



Research Article

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Systematic Studies on the Haor Fishes of Barak Valley Region, North-East India Biodiversity Hotspot



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Abstract

Ichthyofaunal surveys in the Haors of Barak Valley Region in North-East India notably, Chatla Haor, Puneer Haor and Bakri Haor revealed the occurrence of 24 species under 20 genera, 15 families and 8 orders. These include 1 species each under Osteoglossiformes and Gobiiformes, 2 species each under Cichliformes, Clupeiformes and Synbranchiformes, 3 species under Anabantiformes, 6 species under Siluriformes and 7 species under Cypriniformes. Detailed taxonomic analysis indicates highest number of species composition under the Cypriniformes and lowest under the Osteoglossiformes and Gobiiformes. The distribution of species in different Haors reflects the similarity in their habitats.

Introduction

There have been impacts on aquatic biodiversity due to human interventions. Effects on fish and their habitats have been studied by different workers [1-7]. However, further studies particularly with regard to fish fauna are required in order to reveal their current status.

Fish forms about half of the total number of vertebrates in the world. India is one of the highly enriched biodiversity countries in the World [8], and North-Eastern (NE) region in the Eastern Himalayan (EH) zone is a hotspot of biodiversity [9]. The hills and the undulating terrains of this region give rise to innumerable torrential rheophilic hill streams, which lead to big rivers that finally become part of the Ganga-Brahmaputra-Barak-Chindwin-Kolodyne-Gomati-Meghna system [1-5,10-13].

Concomitant to above, out of 2,500 species of fishes in India, 930 are freshwater (FW) inhabitants and 1,570 are marine [2-5,12,14-19]. The bewildering ichthyodiversity of this virgin region has been of high ichthyological attraction to scientists and naturalists alike.

The fish fauna of North-East (NE) India mainly reflects features of the Indo-Gangetic region and partly of the Myanmar and South-Chinese regions. There have been quite a sufficient

number of works on the fish and fisheries of the region. Some of the significant works are those of Nath & Dey [20]. Further, according to Sen [21], of the 806 species of fishes inhabiting India's freshwaters [22], the NE region is represented by 267 species belonging to 114 genera under 38 families and 10 orders, which is 33.13% of the total Indian FW fishes. The *Cypriniformes* dominates with 145 species, followed by *Siluriformes* (72), *Anabantiformes* (31), *Clupeiformes* (7), *Anguilliformes* (3), *Cyprinodontiformes* (3), *Osteoglossiformes* (2), *Synbranchiformes* (2), *Syngnathiformes* (1) and *Tetraodontiformes* (1). Kar [10] reported 133 species of fishes through a pilot survey conducted in 19 rivers spread in Barak drainage of Assam, Mizoram, and Tripura. Kar [23] further reported the occurrence of 103 species of fishes through an extensive survey conducted in six principal rivers in Barak Valley of Assam, Mizoram, and Tripura. Kar & Sen [19] have carried out a detailed study on fish' biodiversity in North-East India with particular reference to Barak drainage, Mizoram and Tripura. Further, Kar [2], Kar & Khyrniam [13,24,25], Kar et al. [7] did significant works on the fishes of NE India.

Standing waters occur in depressions or in basins, which are destined from the moment they are formed. Eroded soil and remains of plants from the surrounding land are washed-in

and settle at the bottom of the basin. Gradually, this static water becomes shallower until it becomes a 'wetland'. Wetlands' are, thus, basically 'wet-lands' where the soil is saturated with water for sometime during the year. According to IUCN [26], wetlands are areas of marsh, fen, etc., temporary or permanent; natural or artificial mass of water, the depth of which generally does not exceed 6m. Wetlands are areas which contain substantial amount of standing water and little flow.

Notwithstanding the above, there are generally 3 kinds of wetlands in Assam, and in adjoining Tripura and Bangladesh. These are locally called as 'Beel' a perennial wetland which contain water throughout the year, 'Haor or seasonal floodplain' a wetland which contain water for some period of the year only, particularly, during the rainy season and 'Anua' a peculiar river-formed perennial oxbow-type wetlands which are generally formed due to change in river course and which may or may not retain connection with the original river.

