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FISH DIVERSITY OF INDIAN SUNDARBAN

and its Resource and Research Prospects

Text : Subhrendu S Mishra and K C Gopi

Photos : Biswajit Roy Chowdhury



Boleophthalmus boddarti (Pallas, 1770) | Boddart's goggle-eyed goby



Acanthopagrus berda (Forsskål 1775) | Goldsilk seabream



Glaucostegus granulatus (Cuvier, 1829) | Sharpnose guitarfish

The vast expanse of Sundarban wetlands harbor several species of fishes that greatly contribute to the fisheries and the economy of the people in and around Sundarban. The diversity of fish fauna of this ecosystem is usually associated with tolerance to a wide range of salinity fluctuation and migration. Many low-salinity tolerant freshwater elements enter upper estuarine zone particularly during ebb tide period, while marine elements are usually restricted to lower zone. Some species move freely in the entire salinity gradient during major part of the year, but very few species can be considered as 'residents'. The well established fact is that most species enter the brackish waters of mangroves and spend varying period of their life-span either for shelter and feeding or for spawning purpose.

Mudskippers inhabiting the intertidal zone of the rivers, creeks, and backwaters in Sundarban always remain a treat to eyes of tourists and passersby. Fish faunal resources of these water bodies always attract scientists, researchers and common people, at large, for their diversity and peculiarity, economic importance as food source, and recently for biomedical substances. The Surgeon-Naturalist Francis Hamilton (formerly F. Buchanan) during his stay at Baruipur, near Calcutta [Kolkata] (1798-1800) got fascinated by the diversity of fishes of lower Bengal, that led him to take on their descriptions and prepare drawings of fishes of the area (Hora, 1934), mostly from estuarine waters of erstwhile '24-Parganas'. His investigations on brackish water fishes of lower Bengal were embodied in a manuscript, '*Pisciculum Bengala inferioris Delineationes septuaginta octo*', which was housed in the library of the Asiatic Society of Bengal (Hora, 1933).

Since then, during last the two hundred and sixteen years, several works on fish and fisheries of Sundarban and its surroundings have been added up, increasing our knowledge on Sundarban fishes. Many of them are on capture and culture fisheries. Particularly in the latter half of the twentieth century, with the aim at 'blue revolution', more emphasis was given on aquaculture and exploitation of food fishes, than on biodiversity studies. The publications of taxonomic nature depicting piscine diversity of Sundarban/Hooghly-Matla estuary are used herein for preparing the checklist, appended as Annexure-I. This paper also deals with the existing ambiguity in taxonomy of some fishes reported from this area that need further attention. All valid fish species described from estuarine waters of Hooghly-Matla complex are marked with an asterisk (*). The conservation status of the fishes given here follows IUCN (2016). The arrangement of families and orders are according to Nelson (2006), with minor changes according to recent studies.

Fishes of Indian Sundarban:

The first ever study on fishes of Sundarban wetlands came through the monumental work of Hamilton (1822). He described about 71 new species from the estuaries of the Ganges, and majority of them occurred in Sundarban, of which 51 are valid as on date. *Raiia sancur* Hamilton is, in fact, the first species described from estuaries of the Ganges, but it is considered to be a synonym of *Pastinachus sephen* (Forskål) (Kottelat 2013). The next valid species, stated to be "found chiefly in



Lates calcarifer (Bloch, 1790) | Bhetki



Gymnothorax tile (Hamilton, 1822) | Indian mud moray

the estuaries" in Hamilton (1822) is *Tetraodon patoca* [=*Chelonodon patoca* Hamilton]. Muller and Henle (1839) described three species of sharks from Bengal, viz., *Carcharias (Physodon) muelleri* (=*Scoliodon laticaudus*), *Carcharias (Scoliodon) acutus* (=*Rhizoprionodon acutus*) and *Squalus (Prionodon) gangeticus* (=*Glypis gangeticus*), all from deltaic region of the Ganges. McClelland (1844) studied the apodal fishes of Bengal that included many estuarine forms. While McClelland (1841) reported two batoid fishes, Blyth (1860) studied the cartilaginous fishes of lower Bengal.

During the first half of the twentieth century, Annandale (1906, 1909, 1910, 1922), Lloyd (1908), Kemp ((1917), Hora (1929, 1933, 1934, 1935), Pearse (1932), Koumans (1941) and Mitra (1945) considerably contributed to the knowledge on the fish diversity from Hooghly-Matla estuary and Sundarban. After the independence of India, importance was laid on blue revolution leading to exploitation of resources and freshwater as well as brackish water aquaculture. More publications on capture and culture fisheries came up later. The works of David (1954), Pillay & Ghosh (1964), Gupta (1967, 1968), Chakraborty & Bannerjee (1967), Babu Rao & Sinha (1968), Banerjee & Chakraborty (1969), Talwar & Joglekar (1970, 1972), Gopalakrishnan (1971, 1973), Dutta (1973), Mukherjee (1975), Chatterjee (1978, 1981), Talwar & Roy (1980), Sen (1981), Naskar & Chakraborty (1984) gave us further information on fish diversity of this region.

There was no specific documentation on fish fauna of Indian Sundarban, other than the scattered information till 1988, which was restricted to small groups or single species of fish. Mandal and Nandi (1989) documented 139 species under 101 genera in estuarine waters of Indian Sundarban. Talwar (1991) gave a vivid enumeration of fishes from the Ganges River, wherein the estuarine forms were clearly mentioned. Chaudhuri and Choudhury (1994) reported 250 species of fishes belonging to 96 genera from the region. Agrawal and Ghosh (1995) listed only 83 fishes from Sundarban Tiger Reserve. Mukherjee (1995) studied the intertidal fishes of the Hooghly-Matla eastuary. Das and Nandi (1999) enumerated 22 Chondrichthyes (cartilaginous fishes) and 154 Osteichthyes (bony fishes) from Sundarban. Sanyal (1999) listed 165 species from Sundarban. Khan (2003) gave a list of 202 species of fishes as known to occur in Indian Sundarban, but he collected only 106 species during the study period. Mitra *et al.* (2005) listed only 139 fishes. Chatterjee *et al.* (2013) studied the Gobioid fishes of Indian Sundarban giving detailed information on 45 species belonging to 37 genera in two families. Mandal *et al.* (2013) put the number of fin fishes from this estuarine ecosystem at more or less 267 species. Pal *et al.* (2014) provided an overview of the fishes of Indian Sundarban, and listed 305 species of fishes belonging to 193 genera in 71 families.

Although the estuarine fish components are well studied, little attention was given on freshwater elements in and around Sundarban. Sanyal (1999) accounted for 31 freshwater fish species from the Sundarban. Recently, Kar *et al.* (2014) studied freshwater fish resources of Sagar Island and recorded 36 species belonging to 28 genera and 18 families, and Dubey *et al.* (2015) reported 62 freshwater-inhabiting fishes, thus contributing to the study of indigenous freshwater piscine resources of Indian Sundarban Biosphere Reserve.

Fish Faunal Diversity:

The fish diversity of Sundarban reflected a high species richness and abundance, having direct bearing on the significance of the mangrove ecosystems. The Sundarban mangroves and the associated extensive mudflats are ideal nursery grounds for the breeding populations of marine organisms, especially fishes. Sundarban mangroves have a unique influence of the basin features of Bay of Bengal, which experiences seasonal reversing monsoons and depressions, sever cyclonic storms, the large amount of rainfall and river run off, and high seasonal sea level fluctuations (-40 cm to +54 cm). The enormous discharge of river run off, including the nutrient/ sediment load, from the Indian subcontinent, the hydrographic circulation, annually reversing monsoonal currents and the associated heat and freshwater fluxes greatly impact the physico-chemical parameters, influencing the diversity of all kinds of animal communities, including fishes, of the region. The high fish diversity known from the estuarine waters of Sundarban is the ultimate reflection of the interplay of all these composite features.

The updated list of fishes of Sundarban (Table-1) gives information of

about 350 species belonging to 225 genera, 86 families distributed in 25 orders occurring in this region. Cartilaginous fishes or Elasmobranchs comprise only 10.3% of fishes known, i.e., 36 species belonging to 21 genera, 10 families and 6 orders. The rest, 314 species (89.7%) in 204 genera, 76 families and 19 orders are bony fishes. Among the fishes occurring in Indian Sundarban, the family Gobiidae is the most diverse group with 40 species, followed by Sciaenidae (18 spp.) and Engraulidae (17 spp.). The highest representation of elasmobranchs is by the gray sharks (Carcharhinidae, 10 spp.), followed by stingrays (Dasyatidae, 9 spp.).

The primary freshwater fishes (PFW) of Sundarban are represented by twenty families, such as Notopteridae (1 sp.), Cyprinidae (14 spp.), Cobitidae (1 sp.), Horabagridae (1 sp.), Bagridae (6 spp.), Schilbeidae (2 spp.), Siluridae (3 spp.), Sisoridae (1 sp.), Pangasidae (1 sp.), Clariidae (1 sp.), Heteropneustidae (1 sp.), Adrianichthyidae (1 sp.), Aplocheilidae (1 sp.), Synbranchidae (2 spp.), Mastacembelidae (3 spp.), Datnioididae (1 sp.), Badidae (1 sp.), Nandidae (1 sp.), Anabantidae (2 spp.), Osphronemidae (3 spp.), Channidae (4 spp.), with just 51 species. However, only 20 species (marked with F) found in Sundarban prefer freshwater regime, while 23 species are marine forms (marked with M), foraging into the brackish waters of Sundarban. Four recorded species are known to live exclusively in brackish water. Altogether 108 species are known to inhabit from fresh to marine waters (M-B-F), having high tolerance to fluctuation of salinity, while 57 species usually move between fresh and brackish water region (F-B or B-F). As many as 138 species are usually marine forms (M-B) that spend considerable period of their life cycle in estuarine waters (Figure-1).



