River Basin, in Myanmar, with opinions on the generic name *Psilorhynchoides.* Wikramanayake, and Moyle (1989) had dwelt-upon the ecological structure of Tropical Fish Assemblages in wet-zone streams in Sri Lanka.

Geographical position of the Sampling site and Study points in River Karnafuli in Mizoram:

River Karnafuli Village: Demagiri (Tlabung) N 22 º 53’ 1"-E 92 º 28’ 9.8".

Altitude: 51.2 m MSL

Village: Dighlibak: N 22º 55’ 43.9" E 92º 29’ 53.9": Altitude: 67.07 m MSL

Village: Taklabak N 24 º 54’ 59.7" E 92 º 25’ 28.7": Altitude: 31.7 m MSL

The diversity of ichthyofauna of River Karnafuli along with their conservation status at the global and regional levels have been presented in Table 1

Further, **Total Systematic list of Fishes and the corresponding Systematic Description of the individual Fish Species of all Collections for the entire surveyed period in River Karnafuli is given below:**

In R Karnafuli in MZ: Total No. of:

Order: 7

Family: 13

Sub-family:6

Genus: 27

Species: 30

Order (I): Osteoglossiformes

Family (A): Notopteridae

Genus (i): ***Notopterus*** Lacepede 1800

Species(1): Notopterus notopterus (Pallas, 1769)

Order (II): Clupeiformes

Family(B): Dorosomatidae

Genus (ii): *Gudusia* Fowler 1911

Species (2): Gudusia chapra (Hamilton, 1822)

Order (III): Cypriniformes

Family (C): **Danionidae**

Sub-family(a): Chedrinae

Genus (iii): Securicula Guenther 1868

Species (3): Securicula gora (Hamilton, 1822)

Order(III): Cypriniformes

Family (C): **Danionidae**

Sub-family(a): Chedrinae

Genus (iv): ***Salmostoma*** Swainson 1839

Species (4):Salmostoma bacaila (Hamilton, 1822)

Order(III): Cypriniformes

Family (C): **Danionidae**

Sub-family(a): Chedrinae

Genus (iv): ***Salmostoma*** Swainson 1839

Species (5): Salmostoma phulo (Hamilton, 1822)

Order(III): Cypriniformes

Family (C): **Danionidae**

Sub-family(a): Chedrinae

Genus (v): Opsarius **McClelland, 1838**

Species (6): Opsarius bendelisis (Hamilton, 1807)

Order(III): Cypriniformes

Family (C): **Danionidae**

Sub-family (b): Danioninae

Genus (vi): ***Chela*** Hamilton, 1822

Species (7):Chela cachius (**Hamilton, 1822)**

Order(III): Cypriniformes

Family (C): **Danionidae**

Sub-family(c): Rasborinae

Genus: (vii): *Rasbora* Bleeker, 1860

Species: (8): *Rasbora daniconius* (Hailton, 1822)

Order(III): Cypriniformes

Family (C): **Danionidae**

Sub-family(c): Rasborinae

Genus:(vii) *Rasbora* Bleeker, 1860

Species: (9):*Rasbora rasbora* (Hailton, 1822)

Order (III): Cypriniformes

Family(D): **Cyprinidae**

Sub-family (d): Smiliogastrinae

Genus:(viii): Osteobrama Heckel, 1843

Species: (10): *Osteobrama cotio (*Hamilton, 1822)

Order(III): Cypriniformes

Family(D): **Cyprinidae**

Sub-family (d): Smiliogastrinae

Genus: (ix) ***Puntius*** Hamilton, 1822

Species (11): Puntius sophore (Hamilton, 1822)

Order(III): Cypriniformes

Family(D): **Cyprinidae**

Sub-family (d): Smiliogastrinae

Genus: (x) Pethia Pethiyagoda, 2012

Species (12): Pethia conchonius (Hamilton, 1822)

Order(III): Cypriniformes

Family(D): **Cyprinidae**

Sub-family (d): Smiliogastrinae

Genus: (x) Pethia Pethiyagoda, 2012

Species (13): Pethia ticto (Hamilton, 1822)

Order(III): Cypriniformes

Family(D): **Cyprinidae**

Sub-family(e): Labeoninae

*Genus: (xi)**Labeo*** Cuvier, 1816

Species (14): Labeo gonius (Hamilton, 1822)

Order(III): Cypriniformes

Family(D): **Cyprinidae**

Sub-family(e): Labeoninae

Genus (xii)) ***Tariqilabeo*** Kuhl van Hasselt, 1823

Species(15): Tariqilabeo latius (Hamilton, 1822)

Order(IV): Siluriformes

Family (E): Bagridae

Genus (xiii): *Sperata* Holly, 1939

Species (16): ***Sperata seenghala*** (Sykes, 1839)

Order (IV): Siluriformes

Family (E): Bagridae

Genus (xiv) *Mystus* **Scopoli, 1777,**

Species(17): ***Mystus cavasius*** (Hamilton, 1822)

Order(IV): Siluriformes

Family (E): Bagridae

Genus(xv): *Mystus* **Scopoli, 1777,**

Species (18): ***Mystus*** *tengara* (Hamilton, 1822)

Order (IV): **Siluriformes**

Family (E): Bagridae

Genus (xvi): Batasio **Blyth, 1860**

Species(19): Batasio batasio(**Hamilton, 1822)**

Order(IV): Siluriformes

Family (F): Siluridae

Genus(xvii): *Ompok* Lacepede , 1803

Species (20): ***Ompok bimaculatus*** (Bloch, 1794)

Order (IV): Siluriformes

Family (G): Ailiidae

Genus (xviii): *Ailia* Gray, 1830

Species (21): ***Ailia coila*** (Hamilton, 1822)

Order (IV): Siluriformes

Family (H): Schilbeidae

Genus (xix): Eutropiichthys Bleeker, 1862

Species (22): ***Eutropiichthys vacha*** (Hamilton, 1822)

Order (IV): Siluriformes

Family (I): Sisoridae

*Sub-family: (*f*):Sisorinae*

Genus (xx): Nangra Day, 1877

Species (23): Nangra nangra (Hamilton, 1822)

Order(IV): Siluriformes

Family (I): Sisoridae

Sub-family (f): Sisorinae

Genus (xxi): Gagata Bleeker, 1856

Species (24): *Gagata cenia* (Hamilton, 1822)

Order (IV): Siluriformes

Family (I): Sisoridae

Sub-family (f)*: Sisorinae*

Genus(xxii): Erethistes Muller and Troschel, 1849,

Species(25): Erethistes hara (pusillus) , Muller and Troschel, 1849/(Hamilton, 1822)

Order (V): Beloniformes

Family (J): Belonidae

Genus (xxiii)): Xenentodon Regan, 1911

Species (26): ***Xenentodon cancila*** (Hamilton, 1822)

Order (VI): Synbranchiformes

Family(K): Mastacembelidae

Genus(xxiv): *Mastacembelus* Scopoli, 1777

Species (27): ***Mastacembelus armatus*** (Lacepède, 1800)