The present study is a systematic analysis of the ichthyofauna in different Haors of the Barak Valley of Assam in North-East (NE) India.

Material and Methods

Fish samples were collected through experimental fishing using cast nets (diameter 1.0 - 3.7m), gill nets (vertical height 1.0-1.5m, length 100-150m), drag nets (vertical height 2.0m), triangular scoop nets (vertical height 1.0m) and a variety of traps. Camouflaging technique was also used to catch the fishes. Fishes were preserved in 10% formalin. Fishes have been identified after standard literature [14,15,17,22, 27-34]. The arrangement of classification, followed here, is that of Greenwood et al. [35], Jayaram [14-17], Kar & Khyriam [13] & Fricke et al. [36].

Results and Discussion

Ichthyological survey in the Haors of Barak valley region of Assam notably, Chatla Haor, Puneer Haor and Bakri Haor, revealed the occurrence of 24 species of fishes. These include 1 species each under *Osteoglossiformes* and *Gobiiformes*, 2 species each under *Clupeiformes*, *Synbranchiformes* and *Cichliformes*, 3 species under *Anabantiformes*, 6 species under *Siluriformes* and 7 species under *Cypriniformes*. Detailed taxonomic analysis indicates highest number of species composition under the *Cypriniformes* and *Siluriformes* and lowest among the *Gobiiformes* and *Osteoglossiformes*.

The tropical Asian ichthyofauna constitutes a substantial part of the total lotic and lentic fish community. The Indian Peninsula supports 930 species of native FW fishes, which belong to 87 families. Several of tropical Asian FW fish share the African riverine ecosystems, both regarding the family and the generic level. *Cyprinids*, certain *Siluriform* catfishes, Channids, *Mastacembelids* and *Notopterids* are shared between the two regions. At the generic level, *Anabas*, *Clarias*, *Garra*, *Labeo*, and *Mastacembelus* occur in both African and Asian rivers. Tilapia,

which have been introduced into India from Africa, have become widespread all-over southern Asia. They have also replaced the native population in some places due to their dominance. There is a large-scale abundance of *Cyprinids* and *Balitorids* in Asia, in contrast to the predominance of *Characids* and *Cichlids* in Africa. Incidentally, research on the taxonomy and associated habitat parameters of the tropical fish communities is limited. Further, there have been studies on fish diets and resource partitioning in specific Sri Lankan hill streams. Niche segregation is dependent on seasonality, diet, and habitat utilization, as was revealed from their studies. Also, there are morphological segregation and specialization in these fish communities [7,13,26].

The ichthyospecies recorded from different Haors of Barak valley are summarised in table 1. *Gudusia chapra* usually is a perennial inhabitant in the downstream stretch of River Barak. Its occurrence in the Haors reflects the earlier possible connection with the river Barak or its tributaries. Due to extensive soil erosion and siltation, such connection(s) with the river might had been closed; thus, causing entry of less volume of water from the river and drying-up of the wetland during dry season resulting in the formation of seasonal floodplain wetlands, locally called 'Haor'. Notwithstanding the above, occurrence of Hilsa (*Tenulosa ilisha*) including its juveniles, notably in Chatla Haor, during the monsoon season indicates that, Chatla Haor might be serving as the breeding ground of Hilsa during monsoon. The occurrence of same species in more than one Haor reflects the similarity in their habitats.

Systematic account

Phylum: Chordata

Class: Actinopteri

Order: Osteoglossiformes

Family: *Notopteridae*

Genus: *Notopterus Lacepede*

Notopterus Lacepede, 1800, Hist nat Poiss 2:190 (Type species: *Gymnotus notopterus* Pallas, by absolute tautonymy); Roberts, 1992, Ichthyol Explor. Freshwaters, 2(4): 361-383 (revision), Talwar and Jhingran, 1991, Inland Fishes 1: 62, Jayaram, 1999, 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 is very long, low, ribbon-like, with 100-135 rays: confluent with the caudal fin. Pelvic fins rudimentary. Caudal fin small. Scales small. The lateral line complete, more or less arched with about 180 scales.

Table 1: Distribution and conservation status of ichthyo species in different Hoars of Barak valley.

