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Ichthyofaunal Diversity of Brahmaputra River and its Adjoining Tributaries: A Review

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Abstract: The diversity of fish in river Brahmaputra and its major tributaries in Assam has been reviewed. In this study a total of 217 species under 35 families were recorded. The Family Cyprinidae represented the highest diversity with 84 species followed by Bagridae (15 species), Sisoridae (15 species), Erethistidae (12 species), Cobitidae (11 species), Nemacheilidae (8 species), Schilbeidae (7 species), Osphronemidae (6 species), Clupidae (5 species), Channidae (5 species), Psilorhynchidae (4 species), Siluridae (4 species), Ambassidae (4 species), Mastacembelidae (3 species), Clariidae (3 species), Synbranchidae (3 species), Notopteridae (3 species), Mugilidae (2 species), Balitoridae (2 species), Tetradontidae (2 species), Engraulidae (2 species), Gobiidae (2 species), Chaudhuriidae (2 species), Pangasiidae (1 species), Heteropneustidae (1 species), Amblycipitidae (1 species), Chacidae (1 species), Belonidae (1 species), Aplocheilidae (1 species), Badidae (1 species), Belontiidae (1 species), Cichlidae (1 species), Opichthidae (1 species), Anabantidae (1 species) and Nandidae (1 species). As per IUCN Red List category, the maximum number of species are under Least Concern (177), followed by Data Deficient (15), Near Threatened (15), Vulnerable (6), Endangered (4). This review presents up-to-date information on fish diversity of river Brahmaputra. It will help in making appropriate conservation and management planning of fisheries in this river.

Keywords: Diversity, IUCN, River Brahmaputra, Ichthyofauna, Cyprinidae, Bagridae, Sisoridae, Heteropneustidae

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Introduction

The Brahmaputra River finds its origin in the Chema Yundung glacier of Tibet and flows through India and Bangladesh. The slope of the river decreases suddenly in front of the Himalayas and it results in the deposition of sediment and a braided channel pattern. It flows through Assam, India, along a valley comprising its own recent alluvium. In Assam, the basin receives 300 cm mean annual rainfall, 66-85% of which occurs in the monsoon period from June through

September. The Brahmaputra river basin, one of the most important basins in Asia, is known for its extraordinary biodiversity because of its large variation in endemic flora and fauna and provides livelihood support for inhabitants of the basin.

About 3,848 km long, the Brahmaputra is an important river for irrigation and transportation in the region. The average depth of the river is 30 m (98 ft) and its maximum depth is 135 m (443 ft) (Singh *et al*., 2004). All the tributaries of the valley area are rain fed and foam up with rain. The precipitation is mainly due to South West monsoon. Heavy precipitation occurs from May to September. All its tributaries experience number of flood waves as per rainfall in respective catchments. The tributaries namely Subansiri, Ronganadi, Dikrong, Buroi, Borgong, Jiabharali, Dhansiri (North), Puthimari, Manas, Beki, Aie, Sonkosh are the main tributaries on the north while the Noadehing, Buridehing, Desang, Dikhow, Bhogdoi, Dhansiri (South), Kopili, Kulsi, Dudhnoi, Krishnai, Jinjiram are the main tributaries on the south bank of the river Brahmaputra. This review presents up-to-date information on fish diversity of river Brahmaputra.

Materials and Methods

Several researchers performed studies on fish diversity pattern in river Brahmaputra and its tributaries. This review is based on the documents collected from websites, published papers in journals, textbooks, bulletins, reports etc.