Order (VII): Anabantiformes

Family (L): Ambassidae

Genus (xxv): C*handa* Hamilton, 1822

Species (28): *Chanda nama* Hamilton, 1822

Order (VII): Anabantiformes

Family (L): Ambassidae

Genus(xxvi): Parambassis Bleeker, 1874

Species (29): ***Parambassis ranga*** (Hamilton, 1822)

Order (VII): Anabantiformes

Family (M): Sciaenidae

Genus (xxvii): *Johnius* Bloch, 1739

Species (30): *Johnius coitor* (Hamilton, 1822)

2. Method

Fish samples were collected by experimental fishing using cast nets (diameter 3.7 m – 1.0 m), gill nets (vertical height 1.0 m – 1.5 m; length 100 m – 150 m), drag nets (vertical height 2.0 m), triangular scoop nets (vertical height 1.0 m) and a variety of traps. Camouflaging technique had also been used to catch the fishes. Fishes were preserved, at the beginning, in concentrated formaldehyde in the field itself and then in 10% formalin in theLaboratory. Fishes were identified through standard literature (Day, 1873, 1885, 1878, 1889; Shaw and Shebbeare, 1937; Misra, 1959; Menon, 1974, 1999; Talwar and Jhingran, 1991; Jayaram, 1981, 1999, 2010) and fishbase.org. The arrangement of classification, followed here, is that of Greenwood *et a1.* (1966) and Jayaram (1981, 1999, 2003, 2010); Kar and Khynriam, 2022, 2024, Kar, 2025 a, b, c).

Concomitantly, species composiiton of the ichthyospecies colleted from River Karnafuli from different sites on different dates have been presened in the following running table:

Collectns. From River Karnafuli	:21 6 2001, Coll No. 65Done	20 5 2001, Coll No. 92 Done	31 3 2001, Coll No. 93 Done	22,23 Oct 2002, Coll No. 94 Done	22,23 Oct 2002, Coll No. 95 Done	22,23 Oct 2002, Coll No. 96 Done	22,23 Oct 2002, Coll No. 97 Done	22,23 Oct 2002, Coll No. 98 Done	22,23 Oct 2002, Coll No. 99
Species	5	12	20	16	4	5	1	1	1
Genus	5	12	19	16	4	5	1	1	1
Sub-family	2	3	5	6	3	2	1	1	1
Family	4	10	11	9	3	5	1	1	1
Order	2	5	6	7	2	3	1	1	1

3. Result

Systematic account of the Fishes of River Karnafuli

*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, 2010, *FW Fishes of the Indian Region:* 20; Menon, 1999, *Rec. Zool. Surv. India Occ Paper* No. 175: 9

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:

(a) River Karnafuli in Mizoram; Collection date:: 20 5 2001 ; 1 Ex.; *Museum No. 92/ 10 (i);* Coll. (Collection) and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram: Collection date: 31 3 2001 ; 1 Ex.; *Museum No. 93 / 2 (i);* Coll. and First Report by: Professor D. Kar and Party.

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

Notopterus notopterus (Pallas, 1769)

Distribution: In many water bodies in India (including Sone Beel, Baskandi Anua, etc.: First Report by Professor D. Kar and Party; River Tlawng in Mizoram: In all these collections: First Report by Professor D. Kar and Party);: also, in Bangladesh, Indonesia, Java, Laos, Malaysia, Myanmar, Nepal, Pakistan, Sumatra and Thailand. etc.

IUCN status: Least Concern (LC).

Genus: ***Gudusia*** Fowler, 1911

Gudusia Fowler, 1911. *Proc Acad. Nat. Sci, Philad.* 63: 207 (Type species: *Clupanodon chapra* Hamilton-Buchanan, by orginal 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, 2010 *FW Fishes of the Indian Region:* 41.

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:

(a) River Karnafuli in Mizoram ; Collection date: 20 5 2001 ; 1 Ex.; *Museum No. 92 / 9(i);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram (MZ); Collection date: 31 3 2001; 5 Ex.; *Museum No. 93 / 11 (i) to 11 (v);* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram (MZ); Collection date: 22,23 Oct 2002; 1 Ex.; *Museum No. 94 /* 7 (i)*;* Collection and First Report by: Professor D. Kar and Party.

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

Gudusia chapra (Hamilton, 1822)

Distribution: In many water bodies in India (including Sone Beel, Chatla Haor, Baskandi Anua, Salchapra Anua, Fulbari Anua; Rupairbala Anua, Shiv Narayanpur Anua, etc, in Assam; River Karnafuli in Mizoram: In all these collections: First Reports by Professor D. Kar and Party); also, in Bangladesh, Indonesia, Malaya, Nepal, Pakistan, etc.

IUCN status: Least Concern (LC).

Genus: *Securicula* Gunther, 1868

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, 2010 *FW Fishes of the Indian Region:* 64.

Generic characters: Body elongate; 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. Jaws sub-equal. 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:

(a) River Karnafuli in Mizoram; Collection date: 20 5 2001; 1 Ex.; *Museum No. 92 / 6 (i);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram; Collection date: 31 3 2001; 1 Ex.; *Museum No. 93 / 8 (i);* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002 ; 2 Ex.; *Museum No. 94 /* 17 (i), 6 (i)*;* Collection and First Report by: Professor D. Kar and Party.

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

Securicula gora (Hamilton, 1822)

Distribution: In many water bodies in India (including River Barak at Sartuinek in North-East India: First Report by Professor D. Kar and Party; Rivers Tuirial, Karnafuli in Mizoram: First Reports by Professor D. Kar and Party); also, in Bangladesh, Nepal, Pakistan, etc.

IUCN Status: Least Concern (LC)

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, 2010, *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 reaching 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 complete with usually 39 to 112 scales.

Material examined:

(a) River Karnafuli in Mizoram ; Collection date: 31 3 2001 ; 2 Ex.; *Museum No. 93 / 15 (i) , 15 (ii);* Collection and First Report by: Professor D. Kar and Party.

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

Salmostoma bacaila (Hamilton, 1822)

Distribution: In many water bodies in India (including Sone Beel, Chatla Haor, Shiv Narayanpur Anua, etc, in Assam: First Reports by Professor D. Kar and Party; River Barak in Assam: First Report by Professor D. Kar and Party; Rivers Tuirial, Tlawng, Kolodyne, Karnafuli in Mizoram: First Reports by Professor D. Kar and Party); also, in Bangladesh, Nepal, etc.

IUCN status: Least Concern (LC).

Material examined:

(a) River Karnafuli in Mizoram ; Collection date: 22,23 Oct 2002; 63 Ex.; *Museum No. 97 /*17 (ii) to 17 (LXiv)*;* Coll. and First Report by: Professor D. Kar and Party.

Key to species: Lateral Line scales 99 to 112.

Salmostoma phulo phulo (Hamilton, 1822)

Distribution: In water bodies in India (including River Karnafuli in Mizoram: First Report by Professor D. Kar and Party); also, in the Ganges river system, Bangladesh, etc.

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 symphysial 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.

1. *Material examined*:

(a)River Karnafuli in Mizoram; Collection date: 21 6 2001; 4 Ex.; *Museum No. 65 /* 4 (i), 5(i), 8 (i), 8 (ii)*;* Collection and First Report by: Professor D. Kar and Party.

