



# FINS OF GANGA RIVER BASIN



**PLANNING AND MANAGEMENT FOR AQUATIC SPECIES  
CONSERVATION AND MAINTENANCE OF ECOSYSTEM  
SERVICES IN THE GANGA RIVER BASIN FOR A CLEAN GANGA**

**Fins of Ganga River Basin**

2024

**Project Investigator**

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Wildlife Institute of India, Dehra Dun

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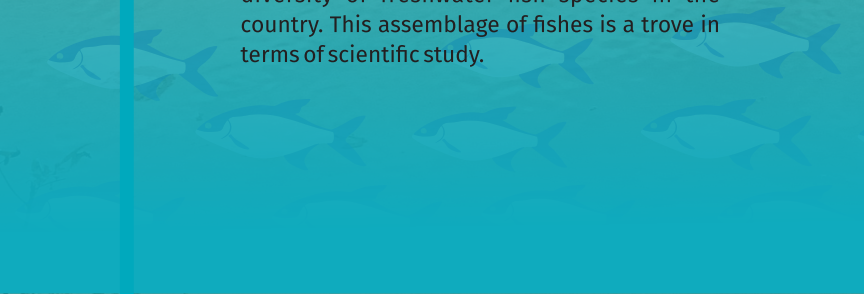
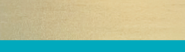

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# PRE-FACE



Freshwater is essential for sustaining all life forms and they are a direct indicator of the health of the ecosystem. Approximately 25000 recognised species are known to be present composing the most diverse vertebrate group. Fishes comprise a diversity of sizes and shapes and types and provided valuable sources of protein and other essential nutrients. India is enriched with vast open sources of water in the form of rivers, wetlands, estuaries, natural and artificial lakes, mangroves etc., The major rivers of India are endowed with a vast diversity of aquatic species. Freshwater fishes are among one those group contributing to the total diversity of freshwater fish species in the country. This assemblage of fishes is a trove in terms of scientific study.



The Ministry of Jal Shakti, DoWR, RD, GR through its National Mission for Clean Ganga and the Wildlife Institute of India, Dehradun has taken up the " Planning and Management for Aquatic Species Conservation and Maintenance of Ecosystem Services in the Ganga River basin for a clean Ganga", project an integrative restoration approach incorporating ecological project aims for a science-based aquatic species restoration plan for the entire Ganga River Basin by involving multiple stakeholders. A comprehensive strategy to restore the biodiversity value of the Ganga River Basin and associated wetlands in the basin is being developed.

This booklet attempts to compile the freshwater and it also describes species fish resources of the Ganga River basin, their biology, distribution and their current status. Under this study predefines intensive monitoring sites have been synthesised.

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# TYPES OF FISHES

## FISH

(In general) is a cold-blooded aquatic organism that swims with fins and breathes through gills; they are classified as bony fishes and cartilaginous fishes

## CATEGORISATION OF FISH BY THEIR HABITAT

### I. FRESHWATER FISH

Fish which spend almost all of their life in freshwaters, like rivers and lakes, having a salinity of less than 0.5ppt. Around 40% of all known species of fish are found in freshwater.

They may be divided into Coldwater Fish (5-20°C) examples: Mahseer, Trout, etc., and warm water Fish (25-35°C); Example: Danio, Catfish, Snakeheads, Featherbacks, etc.

### BRACKISHWATER FISH

Fish that can tolerate a wide range of salinity (0.5 - 30.0 ppt) and live in backwaters, estuaries and coastal waters.

Example: Mullet, Milkfish, Seabass, Pearl-spot, Mudskipper, etc.

### MARINE FISH

Fish that spend most or all of their life in seawater, such as Seas and Oceans, have a salinity range above 30 ppt.

**Example:** Sardines, Mackerel, Ribbonfish, Anchovies, Grouper, Cobia, Tuna, etc.

The Inland Fisheries of India may be classified as:

- i. Lacustrine Fisheries (Lakes and Reservoirs)
- ii. Riverine Fisheries (Rivers and Streams)
- iii. Estuarine Fisheries (Estuaries and Backwaters)
- iv. Floodplain and Wetland Fisheries
- v. Coldwater Fisheries
- vi. Ornamental Fisheries

- vii. Sport Fisheries
- viii. Culture Fisheries (Aquaculture)

### **CARPS**

Carp are a large freshwater fishes like Rohu, Catla and Mrigala. Carps are very versatile and can live in a great variety of habitats. Carps form the mainstay of aquaculture practices in India, contributing over 85% of the total aquaculture production. Besides the Major Carps, there are smaller carps often referred to as Minor Carps. Out of 266 carp species available in the Indian region, about 34 carp species are economical and are produced mainly from capture fishery, while less than 10 carp species are produced from both the culture and capture fisheries in the country. India is called "Carp Country" since carp have been cultured since ancient times and been relished delicacy in the country.

### **CATFISH**

Catfish are a group of ray-finned fishes which are differentiated based on the presence of prominent barbels that resembles with that of a cat's fish whiskers (but not all catfish have prominent barbell). Although catfish can generally be found in fast-flowing rivers and streams, some catfish species have adapted to living in shallow salt-water environments while other catfish species live their lives in caves underground. Most catfish are bottom feeders as they are negatively buoyant (which means that they usually sink rather than float due to a reduced gas bladder and a heavy, bony head). The air-breathing catfishes such as Magur and Singhi inhabit shallow waters, withstand low oxygen conditions and are referred to as air-breathing fishes; they are marketed as live and fetched at a high price.

### **FEATHERBACKS**

Featherbacks are adapted to flowing conditions and are widely distributed in deep and clear waters in the rivers, beels, reservoirs and ponds. The Bronze Featherback is reported to enter brackish water. They are carnivorous and predatory fish and feed on aquatic insects, molluscs, shrimps and small fishes and take insects and tender roots

of aquatic plants during the early stages of life. They are rich in nutritive value and commands higher market price despite a large number of intramuscular spines.

### **SMALL INDIGENOUS FISH SPECIES (SIFS)**

They are defined as fish that grows to a maximum size of 25-30 cm in the mature or adult stage of their life cycle. They inhabit rivers and tributaries, floodplains, ponds and tanks, lakes, beels, streams, lowland areas, wetland and paddy fields. about 62 SIFS have been categorized as food fish while 42 species as ornamental fish. Some cultivable SIFS are Mola, Climbing Perch, Barbs, Bata, etc.

### **SNAKEHEADS**

The snakeheads are members of the freshwater Perciformes fish family Channidae, native to parts of Africa and Asia. They inhabit swampy waters and their gills are adapted to breathe air. They can survive out of the water for up to four days, provided they are wet and are known to migrate up to 400 meters on the wetland to other bodies of water by wriggling with their body and fins. They have a pair of air chambers (Suprabranchial cavity), developing from the pharynx, lined by vascular epithelium, take in air and function like lungs. Snakeheads consume plankton, aquatic insects and molluscs during early life stages and become predatory and cannibalistic as they grow. The snakehead's meat has good taste, high nutrients and also has high pharmaceutical values. Snakeheads also have all the essential amino acids for wound healing, especially glycine, which is important for the formation of human skin collagen.

### **TILAPIAS**

Tilapias are a group of "Cichlid" fish native to the African Continent. In the Central African Countries, farming of Tilapias in ponds was introduced after Second World War and then soon spread to most of the tropical and sub-tropical countries of the world hence they are referred to as international fish. Although most of the natural resources of Tilapias are found mainly in Africa, nearly 80% of the global Aquaculture production of Tilapias of about 5.0 million metric tonnes comes from Asia. Tilapias are considered the most important aquaculture species of the

21<sup>st</sup> century and they are being cultured in 100 countries of the world commercially, ranging from extensive to super-intensive scale.

### **COLDWATER FISHES**

Coldwater fishes occupy an important place amongst the freshwater fishes of India. The coldwater fisheries deal with fisheries activity in water where the temperature of water ranges opening is smaller in size for adaptation to cold temperatures. Important coldwater fishes of India are Mahseer such as *Tor putitora*, *T. tor*, *T. Khudree*, *T. mosal*, Snow Trout such as *Schizothorax richardsonii* and *Schizothoraichthys esocinus*, Mountain Trout such as *Barilius vagra*, *B.bendelisis*, other fish such as *Glyptothorax* sp., *Garra* sp., etc.

## **II. BRACKISHWATER FISHERIES**

India has around 1.2 million ha of brackishwater resources comprising estuaries (deltaic river mouths), coastal lagoons, lakes, backwaters, tidal creeks, canals, mudflats, mangrove plants, etc. These water bodies lying between the freshwater and marine regimes have certain characteristics: (i) fluctuating water level synchronizing with the tides, (ii) wide salinity range of 0-35 ppt, (iii) higher nutrient content and productivity, (iv) serve as nursery grounds for numerous marine organisms, (v) harbour a rich diversity of flora and fauna, and (vi) support artisanal capture fisheries and provide a livelihood to the coastal fishers.

### **MULLETS**

Thirteen species of Mulletts are found in India of which eight species contribute to the commercial catches. *Mugil cephalus* and *M. parsia* are the two cultivable species. They are euryhaline species that tolerate salinity from 0-35 ppt. They are omnivorous in feeding habits. They feed at the lowest trophic level on plant detritus and algae. Mulletts are known for the high protein and vitamins contained in the muscle tissue. The Roe (ripe ovaries) from mature females are a delicacy, high-valued and sought after in many countries.

## MILKFISH

The Milkfish, *Chanos chanos*, is the only living representative of the family Chanidae which is widely distributed in the whole tropical and subtropical regions of the Indian and the Pacific Oceans. The distribution coincides with coral reef areas where the water is warm, clear and shallow. It is one of the most important species cultured in South-East Asia.

## BASS

Asian Seabass, *Lates calcarifer*, commonly called the Giant Sea-Perch is an economically important food fish in the tropical and subtropical regions of Asia and the Pacific. Because of its relatively high market value, it has become an attractive commodity for both large and small-scale aquaculture enterprises. The major constraint to the rapid expansion of Seabass culture has been the inconsistent supply of fry collected from the wild. The Crescent Bass or Tiger Bass, *Terapon jarbua*, is common species in the Indo-Pacific; it occasionally makes its way into the aquarium trade.

## PEARLSPOT

The Green Chromide Pearlsport, *Etroplus suratensis*, is the state fish of Kerala and Locally (in Malayalam) it is called "Karimeen". It being an eurhaylaine is compatible for polyculture with other brackishwater/ Freshwater fish. It breeds naturally in confined conditions, sexes are separate and fertilization is external.

## GROUPEr

There are more than 64 species of groupers found in the Indian waters. Groupers are important and economically valuable aquaculture species in Southeast Asian countries. Though groupers are sea fish, juveniles of some groupers are found in coastal waters, mangroves, estuaries and sandy bottoms. Groupers are ideal candidate species for intensive aquaculture particularly in the Asia-Pacific Region because of high consumer demand, desirable taste, hardiness in a crowded environment, efficient feed conversion, and rapid growth. Commonly found species in Indian waters are Greasy Groupers (*Epinephelus tauvina*), Orange-spotted Grouper (*E. coioides*), Brown-lined Reef Cod (*E. undulosus*) and Brown-spotted Reef Cod (*E. chlorostigma*).

## SCAT

Spotted Scat, *Scatophagus argus*, is a euryhaline subtropical fish widely distributed in Indian-Pacific waters. It occurs in two basic colour morphs which are called Green Scat and Ruby or Red Scat and lives in coastal muddy areas, including estuaries, mangroves, harbours, and the lower courses of rivers. It is an important aquaculture food fish with high economic value and is also a popular aquarium species due to its colourful appearance, hardiness, slow growth, and calm behaviour.

## CATFISH

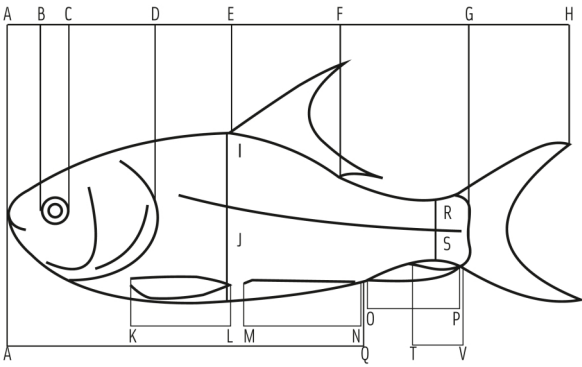
Primarily a brackish water fish that enters and lives in freshwater. In freshwater, adults occur mainly in larger water bodies (rivers and streams) with mud or clay substratum, and are rarely found in smaller streams. It forms schools of 10 to 25 individuals. *Mystus vittatus*, the Striped Dwarf Catfish is found in brackish water systems with marginal vegetation in lakes and swamps with a mud substratum.