Tylosurus crocodilus crocodilus (Peron & Lesueur, 1821) | Hound needlefish

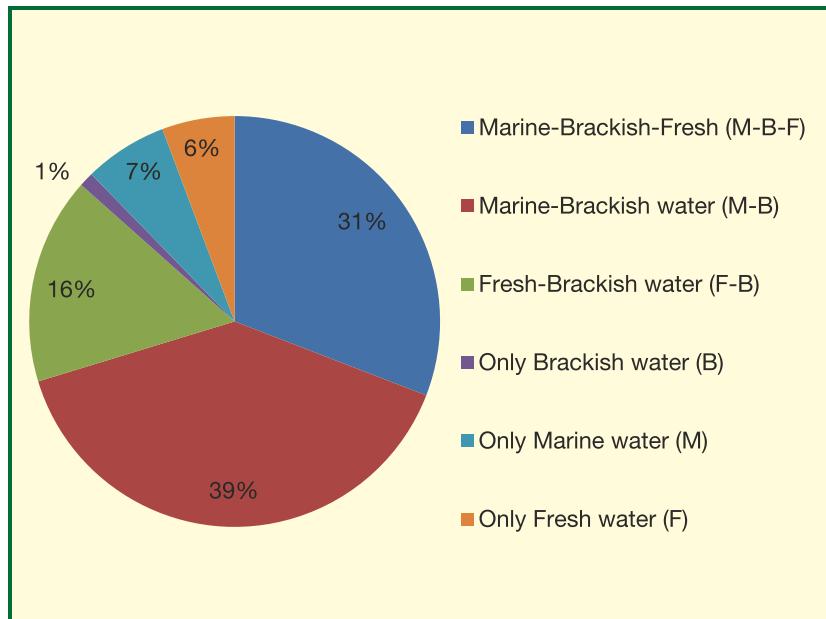


Figure-1. Habitat preference of recorded fishes of Indian Sundarban.

The fishes of only 10 families, viz., Moringuidae (2 spp.), Muraenidae (2 spp.), Ophichthidae (4 spp), Batrachoididae (1 spp.), Syngnathidae (3 spp.), Callionymidae (4 spp.), Eleotridae (7 spp.), Gobiidae (38 spp.), Soleidae (3 spp.), Triacanthidae (2 spp.) and Tetraodontidae (5 spp.), comprising 71 species (20.3%), are normally considered as non-commercial forms. Excluded here are two members of the family Gobiidae, *Glossogobius giuris* (Hamilton) and *Pseudapocryptes elongatus* (Bloch), which are usually found to be marketed fresh. Ten important families having major contribution to fisheries are Clupeidae, Pristigasteridae, Engraulidae, Ariidae, Bagridae, Mugilidae, Latidae, Polynemidae, Sciaenidae, and Stromateidae. *Tenualosa ilisha* (Ilish) of the family Clupeidae, *Mugil cephalus* (Bhangon) of the family Mugilidae and *Lates calcarifer* (Bhetki) of the family Latidae are the most important fishes of commerce.

However, only 4.6% of fishes belonging to the family Narcinidae (1 sp.), Moringuidae (2 spp.), Syngnathidae (3 spp.), Callionymidae (4 spp.), Tetraodontidae (5 spp.) and one Gobiid fish, *Acentrogobius canius*, are not considered as fit for consumption. Therefore, more than 95% of

fishes occurring in estuarine waters around Sundarban are edible. Of them, 43.1 % of fishes (151 spp.) are commercially important (CF) and significantly contribute to the fisheries of the region. Further, 29.1% of fishes (102 spp.) are of minor fisheries interest (MC). At least 21.4% (75 spp.) of species are ornamental fishes (marked as ORF), hence have the potential for aquarium trade. The Spotted Scat, *Scatophagus argus*, is a very attractive and hardy fish, suitable for aquariums, which can be acclimatized to survive even in freshwater condition for a long period.

Conservation Status:

The conservation status of the fishes known from Indian Sundarban, as per IUCN Red Data List (IUCN 2016), is given in Figure-2. Status of about 53.4% of fishes falls under the category of 'Not Assessed' and 5.4% of fishes under 'Data Deficient' category. In other words, the conservation status of 58.8% of fishes is not yet known. Only 30% of the known fishes are categorized as 'Least Concerned', which may be exploited for commercial purposes. But 6.3% of fishes are 'Near Threatened', which may slip into the threatened category if proper conservation measures are not taken. Of these fishes, 4.85% are threatened (including Vulnerable, Endangered and Critically Endangered), which essentially need conservation measures.

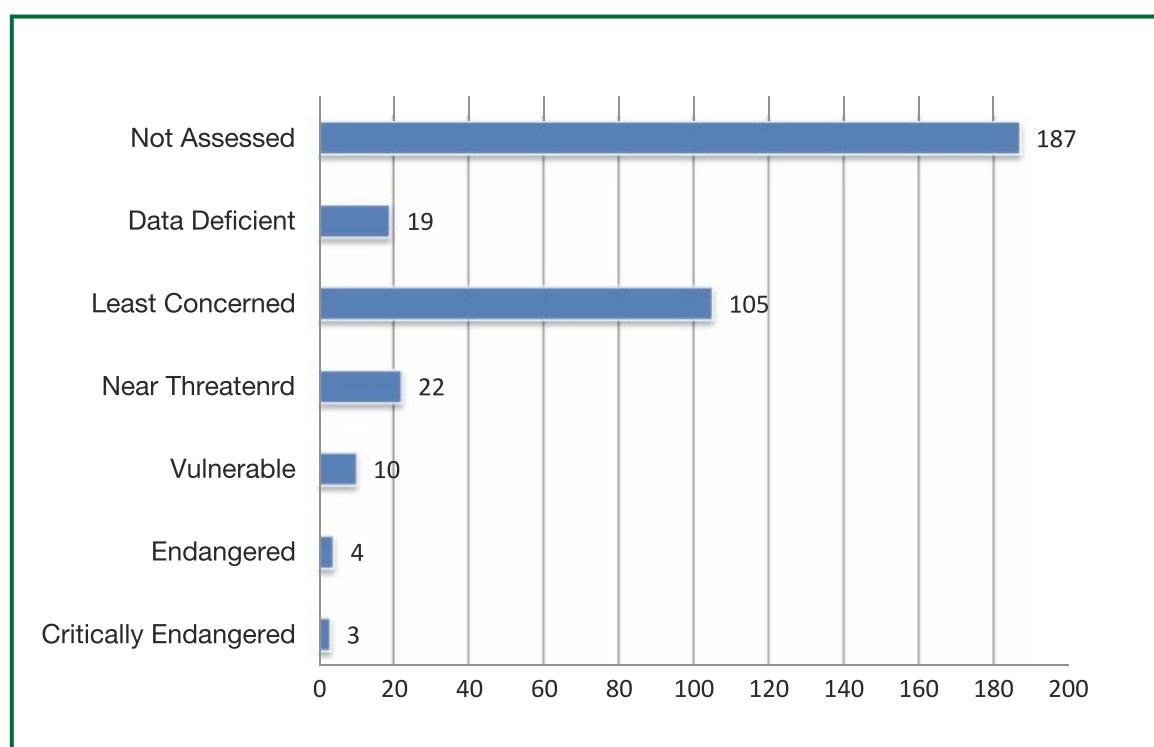


Figure-2. IUCN conservation status of the fish species known from Indian Sundarban.



Glossogobius giuris (Hamilton, 1822) | Tank goby



Cynoglossus sp. | Tongue sole

Of the 17 species placed in threatened category, except *Epinephelus lanceolatus* and *Clarias magur*, all 15 species are Elasmobranchs. Two sharks, *Glyphis gangeticus* and *Carcharhinus hemiodon*, and one sawfish, *Pristis pristis*(reported earlier as *Pristis microdon*) are 'Critically Endangered'. One shark, *Lamiopsis temminckii*, and two sawfishes, *Anoxypristes cuspidata* and *Pristis clavata* (reported earlier as *Pristis pectinata*), are assessed as 'Endangered' as per IUCN Red List.The other nine elasmobranchs, viz., *Stegostoma fasciatum*, *Glaucostegus granulatus*, *Glaucostegus typus*, *Glycostegus obtusus*, *Rhina aencylostoma*, *Rhynchobatus laevis*(reported earlier as *Rhynchobatus djiddensis*), *Himantura gerrardi*, *Himantura uarnacoides*(reported earlier as *Himantura bleekeri*), *Himantura uarnak*, are assessed as vulnerable.