Sl. No.	Systematic list	Bakri	Chatla	Puneer	Conservation status
	Phylum: Chordata Class: Actinopteri				
	Order: Osteoglossiformes Family: <i>Notopteridae</i>				
1	<i>Notopterus synurus</i> (Bloch & Schneider, 1801)		+	+	Least Concern
	Order: Clupeiformes Family: <i>Dorosomatidae</i>				
2	<i>Gudusia chapra</i> (Hamilton 1822)	+	+		Least Concern
3	<i>Tenualosa ilisha</i> (Hamilton, 1822)		+		Least Concern
	Order: Cypriniformes Family: <i>Danionidae</i>				
4	<i>Danio dangila</i> (Hamilton, 1822)	+			Least Concern
5	<i>Amblypharyngodon mola</i> (Hamilton, 1822)	+			Least Concern
	Family: <i>Cyprinidae</i>				
6	<i>Osteobrama cotio</i> (Hamilton 1822)		+		Least Concern
7	<i>Puntius chola</i> (Hamilton, 1822)		+		Least Concern
8	<i>Puntius sophore</i> (Hamilton, 1822)		+		Least Concern
9	<i>Labeo pangusia</i> (Hamilton, 1822)		+		Near Threatened
	Family: <i>Nemacheilidae</i>				
10	<i>Paracanthocobitis botia</i> (Hamilton, 1822)	+			Least Concern
	Order: Siluriformes Family: <i>Bagridae</i>				
11	<i>Mystus tengra</i> (Hamilton, 1822)		+		Least Concern
12	<i>Mystus vittatus</i> (Bloch, 1794)		+		Least Concern
13	<i>Sperata aor</i> (Hamilton, 1822)		+		Least Concern
14	<i>Sperata seenghala</i> (Sykes, 1841)	+	+		Least Concern
	Family: <i>Siluridae</i>				
15	<i>Ompok bimaculatus</i> (Hamilton, 1822)			+	Near Threatened
	Family: <i>Ailiidae</i>				
16	<i>Eutropichthys murius</i> (Hamilton, 1822)		+		Least Concern
	Order: Synbranchiformes Family: <i>Mastacembelidae</i>				
17	<i>Macrogathus aral</i> (Bloch & Schneider, 1801)	+	+		Least Concern
18	<i>Macrogathus pancalus</i> Hamilton, 1822		+		Least Concern
	Order: Cichliformes Family: <i>Ambassidae</i>				
19	<i>Parambassis ranga</i> (Hamilton, 1822)			+	Least Concern
	Family: <i>Cichlidae</i>				
20	<i>Oreochromis mossambicus</i> (Peters, 1852)			+	Vulnerable
	Order: Gobiiformes Family: <i>Gobiidae</i>				
21	<i>Glossogobius giuris</i> (Hamilton, 1822)			+	Least Concern
	Order: Anabantiformes Family: <i>Nandidae</i>				
22	<i>Nandus nandus</i> (Hamilton, 1822)			+	Least Concern

	Family: <i>Anabantidae</i>				
23	<i>Anabas testudineus</i> (Bloch, 1792)		+	+	Data Deficient
	Family: <i>Osphronemidae</i>				
24	<i>Trichogaster fasciata</i> Bloch & Schneider			+	Least Concern

Material examined: 1 ex. from Puneer Haor: Coll 10.10.1998
1 ex from Chatla Haor, Coll,

01.08.1996. First report, collector Professor D. Kar and Party.

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

Notopterus synurus

Distribution: Almost throughout India, Bangladesh, Indonesia Malaya, Nepal, Pakistan,

Thailand, West Africa, etc.

IUCN status: Least Concern (LC).

Order: Clupeiformes

Family: *Dorosomatidae*

Genus: *Gudusia* Fowler

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. The 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: 2 ex. from Chatla Haor, Coll, 21.01.1997.
3 ex. from Bakri Haor, Coll,

03.11. 2007. First report, collector 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

Distribution: Almost throughout India, Bangladesh, Indonesia, Malaya, Nepal, Pakistan, etc.

IUCN status: Least Concern (LC).