Key to species: Anal fin short with 7-8 branched rays. Each scale usually with a black spot.

O*psarius bendelisis* (Hamilton, 1807)

Distribution:: In many water bodies in India (including River Barak at Karong,Tamenglong, Vangai, Thinghmun-Patpuihmun, Thingkal, Liben (Joining Barak) in North-East India,: First reports by Professor D. Kar and Party; Rivers Tuirial, Tlawng, Mat, Karnafuli in Mizoram: First reports by Professor D. Kar and Party); also, in Bangladesh, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, etc.

IUCN Status: Least Concern (LC).

Genus: *Chela* Hamilton, 1822

Chela Hamilton, 1822, An account of fishes found in the river Ganges: 258, 353.

Generic Characters: Body deep, abdomen keeled. Mouth small and opens vertically, barbel absent. Dorsal fin inserted near caudal fin. Inter orbital region without scales. No symphysial process on lower jaw. First ray of pelvic fins considerably longer.

Material examined:

(a) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 1 Ex.; *Museum No. 94 /* 15 (i)*;* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram ; Collection date: 22,23 Oct 2002; 25 Ex.; *Museum No. 95 /* 15 (ii) to 15 (xxvi)*;* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 1 Ex.; *Museum No. 96 / 2 (i);* Collection and First Report by: Professor D. Kar and Party.

Key to species: Outer ray of pelvic fins strongly produced. Lateral line complete with 51-56 scales. Body shining silvery with a greenish longitudinal band.

Chela cachius (Hamilton, 1822)

Distribution: In many water bodies in India (including River Barak at Lakhipur: First report by Prof. D. Kar and Party; Rivers Tuirial, Kolodyne in Mizoram: First reports by Prof. D. Kar and Party); also in Bangladesh, Myanmar, Nepal, Pakistan, etc.

IUCN status: Least Concern (LC).

Genus: Rasbora Bleeker 1860

Rasbora Bleeker, 1860, *Acta Soc. Sci. Indo-Neerl. 7: 435* (Type species, *Leuciscus cephalotaenia* Bleeker, 1859, by subsequent designation by Bleeker, 1863: 28); Brittan, 1954, *Monog. Inst. Sci & Techn.,Manila,* 3: 134 (revision); owes,1941, *Bull Brit. Mus.Nat.Hist.,* 37: 183; Kottelat, 1999, *The*

*Raffles Mus.*47 (2): 597; Talwar and Jhingran, 1999, *Inland Fishes* I: 386; Jayaram, 1999, 2010, *FW Fises of the Indian Region:* 82; Menon, 1999, *Rec.Zool.Surv.India,Occ.Paper* No.175: 52; Nath and Dey, 2000, *Fish and Fisheries of NE India* (Arunachal Pradesh): 24.

Generic characters: Body elongate, compressed; Abdomen rounded. Head large, pointed. Snout slightly pointed. Mouth large; cleft oblique. Lower jaw prominent with one central and two internal prominences, one on each side, fitting into corresponding emargination on upper jaw. Barbel absent. Dorsal fin inserted behind origin of pelvic fins with eight rays. Caudal fin emarginated or forked. Ll concave, complete with 25 to 37 scales.

Material examined:

(a) River Karnafuli in Mizoram; Collection date: 31 3 2001; 1 Ex.; *Museum No. 93 / 14 (i);* Collection and First Report by: Professor D. Kar and Party.

Key to species: 32 to 34 Ll scales. A black lateral stripe present along centre of the body.

***Rasbora daniconius* (Hamilton, 1822)**

Distribution: In many water bodies in India (including River Gomati in Tripura: First report by Professor D. Kar and Party; Rivers Tlawng, Mat in Mizoram: First reports by Professor D. Kar and Party); also in West Bengal, Bihar, Delhi, Jammu and Kashmir, Madhya Pradesh, Mysore, Orrisa, Rajasthan, Uttar Pradesh; also in Bangladesh, Myanmar and Nepal, etc.

IUCN Status: Least Concern (LC).

Material examined:

(a) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 1 Ex.; *Museum No. 94 /* 14 (i)*;* Collection and First Report by: Professor D. Kar and Party.

Key to species: Lateral Line (Ll) scales 28 to 31. Presence of a well-defined black border in caudal fin.

***Rasbora rasbora* (Hamilton, 1822)**

Distribution: In water bodies in India (including River Karnafuli in Mizoram: First report by Professor D. Kar and Party); also in Bangladesh, Myanmar, Thailand, etc.

UCN Status: Least Concern (LC).

Genus: ***Osteobrama*** Heckel, 1843

Osteobrama Heckel, 1843, *Ichth. Russegger's Reisen in Europe, Asia and Africa, 1: 1033* (Type species, *Cyprinus cotio,*Hamilton-Buchanan,by subsequent designation); Silas, 1952, *Proc.nat.Inst.Sci. India,* 18 (5): 430; Talwar and Jhingran, 1991, Inland Fishes I: 237; Jayaram, 1999, 2010, *FW Fishes of the Indian Region:* 101; Menon, 1999, *Rec. Zool.Surv. India, Occ. Paper* No. 175: 62; Nath and Dey, 2000, *Fish and Fisheries of NE India (Arunachal Pradesh):* 44.

Generic Characters: Body short, deep, compressed. Abdomen edge sharp, keeled entirely or only from pelvic fin base to vent. Head short; snout bluntly rounded. Mouth small, somewhat directed upwards. Eyes large, lateral. Upper jaw slightly longer. Barbels, 4, 2 or none. Dorsal fin inserted slightly behind pelvic fins extending over anal fin with 11 to 12 rays and a strong serrated spine. Anal fin long with 14 to 36 rays. Caudal fin deeply forked. Lateral line complete generally with 57 scales.

Material examined:

(a) River Karnafuli in Mizoram ; Collection date: 20 5 2001; 1 Ex.; *Museum No. 92 / 3 (i);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram; Collection date: 31 3 2001; 2 Ex.; *Museum No. 93 / 12 (i), 12 (iii);* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram; Collection date: 22, 23 Oct 2002; 1 Ex.; *Museum No. 94 /* 16 (i)*;* Collection and First Report by: Professor D. Kar and Party.

(d) River Karnafuli in Mizoram; Collection date: 22, 23 Oct 2002; 18 Ex.; *Museum No. 95 /* 16 *(ii),* 16 *(ii),15 (iv), 16 (v),16 (vii) to 16 (xiii), 16 (xv) to 16 (xxi);* Collection and First Report by: Professor D. Kar and Party.

(e) River Karnafuli in Mizoram; Collection date: 22, 23 Oct 2002; 34 Ex.; *Museum No. 96 / 5 (i) to 5 (xxxiv);* Collection and First Report by: Professor D. Kar and Party.

Key to species: Presence of 14 scales between lateral line (Ll) and pelvic fin base. Ll scales 48 to 66. Presence of 33 to 38 rays in anal fin.