Most of the sharks, skates and rays (Elasmobranchs) are usually over-exploited for their meat, liver, fins and skin. Meat is utilized for human consumption, fins dried for the shark fin trade, and liver is used for vitamin-rich oil extraction. All these fishes are ovoviparous and produce limited number of young ones per litter. With limited life characteristics, very heavy and unregulated fishing pressure makes them vulnerable to survive.The body structure of saw fishes, particularly the long and tooth-studded saw, makes them extraordinarily vulnerable to entanglement in any sort of net gear, including primitive fishing technology, and regardless of population size (which was probably always fairly small). When sawfish are taken in by-catch, they are often retained because of the very high value of their products; their meat is considered to be of high quality; fins and rostral saws are extremely valuable in international trade. These species are virtually disappeared from commercial catches in regions where it was once considered fairly common, and their populations are becoming increasingly rare.

There were no records of the Ganges shark, *Glypis gangeticus* (Müller & Henle), after 1867 till 1996, though 1996 records have not been confirmed. Compagno (2002) observed that only a few specimens of *G. gangeticus* were sighted during 1996 in the Ganges River. A specimen collected 84 km upstream of the mouth of the Hooghly River, at Mahishadal (West Bengal), in 2001 has been identified as *G. gangeticus*, and the identification was based on photographs of the jaw only. A few jaws of this species have been observed in international trade in the recent past, which suggests that it is not extinct (Compagno, 2007). Further studies on this species are highly essential for its conservation.

Secondly, *Carcharhinus hemiodon* (Muller & Henle) is a very rare and poorly known species of the Indo-West Pacific region, represented by only 20 specimens in museums. It was last recorded from India in 1979. Since then the species has not been reported, despite having undertaken the market surveys in much of its range in recent years, and therefore future survey works should be carried out to locate the species (Compagno *et al.* 2003). Elasmobranchs of fresh- and brackish-waters are usually subject to habitat constraints and space limitation, and frequent changes in the physicochemical parameters may render them more vulnerable to the effects of anthropogenic activities than marine elasmobranchs (Martin, 2005).

Taxonomic Conflicts and The Way Forward:

Knowledge of fish communities has grown extensively in recent years, but much of the information is still fragmentary (Rainboth, 1990). Many of the papers used in compilation of fish species in Sundarban were based on limited sampling, and many others deal with only fisheries. There is a clear lack of a pure research base and necessary coordination with applied research. On observing such a condition, Rainboth (1990) suggested that basic research on the environment is required to be strongly supported in order to build an understanding of tropical ecosystems. Further, collaboration between taxonomists and fishery workers is always essential to avoid and resolve taxonomic confusions.

Mitra *et al.* (2005) reported *Glypis glypis* (Müller & Henle) from Hooghly-Matla estuarine system, which has the distributional range restricted to only Northern Australia and New Guinea. Further, report of *Etroplus* species (Mandal *et al.*, 2012) is also questionable. Occurrence of these species in Sundarban is uncertain (Pal *et al.* 2014) as they are hitherto known from Chilka Lake downwards of the eastern coast as well of the western coast of India; however, there was an attempt to introduce them in aquaculture systems. Similarly, records of *Uropterygius marmoratus* (inhabiting seaward reefs or tidal pools), *Polydactylus sexfilis* (occurring in clear waters, around oceanic islands), *Hemibagrus punctatus* (endemic to the Western Ghats, from the Cauvery River and its principal tributaries) from Sajnakhali in Sundarban (Chaudhuri *et al.*, 2012) are certainly misidentifications.

Glypis gangeticus (Muller & Henle) is considered to be endemic to Gangetic delta. This is a little known species, yet to be adequately described (Martin, 2005). This species is originally known from only three museum specimens, collected in the 19th century from fresh waters in the lower reaches of the Ganges-Hooghly River system. Many reports of this species are possibly related to the Bull shark. But recent studies show that it has a wide range of distribution in northern Bay of Bengal, possibly, not entering the freshwater regime (Roberts, 2006; Li *et al.*, 2015). Some fisheries papers incorrectly mention its occurrence throughout the year in Sundarban. Collection of a few specimens may provide more taxonomic information on this species. A status survey of this species is the urgent need of time.

Recent taxonomic studies of the family Leiognathidae suggested many changes in generic level. This family also needs to be revisited in India as is done for some other countries like Sri Lanka (Chakraborty *et al.*, 2008). *Chanda ruconius* was originally described by Hamilton (1822) from estuaries of the Ganges, with the original delineation as in Fig.-3A. Kottelat (2013), based on the forwardly producing mouth, treated it as a *Leiognathus* species. He further argued that *Secutor* is a replacement name for *Equula* Cuvier which is a synonym of *Leiognathus* Lacepède, and the fishes earlier placed in the genus *Secutor* are shifted to the genus *Deveximentum* Fowler. The species, which was usually named as *Secutor ruconius* (Fig.-3B) in literature, is most possibly a *Deveximentum* species. Pony fishes (Leiognathidae) are undoubtedly small fishes and commercially not valuable. But from diversity point of view, collections from estuaries of the Ganges, i.e. Sundarban, need to be properly studied to overcome nomenclatural conflicts.

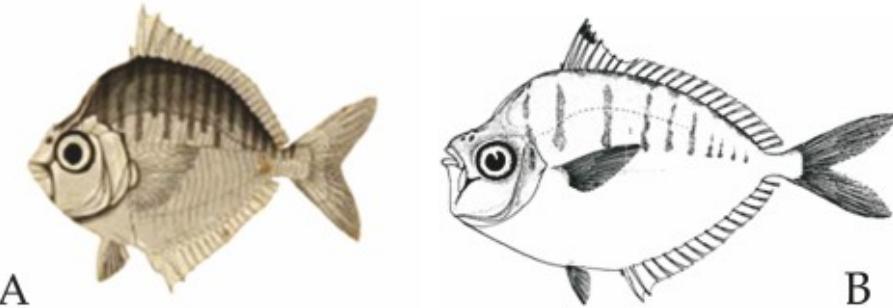


Figure-3. A. *Chanda ruconius* of Hamilton (1822), B. *Secutor ruconius* in current literature.

Another conflict exists with *Coius datnia* of Hamilton (1822), described from the 'mouths of the Ganges'. Iwatsuki and Carpenter (2006) placed *Coius datnia* in the genus *Sparidentex* Munro considering the absence of molar teeth given in the original description and plate. It was also suggested therein that Hamilton's species needed further study. It is important to note that in the recent past no *Sparidentex* species has been located from the Ganges mouth, as has been stated to be 'common in the Calcutta market'. *Acanthopagrus longispinus*(Valenciennes), described from 'Bengal', seems to be a very rare species, which is known by only a few museum specimens (Iwatsuki, 2013). Further collections from lower basin of the Ganges will provide more information regarding the species which was earlier treated as synonym of *Acanthopagrus latus* (Houttuyn) (Talwar & Jhingran 1991).

Eels are usually a less-studied group in Indian waters. *Anguilla nebulosa* and *Pisodonophis hijala*, originally described from Gangetic waters of Bengal, have never been reported during the last century as they are treated as synonym of other species in Indian literature (Talwar & Kacker, 1984;



Harpodon nehereus (Hamilton, 1822) | Bombay-duck



Mixed lot of fishes



Lobotes surinamensis (Bloch, 1790) | Tripletail

Talwar & Jhingran, 1991). Similarly, all unpatterned brown moray eels in Indian waters are usually named as *Strophidon sathete* (or *Thyrsoidea macrura*, a synonym). But on record of *Gymnothorax mishrai*, *Gymnothorax prolatus*, *Strophidon dorsalis* and a new species *Gymnothorax indicus* from coastal waters of West Bengal (Ray et al., 2015; Mohapatra et al., 2015; Ray & Mohapatra, 2015; Mohapatra et al., in press), the unpatterned morays need to be revisited in Sundarban as well.

Considerable changes in the landscape of Sundarban have taken place keeping pace with developmental activities of the region, particularly in reclamation programmes for agriculture, aquaculture and human habitation. Culture of exotic species, such as *Barbonyx gonionotus* (Bleeker), *Clarias gariepinus* (Burchell), *Oreochromis niloticus* (Linnaeus), *Pangasianodon hypophthalmus* (Sauvage), *Piaractus brachypomus* (Cuvier), in freshwater bodies in and around Sundarban shows an increasing trend. All these are commercially good food fishes and are extensively cultured. But none of them are officially introduced ones; their impact on environment is yet to be studied. During heavy rain and flood conditions, these fishes could easily escape from their culturing water bodies to the natural wetland systems and naturalise in them leading to proliferate in their population. *Clarias gariepinus*, a highly carnivorous and voracious feeder, can eliminate native fishes if accidentally introduced into the natural waterbodies. The exotic fish *Pangasianodon hypophthalmus* can easily replace the native species, *Pangasius pangasius*, found in our freshwater systems. The introduction of *Oreochromis niloticus* and *Piaractus brachypomus* has resulted in the alteration of habitats, making the natural waters unsuitable for native fishes. Environmental impact assessment studies on the invasive species affecting the natural stock of the indigenous species in our natural waters is an imperative necessity before introducing the exotic fishes for culture.

More than 300 species have been recorded from Sundarban during the span of last 200 years. However, one may not be able to collect all species at a time, as indicated by Khan (2003) who could collect only 106 species during the study period of one decade (1985–1995). Loss of species due to increased anthropogenic activities and habitat alteration needs to be assessed. It is true that the protection of Tigers in Sundarban has also resulted in the conservation of the other faunal resources of the ecosystem in general. Systematic surveys of the core area of this Biosphere Reserve will surely give more information on the faunal components, including fishes, of the region.