## FRESHWATER FISHES

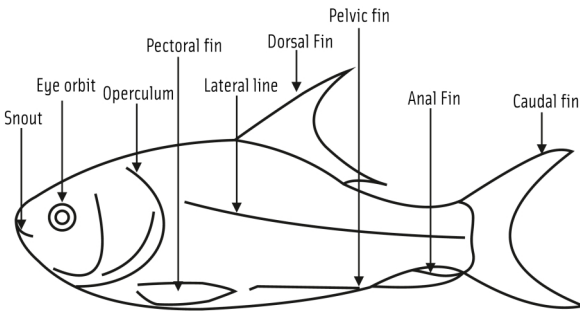
Freshwater rivers and river associated habitats are nursery grounds for nourishing freshwater fish populations and other aquatic species also. The present handbook describes the fish inhabiting in the main course of the Ganga River, originating from Gaumukh up to Ganga Sagar (Bay of Bengal). It comprises mostly of native fish species and some of the exotics fish species that are introduced in the Indian Rivers through aquarium trade and inland aquaculture. The Fishes of Ganga River comprises 125 species belonging to 88 genera, 34 families, and 11 orders were recorded across all the 31 pre-identified intensive sampling site locations in the main course of Ganga River. The freshwater fishes of our rivers are under threat due to various reasons like habitat loss and degradation (in the deforestation, damming of the rivers systems, shrinkage of wetlands and urbanization), overexploitation, pollution, indiscriminate fishing and introduction of the exotics species in our aquatic ecosystem. The group of fishes reported from the main course of the Ganga River belong to the family Danionidae, Cyprinidae, Nemaechelidae, Botiidae, Cobitidae, Bagridae, Clariidae, Channidae, Mastacembelidae, Ambassidae, Belonidae, Gobiidae, and Cichlidae.

## FISH IDENTIFICATION SKILLS

Identifying fishes is a little complex as compared to other vertebrates, which have different morphological characters and colour patterns.



**Figure 1.** General morphology and different body parts of a bony fish.



**Figure 2.** Picture illustrating landmarks of different morphometric measurements of a bony fish (morphometric description refer Table-1).

*Adopted from Johnson et al.2021  
(Sahaydri Fish Field guide)*

**Table 1.** Description of different morphometric characters

| <b>Morphometric Characters</b>     | <b>Description</b>   |
|------------------------------------|--|
| <b>A-B: Snout length</b>           | Length from tip of the head to in front of the eye                                   |
| <b>B-C: Eye diameter</b>           | From one end of the eye orbit to the other end of the orbit                          |
| <b>A-D: Head length</b>            | Length from the tip of the head to the opercular opening                             |
| <b>A-E: Predorsal Length</b>       | Length from the tip of the head to the origin of the dorsal fin                      |
| <b>E-F: Dorsal fin base</b>        | Distance from anterior point of dorsal fin insertion to posterior point of insertion |
| <b>E-G: Postdorsal length</b>      | Length from the origin of the dorsal fin to the origin of caudal fin                 |
| <b>A-G: Standard length</b>        | Length from tip of the head to the origin of caudal fin                              |
| <b>A-H: Total length</b>           | Length from tip of the head to the end of caudal fin tip                             |
| <b>I-J: Body depth (at middle)</b> | Straight length from dorsal-fin origin to ventral region of body                     |
| <b>K-L: Pectoral fin length</b>    | Straight length from dorsal fin origin to distal end of the fin                      |
| <b>M-N: Pelvic fin length</b>      | Length from pelvic fin origin to the distal end of the fin                           |
| <b>O-P: Anal fin length</b>        | Length from anal fin origin to the distal end of the fin                             |
| <b>A-Q: Pre-anus distance</b>      | Length from tip of the head to anus opening  |
| <b>R-S: Caudal peduncle height</b> | Vertical length between dorsal to ventral at caudal peduncle region                  |
| <b>T-V: Caudal peduncle length</b> | Length from end of anal fin insertion to caudal-fin origin                           |



# MATERIALS AND METHODS

Fish surveys were undertaken between 2018 to 2020 to document fish diversity and assess fish assemblage structure in the Ganga River Basin.

The voucher specimens collected during the survey were preserved and have been deposited in the National Museum Repository of Wildlife Institute of India, Chandrabani Dehradun. The number of the specimen(s), GPS coordinates, location, date of collection and name of collector have been documented. A special tag has been provided with a unique specimen ID.

Each intensive sampling site was sampled using the monofilamentous gill nets of various mesh sizes, Cast nets and Drag nets. Local fish markets were also explored during the sampling to explore the diversity of fishes available from the local streams.

# *Chitala chitala* (Hamilton, 1822)

## Clown knifefish

|                 |                   |               |                      |
|-----------------|-------------------|---------------|----------------------|
| <b>Kingdom:</b> | Animalia          | <b>IUCN:</b>  | Near Threatened (NT) |
| <b>Phylum:</b>  | Chordata          | <b>CITES:</b> | Not Included         |
| <b>Class:</b>   | Actinopterygii    | <b>IWLP:</b>  | Not Included         |
| <b>Order:</b>   | Osteoglossiformes |               |                      |
| <b>Family:</b>  | Notopteridae      |               |                      |
| <b>Genus:</b>   | <i>Chitala</i>    |               |                      |
| <b>Species:</b> | <i>chitala</i>    |               |                      |

**GEOGRAPHICAL DISTRIBUTION:** Asia: Indus, Gange-Brahmaputra and Mahanadi river basins in India.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Ghagra, Damodar, Rupnarayana.

**BIOLOGY:** The species is greenish in colour with bluish bars which descend obliquely downward and backwards to the anal fin. Vertical fins are with alternate dark and pale spots or bars and the anal fin is often with a red margin. Adults inhabit freshwater rivers, lakes, beels, nullahs in the plains, reservoirs, canals and ponds. Feeds on aquatic insects, molluscs, shrimps and small fishes. Females lay eggs usually on stake or stump of wood, males fan them with tail, keep them aerated and silt-free, guard them against small catfish and other predators; complete give-away to fishermen; females are not observed at egg posts; moderately important food fish. Spawn once a year from May to August.

Body is egg-shaped and laterally compressed. The mouth is small, slightly protrusile with the upper lip thick and papillose which is prominent, especially in old males. Scales are large are 29 to 31 in longitudinal series.

The species is a peaceful and beautiful aquarium fish and attains a length of 122 cm. It is standard in the Hooghly estuary and is traditionally liked for its excellent taste.



# *Notopterus notopterus* (Pallas, 1769)

## Bronze featherback

|                 |                   |               |                    |
|-----------------|-------------------|---------------|--------------------|
| <b>Kingdom:</b> | Animalia          | <b>IUCN:</b>  | Least Concern (LC) |
| <b>Phylum:</b>  | Chordata          | <b>CITES:</b> | Not Included       |
| <b>Class:</b>   | Actinopterygii.   | <b>IWLP:</b>  | Not Included       |
| <b>Order:</b>   | Osteoglossiformes |               |                    |
| <b>Family:</b>  | Notopteridae      |               |                    |
| <b>Genus:</b>   | <i>Notopterus</i> |               |                    |
| <b>Species:</b> | <i>notopterus</i> |               |                    |

**GEOGRAPHICAL DISTRIBUTION:** Pakistan, India, Nepal, Bangladesh, and Upper Burma. Inhabits large rivers and estuaries, also tanks, ditches and ponds.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Ghagra, Damodar, Rupnarayana.

**BIOLOGY:** The species is silvery-white with numerous fine grey spots on body and head which are dark along the narrow back.

The body is egg-shaped and strongly compressed. The mouth is small and slightly protrusile and the upper lip thick and papillose especially in older males. Pelvic fins are threadlike, and with no caudal fin.

Mostly found in clear streams and enters brackish water. Adults inhabit in standing and sluggish waters of lakes, floodplains, canals and ponds. It is common in tanks throughout the greater parts of India. Feeds on insects, fish, crustaceans and some young roots of aquatic plants and is mostly active during twilight and night. Breeding usually takes place in stagnant or running waters in the rainy season.

Eggs are laid in small clumps on submerged vegetation. A female measuring 21-25 cm usually lays 1200-3000 eggs. The fish is of high economic value as food fish.



# *Settipinna phasa* (Hamilton, 1822)

## Gangetic hairfin anchovy

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Clupeiformes  
**Family:** Engraulidae  
**Genus:** *Settipinna*  
**Species:** *phasa*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Indian fresh and brackish waters of Ganges system, from Diamond Harbour on the Hooghly to as far up as Allahabad on the Ganges, perhaps further; also rivers and estuaries of Orissa). Reported from Bangladesh and Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is greenish-grey from the back with a silvery shot with gold. It is silvery on the belly. Pectoral fins are hyaline, but blue-black in adults. The upper lobe of the caudal fin is the dusky and the upper edge of the dorsal fin is dusky.

The body is fusiform and strongly compressed. The belly is strongly keeled with 15+6 or 7 scutes. Head length is 5.5 to 6.4 times in standard length. The mouth is slightly oblique, maxilla short and just reaches gill-opening. Gillrakers 18 or 19 (rarely 17) on the lower arm of the first arch. Gill rakers serrae even or slightly clumped in smaller fishes. Pectoral filament long reaching to base of 15th to 39th anal fin ray.

A riverine species, but also found in estuaries and presumably tolerating some salinity. Adults feed mainly on mysids and small. Its large size makes it an attractive food fish.

Has an extended breeding season, possibly throughout the year.



# *Setipinna brevifillis* (Valenciennes, 1848), Short-harfin anchovy

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Clupeiformes  
**Family:** Engraulidae  
**Genus:** *Setipinna*  
**Species:** *brevifillis*

**IUCN:** Data Deficient (DD)  
**CITES:** Not Included  
**IWLPA:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: India (Ganges system, from at least Delhi to Calcutta).

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is brownish from the back and the flanks are golden. Fins are hyaline.

The body is fusiform and strongly compressed and the belly is sharply keeled with 15 to 17+ 6 or 7 (total 22 or 23) scutes from isthmus to anus. Head length is 5 to 5.5 times in standard length. The mouth is slightly oblique, the maxilla is reaching just beyond the articulation of the lower jaw. Gill rakers are 17 (rarely 18) on the lower arm of the first arch. Serrae is enlarged near the tip and often shows clumping of larger ones along the raker. The pectoral filament is short, reaching to base of the 1st to 15th anal fin-ray. The caudal fin is forked and its upper lobe is truncated and shorter than the lower.

It attains a length of 26cm standard length.

The species probably contributes to local artisanal fisheries in the Ganga.



# *Gudusia chapra* (Hamilton, 1822)

## Indian river shad

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Dorosomatidae  
**Family:** Clupeidae  
**Genus:** *Gudusia*  
**Species:** *chapra*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** India and Bangladesh are affluent to the Bay of Bengal (chiefly the Ganga and Brahmaputra systems and the Mahanadi river of Orissa). Inhabits rivers.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Damodar, Ghagra.

**BIOLOGY:** This fish back is brown in colour with flanks silvery or golden, a dark blotch is present behind the gill opening, and often followed by a series of a spot alongside. The body is deep with a depth of 2.6 to 3.2 times in standard length, with the presence of 26 to 29 scutes along the belly. Scales in lateral series consist of 77 to 91 scales.

It attains a length of 15 cm.



# *Tenualosa ilisha* (Hamilton, 1822)

## Hilsa shad

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Clupeiformes  
**Family:** Dorosomatidae  
**Genus:** *Tenualosa*  
**Species:** *ilisha*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Northern part of Indian Ocean (from the Gulf eastward to Burma, including western and eastern coasts of India, also rivers).

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Rupnarayana.

**BIOLOGY:** The species is silverish with gold and purple with a dark blotch behind the gill opening, followed by a series of small spots along the flanks in the immature.

The body is fusiform, relatively deep and compressed, its depth 3.1 to 3.7 times in standard length; belly with 30 to 33 scutes. The Head is 3.6 times in standard size. Hilsa has tremendous fishery importance in India. The species is Marine, pelagic and schooling in coastal waters, euryhaline, anadromous. Breeds mainly in rivers.

The species inhabits marine, pelagic and schooling in coastal waters, euryhaline, anadromous, ascending rivers for as much as 1200 km, but usually about 50 to 100 km.

It is highly esteemed, particularly in Odisha, West Bengal, Andhra Pradesh and Tamil Nadu, for its culinary excellence. It has a high-fat content (20%) during certain seasons.

The average size of an anadromous mature female is 38-46 cm, the male generally smaller. The maximum recorded size for females is 60 cm with a weight of 2.49 kg; for males, 43 cm and 0.68 kg.