Genus: *Tenualosa* Fowler

Hilsa Regan, 1917, Ann Mag nat Hist (8): 19-303 (Type species: *Clupea durbanensis* Regan), Whitehead, 1985, FAO Fish Synop (125), 7(1) 220-221, Misra, 1976, Fauna of India, Pisces, Ed 2,2: 53, Talwar and Jhingran, 1999, Inland Fishes, 1 : 98, Jayaram, 1999, FW Fishes of the Indian Region : 40, Vishwanath, 2002, Fishes of North East India, NATP Publication : 30.

Tenualosa Fowler, 1934 (Mirza 2003, uses this name in preference to Hilsa in a generic sense), Proc Acad nat Sci Philad 85: 246 (Type species: *Alosa reevesii* Richardson); Whitehead, 1985, FAO Fish Symp (125) 7 (i): 222-227.

Generic Characters: Body compressed, oblong; abdomen serrated with 15-16 pre-pelvic and

11-16 post-pelvic scutes. Head large, compressed. Mouth terminal, cleft not extending to orbit. Eyes large, lateral, with adipose lid. Lower jaw not projecting beyond upper. Dorsal fin inserted ahead of pelvic fins with 13-16 branched rays. Anal fin short with 16-20 branched rays. Caudal fin forked.

Material examined: 25 ex. from Chatla Haor including juveniles, Coll., 02.07.1995. First report,

collector, Professor D Kar and Party.

Key to species: Gill rakers on inner arches curved outward. Scales perforated.

Tenualosa ilisha

Distribution: India, Bangladesh, China, Myanmar etc.

IUCN status: Least Concern (LC)

Order: Cypriniformes

Family: *Danionidae*

Genus: *Danio* Hamilton

Danio Hamilton 1822, Fishes of the Ganges, pp. 321, 390 (Type species: *Cyprinus* (Danio) dangila Hamilton, by subsequent designation); Hora and Mukerji, 1933, Rec Indian Mus 39(1), pp. 130-133, Talwar and Jhingran, 1999, Inland Fishes, I : 362, Jayaram, 1999, FW Fishes of the Indian Region: 78; Menon, 1999, Rec. Zool Surv India Occ Paper No.175 : 38, Vishwanath, 2002, Fishes of North East India, NATP Pub: 45, Nath and Dey, 2000, Fish and Fisheries of NE India: 19 (Arunachal Pradesh).

Generic characters: Body elongate, compressed, sub-cylindrical. Abdomen rounded. Head

moderate, blunt. Mouth anterior; cleft of mouth shallow and not protractile; directed obliquely upwards. Eyes large, centrally placed. The presence of one or two pairs of barbells which may also be rudimentary, or barbels may be absent. The Dorsal fin inserted opposite interspace between anal and pelvic fins; nearer to caudal fin base than to tip of snout with 10 to 19 rays. Anal fin with 9 to 14 rays. Caudal fin emarginated or forked. Lateral line concave with 32 to 42 scales. 'A stripe' on the anal fin rays. Two or more pigmented stripes on the caudal fin rays.

Material examined: 1 ex. from Bakri Haor, Coll 3 11 2007. First report, collector Professor D

Kar and Party.

Key to species: Barbels very well developed, longest in the species.

Danio dangila

Distribution: Throughout India; Bangladesh, Myanmar, etc.

IUCN status: Least Concern (LC).

Genus: *Amblypharyngodon Bleeker*

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 the ventral surface. Upper lip absent. Lower lip with a short labial fold. Lower jaw prominent with a thin sharp edge and a symphyseal knob which fits into the upper jaw. Barbells absent. A Dorsal fin inserted little behind insertion of pelvic fins. Anal fin short. Caudal fin forked. Scales minute.

Material examined: 4 ex. from Bakri Haor, Coll 03.11.2007. First report, collector: Professor

D Kar and Party.

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

Distribution: Throughout India, Afghanistan, Bangladesh, Myanmar, Nepal, Pakistan, and Sri Lanka etc.

IUCN status: Least Concern (LC).

Order: Cyprinidae

Genus: *Puntius Hamilton*

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, dorsolateral; 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. Barbells 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: 3 ex., from Chatla Haor, Coll: 01.08.1996. First report, collector Professor

D Kar and Party.

Key to species: Body marked with two conspicuous dark blotches.