Silver-lining of Sundarban:

The Sundarban being one of the most productive ecosystems in the world is as well an example for one of the best life-support systems of the people. The subsistence of the human population in and around the Sundarban, especially the grass-root-level communities, is one way or other is dependent on this ecosystem. The fish diversity and the fishery potential of the Sundarban wetland system had a dominant role with its sweeping influence on the economy and well-being of these people.



Toxotes chatareus (Hamilton, 1822) | Pankhaki



Terapon jarbua (Forsskål, 1775) | Jarbua terapon

Landscape modifications and the developmental projects in an important ecosystem, like Sundarban; have manifested stark realities of the impact of such man-made changes. The estuarine waters of the Sundarban are known as the prime habitat haunt of the fish, hilsa shad, *Tenualosa ilisha*, an important food fish of commerce. Hilsa shad is an anadromous fish that makes spawning migrations to the Sundarban and to the up-river reaches of the Ganges for breeding purposes. The fishery activity, especially the capture fisheries on this important food fish used to be coincided with this spawning migration. However, the catches of this prized fish in recent times have declined considerably after the construction of the Farakka barrage (Bhaumick, 2015) and increased siltation in Sundarban region causing rise in river bed (Ahsan et. al., 2014). The studies have shown that the barrage hindered the migratory path of the species, blocking its anadromous migration to complete its biological cycle of reproduction. Hilsa shad requires suitable freshwater breeding ground which is a major limiting factor for its natural recruitment. There seems to have shifting of breeding grounds of hilsa to the lower reaches of the Ganges (Miah, 2015). Increased exploitation pressure, particularly capture of young ones (*khoka ilish/ Jatka*), has been added to the misery of hilsa fisheries in West Bengal (BOBLME, 2010). Besides, heavy load of pollutants, in particular the industrial effluents, pesticides and chemicals from agriculture, and urban sewages that came along the river inflows to the estuarine waters has further impacted on the diversity, sustainability and livelihood potential of the fishery resources.

For the conservation of hilsa fish stock, the Government of West Bengal notified in 2013 certain restrictions on capture fishery on hilsa. It imposed total prohibition of catching hilsa below 23 cm in estuarine area of the rivers and bay mouth during February to April every year. The same notification also states: "no persons or group of persons or fishers or fisherman or their assistants under no circumstances shall transport, market, sell and possess hilsa having length below 23 (twenty three) centimetre". There are also suggestions to declare five hilsa sanctuaries on Hooghly River from Farakka to Sagar covering a stretch of 250 km. Despite prohibitions, there is hardly any control at present over-exploitation of hilsa. Enforcement of law is not often possible at both landing sites and market places due to limited man power and lack of infrastructure. A concerted involvement of governmental organisations and stake holders is imperative to effectively implement the conservation measures for eco-restoration of the fishery resources, especially the hilsa population and its fishery, in Sundarban region.





Scatophagus argus Linnaeus, 1766 | Spotted Scat



Brevitrygon imbricata (Bloch & Schneider 1801) | Scaly whipray

Table-1. List of the Fishes of Indian Sundarban known till date

No.	Species	Common name
	CLASS I: CHONDRICHTHYES	Cartilaginous Fishes
	Sub-Class: ELASMOBRANCHII	
	Order 1: ORECTOLOBIFORMES	
	Family 1: Hemiscyllidae	
1.	<i>Chiloscyllium griseum</i> Muller & Henle, 1838	Grey bamboo shark
	Family 2: Stegostomatidae	
2.	<i>Stegostoma fasciatum</i> (Herman, 1783)	Zebra shark
	Order 2: CARCHARHINIFORMES	
	Family 3: Charcharhinidae	
3.	<i>Carcharhinus hemiodon</i> (Muller & Henle, 1839)	Pondicherry shark
4.	<i>Carcharhinus leucas</i> (Muller & Henle, 1839)	Bull shark
5.	<i>Carcharhinus limbatus</i> (Muller & Henle, 1839)	Blacktip shark
6.	<i>Carcharhinus melanopterus</i> (Quoy & Gaimard, 1824)	Blacktip-reefshark
7.	<i>Carcharhinus sorrah</i> (Muller & Henle, 1839)	Spottail shark
8.	<i>Galeocerdo cuvier</i> (Péron & Lesueur 1822)	Tiger shark
9.	<i>Glypis gangeticus</i> (Muller & Henle, 1839) *	Ganges shark
10.	<i>Lamiopsis temminckii</i> (Muller & Henle, 1839)	Broadfin shark
11.	<i>Rhizoprionodon acutus</i> (Ruppell, 1837)	Milk shark
12.	<i>Scoliodon laticaudus</i> (Muller & Henle, 1838)	Spadenose shark
	Family 4: Sphyrnidae	
13.	<i>Eusphyra blochii</i> (Cuvier, 1816)	Winghead shark
	Order 3: PRISTIFORMES	
	Family 5: Pristidae	
14.	<i>Anoxypristes cuspidata</i> (Latham, 1794)	Knifetooth sawfish
15.	<i>Pristis clavata</i> Garman, 1906	Dwarf Sawfish.
16.	<i>Pristis pristis</i> (Linnaeus, 1758)	Largetooth sawfish
	Order 4: TORPEDINIFORMES	
	Family 6: Narcinidae	
17.	<i>Narcine brunnea</i> Annandale, 1909	Brown numbfish
	Order 5: RAJIFORMES	
	Family 7: Rhinobatidae	
18.	<i>Glaucostegus granulatus</i> (Cuvier, 1829)	Sharpnose guitarfish
19.	<i>Glaucostegus obtusus</i> (Muller & Henle, 1841)	Widenose guitarfish

No.	Species	Common name
20.	<i>Glaucostegus typus</i> (Anonymous [Bennett], 1830)	Giant shovelnose ray
21.	<i>Rhina aenyllostoma</i> Bloch & Schneider, 1801	Bowmouth guitarfish
22.	<i>Rhinobatos annandalei</i> Norman, 1926 *	Annandale's guitarfish
23.	<i>Rhinobatos lionotus</i> Norman, 1926 *	Smoothback guitarfish
24.	<i>Rhynchobatus laevis</i> (Bloch & Schneider 1801)	Smooth nose wedgefish.
	Order 6: MYLIOBATIFORMES	
	Family 8: Dasyatidae	
25.	<i>Dasyatis zugei</i> (Muller & Henle, 1841)	Pale-edged stingray
26.	<i>Himantura fava</i> (Annandale, 1909)	Honeycomb whipray
27.	<i>Himantura gerrardi</i> (Gray, 1851)	Sharpnose stingray
28.	<i>Himantura imbricata</i> (Bloch & Schneider, 1801)	Scaly whipray
29.	<i>Himantura marginata</i> (Blyth, 1860) *	Blackedgewhipray
30.	<i>Himantura uarnacoides</i> (Bleeker, 1852)	Bleeker'swhipray
31.	<i>Himantura uarnak</i> (Forsskal, 1775)	Honeycomb stingray
32.	<i>Himantura walga</i> (Muller & Henle, 1841)	Dwarf whipray
33.	<i>Pastinachus sephen</i> (Forsskal, 1775)	Cowtail stingray
	Family 9: Gymnuridae	
34.	<i>Gymnura japonica</i> (Schlegel, 1850)	Japanese butterflyray
35.	<i>Gymnura poecilura</i> (Shaw, 1804)	Longtail butterfly ray
	Family 10: Myliobatidae	
36.	<i>Aetobatus ocellatus</i> (Kuhl 1823)	Ocellated eagle ray
	CLASS II: ACTINOPTERYGII	Bony Fishes
	Order 7: OSTEOGLOSSIFORMES	
	Family 11: Notopteridae	
37.	<i>Notopterus notopterus</i> (Pallas, 1769)	Bronze featherback
	Order 8: ELOPIFORMES	
	Family 12: Elopidae	
38.	<i>Elops machnata</i> Forsskal, 1775)	Ladyfish
	Family 13: Megalopidae	
39.	<i>Megalops cyprinoides</i> (Broussonet, 1782)	Indo-Pacific tarpon
	Order 9: ANGUILLIFORMES	
	Family 14: Anguillidae	
40.	<i>Anguilla bengalensis</i> (Gray, 1834)	Indian mottled eel
41.	<i>Anguilla bicolor</i> (McClelland, 1844)	Indonesian shortfin eel
42.	<i>Anguilla nebulosa</i> McClelland 1844*	Mottled eel