# *Gonialosa manmina* (Hamilton, 1822)

## Ganges river gizzard shad

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Clupeiformes  
**Family:** Dorosomatidae  
**Genus:** *Gonialosa*  
**Species:** *manmina*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: rivers and associated water bodies of Sri Lanka, India (the Ganges and other rivers of Orissa, Uttar Pradesh, Bengal, Assam), and Bangladesh.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is silvery in colour with a shot of gold, with a dark spot behind the gill opening.

The body is fairly deep and compressed and its depth is 2.6 to 3 times in standard length. Nelly with 16 to 20 (usually 17 or 18) + 11 to 14 (usually 11 to 13), total 27 to 33 (usually 29 to 31) scutes. The mouth is inferior, upper jaw is slender at the tip and distinctly turned down. Second supramaxilla is very small. Scales are small, 51 to 71 in lateral series. Vertebrae 44 to 45.

The riverine gizzard shad attains a length of 11.5 cm Standard length. It mainly occurs in large river systems of Ganga, Yamuna, Brahmaputra and the Mahanadi. It is of no major fishery importance.



# *Botia lohachata* (Chaudhuri, 1912)

## Reticulate loach

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Botiidae  
**Genus:** *Botia*  
**Species:** *lohachata*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLPA:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Bangladesh and Nepal.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Kosi, Gandak, Ghagra, Yamuna .

**BIOLOGY:** The species is silvery grey or earthy brown with a series of Y-shaped markings. Y from each side meet on top of the body so that a top view shows about four O-shaped markings. In larger adults the regular Y-marks become obsolete and the fish then shows haphazard rod like markings.

The body is elongate and laterally compressed. Head moderate and length of snout less than the remaining part of the head. Mouth is small and four pairs of barbels two rostral , one maxillary and one mandibular present.

It attains a length of 10cm.



## *Lepidocephalichthys guntea* (Hamilton, 1822), Guntea loach

|                 |                            |               |                    |
|-----------------|----------------------------|---------------|--------------------|
| <b>Kingdom:</b> | Animalia                   | <b>IUCN:</b>  | Least Concern (LC) |
| <b>Phylum:</b>  | Chordata                   | <b>CITES:</b> | Not Included       |
| <b>Class:</b>   | Actinopterygii             | <b>IWLP:</b>  | Not Included       |
| <b>Order:</b>   | Cypriniformes              |               |                    |
| <b>Family:</b>  | Cobitidae                  |               |                    |
| <b>Genus:</b>   | <i>Lepidocephalichthys</i> |               |                    |
| <b>Species:</b> | <i>guntea</i>              |               |                    |

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, northern India, Bangladesh, Nepal, Myanmar and Thailand. Known from the Salween basin.

**DISTRIBUTION IN THE GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is highly variable, differing with age and sex. The young specimens are yellowish with a dull gleaming pale streak which extends from the snout to a small, round, deep black blotch at the base of the caudal fin. Above and below this stripe are 10 to 12 irregular or evenly regularly arranged dark blotches. These spots grow in size and tend to fuse with one another, forming a continuous dark lateral band with age. Found in flowing or even clear standing waters.

The body is elongated, low, slightly compressed anteriorly and strongly posteriorly, its depth 5.8 to 6.8 times in total length. The mouth is inferior, barbels three pairs, mental lobe well-developed and produced into one or two projections. Dorsal fin inserted slightly behind the level of origin of pelvic fin. Scales are very small, imbricate, scales on the head in patches below and behind the eyes.

It attains a length of 15cm and is not of much fisheries importance.



# *Paracanthocobitis botia* (Hamilton, 1822)

## Mottled loach

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Nemacheilidae  
**Genus:** *Paracanthocobitis*  
**Species:** *botia*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Indus, Nepal, Bhutan, Bangladesh, Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is olivaceous to yellowish-orange with 12 to 16 blackish crossbands of turns and twists, descending below level of lateral line, which is interrupted in young and half-grown specimens. A narrow dark band from snout-tip to anterior margin of eye.

A black ocellus on upper base of caudal fin and a narrow dark band from snout-tip to anterior margin of eye.

The body is slender and its depth is 4.5 to 5.9 times in standard length. Eyes are moderate and not visible from underside of head. Nostrils are close to each other and anterior not tubular. Mouth is semi-circular with lips moderately fleshy. Barbels are well developed, nasal barbel is short. Scales are conspicuous and imbricate which is considerably reduced on breast and lateral line is usually complete.

Adults inhabit clear water, swift flowing streams with rocky, pebbly and sandy bottoms.



# Schistura rupecula (McClelland, 1838)

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Nemacheilidae  
**Genus:** *Schistura*  
**Species:** *rupecula*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: India. Reported from Nepal.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species has 14 to 17 vertical bands encircling the body in juveniles and in adults 9 to 12 vertical bands, broader than interspaces, and in the posterior part of the body encircling the body, the bands before the dorsal fin coalescing to form a uniform ground colour. A black spot at the base of anterior dorsal fin rays. A dark streak on the outer rays of dorsal and caudal fins.

The body is elongated with its depth 5.4 times to 9 times in standard length. The eyes are small, and not visible from the underside of the head. Nostrils are close to each other, anterior not tubular. The mouth is semi-circular, lips are moderately fleshy and poorly furrowed. Lower lip interrupted in middle. Barbels are well developed. Dorsal fin inserted equidistant between snout-tip and base of the caudal fin. Caudal fin truncates or slightly emarginate. Scales are small and indistinct, embedded in the skin, absent on the ventral side, and the lateral line is complete.

Adults inhabit shallow water riffles and spring pools. Found in small streams with the pebbly bottom.

This species attains a length of 6.6cm Standard length.



# *Naziritor chelynoides* (McClelland, 1839)

## Dark mahseer

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Naziritor*  
**Species:** *chelynoides*

**IUCN:** Vulnerable (VU)  
**CITES:** Not Included  
**IWLPA:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan: North-eastern Baluchistan and NWFP; and India: Himalaya, as far as east Assam, also in the Ganga.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna.

**BIOLOGY:** The body is dark brown or black in colour which becomes silvery below. The margins of the scales show the presence of numerous fine black dots. Fins are reddish in colour. This is also called dark mahseer which does not grow to a large in size. The body is elongated up to 4.1 to 4.8 times in standard length. The Head is short and depressed with a length up to 3.5 to 3.9 times in size. The eyes are small, and not visible from the underside of the head. Scales are relatively small and lateral lines with 33 to 38 scales. Lips are fleshy with two pairs of barbels longer than eye diameter.



# Tor tor (Hamilton, 1822)

## Tor barb

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Tor*  
**Species:** *tor*

**IUCN:** Endangered (EN)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Afghanistan, Pakistan, India, Nepal and Bangladesh; all along the Himalayas. Inhabits the montane and submontane regions in running streams and rivers.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna.

**BIOLOGY:** The body is streamlined and colouration varies in accordance to the nature of the water inhabited. The back is reddish sap-green in colour. The Head below the eyes is light buff-yellow, while the pupil is dark blue. The Head is broadly pointed and its length is more than the depth of the body 3 to 3.6 times in standard length. Scales are large, lateral line with 25 to 28 scales. The mouth is small with fleshy lips which continuous at the corners of the mouth. Two pairs of Barbels two pairs of equal length and equal eye diameter. The most common mahseer of the Himalayas is also sometimes known as the golden, yellow-finned, grey-hound or the thick-lipped mahseer.

It has afforded a lucrative source of sport for anglers all along the Himalaya for a long.

This most attractive sport-fish with excellent food value is fast approaching extinction in the streams and lakes of northern India. Large fishes are only found in some of the perennial pools.



# *Tor putitora* (Hamilton, 1822)

## Putitor mahseer

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Tor*  
**Species:** *putitora*

**IUCN:** Data deficient (DD)  
**CITES:** Not Included  
**IWLPA:** Not Included

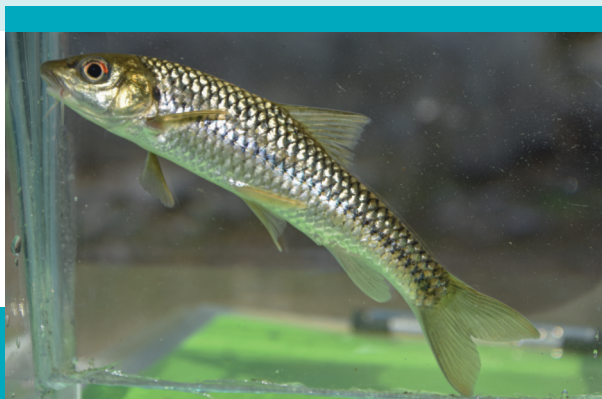
**GEOGRAPHICAL DISTRIBUTION:** Pakistan; India: Sub-Himalayan range; Ganga and Narmada river system; and Bangladesh.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna.

**BIOLOGY:** It is powerful mahseer and one of the essential food for fish. It grows better in a river with a rocky bottom. It is also often called the mahseer and deep-bodied mahseer. Body is greyish green in colour with pinkish flanks with greenish-gold above and light olive green below. The belly is silvery in colour with the head orange above gill openings. The body is stout and relatively deep with a depth of 3 to 3.7 times in standard length. Head rather small. Scales are large in size, with a lateral line with 22 to 27 scales. The fishery has afforded a lucrative source of sport for the anglers in the northern Indian region for a long. The Tor mahseer attains a length of upto 275 cm.

The size of the mahseer is no indication of its age because a 10-year-old fish in a small river may weigh 2Kg, whereas a fish of the same period in a significant body of water may weigh up to 9 kg.

It breeds during August-September and continues up to December. It has been reported that younger ones breed earlier in the season than older ones (Jhingran, 1980).



# *Schizothorax richardsonii* (Gray, 1832)

## Snowtrout

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Schizothorax*  
**Species:** *richardsonii*

**IUCN:** Vulnerable (VU)  
**CITES:** Not Included  
**IWLPA:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** India: Jammu and Kashmir Valley, Ganga river and Brahmaputra river.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna.

**BIOLOGY:** A steel grey coloured fish with a yellowish-white belly with the presence of small grey spots. This species is a valuable game fish that attains a maximum size of 60 cm. The fish is primarily a algal feeder fish. The fish migrates in the Ganga River between Haridwar and Uttarkashi in Bhagirathi River up to Chamoli in Alakananda River. It breeds in the higher reaches of the Ganga River Basin.

The body is elongated and subcylindrical, the head narrow and the snout is smooth and pointed. Its depth is 3.8 to 4.9 times in standard length.

Two pairs of maxillary and rostral barbels which are much longer than eye diameter.

Lateral line with 110 to 114 scales.

Fry and fingerlings of this species are usually found in the tributaries of the Alakananda and Bhagirathi rivers but never in the Ganga or its branches below Deoprayag. In Jammu and Kashmir, it is found in small streams of the valley west of Srinagar.



# *Schizothorax progastus* (McClelland, 1839), Dinnawah snowtrout

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Schizothorax*  
**Species:** *progastus*

**IUCN:** Least Concern (LC)

**CITES:** Not Included

**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Ganges, Himalayas, from Jammu & Kashmir to Uttarakhand, Assam, Sikkim, Nagaland and Bhutan.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is uniformly silver in colour with a few fine spots. Fins are dark edges.

The body is elongated and sub-cylindrical, and its depth is 3.8 to 4.9 times in standard length.

The Head is narrow anteriorly with the snout pointed and smooth. The mouth is subterminal horizontal and arch-shaped, protractile. Lips are thick and fleshy, lower labial fold uninterrupted and trilobed, median lobe insignificantly small. Barbels two pairs are maxillary and rostral. Scales are small and lateral lines with 110 to 114 scales.

The fish is primarily carnivorous. It migrates in The Ganga River between Haridwar and Uttarkashi in Bhagirathi river and upto Chamoli in Alaknanda River. It breeds in higher reaches of this river and travels down after breeding. Fry and fingerlings of this species are normally found in the tributaries of Alaknanda and Bhagirathi. Rivers but never in Ganga or its branches.

It is a game fish the fish is relished as food-fish of the hilly regions. It attains a length of 50 cm.



# *Labeo calbasu* (Hamilton, 1822)

## Orangefin labeo

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Labeo*  
**Species:** *calbasu*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan, India, Bangladesh, Nepal, Burma, Thailand, and Yunnan (South China).

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Damodar, Gandak, Ghagra.

**BIOLOGY:** The fish is blackish-green and light below, with scarlet spots with dark edges which may form stripes. Fins are black in colour. The Head is relatively small and conical. It is one of the Indian major. It is crucial food for fish and is referred as Black Rohu. It is an essential game fish and is stocked and cultivated along with other species. It can tolerate slightly brackish water also. It is essentially a bottom feeder and attains a length of 90 cm. The body is stout with the head relatively large and conical and its length is less than body depth. Mouth is inferior with thick lips and conspicuously fringed. Two pairs of rostral and maxillary barbels. Scales are moderate in size and lateral line with 40 to 44 scales.