Osteobrama cotio (Hamilton 1822)

Distribution: In many water bodies in India (including Shiv Narayanpur Anua at Katigorah in Assam: First Report by Professor D.Kar and Party; Rivers Tuirial, Kolodyne in Mizoram: First Reports by Professor D.Kar and Party); also, in Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, etc.

IUCN status: Least Concern (LC).

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, 2010, *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 (Arunachlal Pradesh):* 39.

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 may be four, two or none. Dorsal fin short inserted nearly opposite to pelvic fins. Anal fin short. Caudal fin forked. Scales small, moderate or large.

Material examined:

(a) River Karnafuli in Mizoram; Collection date: 20 5 2001; 1 Ex.; *Museum No. 92 / 1 (i);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram; Collection date: 22, 23 Oct 2002; 3 Ex.; *Museum No. 94 /* 8 (i), 8 (iv), 8 (viii)*;* Collection and First Report by: Professor D. Kar and Party.

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

Puntius sophore (Hamilton, 1822)

Distribution: In many water bodies in India (including Rupairbala Anua in Cachar, Assam; Javda Beel and Karbhala Beel in Assam: First Reports by Professor D. Kar and Party; Rivers Tuirial, Tlawng, Kolodyne in Mizoram: First Reports by Professor D. Kar and Party); also 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 none. Dorsal fin short inserted nearly opposite to pelvic fins. Anal fin short. Caudal fin forked. Scales small, moderate, or large.

Material examined:

(a) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 5 Ex.; *Museum No. 94 / 8 (ii), 8 (iii), 8 (v), 8 (vi), 8 (vii);* Collection and First Report by: Professor D. Kar and Party.

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

Pethia conchonius (Hamilton, 1822)

Distribution: In many water bodies in India (including River Vomvadung and River Khuolzangvadung in Dima Hasa District, Assam: First reports by Professor. D. Kar and Party; River Kopili **at Panimur in Assam:** First report by Professor. D. Kar and Party ; River Monu in Tripura: First report by Professor. D. Kar and Party; Rivers Tuirial,Tlawng, Mat, Kolodyne, Karnafuli in Mizoram: 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:

(a) River Karnafuli in Mizoram; Collection date: 20 5 2001; 1 Ex.; *Museum No. 92 / 1 (ii);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram; Collection date: 31 3 2001; 2 Ex.; *Museum No. 93 / 16 (i), 16 (ii);* Collection and First Report by: Professor D. Kar and Party.

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: In many water bodies in India (including Baskandi Anua, Shiv Narayanpur Anua, in

Cachar, Assam: First reports by Prof. D. Kar and Party; River Monu in Tripura: First report by Prof. D. Kar and Party; Rivers Tuirial, Tlawng, Mat, Kolodyne, Karnafuli in Mizoram: First reports by Prof. D. Kar and Party); also, in Bangladesh, Myanmar, Nepal, Thailand, 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, 2010, *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.

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 complete.

Material examined:

(a) River Karnafuli in Mizoram ; Collection date: 31 3 2001; 1 Ex.; *Museum No. 93 / 1 (i);* Collection and First Report by: Professor D. Kar and Party.

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: In many water bodies in India (Including Sone Beel, Salchapra Anua, Rupairbala Anua in Assam: First reports by Prof. D. Kar and Party); also, in Afghanistan, Bangladesh, Myanmar, Nepal, Pakistan.

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, 2010, *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:

(a) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 3 Ex.; *Museum No. ,94 / 12 (i), 13 (i), 13 (ii);* Collection and First Report by: Professor D. Kar and Party.

(b)River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 6 Ex.; *Museum No. , 95 / 18 (i) to 18 (vi);* Collection and First Report by: Professor D. Kar and Party.

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

Tariqilabeo latius (Hamilton, 1822)

Distribution: In many water bodies in India (including Salchapra Anua in Cachar, Assam: First Report by Professor D. Kar and Party; River Monu in Tripura: First Report by Professor D. Kar and Party; River Barak in NE India: First Report by Professor D. Kar and Party; Rivers Tuirial, Mat, Kolodyne, Karnafuli in Mizoram: First Reports by Professor D Kar and Party); also, in Arunachal Pradesh, Bangladesh, Nepal, 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 lamarrii* Valenciennes, 1840, by original designation; pre-occupied by *Macrones* Newman, 1841, *Aoria* Jordan, 1856, *Proc Acad. Nat. Sci. Philad.* 70: 341 (substitute name for *Macrones* Dumeril, 1856, preoccupied by *Aoria* baly, 1863).

Generic characters: Dorsal profile arched. Head large elongate, slightly depessed. 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:

(a) River Karnafuli in Mizoram ; Collection date: 21 6 2001; 2 Ex.; *Museum No. 65 /* 3 (i), 6 (i)*;* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram; Collection date: 31 3 2001; 1 Ex.; *Museum No. 93 / 4 (i);* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 2 Ex.; *Museum No. 94 /10 (i), 10 (ii);* Collection and First Report by: Professor D. Kar and Party.

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

***Sperata seenghala* (Sykes, 1839)**

Distribution: In many water bodies in India (including Sone Beel, Chatla Haor and Bakri Haor in Assam: First Reports by Professor D. Kar and Party; **River Gomati in Tripura,:** First Report by Professor D. Kar and Party**; Rivers Tuirial, Tlawng, Mat Kolodyne, Karnafuli in Mizoram**: First Reports 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 Russell, 1756, *Nat. Hist. Aleppo* 1: 76; *Mystus anguillaris* Meuschen. *Mystus,* Talwar and Jhingran, 1991, *Inland Fishes,* 2: 554; Roberts, 1994, *Ichthyological Exploration of Freshwaters* 5(3):243; *Genus*: *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 7 to 11 rays and a strong spine serrated along the inner edge. Pelvic fins with six rays. Anal fin with 9 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:

(a) River Karnafuli in Mizoram; Collection date: 20 5 2001; 1 Ex.; *Museum No. 92 / 4 (i);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram; Collection date: 31 3 2001; 1 Ex.; *Museum No. 93 / 6 (i);* Collection and First Report by: Professor D. Kar and Party.

Key to species: Maxillary barbels reach caudal fin base or even beyond. A mid-lateral stripe along Ll may sometimes be seen and another faint one above. Presence of a faint spot at base of dorsal spine.

Mystus cavasius (Hamilton, 1822)

Distribution: In many water bodies in India (including wetlands in Assam, notably, Sone Beel, Chatla Haor, Fulbari Anua, Rupairbala Anua in Assam: First Reports by Professor D. Kar and party; River Gomati in Tripura: First Report by Professor D. Kar and party; Rivers Tuirial, Kolodyne, Karnafuli in Mizoram: First Reports by Professor D. Kar and party); also, in Myanmar, Pakistan, Sri Lanka, etc.

IUCN status: Least Concern (LC)

Material examined:

(a) River Karnafuli in Mizoram ; Collection date: 31 3 2001; 1 Ex.; *Museum No. 93 / 17 (i);* Collection and First Report by: Professor D. Kar and Party.

Key to species: Maxillary barbels reach base of pectoral fin. Presence of approximately 5 parallel longitudinal stripes on each side of the lateral line.