Results and Discussion

A total of 217 species belonging to 35 families (Table 1) were recorded from the river Brahmaputra and its major tributaries. Cyprinidae was the dominant family comprising 84 species, followed by Bagridae (15 species), Sisoridae (15 species), Erethistidae (12 species), Cobitidae (11 species), Nemacheilidae (8 species), Schilbeidae (7 species), Osphronemidae (6 species), Clupidae (5 species), Channidae (5 species), Psilorhynchidae (4 species), Siluridae (4 species), Ambassidae (4 species), Mastacembelidae (3 species), Clariidae (3 species), Synbranchidae (3 species), Notopteridae (3 species), Mugilidae (2 species), Balitoridae (2 species), Tetradontidae (2 species), Engraulidae (2 species), Gobiidae (2 species), Chaudhuriidae (2 species), Pangasiidae (1 species), Heteropneustidae (1 species), Amblycipitidae (1 species), Chacidae (1 species), Belonidae (1 species), Aplocheilidae (1 species), Badidae (1 species), Belontiidae (1 species), Cichlidae (1 species), Opichthidae (1 species), Anabantidae (1 species), Nandidae (1 species). As per IUCN Red List category, the maximum number of species are under Least Concern (177), followed by Data Deficient (15), Near Threatened (15), Vulnerable (6) and Endangered (4).

Cyprinidae is almost an exclusively freshwater family of fishes. The body typically is elongate, compressed, and fusiform, with a single dorsal ray and a forked caudal fin. Cyprinids are important for food, as ornamental and aquarium fish, and for biological research. Several cyprinids have been introduced to waters outside their natural range to provide food, sport, or biological control for some pest species. The common carp and the grass carp are the examples of such in Florida. In some cases, these have become invasive species that compete with native fishes or disrupt the environment. The cyprinids are primary freshwater fishes i.e., they evolved in freshwater. They cannot tolerate high salinity. Although a very small number of this species can survive in brackish water, they cannot reproduce in it. They are prominent members of the fish fauna in Asia. Cyprinids are encountered in all kinds of freshwater habitats. Since they are toothless, and most species are relatively small, only a few species are predators. In fact, many are important forage fish for predators. The majority of these species are omnivorous, feeding on a mixture of invertebrates, organic debris and plants. Cyprinids are of major economic importance in world fisheries.

However, the river has been experiencing many anthropogenic threats like garbage dispersal to the river, flow of pesticides used in the

Table 1: Annotated list of fishes presented from secondary available literature of Brahmaputra River

S. No.	FAMILY	SPECIES	REFERENCE	IUCN STATUS
1.	Cyprinidae	*Amblypharyngodon mola*	Goswami and Ali (2012); Sarma *et al.* (2012) Bakalial *et al.* (2014); Deori *et al.* (2015); Borah and Das (2020)	LC
2.		*Aspidoparia jaya*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
3.		*Aspidoparia morar*	Sarma *et al.*(2012); Deori *et al.* (2015)	LC
4.		*Aristichthys nobolis*	Kalita and Sarma (2015)	LC
5.		*Barilius barna*	Sarma *et al.*(2012); Kalita and Sarma (2015); Borah and Das (2020)	LC
6.		*Barilius bendelisis*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
7.		*Barilius tileo*	Goswami and Ali (2012); Bakalial *et al.* (2014)	LC
8.		*Barilius barila*	Bakalial *et al.* (2014); Deori *et al.* (2015)	LC
9.		*Barilius shacra*	Bakalial *et al.* (2014); Kaushik and Bordoloi (2016)	LC
10.		*Barilius vagra*	Bakalial *et al.* (2014); Kalita and Sarma (2015); Kaushik and Bordoloi (2016)	LC
11.		*Barilius dero*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
12.		*Barbonymus gonionotus*	Borah and Das (2020)	LC
13.		*Cabdio morar*	Bakalial *et al.* (2014); Kalita and Sarma (2015); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
14.		*Cirrhinus mrigala*	Goswami and Ali (2012); Sarma *et al.* (2012); Bakalial *et al.* (2014); Borah and Das (2020)	LC
15.		*Cirrhinus reba*	Sarma *et al.*(2012); Deori *et al.*(2015); Kalita and Sarma (2015); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
16.		*Crossocheilus burmanicus*	Borah and Das (2020)	LC
17.		*Ctenopharyngodon idella*	Goswami and Ali (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
18.		*Cyprinus carpio*	Goswami and Ali (2012); Bakalial *et al.* (2014); Borah and Das (2020)	VU
19.		*Chela cachius*	Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC

20.		*Chagunius chagunio*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
21.		*Catla catla*	Goswami and Ali (2012); Sarma *et al.* (2012); Kalita and Sarma (2015)	LC
22.		*Devario aequipinnatus*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC
23.		*Devario devario*	Bakalial *et al.* (2014); Deori *et al.* (2015); Borah and Das (2020)	LC
24.		*Danio devario*	Goswami and Ali (2012); Sarma *et al.* (2012); Kalita and Sarma (2015)	LC
25.		*Danio rerio*	Bakalial *et al.*(2014); Kalita and Sarma (2015); Deori *et al.* (2015); Kaushik and Bordoloi (2016)	LC
26.		*Danio dangila*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
27.		*Danionella priapus*	Bakalial *et al.* (2014); Kaushik and Bordoloi (2016)	DD
28.		*Devario assamensis*	Bakalial *et al.* (2014)	VU
29.		*Esomus danrica*	Goswami and Ali (2012); Deori *et al.* (2015); Kalita and Sarma (2015); Borah and Das (2020)	LC
30.		*Garra gotyla*	Bakalial *et al.* (2014); Kalita and Sarma (2015); Kaushik and Bordoloi (2016)	LC
31.		*Garra annandalei*	Bakalial *et al.* (2014); Kaushik and Bordoloi (2016)	LC
32.		*Garra arupi*	Bakalial *et al.* (2014)	LC
33.		*Garra lamta*	Bakalial *et al.* (2014)	LC
34.		*Garra lissorhynchus*	Bakalial *et al.* (2014)	LC
35.		*Garra nasuta*	Bakalial *et al.* (2014)	LC
36.		*Hypophthalmichthys molitrix*	Goswami and Ali (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015)	DD
37.		*Hypophthalmichthys nobilis*	Goswami and Ali (2012)	DD
38.		*Labeo bata*	Sarma *et al*. (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Deori *et al.* (2015); Kalita and Sarma (2015); Borah and Das (2020)	LC
39.		*Labeo calbasu*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC
40.		*Labeo dyocheilus*	Goswami and Ali (2012); Sarma *et al.* (2012); Bakalial *et al.* (2014);	LC

			Kalita and Sarma (2015)	
41.		*Labeo gonius*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Deori *et al.* (2015); Kalita and Sarma (2015)	LC
42.		*Labeo rohita*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Deori *et al.* (2015); Kalita and Sarma (2015)	LC
43.		*Labeo pangusia*	Bakalial *et al.* (2014); Borah and Das (2020)	NT
44.		*Labeo nandina*	Goswami and Ali (2012); Bakalial *et al.* (2014)	NT
45.		*Labeo dero*	Goswami and Ali (2012)	LC
46.		*Labeo boga*	Bakalial *et al.* (2014)	LC
47.		*Labeo angra*	Bakalial *et al.* (2014)	LC
48.		*Labeo fimbriatus*	Bakalial *et al.* (2014)	LC
49.		*Laubuka laubuca*	Bakalial *et al.* (2014); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
50.		*Notopterus notopterus*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015); Borah and Das (2020)	LC
51.		*Neolissochilus hexagonolepsis*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	NT
52.		*Neolissochilus hexastichus*	Bakalial *et al.* (2014)	NT
53.		*Opsarius barna*	Bakalial *et al.* (2014)	LC
54.		*Osteobrama cotio*	Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015); Kaushik and Bordoloi (2016)	LC
55.		*Oreichthys cosuatis*	Bakalial *et al.* (2014)	LC
56.		*Puntius phutunio*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
57.		*Puntius conchonius*	Goswami and Ali (2012); Sarma *et al.* (2012); Kalita and Sarma (2015)	LC
58.		*Puntius chola*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC
59.		*Puntius gelius*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
60.		*Puntius sophore*	Goswami and Ali (2012); Sarma *et al.* (2012); Bakalial *et al.* (2014); Deori *et al.* (2015); Kalita and Sarma (2015); Borah and Das (2020)	LC
61.		*Puntius terio*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015);	LC