# *Labeo gonius* (Hamilton, 1822)

## Kuria labeo

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Labeo*  
**Species:** *gonius*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan, northern India, Bangladesh and Burma.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Gandak, Kosi.

**BIOLOGY:** The species is greenish-black on the back which becomes dull white on the flanks. Scales are dark at margins and several scales with red lunules. The body is elongated with a dorsal profile more convex than ventral. Snout projects beyond the mouth, devoid of the lateral lobe. The eyes are moderate and are not visible from the underside of the head. The mouth is narrow and with thick lips. Two pairs of rostral and maxillary barbels. Lateral line with 71 to 84 scale. The carp attains a length of 1.5 m. The species spawns during the monsoons.

It is cultivated in ponds along with other carp species. Artificial breeding is successful through hypophysation.



# *Systemus sarana* (Hamilton, 1822)

## Olive barb

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Systemus*  
**Species:** *sarana*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Afghanistan, Pakistan, India, Nepal, Bangladesh, Bhutan and Sri Lanka. Reported from Myanmar and Thailand.

**DISTRIBUTION IN THE GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species body is olive in colour from the back with flanks silvery with golden reflections. Barbels are reddish-brown with cheeks golden. A dull blotch on the lateral line before the base of the caudal fin is present. Fins are dusky brown to orange in colour.

The body is elongated and its depth is 2.7 to 3 times in standard length. The Head is fairly small and its length is 4 to 4.7 times in standard length. The eyes are moderate, and their diameter is 3.5 to 4.5 times of the head. Barbels two pairs rostral and maxillary. Scales are medium with lateral lines complete with 30 to 33 scales. It breeds during monsoon season in running waters amongst submerged boulders and vegetation.

The barb is very widely distributed all over India in rivers and tanks.

It attains a length of 31cm

Feed on aquatic insects, fish, algae and shrimps.



# *Cyprinus carpio* (Linnaeus, 1758)

## Common carp

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Cyprinus*  
**Species:** *carpio*

**IUCN:** Exotic  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Europe to Asia: Black, Caspian and Aral Sea basins. Introduced throughout the world. Wild stocks are only present naturally in rivers draining the Black, Caspian and the Aral Sea.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is variable in colour depending on and adapting to various situations and the character of the bottom of the ponds where it lives. Fins are yellowish to reddish and golden sometimes. Anal fins become bright red in the breeding season. Two pairs of barbels are present. Scales are large and thick.

The body is stout and slightly compressed. Head is moderate, triangular in shape, snout obtusely rounded. The mouth is small and oblique, protrusible. The lips are thick and fleshy. Anal fin is trapezoidal. Scales are large and lateral lines straight with 30 to 40 scales.

Inhabits warm, deep, slow-flowing and still waters such as lowland rivers and large, well-vegetated lakes. Hardy and tolerant of a wide variety of conditions but generally favour large water bodies with slow-flowing or standing water and soft bottom sediments. Occurs at depths of <30m and is found sucking in floating insects at the surface.



# *Cyprinus carpio specularis* (Hamilton, 1822) Common carp

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Cyprinus*  
**Species:** *carpio specularis*

**IUCN:** Exotic  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Europe to Asia: Black, Caspian and Aral Sea basins. Introduced throughout the world. Wild stocks are only present naturally in rivers draining the Black, Caspian and the Aral Sea.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is variable in colour depending on and adapting to various situations and the character of the bottom of the ponds where it lives. Fins are yellowish to reddish and golden sometimes. Anal fins become bright red in the breeding season. Two pairs of barbels are present. Scales are large and thick.

The body is stout and slightly compressed. Head is moderate, triangular in shape, snout obtusely rounded. The mouth is small and oblique, protrusible. The lips are thick and fleshy. Anal fin is trapezoidal. Scales are large and lateral lines straight with 30 to 40 scales.

Inhabits warm, deep, slow-flowing and still waters such as lowland rivers and large, well-vegetated lakes. Hardy and tolerant of a wide variety of conditions but generally favour large water bodies with slow-flowing or standing water and soft bottom sediments. Occurs at depths of <30m and is found sucking in floating insects at the surface.



# *Labeo rohita* (Hamilton, 1822)

## Rohu labeo

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Labeo*  
**Species:** *rohita*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Bangladesh, Myanmar and Nepal.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna and Kosi.

**BIOLOGY:** The species is bluish along on the backside which becomes silvery on the flanks and beneath, with a reddish mark on each scale during the breeding season. Eyes reddish and fins greyish or dark, whereas pectoral fins dusky. The body colour tends to vary in fishes in fishes living among weeds, exhibiting greenish-black on back.

The body is moderately elongate, its dorsal profile more arches than the ventral profile. Snout fairly depressed, projects beyond mouth, devoid of lateral lobe. Eyes are large.

A diurnal species and usually solitary. Feed on plants. Spawning season is generally 4 to 6 times. The mouth is small and inferior, lips are thick and fringed, with a distinct inner fold to each lip. Barbels are a pair of maxillary barbels concealed in the lateral groove.

Rohu is the natural inhabitant of freshwater sections of the river of north India. The fecundity of rohu varies from 22600 to 279400 depending upon the length and weight of the fish and weight of the ovary.

Rohu is regarded an excellent gam fish and seems to put up a better fight in a river than in a tank.



# Bangana dero (Hamilton, 1822)

## Kalabans

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Clupeiformes  
**Family:** Cyprinidae  
**Genus:** *Bangana*  
**Species:** *dero*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Nepal, Bangladesh, Myanmar and China, probably Sri Lanka also reported from Iran, Afghanistan and Bhutan.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is bluish or brownish black from back and bluish-silvery on flanks and from belly. Scales are often tinged red. An obscure band along the flanks. Fins are blackish with a faint reddish hue, outer edge of dorsal fin rather dusky.

The body is elongated and its dorsal profile more convex than ventral. Head is rather small and its length 4.5 times in standard length. Snout is very prominent, overhanging mouth without any lateral lobes but with a distinct groove across it and generally covered with pores. Eyes are fairly small, not visible from underside of head, the diameter 4.5 times to 5 times in head length. Mouth is inferior rather narrow, lips are thick and continuous. Lower lip is closely papillated internally, joined to isthmus by a narrow bridge. Barbels one small maxillary pair. Tubercles on snout often present and few in number.

Adults inhabit torrential hill-streams in shallow waters. They migrate to warmer regions of lakes and streams during winter.



# *Cirrhinus reba* (Hamilton, 1822)

## Reba carp

|                 |                |               |                    |
|-----------------|----------------|---------------|--------------------|
| <b>Kingdom:</b> | Animalia       | <b>IUCN:</b>  | Least Concern (LC) |
| <b>Phylum:</b>  | Chordata       | <b>CITES:</b> | Not Included       |
| <b>Class:</b>   | Actinopterygii | <b>IWLP:</b>  | Not Included       |
| <b>Order:</b>   | Cypriniformes  |               |                    |
| <b>Family:</b>  | Cyprinidae     |               |                    |
| <b>Genus:</b>   | <i>Reba</i>    |               |                    |
| <b>Species:</b> | <i>carp</i>    |               |                    |

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Nepal, Bangladesh, and Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is dark grey in colour dorsally, and silvery on the flanks and on bell. Scales are generally darkest at their edges forming a bluish longitudinal bands above lateral line. Juveniles with a leaden-coloured band along the side, or even dusky tip to the dorsal fin, Anal and pelvic fin orange-tipped.

The body is fairly elongated and its depth much more than head length. Snout slightly projecting beyond mouth which is more pronounced in juveniles. A thin cartilaginous covering inside of lower jaw. One pair of short rostral barbel generally present. Pectoral fin as long as head. Caudal fin is deeply forked. Scales are hexagonal and moderate, and lateral line with 34 to 38 scales.

This carp grows up-to 30cm in natural waters. Breeding takes place in flooded shallows in June-September. Also cultivated in ponds in India. A plankton and detritus feeder. Growth is rapid.

They are collected for stocking in ponds and even seasonal waters because of their growth.



## *Osteobrama cotio* (Hamilton, 1822)

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Osteobrama*  
**Species:** *cotio*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: rivers and associated water bodies of Sri Lanka, India (the Ganges and other rivers of Orissa, Uttar Pradesh, Bengal, Assam), and Bangladesh.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is silvery in colour with scattered pigment spots on the dorsal side. A dark blotch on the nape is present. Fins are pale.

The body is trapezoid and considerably compressed. Its depth is 2.1 to 2.6 times in standard length. The abdominal edge is trenchant from behind the pelvic-fin base to the anal fin but rounded in front of the pelvic fin. The mouth is small and barbels are absent. The dorsal spine is weak and serrated. Scales are small, lateral lines with about 65 scales. Scales rows 10.5 between lateral line and base of pelvic fins. Predorsal scales 24.

This is a variable species and its salient diagnostic features are a very long anal fin, absence of barbel and a rounded abdominal edge in front of pelvic fins. The scales are minute and irregularly arranged.

The species attains a length of 15cm.



# *Cirrhinus mrigala* (Hamilton, 1822)

## Mrigala carp

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Cirrhinus*  
**Species:** *mrigala*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Nepal, Bangladesh, and Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is dark grey in colour with a coppery tinge, the flanks are silvery with a yellowish tinge and the belly is silvery white. Their eyes are golden. Pectoral, pelvic and anal fins are orange-tipped. Dorsal and caudal fins are dusky.

The body is streamlined and its depth is about equal to the length of the head. The snout is blunt, and often with pores. The mouth is broad and the upper lip is entire, the lower lip most indistinct. Barbels are a single short pair of rostral only. Pharyngeal teeth in rows 5.4.2/2.4.5 pattern.

Gill rakers are 40 to 49 on the first arch. The dorsal fin is as high as the body. Pectoral fins are shorter than the head. Caudal fin deeply forked. Lateral line with 40 to 45 scales. Lateral transverse scale rows 6-7/5.5-6.

It is an important major carp of India and quite a game fish. In natural waters, mrigal is known to attain a length of 1m and a weight of 12.7kg from two of the most important rivers of its occurrence in India, the Ganga and Yamuna. Mrigal is a detritus eater with a narrow range in food variety. Feeds mainly on decayed vegetation.



# *Labeo bata* (Hamilton, 1822)

## Bata

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Labeo*  
**Species:** *bata*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan, India, Bangladesh, Myanmar and Nepal.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Narmada, Mahanadi.

**BIOLOGY:** The species is golden-yellow in colour from above and on the dorsal half of flanks, silvery on the lower half of flanks and belly. An irregular black blotch is present on anterior scales of the lateral line, which faints in fresh specimens but is distinct in preserved specimens.

The body is elongated with its dorsal profile more convex than the ventral. The snout is slightly projecting beyond the mouth, often studded with pores. The eyes are large and not visible from the underside of the head, the diameter 4 to 4.3 times of the head. The mouth is inferior, lips are thin. The lower lip is slightly fringed and folded back and joined to the isthmus by a narrow bridge. A small tubercle above the mandibular symphysis. Barbel is a pair of minute maxillary only and not easily perceptible. Dorsal fin inserted nearer snout-tip than the base of the caudal fin. Pectoral fins as long as head, extending to pelvic fins. Scales are moderate and lateral lines with 37 to 40 scales. Lateral transverse scale rows 5 or 5.5 between lateral line and pelvic-fin base, predorsal scales 10 to 13.

The minor carp is cultivated along with the Indian major carps in India. Medium sized carps attain a maximum length of 61cm.



# *Labeo catla* (Hamilton, 1822)

## Catla

|                 |                |               |                    |
|-----------------|----------------|---------------|--------------------|
| <b>Kingdom:</b> | Animalia       | <b>IUCN:</b>  | Least Concern (LC) |
| <b>Phylum:</b>  | Chordata       | <b>CITES:</b> | Not Included       |
| <b>Class:</b>   | Actinopterygii | <b>IWLP:</b>  | Not Included       |
| <b>Order:</b>   | Cypriniformes  |               |                    |
| <b>Family:</b>  | Cyprinidae     |               |                    |
| <b>Genus:</b>   | <i>Labeo</i>   |               |                    |
| <b>Species:</b> | <i>catla</i>   |               |                    |

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Bangladesh, Nepal and Myanmar. Introduced elsewhere.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is oriental and is the natural inhabitant of the freshwater sections of the rivers of northern India. Adults usually occurs in rivers, lakes and culture ponds. Mature individuals breed in rivers. The species is surface and mid-water feeder and mainly Zooplankton feeder whereas juveniles phtyplankton.

The body is deep with depth 2.5 to 3 times in standard length. Mouth is upturned with lower jaw. Head is large exceeding half body length. Eyes large, and snout bluntly rounded. Barbels are absent. Gill rakers are long and fine. Scales are large in size and lateral line with 40-30 scales.