Mystus tengara (Hamilton,1822)

Distribution: In many water bodies in India (including Sone Beel, Chatla Haor in Assam: In all these collections, First Reports by Professor D. Kar and Party; Rivers Tlawng, Karnafuli in Mizoram: First Reports by Professor D. Kar and Party); also in Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, etc.

IUCN status: Least Concern (LC)

Batasio, Blyth, 1860; *J. Asiatic Soc. Bengal,* 29, p.149 (Type species, *Batasio buchanani* Blyth= *Pimelodus batasio* Hamilton); Hora and Law, 1941, *Rec. Indian Mus.,* 43, p.28; Jayaram, 2006, *Catfishes of India:* 76; Ferraris, 2007, *Zootaxa,* 1418: 84 (Check list)

Macronoides Hora, 1921, *Rec. Indian Mus.,* 22, p. 179 (Type species: *Macrones affinis* Blyth = *B.tengana* (Hamilton) as a sub-genus

Generic characters: Body short, high and laterally compressed. Abdomen rounded. Head small, laterally compressed, conical, with pores ventrally and on sides.Snout rounded or slightly pointed. Mouth inferior, crescentic. Eyes dorso-lateral. Lips fleshy, fimbriated. Presence of 4 pairs of barbels: one pair each of maxillary and nasal; and, 2 pairs of mandibular; all usually do not extend beyond head. Rayed dorsal fin inserted 3/4th of pectoral fins anteriorly with 7-8 rays and a spine. Adipose dorsal fin low. Pectoral fins with 5-9 rays and a spine serrated along the inner edge. Pelvic fins generally with 6 rays and no spine. Anal fin with 12-15 rays and no spine. Caudal fin usually forked.

Material examined:

(a) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 2 Ex.; *Museum No. 94 / 9 (i), 9 (ii);* Collection and First Report by: Professor D. Kar and Party.

Key to species: Adipose dorsal fin short. Absence of humeral spot. Dorsal spine long.

Batasio batasio (Hamilton, 1822)

Distribution: In water bodies in India (including Rivers Kolodyne, Karnafuli in Mizoram: First Reports by Professor D. Kar and party); also, in Teesta river system in North Bengal, Tripura, Bangladesh, etc.

IUCN status: Least Concern (LC)

Ompok Lacepede, 1803. *Hist. Nat. Poiss.,* 5: 49 (Type species: *Ompok siluroides* Lacepede); Haig, 1950, *Rec. Indian Mus.,* 48: 103; Prameswaram, 1968, *J. Zool. Soc. India,* 19 (1 & 2): 90; Jayaram, 2006, *Catfishes of India*: 104; Ferrris, 2007, *Zootaxa* 1418: 371.

Generic characters: Body elongated, compressed. Abdomen rounded. Head small, broad. Snout bluntly rounded. Mouth superior; its cleft oblique not extending to front border of eyes. Presence of 2 pairs of barbels; one pair each of maxillary and mandibular. Rayed dorsal fin inserted above last half of pectoral fin, with 3 or 5 rays and no spine. Adipose dorsal fin absent. Pectoral fins with 11-14 rays and a feebly serrated or smooth spine. Presence of a very long anal fin with 52 to 75 rays; and, free from caudal fin.

Caudal fin forked. Lateral line complete.

Material examined:

(a) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 1 Ex.; *Museum No. 94 / 2 (i);* Collection and First Report by: Professor D. Kar and Party.

Key to species: Pelvic fins not extending to Anal fin origin. Anal fin rays 60-75. Maxillary barbels extend slightly beyond anal fin base.

Ompok bimaculatus (Bloch, 1794)

Distribution: In many water bodies in India (including Sone Beel, Puneer Haor in Assam: In all these collections, First Report by Professor D. Kar and Party; Rivers Tlawng, Karnafuli in Mizoram: First Reports by Professor D. Kar and Party); also in Bangladesh, Myanmar, Sumatra, Java, Vietnam, Yunnan, etc.

IUCN Status: Near Threatened (NT)

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 of maxillary and nasal; and two pairs of 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:

(a) River Karnafuli in Mizoram; Collection date: 20 5 2001; 2 Ex.; *Museum No. 92 / 5(i), 5(ii);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram; Collection date: 31 3 2001; 3 Ex.; *Museum No. 93 / 9 (i) to 9 (iii);* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 25 Ex.; *Museum No. 94 /* 3 (i) to 3 (xxv)*;* Collection and First Report by: Professor D. Kar and Party.

(d) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 6 Ex.; *Museum No. 96 / 4 (i) to 4 (vi);* Collection and First Report by: Professor D. Kar and Party.

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 in India (including Sone Beel, Chatla Haor, Rani Meghna Beel, etc., in Assam: In all these collections, First Reports by Professor D. Kar and Party; Rivers Tlawng, Karnafuli in Mizoram: First Reports by Professor D. Kar and Party); also, in Bangladesh, Nepal, Pakistan, etc.

IUCN Status: Near threatened.

Genus: *Eutropiichthys* Bleeker, 1862

Eutropiichthys Bleeker, 1862, *versl. Akad. Amsterdam,*14: 398 (Type spcies: *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 elongate, 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 of maxillary, nasal and two pairs of 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:

(a) River Karnafuli in Mizoram; Collection date: 21 6 2001; 1 Ex.; *Museum No.*, *65 / 7 (i);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram; Collection date: 20 5 2001; 1 Ex.; *Museum No.* , *92 / 8 (i);* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram; Collection date: 31 3 2001; 2 Ex.; *Museum No., 93 / 7 (i), 7 (ii);* Collection and First Report by: Professor D. Kar and Party.

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

Eutropiichthys vacha (Hamilton, 1822)

Distribution: In many water bodies in India (including Sone Beel, Chatla Haor in Assam: First Report by Professor D. Kar and Party; River Barak at Fulertal in Assam: First Report by Professor D. Kar and Party; Rivers Mat, Kolodyne, Karnafuli in Mizoram: First Reports by Professor D. Kar and Party); also, in Bangladesh, Myanmar, Thailand, etc.

IUCN status: Least Concern (LC)

Genus *Nangra* Day 1877

Genus *Nangra* Day 1877, *Fish India,* 493 (Type species *Pimelodus nangra* Hamilton); Jayaram, 1972, *J. Zool.Soc. India,* 23 (2): 172; Roberts and Ferraris, 1998, *Proc. Calif. Acad. Sci.,*50 (14):235; Jayaram, 2006,*Catfishes of India:* 177; Thompson and Page, 2006, *Zootaxa,* 1345: 34 (Check list); Ferraris, 2007, *Zootaxa, 1418:* 396 (Check list).

Generic characters: Head depressed; Snout slightly spatulate. Mouth ventral. Eyers small. Presence of 4 pairs of barbels: one pair each of maxillary, nasal and two mandubular; all long. Membrane of maxillary barbel well-dwveloped; barbels very long; extending posteriorly to end of head or beyond. Rayed dorsal fn with 6-10 rays with a spine. Adipose dorsal fin posteriorly free. Pectoral fins have 8-11 rays and a strong spine. Pelvic fins with 6 rays. Anal fin short with 11-15 rays. Caudal fin deeply forked.