			Borah and Das (2020)	
62.		*Puntius ticto*	Goswami and Ali (2012); Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015)	LC
63.		*Puntius sarana*	Sarma *et al.* (2012); Goswami and Ali (2012); Kalita and Sarma (2015); Deori *et al.* (2015)	LC
64.		*Parluciosoma daniconius*	Deori *et al.* (2015)	LC
65.		*Pethia conchonius*	Bakalial *et al.* (2014); Borah and Das (2020)	LC
66.		*Pethia ticto*	Kaushik and Bordoloi (2016)	LC
67.		*Puntius shalynius*	Sarma *et al.* (2012)	VU
68.		*Puntius javanicus*	Sarma *et al.* (2012)	LC
69.		*Puntius guganio*	Bakalial *et al.* (2014); Kaushik and Bordoloi (2016)	LC
70.		*Raiamas bola*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
71.		*Raiamas guttatus*	Sarma *et al.* (2012)	LC
72.		*Rasbora rasbora*	Goswami and Ali (2012); Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC
73.		*Rasbora daniconius*	Goswami and Ali (2012); Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
74.		*Rasbora bonensis*	Goswami and Ali (2012)	LC
75.		*Rasbora elanga*	Goswami and Ali (2012)	LC
76.		*Salmostoma bacaila*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC
77.		*Systomus sarana*	Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC
78.		*Systomus clavatus*	Bakalial *et al.* (2014)	LC
79.		*Salmophasia phulo*	Bakalial *et al.* (2014)	LC
80.		*Salmophasia bacaila*	Bakalial *et al.* (2014)	LC
81.		*Securicula gora*	Bakalial *et al.* (2014)	LC
82.		*Tor progeneius*	Bakalial *et al.* (2014)	EN
83.		*Tor putitora*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	EN

84.		*Tor tor*	Bakalial *et al.* (2014); Kaushik and Bordoloi (2016)	DD
85.	Psilorhynchidae	*Psilorhynchus balitora*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
86.		*Psilorhynchus sucatio*	Bakalial *et al.* (2014); Kaushik and Bordoloi (2016)	LC
87.		*Psilorhynchus gracilis*	Bakalial *et al.* (2014)	LC
88.		*Psilorhynchus arunachalensis*	Bakalial *et al.* (2014); Kaushik and Bordoloi (2016)	DD
89.	Balitoridae	*Acanthocobitis botia*	Kalita and Sarma (2015)	LC
90.		*Balitora brucei*	Bakalial *et al.* (2014)	VU
91.	Cobitidae	*Botia histrionica*	Goswami and Ali (2012)	LC
92.		*Botia dario*	Goswami and Ali (2012); Kalita and Sarma (2015); Deori *et al.* (2015)	LC
93.		*Botia rostrata*	Kalita and Sarma (2015)	VU
94.		*Canthophrys gongota*	Deori *et al.* (2015); Kalita and Sarma (2015)	LC
95.		*Lepidocephalichthys menoni*	Bakalial *et al.* (2014)	DD
96.		*Lepidocephalichthys annandalei*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	DD
97.		*Lepidocephalichthys goalparensis*	Bakalial *et al.* (2014)	LC
98.		*Lepidocephalichthys guntea*	Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC
99.		*Lepidocephalichthys irrorata*	Bakalial *et al.* (2014)	LC
100.		*Pangio pangia*	Bakalial *et al.* (2014)	LC
101.		*Somileptis gongota*	Sarma *et al.* (2012)	LC
102.	Bagridae	*Aorichthys seenghala*	Goswami and Ali (2012)	LC
103.		*Aorichthys aor*	Goswami and Ali (2012)	LC
104.		*Hemibagras menoda*	Bakalial *et al.* (2014)	LC
105.		*Mystus bleekeri*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC
106.		*Mystus cavasius*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC
107.		*Mystus tengara*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014);	LC