# *Puntius sophore* (Hamilton, 1822)

## Pool barb

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Cyprinidae  
**Genus:** *Puntius*  
**Species:** *sophore*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Nepal, Bangladesh, Myanmar and Yunnan, China, Bhutan and Afghanistan.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is silvery in color with back grey-green to brownish. The flanks have a bluish lustre whereas underside is white. A deep black blotch at base of caudal fin and a similar black blotch on central part of dorsal fin.

Scales are medium with lateral line complete, with 22 to 27 scales. Fins are hyaline in mature females whereas anal and pelvic fins are brick red in mature males.

Adults inhabit rivers, streams and ponds in plains and submontane regions. A very plentiful shoaling fish. They remain small in domestic aquaria and become mature at 7 to 8 cm.



# *Raiamas bola* (Hamilton, 1822)

## Indian barb

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Danionidae  
**Genus:** *Raiamas*  
**Species:** *bola*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: India, Bangladesh, Myanmar and Nepal. Also recorded from Bhutan and Thailand.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is brilliantly coloured, back is greenish-grey separated from the silvery sides by a longitudinal golden stripe. The body has 15-17 greenish blue spots, with an indication of the presence of the second series of the spot below the main ones. Fins are yellowish in colour.

The body is slender and greatly compressed. The Head is sharply pointed with an elongated snout. The mouth is wide and the cleft extends about 1.5 eye diameter. Scales are very small and lateral lines complete with 85 to 95 scales. Barbels are not present.

In males, the scales on the sides of the body particularly in the posterior half become rough during spawning season and fish attains a bright colour.

The species grows up to 30cm and weighs 2.26 kg usually it weighs below one kg. It is found in many rivers of northern India, in clear streams with rocky beds.

It takes fly well and is a good gamefish.



# *Rasbora daniconius* (Hamilton, 1822)

## Slender rasbora

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Danionidae  
**Genus:** *Rasbora*  
**Species:** *daniconius*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Mekong, Chao Phraya and Salween basins, northern Malay Peninsula, westwards to the Indus.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is Olive -brown above and silvery below. A blue -black iridescent lateral stripe from head to base of caudal fin. Caudal fin with a sharply defined black hind margins. Fins are yellowish in colour.

The body is elongate, mouth is moderate in size, and obliquely pulled upwards. Lateral line is complete with 26 to 29 scales.

Occurs in a variety of habitats like, ditches, ponds, canals, streams, rivers and inundated fields. Inhabits mainly sandy streams and rivers. Feeds mainly on aquatic insects and detritus. A surface feeder. Spawning sites are found in rivers and ponds Mature adults probably breed during the rainy season. Hardy and adaptable in the aquarium.

This species attains a length of 15cm.



# *Salmostoma bacaila* (Hamilton, 1822)

## Large razorbelly minnow

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Danionidae  
**Genus:** *Salmostoma*  
**Species:** *bacaila*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLPA:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Bangladesh and Nepal Reported from Afghanistan.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species upperside is grey-green and often with silvery and a broad green band along flanks. Fins are hyaline.

The body is elongated and strongly compressed. Mouth is oblique and lower jaw with well-developed symphyseal knob. Gillrakers 17 to 21 on first arch. Dorsal fin inserted well in advance of anal fin. Scales are very small, and lateral line slightly decurved with 86 to 110 scales.

It is usually found in slow running streams. Adults occur in rivers, ponds, beels and inundated fields. They are surface feeders on larvae and adults of insects.



# *Amblypharyngodon mola* (Hamilton, 1822), Mola carplet

|                 |                         |               |                    |
|-----------------|-------------------------|---------------|--------------------|
| <b>Kingdom:</b> | Animalia                | <b>IUCN:</b>  | Least Concern (LC) |
| <b>Phylum:</b>  | Chordata                | <b>CITES:</b> | Not Included       |
| <b>Class:</b>   | Actinopterygii          | <b>IWLP:</b>  | Not Included       |
| <b>Order:</b>   | Cypriniformes           |               |                    |
| <b>Family:</b>  | Danionidae              |               |                    |
| <b>Genus:</b>   | <i>Amblypharyngodon</i> |               |                    |
| <b>Species:</b> | <i>mola</i>             |               |                    |

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Bangladesh and Myanmar. Also reported from Afghanistan

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is golden yellow with a broad silvery lateral band on the body. Dorsal, anal and caudal fins are usually with dark markings. The pectoral and pelvic fins are hyaline.

The body is elongated, its depth is 3.5 to 3.8 times in standard length. The eyes are large, and their diameter is 3.5 to 4 times in head length. Scales are small and the lateral line is incomplete, which ceases after 9 to 18 scales. 65 to 91 scales in lateral series. 9 or 10 scales-rows between lateral line and pelvic fin base.

The species attains a length of 20cm.



# *Devario devario* (Hamilton, 1822)

## Sind danio

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Danionidae  
**Genus:** *Devario*  
**Species:** *devario*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Nepal and Bangladesh. Reported from Afghanistan

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is greenish from the back with flanks and belly silvery. The anterior part of the body is reticulated at the center by steel blue lines divided from each other by narrow vertical yellow bands. Three bluish lines are divided by yellow ones which extend back to the caudal fin. A pair of blue marks at the base of the caudal fin is often present.

The body is rhomboidal and compressed. Its depth is 2.6 to 2.9 times in standard length. Head length is 3.9 to 4.3 times in standard length. Snout length is 4 to 5. Eye diameter is 2.6 to 3, both in head length. Mouth is small, obliquely directed upwards. Barbels are absent. Dorsal fin inserted slightly anterior to anal fin. Caudal fin emarginate to lunate. Scales are moderate in size. Lateral line is complete with 33 to 38 scales.

Inhabits rivers, canals, ponds, beels, and inundated fields. Feeds on worms, small crustaceans, and insects. The species attains a length of 10cm and is a fairly popular aquarium fish. Breeding of the fish is very simple. Spanish moss seems to be the best spawning medium.



# *Ctenopharyngodon idella* (Valenciennes, 1844), Grass carp

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Xenocypridae  
**Genus:** *Ctenopharyngodon*  
**Species:** *idella*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Eastern China and Russia in eastern Siberia, Amur River system.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is dark grey in colour from above with silvery on the flanks and belly. The base of each scale is dark brown. Fins are dark.

The body is stout and elongated with its depth 3.8 to 4.8 times in standard length. The dorsal and ventral profiles are equally arched. The Head is broad with a short rounded snout. The mouth is subterminal with the upper jaw slightly protractile. Gill rakers 6 + 10 on the first arch, short and widely-set. The dorsal fin is inserted slightly nearer to the snout-tip than to the base of the caudal fin. Pectoral fins are fairly small. The caudal fin is forked. Scales are moderate in size and lateral line with 40 to 42 scales.

This fish is a primary consumer and breeds well in captivity which is an additional asset in its culture. The fish breeds during monsoon months in the flowing waters of its natural habitat, the rivers.

Feed on higher aquatic plants and submerged grasses and also detritus matter, insects and other invertebrates. Considered a pest in most countries because of the damage made to submerged vegetation. It is reported to attain a length of 73.8 to 86 cm and a weight of 4.5 to 7 kgs.



# *Hypthalmichthys molitrix* (Valenciennes, 1844), Silver carp

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Xenocypridae  
**Genus:** *Hypthalmichthys*  
**Species:** *molitrix*

**IUCN:** Exotic  
**CITES:** Not Included  
**IWLPA:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Native to most major Pacific drainages of East Asia from Amur to Xi Jiang, China and Hanoi, Vietnam. Introduced around the world for aquaculture and control of algal blooms.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is silvery-white in colour with blood-red spots on the body, especially on the caudal peduncle. Fins are dark in colour.

The body is stout and compressed whereas the abdomen is strongly compressed, with a sharp keel from throat to vent. The Head is small, post-operculum with radiated striae, and the snout is blunt, and obtusely rounded anteriorly. The mouth is terminal with the lower jaw slightly longer than the upper. Gill rakers continuous, forming a broad, crescentic.

The silver carp is a pelagophil and planktonophagous species. This carp is of considerable economic importance as a source of protein. It attains an average length of 82cm and a weight of 7 kg within a period of four years. The exotic silver carp has been shown to pose as a competitor for food to the indigenous catla and rohu.



# *Clupisoma garua* (Hamilton, 1822)

## Garua bachcha

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Ailiidae  
**Genus:** *Clupisoma*  
**Species:** *garua*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan: Indus plain and adjacent hilly areas; India large rivers of northern India, Assam, West Bengal and Bihar; Bangladesh; and Nepal.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** This fish is silver in colour with a back yellowish-green and with a golden gloss at the head and shoulder. The dorsal and pectoral fins are with black dots.

The body is elongated and compressed with an abdominal edge keeled between pelvic fins and vent. The Head is 4.6 to 5.6 times in standard length. Two pairs of nasal and maxillary barbels extending up to pelvic fin and mandibular pairs extend up-to pectoral fin. Worms and mole cricket are their best bait.

Catfish is found in freshwaters of the Ganga River Basin and grows up to a meter in length.

It is considered a good fish throughout its range and is relished as fish without bones. It is a bottom feeder and feeds on insects, shrimps, and other crustaceans and small fishes. It is very destructive in tanks and hence not advisable to rear it there.



# *Ailia coila* (Hamilton, 1822)

## Gangetic ailia

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Aillidae  
**Genus:** *Ailia*  
**Species:** *coila*

**IUCN:** Near Threatened (NT)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Bangladesh and Nepal.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Kosi, Yamuna, Gandak, Ghagra.

**BIOLOGY:** The species is silvery in colour. Fins are often greyish at their edges. The caudal fin is often edged with black.

The body is elongated with its ventral profile not pronouncedly arched. The mouth is sub interior, its cleft extends posteriorly halfway to the front edge of the eye. Four pairs of barbels are well developed. Adipose dorsal fin small, inserted above the last sixth of anal fin. The pectoral spine is slender, finely serrated along its inner edge, and the pelvic fins small.

It is a surface to mid-water fish, lives in shoals and is confined to the large rivers of northern India.

It attains a length of 30cm and the most common size is 18cm.



# *Mystus cavasius* (Hamilton, 1822)

## Gangetic mystus

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Bagridae  
**Genus:** *Mystus*  
**Species:** *cavasius*

**IUCN:** Least Concern (LC)

**CITES:** Not Included

**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan, India, Sri Lanka, Nepal, Bangladesh, Burma and Thailand. Inhabits freshwater and tidal rivers and lakes; also beels, ponds, ditches and inundated fields.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is silver in colour with a well-defined mid-lateral longitudinal stripe. A dark humeral spot is emphasised by a white or pale area along its ventral margin. Dorsal and caudal fins are dusky, while paired fins and anal fins are dull white. The Head is conical and the occipital process is narrow, which is 3.5 to 4 times as long as broad and extends to the basal bone of the dorsal fin.

The body is elongated and compressed, and its length is 4 to 4.5 times in standard size.

This catfish is a widespread food fish in the Indian region. Its pectoral spine causes painful wounds.

The caudal fin is deeply forked. Four pairs of barbels are present, and maxillary barbels extend beyond the caudal-fin base.



# *Mystus vittatus* (Bloch, 1794)

## Striped dwarf catfish

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Bagridae  
**Genus:** *Mystus*  
**Species:** *vittatus*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Indian subcontinent, including Pakistan, India, Sri Lanka, Nepal, Bangladesh and probably Myanmar. Reported from Malaysia

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is grey-silvery to shining golden in color with several lovely pale blue or dark brown to deep black longitudinal bands on the flanks. A narrow dusky spot often present. Fins glassy, often with dark tips.

Body elongate and slightly compressed, its depth 3.8 to 4.2 times in standard length. Head depressed. Barbels four pairs Maxillary barbels extending beyond the pelvic fins, often to the end of the anal fin. Dorsal spine weak, finely serrated on its inner edge. Adipose fin small, inserted much behind rayed dorsal fin but anterior to the anal fin.

Adults inhabit standing and flowing waters. Usually found among marginal vegetation in lakes and swamps with a mud substrate. Feed on plants, shrimps, insects, molluscs and fish. Oviparous, distinct pairing possibly like other members of the same family.

This is one of the most common, small-sized catfishes caught in large quantities from ponds.



# *Mystus tengara* (Hamilton, 1822)

## Tengara catfish

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Bagridae  
**Genus:** *Mystus*  
**Species:** *tengara*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Nepal and Bangladesh Reported from Afghanistan.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is generally greenish to bright yellow in color. The back is slightly darkened and usually pale brown, flanks and belly are porcelain white. 4 to 5 wavy dark brown to green-black longitudinal bands on flanks present. A dark blotch over pectoral fin present. Fins are hyaline, and delicate bluish.