No.	Species	Common name
	Family 15: Moringuidae	
43.	<i>Moringua guthriana</i> (McClelland, 1844)*	Bengal spaghetti-eel
44.	<i>Moringua raitaborua</i> (Hamilton, 1822) *	Purple spaghetti-eel
	Family 16: Muraenidae	
45.	<i>Gymnothorax tile</i> (Hamilton, 1822)*	Indian mud moray
46.	<i>Strophidon sathete</i> (Hamilton, 1822) *	Slender giant moray
	Family 17: Ophichthidae	
47.	<i>Lamnostoma orientalis</i> (McClelland, 1844)	Oriental worm-eel
48.	<i>Ophichthus apicalis</i> (Anonymous [Bennett], 1830)	Bluntnose snake-eel
49.	<i>Pisodonophis boro</i> (Hamilton, 1822) *	Rice-paddy eel
50.	<i>Pisodonophis hijala</i> (Hamilton, 1822)*	Bengal snake-eel
	Family 18: Ophichthidae	
51.	<i>Uroconger lepturus</i> (Richardson, 1845)	Slender conger
	Family 19: Muraenesocidae	
52.	<i>Congresox talabon</i> (Cuvier, 1829)	Yellow pike conger
53.	<i>Congresox talabonoides</i> (Bleeker, 1853)	Indian pike conger
54.	<i>Muraenesox bagio</i> (Hamilton, 1822) *	Common pike conger
55.	<i>Muraenesox cinereus</i> (Forsskål, 1775)	Daggetooth pike conger
	Order 10: CLUPEIFORMES	
	Family 20: Clupeidae	
56.	<i>Anodontostoma chacunda</i> (Hamilton, 1822) *	Chacunda gizzard shad
57.	<i>Anodontostoma thailandiae</i> Wongratana, 1983	Thai gizzard shad
58.	<i>Corica soborna</i> Hamilton, 1822	Ganges river spart
59.	<i>Escualosa thoracata</i> (Valenciennes, 1847)	White sardine
60.	<i>Gonialosa manmina</i> (Hamilton, 1822)	Ganges river gizzard
		Shad
61.	<i>Gudusia chapra</i> (Hamilton, 1822)	Indian river shad
62.	<i>Hilsa kelee</i> (Cuvier, 1829)	Kelee shad
63.	<i>Nematalosa galatheae</i> Nelson & Rothman, 1973	Galathea gizzard shad
64.	<i>Nematalosa nasus</i> (Bloch, 1795)	Bloch's gizzard shad
65.	<i>Tenualosa ilisha</i> (Hamilton, 1822) *	Hilsha shad
66.	<i>Tenualosa toli</i> (Valenciennes, 1847)	Toli shad
	Family 21: Pristigasteridae	
67.	<i>Ilisha elongata</i> (Anonymous [Bennett], 1830)	Elongate ilisha
68.	<i>Ilisha kampeni</i> (Weber & de Beaufort, 1913)	Kampen's ilisha



Macrospinosa cuja (Hamilton, 1822) | Largespine croaker

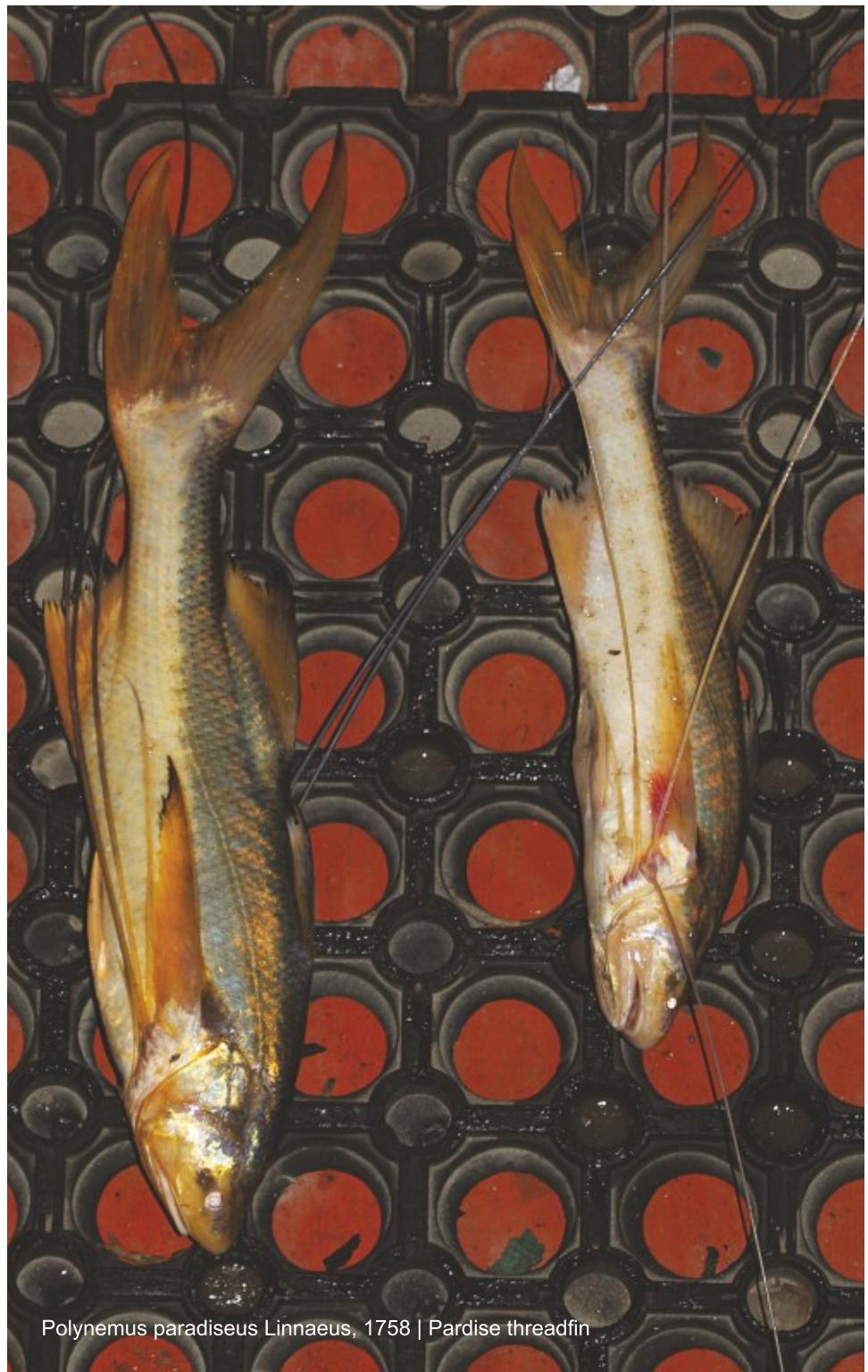


Plotosus canius Hamilton, 1822 | Gray eel-catfish

No.	Species	Common name
69.	<i>Ilisha megaloptera</i> (Swainson, 1839)	Bigeye ilisha
70.	<i>Ilisha melastoma</i> (Bloch & Schneider, 1801)	Indian ilisha
71.	<i>Ilisha sirishai</i> Seshagiri Rao, 1975	Lobejaw ilisha
72.	<i>Opisthoterpes tardoore</i> (Cuvier, 1829)	Tardoore
73.	<i>Pellona ditchela</i> Valenciennes, 1847	Indian pellona
74.	<i>Raconda russeliana</i> Gray, 1831	Raconda
Family 22: Engraulidae		
75.	<i>Coilia dussumieri</i> Valenciennes, 1848	Goldspotted grenadier anchovy
76.	<i>Coilia neglecta</i> Whitehead, 1967	Neglected grenadier anchovy
77.	<i>Coilia ramcarati</i> (Hamilton, 1822) *	Ramcarat grenadier anchovy
78.	<i>Coilia reynaldi</i> Valenciennes, 1848	Reynald's grenadier anchovy
79.	<i>Setipinna brevifilis</i> (Valenciennes, 1848)	Short hairfin anchovy
80.	<i>Setipinna phasa</i> (Hamilton, 1822) *	Gangetic hairfin anchovy
81.	<i>Setipinna taty</i> (Valenciennes, 1848)	Scaly hairfin anchovy
82.	<i>Setipinna tenuifilis</i> (Valenciennes, 1848)	Common hairfin anchovy
83.	<i>Stolephorus baganensis</i> Hardenberg, 1933	Bagan anchovy
84.	<i>Stolephorus commersonii</i> Lacepede, 1803	Commerson's anchovy
85.	<i>Stolephorus indicus</i> (van Hasselt, 1823)	Indian anchovy
86.	<i>Thryssa dussumieri</i> (Valenciennes, 1848)	Dussumier's thryssa
87.	<i>Thryssa gautamiensis</i> (Babu Rao, 1971)	Gautama thryssa
88.	<i>Thryssa hamiltonii</i> (Gray, 1835)	Hamilton's thryssa
89.	<i>Thryssa malabarica</i> (Bloch, 1795)	Malabar thryssa
90.	<i>Thryssa purava</i> (Hamilton, 1822) *	Oblique-jaw thryssa
91.	<i>Thryssa stenosoma</i> (Wongratana, 1983)	Slender thryssa
Family 23: Chirocentridae		
92.	<i>Chirocentrus dorab</i> (Forsskal, 1775)	Dorab wolfherring
Order 11: GONORYNCHIFORMES		
Family 24: Chanidae		
93.	<i>Chanos chanos</i> (Forsskal, 1775)	Milkfish
Order 12: CYPRINIFORMES		
Family 25: Cyprinidae		