			Deori *et al.* (2015); Kalita and Sarma (2015); Borah and Das (2020)	
108.		*Mystus vittatus*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Deori *et al.* (2015); Kalita and Sarma (2015); Borah and Das (2020);	LC
109.		*Mystus dibrugarensis*	Bakalial *et al.* (2014); Deori *et al.* (2015); Kaushik and Bordoloi (2016)	LC
110.		*Mystus menoda*	Goswami and Ali (2012)	LC
111.		*Mystus carcio*	Bakalial *et al.* (2014)	LC
112.		*Olyra kempi*	Kaushik and Bordoloi (2016)	LC
113.		*Olyra longicaudata*	Kaushik and Bordoloi (2016)	LC
114.		*Rita rita*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Deori *et al.* (2015); Kalita and Sarma (2015); Borah and Das (2020)	LC
115.		*Sperata aor*	Bakalial *et al.* (2014); Deori *et al.* (2015); Kalita and Sarma (2015); Borah and Das (2020)	LC
116.		*Sperata seenghala*	Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015); Kaushik and Bordoloi (2016)	LC
117.	Siluridae	*Ompok bimaculatus*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	NT
118.		*Ompok pabda*	Goswami and Ali (2012); Sarma *et al.* (2012); Bakalial *et al.* (2014); Deori *etn al.* (2015); Kalita and Sarma (2015); Borah and Das (2020)	NT
119.		*Ompok pabo*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Deori *et al.* (2015); Kalita and Sarma (2015); Kaushik and Bordoloi (2016); Borah and Das (2020)	NT
120.		*Wallago attu*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015); Kaushik and Bordoloi (2016); Borah and Das (2020)	VU
121.	Schilbeidae	*Ailia coila*	Goswami and Ali (2012); Kalita and Sarma (2015); Borah and Das (2020)	NT
122.		*Aiichthys punctata*	Kalita and Sarma (2015)	LC
123.		*Clupisoma garua*	Goswami and Ali (2012); Sarma *et al.* (2012)	LC
124.		*Eutropiichthys murius*	Bakalial *et al.* (2014)	LC
125.		*Eutropiichthys vacha*	Kalita and Sarma (2015); Deori *et al.* (2015); Borah and Das (2020)	LC

126.		*Neotropius atherinoides*	Bakalial *et al.* (2014);Kalita and Sarma (2015)	LC
127.		*Silonia silondia*	Bakalial *et al.* (2014)	LC
128.	Pangasiidae	*Pangasius pangasius*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
129.	Heteropneustedae	*Heteropneustes fossilis*	Goswami and Ali (2012)	LC
130.	Sisoridae	*Bagarius bagarius*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	NT
131.		*Bagarius yarrellii*	Bakalial *et al.* (2014)	VU
132.		*Gagata cenia*	Sarma *et al.* (2012); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
133.		*Glyptothorax telchitta*	Sarma *et al.* (2012); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
134.		*Glyptothorax trilineatus*	Kaushik and Bordoloi (2016)	LC
135.		*Glyptothorax platypogonides*	Sarma *et al.* (2012)	LC
136.		*Glyptothorax indicus*	Bakalial *et al.* (2014)	LC
137.		*Glyptothorax gracilis*	Bakalial *et al.* (2014)	DD
138.		*Glyptothorax dikrongensis*	Bakalial *et al.* (2014)	LC
139.		*Glyptothorax cavia*	Kaushik and Bordoloi (2016)	LC
140.		*Glyptothorax striatus*	Kaushik and Bordoloi (2016)	NT
141.		*Gogangra viridescens*	Kalita and Sarma (2015)	LC
142.		*Nangra assamensis*	Bakalial *et al.* (2014); Kaushik and Bordoloi (2016)	LC
143.		*Nangra nangra*	Bakalial *et al.* (2014)	LC
144.		*Sisor rabdophorus*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Borah and Das (2020)	LC
145.	Amblycipitidae	*Amblyceps mangois*	Kalita and Sarma (2015)	LC
146.	Clariidae	*Clarias batrachus*	Goswami and Ali (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC
147.		*Clarias magur*	Goswami and Ali (2012)	EN
148.		*Clarias gariepinus*	Goswami and Ali (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
149.	Chacidae	*Chaca chaca*	Kalita and Sarma (2015); Borah and Das (2020)	LC