The body is elongated and compressed and its depth is 2.5 to 3.3 times in standard length. Head is depressed and drawn out to a rounded point. Occipital process is about 3 times as long as broad extending to basal bone of dorsal fin. Median longitudinal groove on head reaching base of occipital process. Eye-diameter 4 to 4.5 times in head, 1.5 to 2 times in interorbital width. Mouth is terminal and teeth villiform in bands and jaws. Four pairs of barbels, maxillary barbel extending to base of pelvic fin.



# *Barilius vagra* (Hamilton, 1822)

## Vagra baril

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Danionidae  
**Genus:** *Barilius*  
**Species:** *vagra*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** India; Ganga and Brahmaputra river systems, Nepal; Bangladesh; and Burma.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The fish is dull green-silvery in adults with the presence of seven to 11 well-defined vertical dark bars on the body. The young ones have back grey in colour and the flanks with a silvery shot with gold and seven to nine narrow deep blue vertical bands. Dorsal and caudal fins are edged with black and the fins in young are yellowish in colour.

The body is rather deep and its depth is 3.4 to 4 times in standard length. The mouth is moderate with short jaws and maxilla extending to the anterior-third orbit. Barbels are absent and often rudimentary. Scales are moderate with very few radii and the lateral line is composed of 39 to 42 scales. Tubercles are large and well-developed on the snout and lower jaw.

The species grows to a length of 15.6 cm and is a voracious feeder often taking a fly.



## *Barilius barila* (Hamilton, 1822)

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Danionidae  
**Genus:** *Barilius*  
**Species:** *barilla*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** India: Ganga and Brahmaputra river systems, Mahanadi (Orissa); Nepal; Bangladesh and Burma. Inhabits hill-streams and large rivers.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is dull green -silvery in adults with 7 to 11 well-defined vertical dark bars on the body. The youngs are grey from the back; the flanks are silvery shot with gold—seven to nine narrow, deep blue vertical bands. Dorsal and caudal fins are edged with black, and the fins of youngs are yellowish in colour.

The body is relatively deep, with its length 3.4 times in standard size. Mouth moderate and jaws short. Maxilla extends to the anterior third of orbit. Barbels are absent and often rudimentary. Lateral line with 39 to 42 in rankings. Predorsal 15 or 16.

The species attains a length of 7.5 cm.



# *Opsarius bendelisis* (Hamilton, 1822)

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Danionidae  
**Genus:** *Opsarius*  
**Species:** *bendelisis*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLPA:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan, India, Nepal and Bangladesh. Inhabits streams and rivers along the base of hills.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The fish is silvery in colour with a greyish back with 8 to 12 dark bands in descending order towards the lateral line which becomes indistinct as spots in adults. The lateral line has scales with two black holes at their base. Fins are yellowish in colour with an orange tinge whereas the edges of the dorsal and caudal fins are greyish in colour with the caudal fin dusky.

The body is shallow and its depth is 3.8 to 4.2 times in standard length. The mouth is moderate in size with long jaws. Two short pairs of rostral and maxillary barbels.

The lateral line has 40 to 45 scales. Tubercles are small and poorly developed on the snout and lower jaw.

The species attains a maximum length of 15.5 cm. It is one of the principal commercial hill-stream fish.



# *Laubuka laubuca* (Hamilton, 1822)

## Indian glass barb

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Danionidae  
**Genus:** *Laubuka*  
**Species:** *Laubuca*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan, India, Bangladesh, Sri Lanka, Burma, Malay Peninsula and Sumatra.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is translucent with silver to greenish-grey with a violet lustre on the caudal peduncle and steel blue vertical linings. Fins are yellow, often with light orange to delicate brown in colour.

The body is deep and compressed, its depth 2.5 to 4.1 times in standard length. The abdomen is keeled between pelvic fins. The mouth is oblique and the pectoral fins are large and wing-like. The lateral line is complete with 31 to 37 scales and lateral transverse scale rows 6-7/1/2-4. Pre-dorsal scales 15 to 20 in number.

Attains a length of 5.5 cm. The species prefers shoaling water and is very hardy and undemanding in aquariums. The species is also used as bait for mahseer, Channa, and other carnivorous fishes.

The species breeds freely in ponds, tanks and small streams. Due to its small size, iridescent blue-green body colour, and hardiness are the main reason for demanding fish in aquarium trading.



# *Sperata lamarrii* (Sykes, 1839)

## Giant river-catfish

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Bagridae  
**Genus:** *Sperata*  
**Species:** *lamarrii*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Afghanistan, Pakistan, India and Nepal.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is brownish-grey on the back and silvery on the flanks and belly. A dark well-defined spot on the adipose dorsal fin.

The body is elongated and compressed, the snout is broad and spatulate

The body elongate and compressed its depth 5 to 7 times in standard length, snout broad and spatulate.

This is an important giant catfish of India being extensively caught in larger rivers. It attains a length of 1.5m, most common size is 40cm. It is caught easily on dead bait of worm.

Barbels extend posteriorly to pelvic fins or beyond to anal fin. Dorsal spine serrated on its posterior edge; adipose fin base short, about as long as the rayed dorsal fin base.

Found in rivers, canals, beels, ditches, inundated fields and other freshwater areas.



# *Sperata aor* (Hamilton, 1822)

## Long-whiskered catfish

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Bagridae  
**Genus:** *Sperata*  
**Species:** *aor*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Nepal, Bangladesh and upper Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN :** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY :** The species is dark-bluish in color, which gradually fades to whitish on flanks and on belly. A small black spot often present on basal bone of dorsal fin. A well defined dark spot at tip of adipose dorsal fin. Fins are yellowish in colour, dorsal and caudal fins are stained black.

The body is graceful, elongated and compressed, its depth 4 to 5.2 times in standard length. Snout broad and rounded. Mouth is subterminal, its width about 3/5th of its length. Four pairs of barbels

This is a common giant catfish of Indian region and of considerable fishery value. It comes on dead bait and provides a good sport fish.

Found in rivers, ponds, lakes, channels and reservoirs Predatory, adults feed on small fishes and worms Oviparous, distinct pairing possibly like other members of the same genus.



# *Rita rita* (Hamilton, 1822)

## Rita

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Bagridae  
**Genus:** *Rita*  
**Species:** *rita*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Afghanistan, Pakistan, India, Nepal, Bangladesh and Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is lurid green in colour from above and on flanks whereas dull white in the abdomen.

The body is elongated with the head depressed and occipital process subcutaneous extending to the predorsal plate. The mouth is transverse with a premaxillary tooth band about 5 times as long as broad. Teeth on prevomer molariform and villiform in two separate fairly wide apart. Three pairs of barbels, maxillary barbels extending posteriorly to the operculum, whereas mandibular barbel to preoperculum and nasal barbel much shorter. Dorsal spine strong, serrated posteriorly in upper part only.

This is one of the large-sized catfish of India and grows to 150cm.

It is a common food fish and contributes to a fairly good fishery in northern India.

Inhabits rivers and estuaries, preferably muddy to clear water. Feeds on insects, molluscs, shrimps and fishes.



# *Amblyceps mangois* (Hamilton, 1822)

## Indian torrent catfish

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Amblycipitidae  
**Genus:** *Amblyceps*  
**Species:** *mangois*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia, Pakistan to Thailand.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna.

**BIOLOGY:** The species is Olive-brown to lighter yellow in color from below and often with dark lateral bands.

The body is elongated, head is small and broad, depressed and covered with thick skin. Mouth is wide, with four pair of barbels.

Inhabits in pebbly beds in swift currents at the base.

Diet consists of aquatic insects.



# *Sisor rabdophorous* (Hamilton, 1822)

## Spotted snakehead

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Sisoridae  
**Genus:** *Sisor*  
**Species:** *rabdophorous*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Afghanistan, Pakistan, India, Sri Lanka, Nepal, Bangladesh, Myanmar and Yunnan in China.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Kosi.

**BIOLOGY:** The species is blackish above and lighter below.

The body is elongated with a long tapering tail. The mouth is small and inferior and the lips are thick and fleshy no teeth on the jaws and palate.

Six pairs of barbels present, one maxillary and five mandibular barbels. A series of bony plates from basal bone of dorsal fin to base.

The catfish attains a length of 18cm standard length.



# *Gagata cenia* (Hamilton, 1822)

## Indian gagata

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Sisoridae  
**Genus:** *Gagata*  
**Species:** *cenia*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: widely distributed in the Ganges basin, the Indus River system, and the Mahanadi River. Reported from Myanmar and the Salwin River in Thailand.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Kosi, Yamuna.

**BIOLOGY:** The species is greyish in colour. Distal parts of the dorsal, anal, pectoral and pelvic fins are not dusky, whereas the caudal fin is whitish in colour. Young specimens with four dark dorsal blotches on the back which extend to flanks below, lateral line, adipose fin with a sharply defined black edge, and caudal fin with a black stripe on each lobe. Dorsal with dark saddles extending ventrally only to lateral line. Snout tip acutely pointed in lateral view, with tip separated from the rest of the snout by a distinct notch. Found in fresh and tidal rivers.

It is a small and slender species. The Head is compressed, its length 3.6 to 4.5 times standard length and the snout is prominent. Four pairs of barbels, nasal barbel, mandibular barbel and maxillary barbel

It grows to a maximum size of 15cm standard length and is fairly common in all the rivers of northern India.



# *Glyptothorax cavia* (Hamilton, 1822)

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Sisoridae  
**Genus:** *Glyptothorax*  
**Species:** *cavia*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

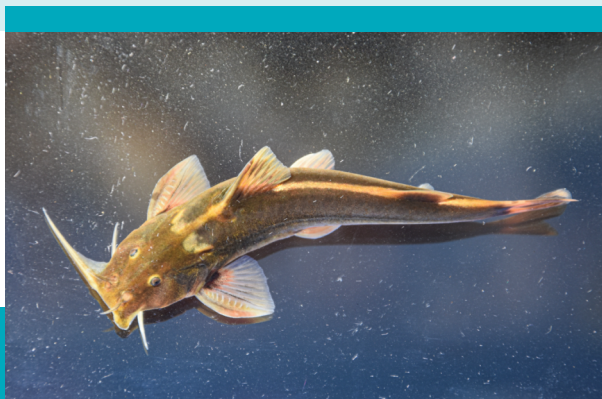
**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Nepal, Bangladesh, Myanmar and China.

**DISTRIBUTION IN THE GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is olivaceous brown above and dull yellowish below. The flanks and dorsal surface are mottled with deep coloured spots and often with narrow longitudinal bands on flanks. Fins are with dark bands at their base.

The body is elongated and its depth is 5.9 to 6.6 times in standard length. Head is depressed and mouth is inferior and lips are papillated. Four pairs of barbels present. Maxillary barbels extends posteriorly to slightly beyond pectoral fin base. Inhabits sandy or rocky bottoms of springs and found in mountain rapids.

The catfish attains a length of 16.5 cm and is of minor interest to fisheries in the Indian region.



## *Erethistes pussilus* (Muller & Troschel, 1849), Gangetic hairfin anchovy

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Sisoridae  
**Genus:** *Erethistes*  
**Species:** *pussilus*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: India, Bangladesh and Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is yellowish brown in colour from dorsal surface and lighter below. Barbels annulated with black. Fins with faint dusky bands or markings.

The body is moderately elongated and flattened ventrally. Head is sharply pointed anteriorly, and almost as wide as long. Mouth is small and teeth in villiform bands on jaws. Four pairs of barbels. Maxillary barbels with broad bases generally shorter than head. Dorsal spine is distinctly serrated. Pectoral spine with 9 to 12 divergent serrae on anterior edge. Body with 4 or 5 rows of tubercles.

This is a small catfish rarely exceeding 5cm total length. It is of no interest to fisheries. It is primarily a hill-stream fish which is often washed to the plains and thrives well.



# *Bagarius bagarius* (Hamilton, 1822)

## Goonch

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Sisoridae  
**Genus:** *Bagarius*  
**Species:** *bagarius*

**IUCN:** Least Concern (LC)

**CITES:** Not Included

**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Ganges, Mekong and Chao Phraya basins (Ref. 27732). Reported from Salween, MaeKlong and Peninsular Thailand (Ref. 26336).

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is greenish and olivaceous to rich tan or brown with dark pigmented bands or blotches. Caudal fin light yellowish-grey in colour. Pairs are paired with black spots.

The body is rather elongated with is the depth of 5.6 to 7.2 times in standard length. Gillrakers 6 to 9 on first starch. The mouth is inferior and crescentric. Four pairs of barbels are present.

The species is relatively small, primarily entomophagous, apparently exceeding 19cm standard length. It is mainly an inhabitant of rapids and rocky pools.

Specimens are caught by line fishing through instances of their capture by gill.nets.