No.	Species	Common name
94.	<i>Amblypharyngodon mola</i> (Hamilton, 1822)	Mola carplet
95.	<i>Danio rerio</i> (Hamilton, 1822)	Zebra danio
96.	<i>Esomus danica</i> (Hamilton, 1822)	Flying barb
97.	<i>Laubuka laubuca</i> (Hamilton, 1822)	Indian glass barb
98.	<i>Pethia conchonius</i> (Hamilton, 1822)	Rosy barb
99.	<i>Pethia gelius</i> (Hamilton, 1822)	Golden barb
100.	<i>Pethia phutunio</i> (Hamilton, 1822)	Spotted-sail barb
101.	<i>Pethia ticto</i> (Hamilton, 1822)	Ticto barb
102.	<i>Puntius chola</i> (Hamilton, 1822)	Swamp barb
103.	<i>Puntius sophore</i> (Hamilton, 1822)	Pool barb
104.	<i>Puntius terio</i> (Hamilton, 1822)	Onespot barb
105.	<i>Rasbora daniconius</i> (Hamilton, 1822)	Slender rasbora
106.	<i>Salmostoma bacaila</i> (Hamilton, 1822)	Large razorbelly minnow
107.	<i>Systemus sarana</i> (Hamilton, 1822)	Olive barb
	Family 26: Cobitidae	
108.	<i>Lepidocephalichthys guntea</i> (Hamilton, 1822)	Guntea loach
	ORDER 13: SILURIFORMES	
	Family 27: Horabagridae	
109.	<i>Pachypterus atherinoides</i> (Bloch 1794) (Earlier placed in Schilbeidae)	Indian potasi
	Family 28: Bagridae	
110.	<i>Mystus cavasius</i> (Hamilton, 1822)	Gangetic mystus
111.	<i>Mystus gulio</i> (Hamilton, 1822) *	Long whiskers catfish
112.	<i>Mystus tengara</i> (Hamilton, 1822)	Tengara mystus
113.	<i>Mystus vittatus</i> (Bloch, 1794)	Striped dwarf catfish
114.	<i>Sperata aor</i> (Hamilton, 1822)	Long-whiskered catfish
115.	<i>Sperata seenghala</i> (Sykes, 1839)	Giant river-catfish
	Family 29: Siluridae	
116.	<i>Ompok pabda</i> (Hamilton)	Pabdah catfish
117.	<i>Ompok bimaculatus</i> (Bloch)	Butter catfish
118.	<i>Wallago attu</i> (Schneider)	Wallago
	Family 30: Schilbeidae	
119.	<i>Ailia coila</i> (Hamilton, 1822)	Gangetic ailia
120.	<i>Silonia silondia</i> (Hamilton, 1822) *	Silond catfish

No.	Species	Common name
	Family 31: Pangasiidae	
121.	<i>Pangasius pangasius</i> (Hamilton, 1822)	Pangas catfish
	Family 32: Sisoridae	
122.	<i>Bagarius bagarius</i> (Hamilton)	Goonch
	Family 33: Clariidae	
123.	<i>Clarias magur</i> (Hamilton, 1822)	Magur
	Family 34: Hetropsteunidae	
124.	<i>Heteropneustes fossilis</i> (Bloch, 1794)	Stinging catfish
	Family 35: Ariidae	
125.	<i>Arius arius</i> (Hamilton, 1822) *	Threadfin sea catfish
126.	<i>Arius gagora</i> (Hamilton, 1822) *	Gagora catfish
127.	<i>Arius jella</i> Day, 1877	Blackfin sea catfish
128.	<i>Batrachocephalus mino</i> (Hamilton, 1822) *	Beardless sea catfish
129.	<i>Cephalocassis jatia</i> (Hamilton, 1822) *	River catfish
130.	<i>Hemiarrius sona</i> (Hamilton, 1822) *	Sona sea catfish
131.	<i>Hexanemichthys sagor</i> (Hamilton, 1822) *	Sagor catfish
132.	<i>Nemapteryx nenga</i> (Hamilton, 1822)*	Engraved catfish
133.	<i>Netuma thalassina</i> (Rüppell, 1837)	Giant seacatfish
134.	<i>Osteogeneiosus militaris</i> (Linnaeus, 1758)	Soldier catfish
135.	<i>Plicofollis platystomus</i> (Day, 1877)	Flatmouth sea catfish
	Family 36: Plotosidae	
136.	<i>Plotosus canius</i> Hamilton, 1822 *	Gray eel-catfish
137.	<i>Plotosus lineatus</i> (Thunberg, 1787)	Striped eel catfish
	Order 14: AULOPIFORMES	
	Family 37: Synodontidae	
138.	<i>Harpodon nehereus</i> (Hamilton, 1822) *	Bombay-duck
	Order 15: GADIFORMES	
	Family 38: Bregmacerotidae	
139.	<i>Bregmaceros mcclellandii</i> Thompson, 1840 *	Spotted codlet
	Order 16: BATRACHOIDIFORMES	
	Family 39: Batrachoididae	
140.	<i>Allenbatrachus grunniens</i> (Linnaeus, 1758)	Grunting toadfish
	Order 17: MUGILIFORMES	
	Family 40: Mugilidae	
141.	<i>Ellochelon vaigiensis</i> (Quoy & Gaimard, 1824)	Squaretail mullet



No.	Species	Common name
142.	<i>Liza macrolepis</i> (Smith, 1849)	Largescale mullet
143.	<i>Liza melinoptera</i> (Valenciennes, 1836)	Otomebora mullet
144.	<i>Liza parsia</i> (Hamilton, 1822)	Goldspot mullet
145.	<i>Liza tade</i> (Bloch & Schneider, 1801)	Tade gray mullet
146.	<i>Liza subviridis</i> (Valenciennes, 1836)	Greenback mullet
147.	<i>Mugil cephalus</i> Linnaeus, 1758	Flathead gray mullet
148.	<i>Rhinomugil corsula</i> (Hamilton, 1822) *	Corsula
149.	<i>Valamugil buchanani</i> (Bleeker, 1853) *	Bluetail mullet
150.	<i>Valamugil cunnesius</i> (Valenciennes, 1836)	Longarm mullet
151.	<i>Valamugil seheli</i> (Forsskal, 1775)	Bluespot mullet
152.	<i>Valamugil speigleri</i> (Bleeker, 1858)	Speigler's mullet
Order 18 : BELONIFORMES		
Family 41: Adrianichthyidae		
153.	<i>Oryzias dancena</i> (Hamilton, 1822) *	Ricefish
Family 42: Hemiramphidae		
154.	<i>Hemiramphus far</i> (Forsskal, 1775)	Black barred halfbeak
155.	<i>Hyporhamphus limbatus</i> (Valenciennes, 1847)	Congaturi halfbeak
156.	<i>Rhynchorhamphus georgii</i> (Valenciennes, 1847)	Longbilled halfbeak
Family 43: Zenarchopteridae		
157.	<i>Zenarchopterus buffonis</i> (Valenciennes, 1847)	Buffon's river-garfish
158.	<i>Zenarchopterus dispar</i> (Valenciennes, 1847)	Feathered river-garfish
159.	<i>Zenarchopterus ectuntio</i> (Hamilton, 1822)	Ectuntio halfbeak
160.	<i>Zenarchopterus striga</i> (Blyth, 1858)	Hooghly halfbeak
Family 44: Belonidae		
161.	<i>Strongylura leiura</i> (Bleeker, 1850)	Banded needlefish
162.	<i>Strongylura strongylura</i> (van Hasselt, 1823)	Spottail needlefish
163.	<i>Tylosurus crocodilus crocodilus</i> (Peron & Lesueur, 1821)	Hound needlefish
164.	<i>Xenentodon cancila</i> (Hamilton, 1822)	Freshwater garfish
Order 19: CYPRINODONTIFORMES		
Family 45: Aplocheilidae		
165.	<i>Aplocheilus panchax</i> (Hamilton, 1822)	Blue panchax
Order 20: SYNGNATHIFORMES		
Family 46: Syngnathidae		
166.	<i>Hippichthys spicifer</i> (Ruppell, 1838)	Bellybarred pipefish

No.	Species	Common name
167.	<i>Ichthyocampus carce</i> (Hamilton, 1822) *	Carse pipefish
168.	<i>Microphis cuncalus</i> (Hamilton, 1822) *	Crocodile-tooth pipefish
Order 21: SYNBRANCHIFORMES		
Family 47: Synbranchidae		
169.	<i>Monopterus cuchia</i> (Hamilton, 1822) *	Cuchia
170.	<i>Ophisternon bengalense</i> McClelland, 1844 *	Bengal swampeel
Family 48: Mastacembelidae		
171.	<i>Macrognathus aral</i> (Bloch & Schneider, 1801)	One-stripe spinyeel
172.	<i>Macrognathus pancalus</i> Hamilton, 1822	Barred spinyeel
173.	<i>Mastacembelus armatus</i> (Lacepede, 1800)	Zig-zag spinyeel
Order 22: SCORPAENIFORMES		
Family 49: Platycephalidae		
174.	<i>Grammoplites scaber</i> (Linnaeus, 1758)	Rough flathead
175.	<i>Platycephalus indicus</i> (Linnaeus, 1758)	Bartail flathead
Order 23: PERCIFORMES		
Family 50: Ambassidae		
176.	<i>Ambassis kopsii</i> Bleeker, 1858	Freckled hawkfish
177.	<i>Ambassis nalua</i> (Hamilton, 1822)	Scalloped perchlet
178.	<i>Chanda nama</i> Hamilton, 1822	Elongate glass-perchlet
179.	<i>Parambassis baculis</i> (Hamilton, 1822)	Himalayan glassy perchlet
180.	<i>Parambassis ranga</i> (Hamilton, 1822)	Indian glassy fish
Family 51: Latidae		
181.	<i>Lates calcarifer</i> (Bloch, 1790)	Barramundi/Bhetki
Family 52: Serranidae		
182.	<i>Epinephelus coioides</i> (Hamilton, 1822) *	Orange-spotted grouper
183.	<i>Epinephelus lanceolatus</i> (Bloch, 1790)	Giant grouper
184.	<i>Epinephelus malabaricus</i> (Bloch & Schneider, 1801)	Malabar grouper
Family 53: Sillaginidae		
185.	<i>Sillaginopsis domina</i> (Cuvier 1816)	Flathead sillago
186.	<i>Sillago sihama</i> (Forsskål, 1775)	Silver sillago
Family 54: Coryphaenidae		
187.	<i>Coryphaena hippurus</i> Linnaeus, 1758	Common dolphinfish
Family 55: Carangidae		
188.	<i>Alectis indica</i> (Ruppell, 1830)	Indian threadfish