150.	Mugilidae	*Rhinomugil corsula*	Bakalial *et al.* (2014); Kalita and Sarma (2015); Borah and Das (2020)	LC
151.		*Sicamugil cascasia*	Sarma *et al.* (2012); Kalita and Sarma (2015)	LC
152.	Belonidae	*Xenentodon cancila*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
153.	Clupeidae	*Gudusia chapra*	Sarma *et al.* (2012); Bakalial *et al.* (2014);Kalita and Sarma (2015); Borah and Das (2020)	LC
154.		*Gibelion catla*	Borah and Das (2020)	LC
155.		*Gudusia variegata*	Goswami and Ali (2012)	LC
156.		*Hilsa ilisha*	Sarma *et al.* (2012); Goswami and Ali (2012)	LC
157.		*Tenualosa ilisha*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
158.	Synbranchidae	*Amphipnous cuchia*	Goswami and Ali (2012)	LC
159.		*Monopterus cuchia*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015); Borah and Das (2020)	LC
160.		*Monopterus albus*	Bakalial *et al.* (2014)	LC
161.	Mastacembelidae	*Macrognathus aral*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Deori *et al.* (2015); Kalita and Sarma (2015); Borah and Das (2020)	LC
162.		*Macrognathus pancalus*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015); Borah and Das (2020)	LC
163.		*Mastacembelus armatus*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015); Kaushik and Bordoloi (2016); Borah and Das (2020)	LC
164.	Aplocheilidae	*Aplocheilus panchax*	Kalita and Sarma (2015)	LC
165.	Badidae	*Badis badis*	Borah and Das (2020)	LC
166.	Tetradontidae	*Leiodon cutcutia*	Borah and Das (2020)	LC
167.		*Tetraodon cutcutia*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015)	LC
168.	Belontiidae	*Colisa fasciata*	Goswami and Ali (2012)	LC
169.	Cichlidae	*Oreochromis mossambicus*	Goswami and Ali (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015)	VU
170.	Engraulidae	*Setipinna phasa*	Sarma *et al.* (2012); Kalita and Sarma (2015)	LC

171.		*Setipinna brevifilis*	Sarma *et al.* (2012)	DD
172.	Erethistidae	*Erethistes montana*	Bakalial *et al.* (2014)	LC
173.		*Erethistes infuscatus*	Bakalial *et al.* (2014)	LC
175.		*Erethistes pusillus*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
176.		*Hara hara*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
177.		*Hara jerdoni*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
178.		*Hara horai*	Bakalial *et al.* (2014)	LC
179.		*Pseudolaguvia shawi*	Kaushik and Bordoloi (2016)	LC
180.		*Pseudolaguvia ferula*	Kaushik and Bordoloi (2016)	DD
181.		*Pseudolaguvia ferruginea*	Bakalial *et al.* (2014)	DD
182.		*Pseudolaguvia flavida*	Bakalial *et al.* (2014)	DD
183.		*Pseudolaguvia foveolata*	Bakalial *et al.* (2014)	DD
184.		*Pseudolaguvia ribeiroi*	Bakalial *et al.* (2014)	LC
185.	Osphronemidae	*Ctenops nobilis*	Goswami and Ali (2012)	NT
186.		*Trichogaster fasciata*	Bakalial *et al.* (2014); Deori *et al.* (2015); Kalita and Sarma (2015); Borah and Das (2020)	LC
187.		*Trichogaster labiosa*	Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015)	LC
188.		*Trichogaster lalius*	Bakalial *et al.* (2014); Deori *et al.* (2015); Kalita and Sarma (2015); Borah and Das (2020)	LC
189.		*Trichogaster chuna*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
190.		*Trichogaster sota*	Deori *et al.* (2015)	LC
191.	Ophichthidae	*Pisodonophis boro*	Kalita and Sarma (2015)	LC
192.	Anabantidae	*Anabas testudineus*	Goswami and Ali (2012); Deori *et al.* (2015); Borah and Das (2020)	LC
193.	Ambassidae	*Chanda nama*	Deori *et al.* (2015)	LC
194.		*Parambassis ranga*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
195.		*Parambassis lala*	Bakalial *et al.* (2014)	NT