Being sluggish in habit, it offers no game. The flesh is not much relished as food. Breeding season is prior to the monsoon rains.



# *Ompok pabda* (Hamilton, 1822)

## Pabdah catfish

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Siluridae  
**Genus:** *Ompok*  
**Species:** *pabda*

**IUCN:** Near Threatened (NT)  
**CITES:** Not Included  
**IWLP:** Not Included

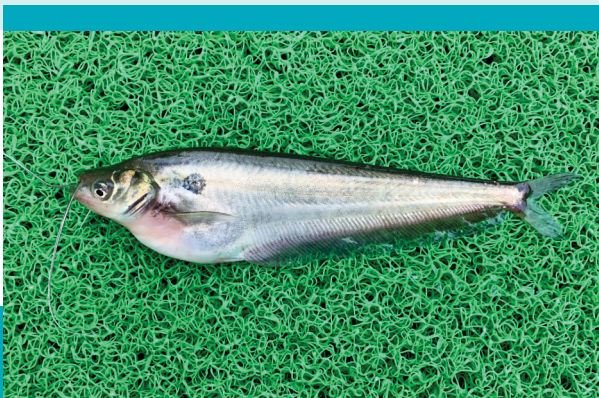
**GEOGRAPHICAL DISTRIBUTION:** Asia: Afghanistan, Pakistan, India, Bangladesh and Myanmar also reported from Bhutan

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is silvery-grey with a tinge of yellow, dark on back and fading dull grey on belly and often with two dark lateral bands on body. A dark oval shoulder spot on lateral line. Adults inhabit clear as well as muddy rivers, streams, ponds and lakes.

Body is elongate and compressed. Eyes are moderate in size. Two pairs of barbels present. Maxillary barbel extend usually to as far as middle of pectoral fin and the mandibular barbel extend to posterior border of eye. Anal fin is long.

The species attains a length of 17cm.



# *Wallago attu* (Bloch & Schneider, 1801), Wallago

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Siluridae  
**Genus:** *Wallago*  
**Species:** *attu*

**IUCN:** Vulnerable (UV)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan to Viet Nam and Indonesia. Reported from Afghanistan.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is uniform silvery in colour and with olive and golden gloss above with both sides dull white. A faint orange-yellow band along lateral line often present. Anal and caudal fin somewhat dusky.

The body is elongated and compressed. Eyes are small and mouth wide, its gape extends posteriorly to beyond eyes. Two pairs of barbels, maxillary pair long extending posteriorly to well beyond origin of anal fin. The mandibular pair much shorter, about as long as snout. Dorsal fin is short and inserted usually slightly in advance of pelvic fin. Pectoral spine weak, often poorly serrated on its inner edge. Caudal fin deeply forked and its upper lobe longer.

The catfish inhabits in large rivers, tanks and lakes. It is one of the largest, voracious and predatory of the local catfish which thrives well in rivers and tanks also. It is a pre-monsoon summer breeder. This catfish is a good sport and can be easily taken on a hook with dead bait. It grows about 2m and weighs more than 45 kgs.



# *Clarias gariepinus* (Burchell, 1822)

## North African catfish

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Clariidae  
**Genus:** *Clarias*  
**Species:** *gariepinus*

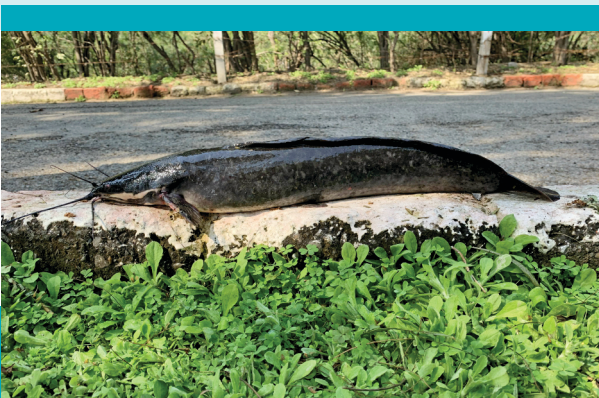
**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Africa: almost Pan-Africa, absent from Maghreb, the Upper and (most of the) Lower Guinea and the Cape province and probably also Nogal province. Asia: Jordan, Israel, Lebanon, Syria and southern Turkey. Widely introduced to other parts of Africa, Europe and Asia. Several countries report adverse ecological impact after introduction.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is rectangular and pointed in dorsal outline, snout is rounded, eyes are relatively small.

This is known as sharp tooth catfish in aquaculture, a highly recommended food fish in Africa. It was introduced for aquaculture due to its fast growth and adaptability to various environmental conditions. Breaching from aquaculture facilities in farm infrastructure and during flooding events was another major cause for invasion in native rivers and often lack of natural predators in their new environments allowed the population to grow unchecked.



# *Heteropneustes fossilis* (Bloch, 1794)

## Stinging catfish

|                 |                       |               |                    |
|-----------------|-----------------------|---------------|--------------------|
| <b>Kingdom:</b> | Animalia              | <b>IUCN:</b>  | Least Concern (LC) |
| <b>Phylum:</b>  | Chordata              | <b>CITES:</b> | Not Included       |
| <b>Class:</b>   | Actinopterygii        | <b>IWLP:</b>  | Not Included       |
| <b>Order:</b>   | Siluriiiformes        |               |                    |
| <b>Family:</b>  | Heteropneustidae      |               |                    |
| <b>Genus:</b>   | <i>Heteropneustes</i> |               |                    |
| <b>Species:</b> | <i>fossilis</i>       |               |                    |

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan and Sri Lanka to Myanmar. Introduced elsewhere.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is dark purplish-brown in color from above and lighter below with two lateral yellowish bands. The young ones are reddish in colour.

This is primarily a fish of ponds, ditches, bheels, swamps and marshes. It lives in large shoals in suitable localities and is extensively fished on account of the reported invigorating qualities of its flesh.

The fish attains a length of 30cm, is in great demand because of its medicinal value.

The fish can inflict painful wounds with its potentially dangerous pectoral spines.

Eggs are deposited in a depression usually excavated by both parents in mud, in shallow water.



# *Eutropiichthys vacha* (Hamilton, 1822)

## Batchwa vacha

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Schilbeidae  
**Genus:** *Eutropiichthys*  
**Species:** *vacha*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan: Sind and Punjab; India: north India, Orissa, West Bengal, Bihar, etc.; Bangladesh; Burma; and probably also Thailand. Inhabits fresh and tidal waters.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The fish is silver in colour with a back greyish. The body is elongated and compressed, with a mouth large and its cleft extending up to the exterior border of the orbit. Teeth are villiform in the broad, band on jaws. Four pairs of barbels of varying lengths which are generally longer in young than in adults. Maxillary barbels extend slightly beyond the orbit, nasal barbels are rarely open to the rear edge of the head but the mandibular ones are relatively shorter.

This elegant catfish is an excellent table fish and grows up to 35 cm in length and attains 1.35kg of weight. It is caught in large numbers from rivers and canals in northern India.



# *Pachypterus atherinoides* (Bloch, 1794)

## Indian potasi

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Siluriformes  
**Family:** Schilbeidae  
**Genus:** *Pachypterus*  
**Species:** *atherinoides*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLPA:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Nepal, Bangladesh, and Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is silvery-greenish on the back with 3 or 4 longitudinal bands on the flanks. A pale golden stripe along the lateral line ends in a dusky spot at the base of the caudal fin. Usually a black spot at the base of the caudal fin.

The body is elongated and laterally compressed. The head is 4.1 to 4.8 times in standard length. Nape markedly elevated. The eyes are large, the diameter is 2.5 to 3 times in head. The mouth is terminal and, the upper jaw projects considerably beyond the lower jaw. Teeth are villiform in bands on jaws, vomero palatine teeth in two narrow separate crescentic patches.

Barbels four pairs and well-developed pairs. Maxillary barbel extends to anal fin.



# *Glossogobius giuris* (Hamilton, 1822)

## Tank goby

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Gobiiformes  
**Family:** Gobiidae  
**Genus:** *Glossogobius*  
**Species:** *gurus*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Africa to Oceania: Red Sea and East Africa and most inland freshwater bodies over the Indian Ocean and western Pacific. Common in coastal and estuarine waters from austral Africa and Madagascar to India and south of China.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is yellowish-brown with five dark blotches on the flank. The sides of the head are with irregular violet spots. Dorsal, pectoral and caudal fins are mottled with dark spots. Spots are the darkest along the spine of the second dorsal fin.

The body is elongated and somewhat compressed. The eyes are small and iris without process in the pupil. Branchiostegal membranes are attached to the sides of the isthmus. Found in clear to turbid streams with rock, gravel or sand bottoms. Feed on small insects, crustaceans and small fish. Cannibalism is relatively common for this species. Spawning occurs in freshwater after which eggs and larvae are washed down by the river current into the sea.



# *Mastacembalus armatus* (Lacepede, 1800), Zig-zag eel

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Synbranchiformes  
**Family:** Mastacembelidae  
**Genus:** *Mastacembalus*  
**Species:** *armatus*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan to Viet Nam and Indonesia.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is rich brown in colour and usually with zig-zag lines, sometimes connecting to form a network. Often a black band through eye continued in an undulating course along upper half of side.

Inhabits fresh and brackish water in plains and hills.

The species attains a length of 60cm and is the largest spiny-eel. It is reported to be a very good food-fish when caught fresh. It is common during the summer months and quite common at high altitudes.

Adults live in highland streams to lowland wetlands. Usually found in streams and rivers with sand, pebble, or boulder substrate. They seldom leave the bottom except when disturbed. Also occur in still waters, both in coastal marshes and dry zone tanks. Sometimes stays partially buried in fine substrate. Forages at night on benthic insect larvae, worms and some submerged plant material. Marketed fresh and frequently seen in the aquarium trade. Economic important species, both food and aquarium trades.



# *Macrognathus pancalus* (Hamilton, 1822)

## Barred spiny eel

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Synbranchiformes  
**Family:** Mastacembelidae  
**Genus:** *Macrognathus*  
**Species:** *pancalus*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan to Thailand and south China.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is greenish-olive in colour along back and yellowish on belly with many yellowish-white-spots on flanks and often striped with dark brown vertical stripes. The soft dorsal, anal, pectoral and caudal fin are yellow with numerous minute black spots.

The body is eel-like and slightly compressed. Mouth is small. The dorsal fin is inserted above middle of pectoral fins and dorsal and anal fins separate from caudal fin.

The beautiful species of the plains inhabits in slow and shallow waters and is never available above an altitude of 366m. It attains a length of 18cm in peninsular India but in North Bengal it is half that size.

It inhabits in slow and shallow waters of rivers of plains and estuaries; never available above an altitude of 366 m. Also found in canals, streams, beels, ponds and inundated fields. The more slender and generally smaller males pursue the female in courtship, several males may join in.



# *Macragnathus aral* (Bloch & Schneider, 1801), One-stripe spinyeel

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Synbranchiformes  
**Family:** Mastacembelidae  
**Genus:** *Macragnathus*  
**Species:** *aral*

**IUCN:** Vulnerable (UV)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Sri Lanka, Bangladesh, Nepal and Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is brownish to greenish marbles superiorly which becomes yellowish along abdomen. Body has two broad pale longitudinal bands extending its entire length, one dorsal to and one ventral to lateral line. Dorsal and caudal fins with numerous fine streaks.

The body is elongated and rostrum is relatively large with concave ventral surface lined with 14 to 28 paired tooth-plates. No spines on pre-orbital or pre-operculum bones. Mouth very small, its gape 8.7 to 11% of length of head, not extending to below posterior nostrils. Teeth small and pointed on both jaws.

Dorsal and caudal fins with numerous fine streaks. It attains a length of 38cm and is considered a wholesome food-fish.

Found in fresh and brackish waters and deltas of large rivers, common in ponds and slow flowing rivers with vegetation in plains. Inhabits still waters with silt or mud substrate. Believed to be common in rice paddy fields. Nocturnal feeder, feeds on insects and worms.



# *Monopterus albus* (Hamilton, 1822)

## Cuchia

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Synbranchiformes  
**Family:** Synbranchidae  
**Genus:** *Monopterus*  
**Species:** *cuchia*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Nepal, Bangladesh and Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna.

**BIOLOGY:** The species is brownish or chest-nut brown in colour which becomes lighter on abdomen with numerous black spots on the body. Body is eel-like and robust. Scales are distinct, and longitudinally arranged. Eyes are small covered by skin. Teeth on jaws are in a single row.

A rudimentary dorsal fin originates a little anterior to vertical from anus.

Adults are known to hibernate in mud during cold season. Feeds mainly on small fishes, tadpoles and aquatic insects.

The male guards and builds nest or burrow.

The species attains a length of 60cm and is fairly common in north Bengal region where it is quite relished as a food-fish.