Puntius chola

Distribution: Throughout India, also in Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, etc.

IUCN status: Least Concern (LC).

Material examined: 5 examples, Chatla Haor, Collection, 01.08.1996. First report, collector

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

Distribution: Almost throughout India; also in Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, etc.

IUCN status: Least Concern (LC).

Genus: *Osteobrama Heckel*

Osteobrama Heckel, 1843, Ichth Russeger'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, 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, Vishwanath, 2002, Fishes of North East India, NATP Pub: 67.

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 is small, somewhat directed upwards. Eyes large, lateral. Upper jaw slightly longer. Barbels, 4 or none. The 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: 2 ex, from Chatla Haor, Coll 21.01.1997. First report, collector, 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

Distribution: Almost throughout India, also in Bangladesh, Myanmar, Nepal, Pakistan, Sri

Lanka, etc.

IUCN status: Least Concern (LC).

Genus: *Labeo Cuvier*

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 semilunar 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: 1 ex, Chatla Haor, Coll, 01.08.1996. First report, collector, Professor D

Kar and Party.

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

base

Labeo pangusia

Distribution: Almost throughout India; also in Bangladesh, Myanmar, Nepal, Pakistan, Sri

Lanka, etc.

IUCN Status: Near Threatened (NT)

Family: *Nemacheilidae*

Genus: *Acanthocobitis Peters*

Acanthocobitis Peters, 1861, Monats Akad Wiss Berlin for 1861: 712 (Type species: *Acanthocobitis longipinnis* Peters = *Cobitis pavonaceus* McVlelland, 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. The 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. The lower lip interrupted in the middle and with numerous papillae. Dorsal fin usually with 10 to 18 branched rays. Caudal fin slightly emarginated. The presence of conspicuous black spot at upper extremity of caudal fin.

Material examined: 1 ex. from Bakri Haor, Coll., 03.11.2007. First report, collector, Professor

D Kar and Party.

Key to species: Body depth about 23.63 % SL.

Acanthocobitis botia

Distribution: Almost throughout India, Myanmar, etc.

IUCN status: Least Concern (LC)

Order: Siluriformes

Family: *Bagridae*

Genus: *Sperata Holly*

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 the 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 ex. Chatla Haor, Coll. 01.08.1996. 1 ex. from Bakri Haor, Coll,

03.11.2007. First report, collector, Professor D Kar and Party.

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

Sperata seenghala

Distribution: Many large rivers in India, notably, Barak, Brahmaputra, Ganges and their

tributaries; also in Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka etc.

IUCN status: Least Concern (LC)

Material examined: 1 ex. Chatla Haor, Coll. 01.08.1996. First report, collector, Professor

D Kar and Party.

Key to species: Snout rounded in dorsal view. Pectoral fin with 10 or 11 rays.

Sperata aor

Distribution: Many large rivers in India, notably, Barak, Brahmaputra, Ganges and their

tributaries; also in Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, etc.

IUCN status: Least Concern (LC)

Genus: *Mystus Scopoli*

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.

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 barbells, 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 complete.

Material examined: 1 ex from Chatla Haor, Coll, 01.08.1996. First report, collector, Professor

D Kar and Party.

Key to species: Maxillary barbels reaching base of pectoral fin. Presence of approximately 5

parallel longitudinal stripes on each side of the lateral line.

Mystus tengara

Distribution: Almost throughout India, Pakistan, etc.

IUCN status: Least Concern (LC)

Material examined: 8 ex. from Chatla Haor, Coll, 01.08.1996. First report, collector

Professor D Kar and Party.

Key to species: Body with two parallel stripes on each side of lateral line. There may also

be a dark humeral spot.

Mystus vittatus

Distribution: Almost throughout India, Myanmar, Pakistan, Sri Lanka etc.

IUCN status: Least Concern (LC)

Family: Siluridae

Genus: *Ompok Lacepede*

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, Ferris, 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 barbells; one pair each of maxillary and mandibular. Rayed dorsal fin inserted above last half of pectoral fin, with 3 or 5 rays and spine

absent. 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: 1 ex. Puneer Haor, Coll, 10.10.1998. First report, collector 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

Distribution: Almost throughout India, also in Bangladesh, Myanmar, Myanmar, Sumatra,

Java, Vietnam, Yunnan, etc.