196.		*Parambassis baculis*	Bakalial *et al.* (2014); Kalita and Sarma (2015)	LC
197.	Channidae	*Channa barca*	Goswami and Ali (2012)	DD
198.		*Channa marulius*	Goswami and Ali (2012)	LC
199.		*Channa gachua*	Deori *et al.* (2015)	LC
200.		*Channa punctata*	Deori *et al.* (2015)	LC
201.		*Channa striata*	Deori *et al.* (2015)	LC
202.	Gobiidae	*Glossogobius giuris*	Sarma *et al.* (2012); Goswami and Ali (2012); Kalita and Sarma (2015); Kaushik and Bordoloi (2016); Borah and Das (2020)	DD
203.		*Glossogobius gutum*	Sarma *et al.* (2012)	LC
204.	Nemacheilidae	*Neonoemacheilus assamensis*	Bakalial *et al.* (2014)	NT
205.		*Paracanthocobitis botia*	Borah and Das (2020)	LC
206.		*Schistura corica*	Kalita and Sarma (2015)	LC
207.		*Schistura tirapensis*	Kaushik and Bordoloi (2016)	LC
208.		*Schistura beavani*	Bakalial *et al.* (2014)	LC
209.		*Schistura multifasciata*	Bakalial *et al.* (2014)	LC
210.		*Schistura savona*	Bakalial *et al.* (2014)	LC
211.		*Schistura scaturigina*	Bakalial *et al.* (2014)	LC
212.	Notopteridae	*Chitala chitala*	Borah and Das (2020)	NT
213.		*Notopterus notopterus*	Sarma *et al.* (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015); Borah and Das (2020)	LC
214.		*Notopterus chitala*	Goswami and Ali (2012)	LC
215.	Nandidae	*Nandus nandus*	Sarma *et al.* (2012); Goswami and Ali (2012); Bakalial *et al.* (2014); Kalita and Sarma (2015); Deori *et al.* (2015); Borah and Das (2020)	LC
216.	Chaudhuriidae	*Garo khajuriai*	Borah and Das (2020)	NT
217.		*Pillaia indica*	Bakalial *et al.* (2014)	EN

agricultural field to the river, setting of brick industries on the river bank, over fishing, poison fishing in the upper stretch etc. (Kalita *et al*., 2018). Pesticides (especially organophosphates) used in the bank side paddy fields can affect the fish population (Acharjee *et al*., 2012). According to Kottelat and Whitten (1996), drastic reduction in abundance of the freshwater fishes in the northeastern region is due to destruction of the habitat, overexploitation and other anthropogenic effects. Frequent changes in the course of channels and bank erosion with a high rate of siltation have been identified as major threats to the riverine biota (total aquatic organisms) of the Brahmaputra as they have a great bearing on the faunal composition of the river. Heavy siltation not only raises the river bed but also blocks the mouth of the channels connecting the beels. This prevents the riverine fish from entering the wetland through the channels. Since there is no auto-stocking of fish and auto-removal of macrophytes during the monsoon months, it results in the extermination of wetland species. A sharp decline in the catch of the Indian major carps points to the loss of spawning grounds in the Brahmaputra and most of its tributaries (Nayak and Panda, 2012).

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