No.	Species	Common name
189.	<i>Atule mate</i> (Cuvier, 1833)	Yellowtail scad
190.	<i>Carangoides chrysophrrys</i> (Cuvier, 1833)	Longnose trevally
191.	<i>Carangoides malabaricus</i> (Bloch & Schneider, 1801)	Malabar trevally
192.	<i>Caranx ignobilis</i> (Forsskal, 1775)	Giant trevally
193.	<i>Caranx sexfasciatus</i> Quoy & Gaimard, 1825	Bigeye trevally
194.	<i>Megalaspis cordyla</i> (Linnaeus, 1758)	Torpedo scad
195.	<i>Parastromateus niger</i> (Bloch, 1795)	Black pomfret
196.	<i>Scomberoides commersonianus</i> Lacepede, 1801	Talang queenfish
197.	<i>Scomberoides lysan</i> (Forsskal, 1775)	Doublespotted queenfish
198.	<i>Scomberoides tala</i> (Cuvier, 1832)	Barred queenfish
199.	<i>Trachinotus blochii</i> (Lacepede, 1801)	Snubnose pompano
Family 56: Leiognathidae		
200.	<i>Aurigequula fasciata</i> (Lacepede, 1803)	Striped ponyfish
201.	<i>Eubleekeria splendens</i> (Cuvier, 1829)	Splendid ponyfish
202.	<i>Gazza minuta</i> (Bloch, 1795)	Toothedpony
203.	<i>Karalla dussumieri</i> (Valenciennes, 1835)	Dussumier's ponyfish
204.	<i>Leiognathus equula</i> (Forsskal, 1775)	Common ponyfish
205.	<i>Nuchequula blochii</i> (Valenciennes, 1835)	Twoblotch ponyfish
206.	<i>Nuchequula gerreoides</i> (Bleeker, 1851)	Decorated ponyfish
207.	<i>Photopectoralis bindus</i> (Valenciennes, 1835)	Orangefin ponyfish
208.	'Secutor' <i>insidiator</i> (Bloch, 1787)	Pugnose ponyfish
209.	'Secutor' <i>ruconius</i> (Hamilton, 1822) *	Deep pugnose ponyfish
Family 57: Lutjanidae		
210.	<i>Lutjanus argentimaculatus</i> (Forsskål, 1775)	Mangrove red snapper
211.	<i>Lutjanus fulvus</i> (Forster, 1801)	Blacktail snapper
212.	<i>Lutjanus johnii</i> (Bloch, 1792)	John's snapper
213.	<i>Lutjanus indicus</i> Allen, White & Erdmann 2013	Indian snapper
Family 58: Datnioididae		
214.	<i>Datnioides polota</i> (Hamilton, 1822) *	Four-banded tigerfish
Family 59: Gerreidae		
215.	<i>Gerres filamentosus</i> Cuvier, 1829	Whip-fin silver-biddy
216.	<i>Gerres oyena</i> (Forsskål, 1775)	Common silver-biddy
217.	<i>Gerres phaiya</i> Iwatsuki & Heemstra, 2001	Strongspined silver-biddy
218.	<i>Gerres setifer</i> (Hamilton, 1822) *	Small Bengal silver-biddy



No.	Species	Common name
	Family 60: Haemulidae	
219.	<i>Plectorhinchus gibbosus</i> (Lacepède, 1802)	Harry hotlip
220.	<i>Pomadasys argenteus</i> (Forsskål, 1775)	Silver grunt
221.	<i>Pomadasys kaakan</i> (Cuvier, 1830)	Javelin grunt
222.	<i>Pomadasys maculatus</i> (Bloch, 1793)	Saddle grunt
	Family 61: Sparidae	
223.	<i>Acanthopagrus berda</i> (Forsskål, 1775)	Goldsilk seabream
224.	<i>Acanthopagrus longispinnis</i> (Valenciennes 1830)*	Longfin seabream
225.	<i>Rhabdosargus sarba</i> (Forsskål, 1775)	Goldlined seabream
226.	<i>Sparidentex datnia</i> (Hamilton, 1822)*	Yellowfin seabream
	Family 62: Polynemidae	
227.	<i>Eleutheronema tetradactylum</i> (Shaw, 1804) *	Fourfinger threadfin
228.	<i>Leptomelanosoma indicum</i> (Shaw, 1804)	Indian threadfin
229.	<i>Polydactylus plebeius</i> (Broussonet, 1782)	Striped threadfin
230.	<i>Polydactylus sextarius</i> (Bloch & Schneider, 1801)	Blackspot threadfin
231.	<i>Polynemus paradiseus</i> Linnaeus, 1758 *	Pardise threadfin
	Family 63: Sciaenidae	
232.	<i>Bahaba chaptis</i> (Hamilton, 1822) *	Chaptis bahaba
233.	<i>Chrysochir aureus</i> (Richardson, 1846)	Reeve's croaker
234.	<i>Daysciaena albida</i> (Cuvier, 1830)	Bengal corvine
235.	<i>Dendrophysa russelii</i> (Cuvier, 1829)	Goatee croaker
236.	<i>Johnieops borneensis</i> (Bleeker, 1851)	Sharpnose hammer croaker
237.	<i>Johnieops dussumieri</i> (Cuvier, 1830)	Sin croaker
238.	<i>Johnius belangerii</i> (Cuvier, 1830)	Belanger's croaker
239.	<i>Johnius carutta</i> Bloch, 1793 *	Karut croaker
240.	<i>Johnius coitor</i> (Hamilton, 1822)	Coitor croaker
241.	<i>Johnius gangeticus</i> Talwar, 1995	Ganges croaker
242.	<i>Macrospinosa cuja</i> (Hamilton, 1822) *	Largespine croaker
243.	<i>Nibea coibor</i> (Hamilton, 1822) *	Coibor croaker
244.	<i>Nibea soldado</i> (Lacepède, 1802)	Soldier croaker
245.	<i>Otolithoides biauritus</i> (Cantor, 1849)	Bronze croaker
246.	<i>Otolithoides pama</i> (Hamilton, 1822) *	Pama croaker
247.	<i>Panna microdon</i> (Bleeker, 1849)	Panna croaker
248.	<i>Protonibea diacanthus</i> (Lacepède, 1802)	Blackspotted croaker

No.	Species	Common name
249.	<i>Ptertolithus maculatus</i> (Cuvier, 1830)	Blotched tiger-toothed croaker
	Family 64: Toxotidae	
250.	<i>Toxotes chatareus</i> (Hamilton, 1822) *	Spotted archerfish
251.	<i>Toxotes jaculatrix</i> (Pallas, 1767)	Banded archerfish
	Family 65: Drepanidae	
252.	<i>Drepane longimana</i> (Bloch & Schneider, 1801)	Concertina fish
253.	<i>Drepane punctata</i> (Linnaeus, 1758)	Spotted sicklefish
	Family 66: Badidae	
254.	<i>Badis badis</i> (Hamilton, 1822)	Badis
	Family 67: Nandidae	
255.	<i>Nandus nandus</i> (Hamilton, 1822)	Gangetic leaffish
	Family 68: Terapontidae	
256.	<i>Terapon jarbua</i> (Forsskål, 1775)	Jarbua terapon
257.	<i>Terapon puta</i> Cuvier, 1829	Small-scaled terapon
258.	<i>Terapon theraps</i> Cuvier, 1829	Large-scaled terapon
	Family 69: Callionymidae	
259.	<i>Callionymus fluviatilis</i> Day, 1876 *	River dragonet
260.	<i>Callionymus megastomus</i> Fricke 1982*	Indian megamouth dragonet
261.	<i>Callionymus sagitta</i> Pallas, 1770 *	Arrow dragonet
262.	<i>Eleutherochir opercularis</i> (Valenciennes, 1837)	Flap-gilled dragonet
	Family 70: Eleotridae	
263.	<i>Butis butis</i> (Hamilton, 1822) *	Duckbill sleeper
264.	<i>Butis humeralis</i> (Valenciennes, 1837) *	Blackspotted gudgeon
265.	<i>Eleotris fusca</i> (Bloch & Schneider, 1801)	Dusky sleeper
266.	<i>Eleotris melanosoma</i> Bleeker, 1852	Broadhead sleeper
267.	<i>Odonteleotris macrodon</i> (Bleeker, 1854) *	Gangetic sleeper
268.	<i>Giuris margaritacea</i> (Valenciennes)	Snalehead gudgeon
269.	<i>Ophiocara ophicephalus</i> (Valenciennes, 1837)	Northern mud gudgeon
	Family 71: Gobiidae	
270.	<i>Acentrogobius caninus</i> (Valenciennes, 1837)	Tropical sand goby
271.	<i>Acentrogobius viridipunctatus</i> (Valenciennes, 1837)	Spotted green goby
272.	<i>Amblyeleotris gymnocephala</i> (Bleeker, 1853)	Masked shrimpgoby
273.	<i>Amblyotrypauchen arctocephalus</i> (Alcock, 1890)	Armour eelgoby