IUCN Status: Near Threatened (NT)

Family: *Schilbeidae*

Genus: Eutropiichthys Bleeker

Eutropiichthys Bleeker, 1862, versl Akad Amsterdam 14: 398 (Type species: *Pimelodus vacha* Hamilton-Buchanan, by original description), Hora, 1937, J Bonmbay nat Hist Soc 39: 431-446 (review), Jayaram, 2006, Catfishes of India: 132, Ferraris, 2007, Zootaxa 1418: 358.

Generic characters: Body elongated, compressed. Abdomen rounded. Head of moderate size,

conical, snout pointed or blunt. The cleft of mouth reaching below orbit or slightly beyond. Eyes moderately large, lateral. Presence of 4 pairs of barbells, 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 ex. Chatla Haor, Coll, 01.08.1996. First report, collector Professor D

Kar and Party.

Key to species: Nasal barbels reach a short distance behind posterior edge of the eyes.

Eutropiichthys murius

Distribution: Almost throughout India, also in Bangladesh, etc.

IUCN status: Least Concern (LC)

Order: Synbranchiformes

Family: *Mastacembelidae*

Genus: Macrognathus Lacepede

Macrognathus Lacepede, 1800, Hist Nat Poiss 2: 283 (Type species: *Ophidium aculeatum* Bloch, by subsequent designation), Sufi, 1953, Bull Raffles Mus No. 27: 99-105, Roberts, 1980, Cipeia, No. 3: 385-391, Travers, 1984, Bull Brit Mus Nat Hist (Zool), 47(2): 141-145, Roberts, 1986, Jap J Ichthyol I 33(2): 97-103, Rhyncohdella Bloch and Schneider, 1801, Syst Ichth: 478.

Generic Characters: Body deep, eel-like compressed. Head long, pointed. Snout long, fleshy,

accommodating a cocave prolongation of the upper jaw. Mouth inferior, cleft narrow. Eyes small, superior, in middle of head. The Dorsal fin inserted far behind the end of pectoral fins with 13 to 32 detached, depressible spines and 42 to 58 rays. Anal fin with 3 spines and 42 to 58 rays. Caudal fin rounded; distinctly separated from dorsal and anal fins. Lateral line present.

Material examined: 1 ex. Chatla Haor, Coll, 01.08.1996. 1 ex. from Bakri Haor, Coll

03.11.2007. First reports, collector Professor D Kar and Party.

Key to species: Spines in dorsal fin 16 to 23.

Macrognathus aral

Distribution: India, Bangladesh, Myanmar, Sri Lanka, etc.

IUCN status: Least Concern (LC)

Material examined: 1 ex. from Chatla Haor, Coll, 01.08.1996. First report, collector

Professor D Kar and Party.

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

Macrognathus pancalus

Distribution: India, Bangladesh, etc.

IUCN status: Least Concern (LC)

Order: Cichliformes

Family: *Ambassidae*

Genus: Parambassis Bleeker

Parambassis Bleeker, 1874, Nat Verh Holland Maatsch Wetensch 2(2): 86 (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.

Parambassis Bleeker, 1874, Nat Verh Holland Maatsch Wetensch, 2(2): 86 (Type Species, *Chanda lala* Hamilton-Buchanan by monotypy), Roberts, 1989, Mem Calif Acad Sci 4: 161.

Generic Characters: Body elongate, compressed. Abdomen round. Head short, compressed.

Snout pointed. Mouth large; gape oblique, extending to anterior border of orbit. Eyes large, superior, not visible from below ventral surface of head. Jaws straight or only slightly upturned. Supra-orbital ridge smooth or serrated, with one or two spines posteriorly. Pre-orbit serrated on both ridge and edge. Sub-orbit also serrated. Cheek with four to seven transverse scale rows.

Material examined: 1 ex. from Puneer Haor, Coll, 10.10.1998. First report, collector

Professor D Kar and Party.

Key to species: Body transparent with a silvery broad lateral stripe on sides. Caudal peduncle

depth 10.9 to 12.0 % SL.