Material examined:

(a) River Karnafuli in Mizoram; Collection date: 31 3 2001; 1 Ex.; *Museum No.*, *93 /18 (i);* Collection and First Report by: Professor D. Kar and Party.

Key to species: Nasal barbels extend to the margin of head or beyond. Outer mandibular barbel extend beyond pectoral fins.

Nangra nangra (Hamilton, 1822)

Distribution: In many water bodies in India (mainly in the hill streams including River Karnafuli in Mizoram: First Report by Professor D. Kar and Party); also, in Bangladesh, Nepal, etc.

IUCN status: Least Concern (LC)

Genus: *Gagata* Bleeker, 1858

Gagata Bleeker, 1858. *Ichthyol. Archipel Indici Prodr.,* 1: 204 (type species: *Pemelodus gagata* 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 barbels 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.

Material examined:

(a) River Karnafuli in Mizoram ; Collection date: 21 6 2001; 9 Ex.; *Museum No.* , 65 / *1 (i) to 1 (ix));* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram ; Collection date: 20 5 2001; 2 Ex.; *Museum No.* , ,*92 / 2 (i), 2 (ii);* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram ; Collection date: 31 3 2001; 4 Ex.; *Museum No.* , *93 / 10 (i) to 10 (iv);* Collection and First Report by: Professor D. Kar and Party.

(d) River Karnafuli in Mizoram ; Collection date: 22,23 Oct 2002; 69 Ex.; *Museum No.* , *98 /* 19 (i) to 19 (LXix)*;* Collection and First Report by: Professor D. Kar and Party.

(e) River Karnafuli in Mizoram ; Collection date: 22,23 Oct 2002; 37 Ex.; *Museum No.* , *99 /* 19 (Lxx) to 19 (Cvi)*;* Collection and First Report by: Professor D. Kar and Party.

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, usually, in the hill streams (including River Barak at Khangbor in NE India: First Report by Professor D. Kar and Party**; River Gomati in Tripura**: First

Report by Professor D. Kar and Party; Rivers Tlawng and Karnafuli in Mizoram: First Reports by Professor D. Kar and Party); also, in Nepal, Myanmar, Bangladesh, Thailand, Sumatra, etc.

IUCN status: Least Concern (LC)

Genus: *Erethistes* Muller and Troschel, 1849

Erethistes Muller and Troschel, 1849, *Horae Ichthy.,* 3: 12. Pl.,1; Fig. 3, 1849 (Type species: *Erethistes pussilus* Muller and Troschel by monotypy); Guenther, 1864, *Cat Fish.Brit. Mus.,* 5: 233; *Hora, 1950, Rec Indian Museum,* 47: 183 (revision); Rossel, 1964, *Mitt. Hamburg Zool.Mus.Inst.,* 61: 152; Kottelat, 1965, *Hydrobiologia, 107: 71-74; 1963 (Teview); Nath* and Dey*, 2000,* Fish and Fishereies of NE India: 108)Arunachal Pradesh); *Jayaram,* 2006;*Catfishes of India*: 280); Thompson and Page, 2006: *Zootaxa,* 1345: 13; Ferraris, 2007, *Zootaxa, 1417:* 384 (check list)

Generic character: Dorsal profile sharp upto occiput, steeply rising upto base of dorsal fin; thereafter, slopes down to caudal base. Head elongated depressed, covered with backwardly directed spines. Snout conical. Mouth small, inferior, nostrils close together, separated by a flap of skin bearing the nasal barbel. Four pairs of barbels; one pair each of maxillary, nasals, outer and inner mandibulars, all annulated with black rings. No thoracic adhesive apparatus. Rayed dorsal fin inserted almost above pelvic fins, with a strong serrated spine. Adipose dorsal fin short, free. Pectoral fins with 5 rays and a spine separated along both edges; serrations along the outer edge arranged in the form of divergent spines; pectroral fins not reaching pelvics, also, pelvic fins may or may not reach anal fin. Anal fin short not reaching caudal base. Lateral line complete, may be with tubercles.

Material examined:

(a) River Karnafuli in Mizoram; Collection date: 21 6 2001; 4 Ex.; *Museum No.* , 65 / *2 (i) to 2 (iv);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram ; Collection date: 31 3 2001; 1 Ex.; *Museum No.* , *93 / 13 (i);* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram ; Collection date: 22,23 Oct 2002; 12 Ex.; *Museum No.* , 94/1(i) to 1(xii); Collection and First Report by: Professor D. Kar and Party.

Key to species: Pectoral spine shorter than head length (66.7-95.3 % of head length), fin not extending to pelvic fin base.

Erethistes hara (Hamilton, 1822)

Distribution: In many water bodies in India, usually, in the hill streams (including River Barak around upstream of Lakhipur along Assam, Manipur, Mizoram Hills: First Report by Professor D. Kar and Party**;** River Karnafuli in Mizoram: First Report by Professor D. Kar and Party); also, in different stretches of the Ganges and the Brahmaputra drainages, Bangladesh, 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:

(a) River Karnafuli in Mizoram ; Collection date: 31 3 2001; 1 Ex.; *Museum No.* , *93 / 3 (i);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram ; Collection date: 22, 23 Oct 2002; 1 Ex.; *Museum No.* , *94 /* 5(i)*;* Collection and First Report by: Professor D. Kar and Party.

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

Xenentodon cancila (Hamilton, 1822)

*Distribution***:** In many water bodies in India (including wetlands in Assam, notably, Sone Beel, Chatla Haor, Salchapra Anua in Assam: First Reports by Professor D. Kar and party; River Gomati in Tripura: First Report by Professor D. Kar and party; Rivers Tuirial, Tlawng, Mat, Kolodyne, Karnafuli in Mizoram: First Reports by Professor D. Kar and party); also in Manipur, Nepal, 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. Caudal fin rounded. Dorsal and anal fins may or may not be confluent with caudal fin. Pelvic fins absent.

Material examined:

(a) River Karnafuli in Mizoram ; Collection date: 22,23 Oct 2002; 1 Ex.; *Museum No.* , *94 /* 4 (i)*;* Collection. and First Report by: Professor D. Kar and Party.

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 rays14 to 17.

Mastacembelus armatus (Lacepede, 1800)

Distribution: **In** many water bodies in India (including **Sone Beel, Chatla Haor,** Baskandi Anua in Assam: First Reports by Prof. D. Kar and Party**; River Gomati in Tripura around its origin at Tirthamukh, Mandirghat:** First Reports by Prof. D. Kar and Party**; Rivers Tuirial, Tlawng, Mat ,**

Kolodyne, Karnafuli in Mizoram: First reports by Prof. D. Kar and Party); also in Bangladesh, South China, Malaya, Java, Myanmar, Nepal, etc.