No.	Species	Common name
274.	<i>Apocryptes bato</i> (Hamilton, 1822)*	Flat-toothed goby
275.	<i>Apocryptodon madurensis</i> (Bleeker, 1849)	Madura goby
276.	<i>Awaouichthys menoni</i> Chatterjee & Mishra, 2013*	Menon's goby
277.	<i>Bathygobius fuscus</i> (Ruppell, 1830)	Frill goby
278.	<i>Boleophthalmus boddarti</i> (Pallas, 1770)	Boddart's goggle-eyed goby
279.	<i>Boleophthalmus dussumieri</i> Valenciennes, 1837	Dussumier's mudskipper
280.	<i>Brachygobius nunus</i> (Hamilton, 1822)*	Bumblebee goby
281.	<i>Caragobius urolepis</i> (Bleeker, 1852)	Sumatra eel-goby
282.	<i>Drombus globiceps</i> (Hora, 1923)	Bighead goby
283.	<i>Glossogobius giuris</i> (Hamilton, 1822)	Tank goby
284.	<i>Gnatholepis cauerensis</i> (Bleeker, 1853)	Eyebar goby
285.	<i>Gobiopsis macrostoma</i> Steindachner, 1861	Longjaw goby
286.	<i>Gobiopterus chuno</i> (Hamilton, 1822)*	Glass goby
287.	<i>Hemigobius hoevenii</i> (Bleeker, 1851)	Banded mulletgoby
288.	<i>Istigobius ornatus</i> (Ruppell, 1830)	Ornate goby
289.	<i>Odontamblyopus rubicundus</i> (Hamilton, 1822) *	Rubicundus eel-goby
290.	<i>Oligolepis acutipennis</i> (Valenciennes, 1837)	Sharptail goby
291.	<i>Oxuderces dentatus</i> Eydoux & Souleyet, 1850	Chinese sharp-toothed goby
292.	<i>Parachaeturichthys polynema</i> (Bleeker, 1853)	Taileyeed goby
293.	<i>Parapocryptes serperaster</i> (Richardson, 1846)	Largescaled flat-toothed goby
294.	<i>Paratrypauchen microcephalus</i> (Bleeker, 1860)	Comb goby
295.	<i>Periophthalmodon schlosseri</i> (Pallas, 1770)	Giant mudskipper
296.	<i>Periophthalmodon septemradiatus</i> (Hamilton, 1822)*	Hamilton's mudskipper
297.	<i>Periophthalmus argenteolineatus</i> Valenciennes, 1837	Barred mudskipper
298.	<i>Periophthalmus kalolo</i> Lesson, 1831	Common mudskipper
299.	<i>Periophthalmus novemradiatus</i> (Hamilton, 1822) *	Pearse's mudskipper
300.	<i>Periophthalmus variabilis</i> Eggert, 1935	Variable mudskipper
301.	<i>Pseudapocryptes elongatus</i> (Cuvier, 1816)	Lanceolate false flat-Teethed goby
302.	<i>Pseudotrypauchen multiradiatus</i> Hardenberg, 1931	—
303.	<i>Scartelaos histophorus</i> (Valenciennes, 1837)	Walking goby
304.	<i>Stigmatogobius sadanundio</i> (Hamilton, 1822)*	—



No.	Species	Common name
305.	<i>Taeniooides anguillaris</i> (Linnaeus, 1758)	Eel worm goby
306.	<i>Taeniooides buchanani</i> (Day, 1873) *	Burmese eel-goby
307.	<i>Taeniooides cirratus</i> (Blyth, 1860)*	Bearded worm goby
308.	<i>Trypauchen vagina</i> (Bloch & Schneider, 1801)	Burrowing goby
309.	<i>Trypauchenichthys sumatrensis</i> Hardenberg, 1931	Indonesian eelgoby
	Family 72: Kurtidae	
310.	<i>Kurtus indicus</i> Bloch, 1786	Indian humphead
	Family 73: Scatophagidae	
311.	<i>Scatophagus argus</i> Linnaeus, 1766	Spotted Scat
	Family 74: Siganidae	
312.	<i>Siganus canaliculatus</i> (Park, 1797)	Whitespotted spinefoot
313.	<i>Siganus javus</i> (Linnaeus, 1766)	Streaked spinefoot
	Family 75: Sphyraenidae	
314.	<i>Sphyraena obtusata</i> Cuvier, 1829	Obtuse barracuda
	Family 76: Trichiuridae	
315.	<i>Eupleurogrammus muticus</i> (Gray, 1831)	Smallhead hairtail
316.	<i>Lepturacanthus pantului</i> (Gupta, 1966) *	Coromandel hairtail
317.	<i>Lepturacanthus savala</i> (Cuvier, 1829)	Savalani hairtail
318.	<i>Trichiurus gangeticus</i> Gupta, 1966 *	Gangetic hairtail
319.	<i>Trichiurus lepturus</i> Linnaeus, 1758	Largehead hairtail
	Family 77: Stromateidae	
320.	<i>Scomberomorus guttatus</i> (Bloch & Schneider, 1801)	Indi-Pacific King mackerel
	Family 78: Stromateidae	
321.	<i>Pampus argenteus</i> (Euphrasen, 1788)	Silver pomfret
322.	<i>Pampus chinensis</i> (Euphrasen, 1788)	Chinese silver pomfret
	Family 79: Anabantidae	
323.	<i>Anabas cobojius</i> (Hamilton, 1822)	Gangetic koi
324.	<i>Anabas testudineus</i> (Bloch, 1792)	Climbing perch
	Family 80: Osphronemidae	
325.	<i>Trichogaster fasciata</i> Bloch & Schneider, 1801	Banded gourami
326.	<i>Trichogaster lalius</i> (Hamilton, 1822)	Dwarf gourami
327.	<i>Trichogaster chuna</i> (Hamilton)	Honey gourami



Acentrogobius cyanomos (Bleeker, 1849) | Threadfin blue goby



Dicteromyctere fluviatilis (Hamilton, 1822) | Green Pufferfish

No.	Species	Common name
	Family 81: Channidae	
328.	<i>Channa gachua</i> (Hamilton, 1822)	Dwarf snakehead
329.	<i>Channa marulioides</i> (Hamilton, 1822)	Great snakehead
330.	<i>Channa punctata</i> (Bloch, 1793)	Spotted snakehead
331.	<i>Channa striata</i> (Bloch, 1793)	Striped snakehead
	Order 24: PLEURONECTIFORMES	
	Family 82: Paralichthyidae	
332.	<i>Pseudorhombus arsius</i> (Hamilton, 1822) *	Largetooth flounder
333.	<i>Pseudorhombus elevatus</i> Ogilby, 1912	Deep flounder
334.	<i>Pseudorhombus javanicus</i> (Bleeker, 1853)	Javan flounder
	Family 83: Cynoglossidae	
335.	<i>Cynoglossus arel</i> (Bloch & Schneider, 1801)	Largescale tonguesole
336.	<i>Cynoglossus cynoglossus</i> (Hamilton, 1822) *	Bengal tonguesole
337.	<i>Cynoglossus lingua</i> Hamilton, 1822 *	Long tonguesole
338.	<i>Cynoglossus macrostomus</i> Norman, 1926 *	Malabar tonguesole
339.	<i>Cynoglossus puncticeps</i> (Richardson, 1846)	Speckled tonguesole
340.	<i>Paraplagusia bilineata</i> (Bloch, 1787)	Doublelined tonguesole
	Family 84: Soleidae	
341.	<i>Brachirus pan</i> (Hamilton, 1822) *	Pan sole
342.	<i>Synaptura albomaculata</i> Kaup, 1858	Kaup's sole
343.	<i>Synaptura commersonii</i> (Lacepède, 1802)	Commerson's sole
	Order 25: TETRAODONTIFORMES	
	Family 85: Triacanthidae	
344.	<i>Pseudotriacanthus strigilifer</i> (Cantor, 1849)	Long-spined tripodfish
345.	<i>Triacanthus biaculeatus</i> (Bloch, 1786)	Short-nosed tripodfish
	Family 86: Tetraodontidae	
346.	<i>Chelonodon patoca</i> (Hamilton, 1822) *	Milkspotted puffer
347.	<i>Dichotomyctere fluviatilis</i> (Hamilton, 1822)	Green pufferfish
348.	<i>Lagocephalus lunaris</i> (Bloch & Schneider, 1801)	Green rough-backed puffer
349.	<i>Leiodon cutcutia</i> (Hamilton, 1822)	Ocellated pufferfish
350.	<i>Takifugu oblongus</i> (Bloch, 1786)	Lattice blaasop



Boleophthalmus boddarti (Pallas, 1770) | Boddart's goggle-eyed goby



Rhizoprionodon acutus (Ruppel, 1837) | Milkshark