Parambassis ranga

Distribution: Almost throughout India, Bangladesh, Malaysia, Myanmar etc.

IUCN status: Least Concern (LC).

Family: *Cichlidae*

Genus: *Oreochromis* Guenther

Oreochromis Guenther, 1889, Ann Mag nat Hist 4(6): 70 (Type species: *Oreochromis hunter* (Gunter, by monotypy), Trewavas, 1983, Publ Brit Mus Nat Hist No. 878: 139-373.

Generic Characters: Body more or less elongate. Abdomen rounded. Head compressed, with

concave upper profile. Mouth terminal, large, cleft extending to below anterior border of eyes. Snout rounded. Eyes large, lateral, almost in middle of head. The Dorsal fin inserted above base of pectoral fins with 15 or 16 spines and 10 or 12 rays. Anal fin generally with 3 spines. Caudal fin rounded.

Material examined: 1 ex. from Puneer Haor, Coll, 10.10.1998. First report, collector Professor

D Kar and Party.

Key to species: Spinous portion longer than soft part, the latter may be prolonged with a

filamentous tip.

Oreochromis mossambicus

Distribution: Widely introduced in India, Bangladesh, Sri Lanka, etc.

IUCN status: Vulnerable (VU)

Order: Anabantiformes

Family: *Nandidae*

Genus: *Nandus Valenciennes*

Nandus Valenciennes, 1831, IN: Cuvier and Valenciennes, Hist Nat Poiss 7: 481 (Type Species, *Nandus marmoratus* Cuvier = *Coius nandus* Hamilton-Buchanan, by absolute tautonomy. *Nandus marmoratus* is an unneeded substitute for *C. nandus*, by monotypy), 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. Presence of one spine in opercle. Dorsal fin inserted above pectoral fin base with 12 to 14 spines and 11 to 13 rays. Anal fin with three spines and seven to nine rays. Caudal fin rounded. Scales ctenoid.

Material examined: 1 ex. from Puneer Haor, Coll., 10.10.1998. First report, collector

Professor D Kar and Party.

Key to species: Lateral line (LL) interrupted at about 36th scale, 47th to 57th scales along

the LL.

Nandus nandus

Distribution: Almost throughout India; Bangladesh, Myanmar, etc.

IUCN status: Least Concern (LC)

Family: *Anabantidae*

Genus: *Anabas* Cuvier

Anabas Cuvier, 1816, Le Regne Animal, 2: 339 (Type species: *Perca scandens* Daldorf, by monotypy).

Generic Characters: Body oblong, compressed. Abdomen rounded. Head moderate,

compressed. Snout slightly conical or bluntly rounded. Mouth relatively terminal, oblique, cleft not wide. Eyes large, lateral, in anterior part of head. Upper jaw weakly protrusible. The presence of a single dorsal fin, inserted above pectoral fin base with 16 to 18 spines and 8 to 10 rays, number of spines variable. Anal fin with 8 to 11 spines and 9 to 11 rays. Number of spines variable. Caudal fin rounded.

Material examined: 2 ex, Puneer Haor, Coll, 10.10.1998. 1 ex Chatla Haor, Coll, 01.08.1996.

First report, collector Professor D Kar and Party.

Key to species: Body depth 28.6 to 33.3 % SL. Dorsal fin with 8 to 10 rays.

Anabas testudineus

Distribution: Throughout India

IUCN status: Least Concern (LC)

Family: *Osphronemidae*

Genus: *Trichogaster* Bloch and Schneider

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 are a little protractile. The 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 ex. from Puneer Haor, Coll, 10.10.1998. First report, collector Professor

D Kar and Party.

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

Trichogaster fasciata

Distribution: India, Bangladesh, Myanmar, Nepal, etc.

IUCN status: Least Concern (LC)

Order: Gobiiformes

Family: *Gobiidae*

Genus: *Glossogobius* Gill

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 elongated, 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: 2 ex. Chatla Haor, Coll, 01.08.1996. First report, collector Professor D

Kar and Party.

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

to isthmus.

Glossogobius giuris

Distribution: Widely introduced in India, Bangladesh, Myanmar, Sri Lanka etc.

IUCN status: Least Concern (LC).

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