IUCN status: Least Concern (LC)

Genus: ***Chanda*** Hamilton, 1822

Chanda Hamilton,1822, An account of the fishes found in the river Ganges: 103, 370 (type species: *Chanda nama* Hamilton 1822 by designation of ICZN)

Generic characters: Body ovate, deep compressed. Abdomen rounded. Head short, compressed with sharp snout. Mouth wide, protractile; extended up to border of orbit or slightly beyond. Eyes large, superior. Pre-orbital edge with four serrae. Lower jaw strongly projecting. Lower limb of pre-opercle with a double-serrated edge. Opercula without a prominent spine. Two dorsal fins; 1st with seven spines and 2nd with 15-17 rays; the two dorsal fins continuous. A forwardly directed recumbent spine present in the dorsal fin. Anal fin with three spines and 17 rays. Caudal fin forked. Body with cycloid scales. Lateral line complete with 125 scales.

Material examined:

(a) River Karnafuli in Mizoram ; Collection date: 31 3 2001; 1 Ex.; *Museum No.* , *93 / 19 (v);* Collection. and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 4 Ex.; *Museum No.* , *95 / 16 (vi), 16 (xiv), 16 (xxii),16 (xxiii);* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 5 Ex.; *Museum No.* , *96 / 3 (i) to 3 (v);* Collection and First Report by: Professor D. Kar and Party.

Key to species: Lower jaw strongly projecting; thus, differ from all other ambassids. Presence of three prominent canine teeth on either side of lower jaw.

Chanda nama Hamilton, 1822

Distribution: **In** many water bodies in India (including **Sone Beel, Chatla Haor,** Baskandi Anua, Salchapra Anua in Assam: First reports by Prof. D. Kar and Party; Rivers Mat, Kolodyne, Karnafuli in Mizoram: First reports by Prof. D. Kar and Party); also in Bangladesh, Nepal, Pakistan., 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 usually little round and flat, 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:

(a) River Karnafuli in Mizoram ; Collection date: 20 5 2001; 1 Ex.; *Museum No.* , *92/ 3 (ii);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram Collection date: 31 3 2001; 3 Ex.; *Museum No.* , *93 / 19 (ii) to 19 (iv);* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram; Collection date: 22,23 Oct 2002; 1 Ex.; *Museum No.* , *94 /* 11 (i)*;* Collection and First Report by: Professor D. Kar and Party.

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 Sone Beel, Chatla Haor, Sat Beel in Assam: First Reports by Professor D. Kar and party; Rivers Tuirial, Tlawng , Kolodyne, Karnafuli in Mizoram: First Reports by Professor D. Kar and party); also, in Bangladesh; Malaysia, Mayanmar, etc.

IUCN status: Least Concern (LC)

Genus:*Johnius* Bloch, 1793

Johnius Bloch, 1793, *Naturge. Ausland. Fische.,* 7, p. 132 (type species, *Johnius carutta* Bloch, by subsequent designation); Talwar and Shetty, 1971, *Proc. Indian Acad. Sci,* 74 (2): 74 – 80 (generic relationship).

Generic characters: Body oblong, compressed. Abdomen rounded. Head large, compressed. Snout blunt, prominent and swollen superiorly. Mouth inferior; cleft horizontal. Eyes superior. Upper jaw somewhat longer. Two dorsal fins continuous; inserted near base of pectoral fins. Caudal fin wedge-shaped. Lateral line curved.

Material examined:

(a) River Karnafuli in Mizoram; Collection date: 20 5 2001; 3 Ex.; *Museum No.* , *92 / 7 (i) to 7 (iii);* Collection and First Report by: Professor D. Kar and Party.

(b) River Karnafuli in Mizoram ; Collection date: 31 3 2001; 1 Ex.; *Museum No.* , *93 / 5 (i);* Collection and First Report by: Professor D. Kar and Party.

(c) River Karnafuli in Mizoram ; Collection date: 22,23 Oct 2002; 1 Ex.; *Museum No.* , *96 / 1 (i);* Collection and First Report by: Professor D. Kar and Party.

Key to species: First dorsal fin with 10 weak spines; second with 26 to 28 rays and a feeble spine. Anal fin with two spines and 7 rays.

Johnius coitor (Hamilton, 1822):

Distribution: **In** many water bodies in India (including Sone Beel in Assam: First Report by Professor D. Kar and party; River Barak at Thingkal in NE India: First Report by Professor D. Kar and party; River Karnafuli in Mizoram: First Report by Professor D. Kar and party); also, in Bangladesh, Myanmar, East Indies to the East coast of Australia., etc.

IUCN status: Least Concern (LC)

4. Discussion

A gross review of the habitat inventory parameters of the River **Karnafuli** displayed that, the long range of microhabitat of the river consists mainly of three types of mirohabitats, *viz.,* Fall, Cascade, and Riffle-pool. Run-sheet type of microhabitat is not much found; because the river flows mostly though mountains within the Indian territory. Out of the three unique categories of microhabitats, the quite common and frequently- observed microhabitat is the riffle-pool type followed by cascade. Falls are usually found in the upstream stretch of the river when the river flows down from a hill top. Cascades are generally found in the mid-reach stretch of the river; and, are not usually seen elsewhere. Riffle-pools generally occur in different stretches of the entire length of the river, depending on the kind of the substratum. Nevertheless, run-sheet type of micro-habitat do sometimes occur, particularly during the dry season, mainly from the stretch extending from Demagiri town to Thekabazar at the Indo-Bangladesh border.

Concomitant to above, three distinct types of substrata are generally observed in the entire length of the River Karnafuli. These are: (i) Bedrocks, (ii) Boulders and (iii) Cobbles and Gravels. Fines (silt, sand clay)are not much found; as the river does not show much plainwater stretch. In River Karnafuli, bedrocks are not often seen; and, if found, are, generally, in the upper hilly region. Boulders are generally found in the upper mid-reach region of the river; usually, having cascade type of microhabitat; while cobbles and gravels are usually seen in the lower mid-reach of the river with riffle-pool type of microhabitat. Fines type of substratum (consisting mainly of silt, sand and clay) are, sometimes, found (particularly during the dry season), in the stretch extending from Demagiri town to Thekabazar at the Indo-Bangladesh border.

Notwithstanding the above, there seems to be a differential trend in fish biodiversity and ichthyo-species composition in different types of microhabitats and substrata of the River Karnafuli. Much rheophilic fishes like *Tariquilabeo* species *Erethistes* species etc., are generally found in the cascade types of microhabitats; while the upper midreach region of the river was found to be the niches of mainly *Opsarius* species, *Gagata* species, etc. However, the lower midreach region; as well as, the downstream region of the river Karnafuli was found to be inhabited mainly by *Pethia* species, *Salmostoma* species, etc. Presence of *Gadusia chapra* in River Karnafuli around Demagiri town in Mizoram, India, is a strilking feature being its proximity to the Bay of Bengal sea.

In addition to above, the status of the ichthyospecies based on locally estimated information (but, corroborating with IUCN criteraia) has been ascertained in order to adopt locally suitable species-specific conservation strategies.

Notwithstanding the above, different workers, notably, Bailey, R.G.(1994,1996) and Bailey and Hickley (1986) had worked on the water bodies and fish species in Africa. Concomitantly, Didem *et al.* (2012) dealt with the fishes of Western Black Sea Coast of Turkey; while, Kullander and Britz (2008) and. Conway and Kottelat (2007) had dealt with the fishes of Myanmar..

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Table 1. Ichthyospecies Diversity, Seasonal Distribution and Conservation Status of Fishes in River Karnafuli in Mizoram

Fish name	Collection date:21 6 2001 & River Coll No. 65, +(No.of Fishes),River No/Fish No. =Museum No.	Collection date:20 5 2001 & River Coll No. 92, +(No.of Fishes),River No/Fish No. =Museum No.	Collection date:31 3 2001 & River Coll No. 93 +(No.of Fishes),River No/Fish No. =Museum No .	Collection date 22,23 Oct 2002 & River Coll No. 94, +(No.of Fishes),River No/Fish No. =Museum No. .	Collection date 22,23 Oct 2002 & River Coll No. 95, +(No.of Fishes),River No/Fish No. =Museum No.	Collection date 22,23 Oct 2002 & River Coll No. 96, +(No.of Fishes),River No/Fish No. =Museum No.	Collection date 22,23 Oct 2002 & River Coll No. 97, +(No.of Fishes),River No/Fish No. =Museum No.	Collection date 22,23 Oct 2002 & River Coll No. 98, +(No.of Fishes),River No/Fish No. =Museum No.	Collection date 22,23 Oct 2002 & River Coll No. 99, +(No.of Fishes),River No/Fish No. =Museum No.	Total No. of Fish collected	Conservation Status (Global) IUCN Conservation status (Global) LC=Least Concern VU= Vulnerable EN= Endangered NT=Near Threatened NE=Not Evaluated DD-Data Deficient	Conservation Status (Local) Conservation Status (Local) Conservation status (Local) (based on occurrence of Fish species in 1 or >1 locations 1 Location: of Concern(C) 2 Locations:Less Concern(LC) >2Locations

											:No Concern(NC)
1	*Notopterus notpterus*		+(1),*92/ 10 (i)*	+(1),*93 / 2 (i)*					2	LC	LC
2	*Gudusia chapra*		+(1),*92 / 9(i)*	+(5),*93 / 11 (i) to 11 (v)*	+(1),*94 /* 7 (i)				7	LC	NC
3	*Securicula gora*		+(1),*92 / 6 (i)*	+(1),*93 / 8 (i)*	+(2),*94 /* 17 (i), 6 (i)				4	LC	NC
4	*Salmostoma bacaila*			+(2),*93 / 15 (i) , 15 (ii)*					2	LC	C
5	*Salmostoma phulo phulo*							+(63),*97* /17 (ii) to 17 (LXiv	63	LC	C
6	*Opsarius bendelisis*	+(4),*65 /* 4 (i), 5(i), 8 (i), 8 (ii)							4	LC	C
7	*Chela cachius*				+(1),*94 /* 15 (i)	+(25),*95 /* 15 (ii) to 15 (xxvi)	+(1),*96 / 2 (i)*		27	LC	NC
8	*Rasbora daniconius*			+(1),*93 / 14 (i)*					1	LC	C
9	*Rasbora rasbora*				+(1),*94 /* 14 (i)				1	LC	C
10	*Osteobrama cotio*		+(1),*92 / 3 (i)*	+(2), *93 / 12 (i), 12 (iii)*	+(1),*94 /* 16 (i)	+(18),*95 /* 16 *(ii),* 16 *(ii),15 (iv), 16 (v),16 (vii) to 16 (xiii), 16*	+(34),*96 / 5 (i) to 5 (xxxiv)*		56	LC	NC

					(xv) to 16 (xxi)				
1 1	*Puntius sophore*		+(1),*92 / 1 (i)*	+(3),*94 / 8* (i), 8 (iv), 8 (viii)			4	LC	LC
1 2	*Pethia conchonius*			+(5),*94 / 8 (ii), 8 (iii), 8 (v), 8 (vi),8 (vii)*			5	LC	C
1 3	*Pethia ticto*		+(1),*92 / 1 (ii)*	+(2), *93 / 16 (i), 16(ii)*			3	LC	LC
1 4	*Labeo gonius*			+(1),*93 / 1 (i)*			1	LC	C
1 5	*Tariquilab eo latius*			+(3),*94 / 12 (i), 13 (i), 13 (ii)*	+(6), *95 / 18 (i) to 18 (vi)*		9	LC	LC
1 6	*Sperata seenghala*	+(2), *65 /* 3 (i), 6 (i)		+(1),*93 / 4 (i)*	+(2),*94 / 10 (i), 10 (ii)*		5	LC	C
1 7	*Mystus cavasius*		+(1), *92 / 4 (i)*	+(1), *93 / 6 (i)*			2	LC	LC
1 8	*Mystus tengara*			+(1), *93 / 17 (i)*			1	LC	C
1 9	*Batasio batasio*				+(2), *94 / 9 (i), 9 (ii)*		2	LC	C
2 0	*Ompok bimaculatus*				+(1),*94 / 2 (i)*		1	NT	C
2 1	*Ailia coila*		+(2), *92 / 5(i), 5(ii)*	+(3),*93 / 9 (i) to 9 (iii)*	+(25),*94 /* 3 (i) to 3 (xxv)	+(6),*96 / 4 (i) to 4 (vi)*	36	NT	NC
2	*Eutropiicht*	+(1),*65 /*	+(1),*92 /*	+(2),*93 /*			4	LC	C

2	*hys vacha*	*7 (i)*	*8 (i)*	*7 (i), 7 (ii)*								
2	*Nangra*			+(1),*93 /*						1	LC	C
3	*nangra*			*18 (i)*								
2	*Gagata*	+(9),65 /	+(2),*92 /*	+(4),*93 /*				+(69), *98*	+(37),*99 /*	121	LC	NC
4	*cenia*	*1 (i) to 1*	*2 (i), 2 (ii)*	*10 (i) to*				/ 19 (i) to	19 (Lxx)			
		(ix)		*10 (iv)*				19 (LXix)	to 19			
									(Cvi)			
2	*Erethistes*	+(4),65 /		+(1),*93 /*	*+(12),94 /*					17	LC	NC
5	*hara*	*2 (i) to 2*		*13 (i)*	1 (i) to 1							
		(iv)			(xii)							
2	*Xenentodo*			+(1),*93 /*	+(1),*94 /*					2	LC	LC
6	*n cancila*			*3 (i)*	5(i)							
2	*Mastaemb*				+(1),*94 /*					1	LC	C
7	*elus*				4 (i)							
	armatus											
2	*Chanda*			+(1),*93 /*		+(4),*95 /*	+(5),*96 /*			10	LC	NC
8	*nama*			*19 (v)*		*16 (vi), 16*	*3 (i) to 3*					
						(xiv), 16	*(v)*					
						(xxii),16						
						(xxiii)						
2	*Parambass*		+(1),*92/ 3*	+(3),*93 /*	+(1), *94 /*					5	LC	NC
9	*is ranga*		*(ii)*	*19 (ii) to*	11 (i)							
				19 (iv)								
3	*Johnius*		+(3), *92 /*	+(1),*93 /*			+(1), *96 /*			5	LC	NC
0	*coitor*		*7 (i) to 7*	*5 (i)*			*1 (i)*					
			(iii)									