# *Anabas testudineus* (Bloch, 1792)

## Climbing perch

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Anabantiformes  
**Family:** Anabantidae  
**Genus:** *Anabas*  
**Species:** *testudineus*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan, India, Bangladesh, Srilanka, Burma, Malay archipelago, Singapore and the Philippines.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak.

**BIOLOGY:** The adult fish is greenish to dark grey on the dorsal side and flanks. Dorsal and caudal fins are dark grey in colour. A distinct dark spots at the base of the caudal fin. The body is elongated and moderately deep with its depth 3 to 3.5 times in standard length. Scales are large. lateral line with 21 to 29 scale. The mouth is reasonably large and teeth are villiform on jaws.

The fish is a very hardy fish and is abundant mainly in low lying swamps and marshy tracts, pools and puddles, which remain dried during the summer months. It is also observed during rainy weather when it remains in the process of prowling about on wetland. In its natural habitat, the fish can propel itself over dry land for great distances by walking on its walking fins.

The fish can be cultured single or in combination with *Clarias batrachus* and *Heteropneustes fossilis*. It also forms a good component of culture in carp ponds. It attains a length of 25 cm or more in the wild.



# *Trichogaster lalius* (Hamilton, 1822)

## Dwarf gourami

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Anabantiformes  
**Family:** Osphronemidae  
**Genus:** *Trichogaster*  
**Species:** *lalius*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India and Bangladesh. This is the smallest and most popular of the small gouramis which have been widely distributed outside its native range.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The body is scarlet, crossed by oblique bands of pale blue. Fins with scarlet spots or bars. Anal fin with a red margin.

The body is egg shaped and strongly compressed. Mouth is small, strongly protrusible and lips are normal. Soft anal and dorsal fin rounded. Caudal fin rounded to truncate. Scales are large, 27 to 28 in longitudinal series. Anal fin densely scaled, scales covering fin tips of posterior spines. Vertebrae 27.

It attains a length of 5cm. It is the smallest of the genus and certainly one of the most beautiful. A highly satisfactory and interesting aquarium fish.

Inhabits slow-moving streams, rivulets and lakes with plenty of vegetation. Male guards the floating bubble-nest where the eggs are laid, about 600 in number. Hatching takes place in 12 to 24 hours while the male parent continues to protect the nest. In about three days, the developing larvae become free-swimming and leave the nest.



# *Trichogaster fasciatus* (Hamilton, 1822)

## Banded gourami

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Anabantiformes  
**Family:** Osphronemidae  
**Genus:** *Trichogaster*  
**Species:** *fasciatus*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan, India, Nepal, Bangladesh, and Upper Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is greenish with orange or bluish bars descending obliquely downwards and backwards from back to the anal fin. Vertical fins with alternate dark and pale spots or bars, anal fin often with a red margin.

The body is egg-shaped and strongly compressed. The mouth is small, slightly protrusile, and the upper lip is thick and papillose, especially in old males. Preorbital serrate in young ones. Dorsal anal fin long based. Pelvic fin thread-like. Caudal fin truncated. Scales are large, 29 to 31 in longitudinal series, anal fin scaly at base only.

The species is a peaceful and beautiful aquarium fish. It attains a length of 12cm. It is fairly common in the Hooghly estuary and is traditionally liked for its good taste. It is fairly abundant in West Bengal during the rainy season. It is a rather shy species and is easily bred and adapts well to the life of community aquaria.



# *Channa punctata* (Bloch, 1793)

## Spotted snakehead

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Anabantiformes  
**Family:** Channidae  
**Genus:** *Channa*  
**Species:** *punctata*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLPA:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Afghanistan, Pakistan, India, Sri Lanka, Nepal, Bangladesh, Myanmar and Yunnan in China.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The body colour varies from black to light green on the dorsal side and on the flanks. The ventral side is white to pale yellow and sometimes with a reddish tinge. Several dark blotches are present on the flanks and on the body.

The body is elongated and fairly rounded in cross-section. Eyes are moderate in size and their diameter is 7 to 8.5 times in head length. Mostly Found in ponds, swamps, brackish water, ditches and beels. Adults prefer stagnant waters in muddy streams. Feed on worms, insects and small fish. Breeds throughout the year.

Eggs are laid in nests through elaborate tunnels in vegetated areas which look like vertical columns of water with the eggs floating in the centre.

The male and female move towards the centre of the nest during spawning where the male entwines his body to the female moving upward while releasing the eggs to be fertilised.



# *Channa striata* (Bloch, 1793)

## Striped snakehead

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Anabantiformes  
**Family:** Channidae  
**Genus:** *Channa*  
**Species:** *striata*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan to Thailand and south China. Several countries report adverse ecological impacts after introduction.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is grey-green to black-green on upper-side, and yellow to silvery in middle whereas the belly usually pure white. In young the upperside is paler with dark blotches on flanks which may form angular bands. A dark bands runs obliquely upwards from snout to edge of gill-cover.

The body is elongated and fairly rounded in cross-section. Eyes are moderate and its diameter 6 to 7 times in head length. Mouth is large and lower jaw with 4 to 7 canines behind a single row of villiform teeth which deepens to six rows at symphysis villiform teeth on vomer and palantines.

Dorsal and anal fins are black in colour with dark patches on membranes between rays. The caudal fin is dark with two distinct pale vertical bands. It breeds almost throughout the year.

Adults inhabit ponds, streams and rivers, preferring stagnant and muddy water of plains Found mainly in swamps, but also occurs in the lowland rivers. Survive the dry season as long as skin and air-breathing apparatus remain moist.



# *Channa marulius* (Hamilton, 1822)

## Giant snakehead

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Anabantiformes  
**Family:** Channidae  
**Genus:** *Channa*  
**Species:** *marulius*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan to Thailand and south China.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is greyish-green above the lateral line with five or six dark oval blotches on the flanks which terminate below the lateral line. Below the lateral line between blotches pale yellow with a reddish tinge and distinct white spots scattered on the body. Dorsal and anal fins with white spots, more distinct towards the posterior end of fins.

The body is elongated and fairly rounded in cross-section. Eyes are moderate and their diameter is 7 to 8 times in head length. The mouth is large and the lower jaw with 7 to 18 canines behind a single row of villiform teeth which deepens to 5 or 6 rows at symphysis.

It attains a length of 122cm and the most common size in 46cm. The fish is cultured in irrigation wells in part of South India.

The giant snakehead is common in rivers and Duars in West-Bengal.

The fish is esteemed as food.



## *Channa gachua* (Hamilton, 1822)

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Anabantiformes  
**Family:** Channidae  
**Genus:** *Channa*  
**Species:** *gachua*

**IUCN:** Least Concern (LC)

**CITES:** Not Evaluated

**CAMP:** Not Evaluated

**GEOGRAPHICAL DISTRIBUTION:** Afghanistan, Bangladesh, China, Indonesia, Iran, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, India

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** An elongated species with a fan-like caudal fin. The rear half of the fish is laterally compressed. The dorsal fin has a long base, running from above the base of the pectoral fins to the caudal peduncle. The anal fins also have a long base, although not as long as the dorsal. The head is rounded, and the mouth is deeply cleft. The back is light brown to green-brown while the flanks range from brown-blue to blue-green. The throat is pale blue, and the eye's iris is orange. The base of the anal, caudal, and dorsal fins is green-brown, followed by a blue band and then a black band.

The species inhabits slow-moving parts of the rivers, small swampy pools, ditches, ponds, paddy fields, wetlands, channels, and rivulets. Potamodromous. Migrating within streams, migrating in rivers.



## *Parambassis lala* (Hamilton, 1822) (High fin glassy perchlet)

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Perciformes  
**Family:** Ambassidae  
**Genus:** *Parambassis*  
**Species:** *lala*

**IUCN:** Near Threatened (NT)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Brahamaputra, Ganga, and Mahanadi basin, Myanmar: Ayeyarwaddy, Inle Lake, Salween river basin. Inhabits ponds, ditches and pools; perhaps also brackish waters.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Rupnarayana.

**BIOLOGY:** The species is transparent to silver-yellow with a silver longitudinal band along the flank. Minute black dots are sparsely scattered over the body which collect into an oblong patch on the shoulder. The eyes are black and the fins are bright orange in (male). The upper half of the first dorsal fin is deep black and the caudal fin is dusky and orange with a pale outer border.

The body is small laterally compressed almost rounded. The mouth is oblique and scales are minute and lateral lines with about 90 scales and the cheek with seven transverse scale rows. This translucent little fish is prized high as an aquarium fish. It attains a maximum standard length of 3cm.



# *Nandus nandus* (Hamilton, 1822)

## Gangetic leaffish

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Anabantiformes  
**Family:** Nandidae  
**Genus:** *Nandus*  
**Species:** *nandus*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan to Thailand.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is greenish-brown in color with brassy reflections, with vertically marbled three broad patchy blotches. The species found most commonly in standing or sluggish waters of lakes, reservoirs and streams and most common in summer months. Adults usually occurs in ditches and inundated fields and attains a length of 20cm. It is very popular in West Bengal, It is high-priced fish when sold fresh.



# *Parambassis ranga* (Hamilton, 1822)

## Indian glassy fish

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Perciformes  
**Family:** Ambassidae  
**Genus:** *Parambassis*  
**Species:** *ranga*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** India: Asia: Pakistan, India, Bangladesh, Myanmar, Thailand, Malaysia and Nepal. West Bengal and Orissa. Inhabits ponds, ditches and pools; perhaps also brackish water.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Gandak, Kosi, Ghagra.

**BIOLOGY:** It is a translucent brilliantly coloured fish. The body is orangish-yellow with three longitudinal dusky bands which extend dorsoventrally. Dorsal, anal and caudal fins are deep orange or reddish-orange with a black margin. It is mostly found in sluggish and standing water and abundant during the rainy season. Mainly feeds on invertebrates worms and crustaceans.

This fish is prized high as an aquarium fish resembles with a crystal moving in the aquarium. Body is small and almost round. Mouth is oblique. Lateral line with about 90 scales with seven transverse scale rows.

A special feature of this fish is that it builds a nest and guards its young. Found rarely in markets and often found in the aquarium trade.



# *Chanda nama* (Hamilton, 1822)

## Elongate glass-perchlet

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Cypriniformes  
**Family:** Ambassidae  
**Genus:** *Chanda*  
**Species:** *nama*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Pakistan, India, Nepal, Bangladesh, and Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is transparent, silvery-yellowish with a silvery longitudinal band along the flank. Body with sparsely scattered minute black dots, which on the shoulders collect into an oblong patch. Eyes are black. The fins are bright orange in colour, and the upper half of the first dorsal fin is deep black. The caudal fin is dusky and orange with a pale outer border.

The body is ovate and strongly compressed. The mouth is large with a prominent lower jaw. Teeth are villiform on jaws, with three canines on either side of the lower jaw. Scales are minute and often irregularly arranged. Lateral line with a pale outer border.

It attains a length of 11cm. These small bony, fleshy fishes are sold in heaps along with other small fishes in the fish markets.

Found in standing and running waters; clear streams, canals, beels, ponds, and inundated paddy fields. Abundant during rainy season. This species could effectively be used in the control of guinea worms and also for malarial control. These small, bony, fleshy fishes are sold in heaps along with other small fishes in the market. Popular for aquarium purposes.



# *Badis badis* (Hamilton, 1822)

## Badis

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Perciformes  
**Family:** Nandidae  
**Genus:** *Badis*  
**Species:** *badis*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Ganges River drainage in India, Bangladesh, and Nepal, from Himachal Pradesh (Yamuna River) to the estuary; the Mahanadi River drainage; Assam lowlands close to Brahmaputra (Kaziranga, Gauhati, and Dibru River). Also reported from Bhutan and Pakistan

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is highly variable, and typically variegated with alternate belts of black and green. The bands are black and dirty red. A bluish-black spot present behind the gill opening. Fins are yellowish-green. A row of dark spots along base of dorsal fin.

The body is moderately elongate, relatively low and slightly compressed. Eyes are large, mouth is small, teeth are villiform and tongue edentate. Scales are of moderate size.

Inhabits in freshwater rivers, ponds and ditches.

Feeds on worms, crustaceans and insects. Used for behavioural studies Length indications of up to 8 cm in some Literature.



# *Xenentodon cancila* (Hamilton, 1822)

## Freshwater garfish

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Beloniformes  
**Family:** Belontiidae  
**Genus:** *Xenentodon*  
**Species:** *cancila*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: Sri Lanka and India eastward to the Mekong.

**DISTRIBUTION IN GANGA RIVER BASIN :** Ganga, Yamuna, Kosi, Gandak, Ghagra.

**BIOLOGY:** The species is greenish above in colour and flanks green-silvery which fades whitish below. A silver lateral band extends on the flank of the body. The body is very elongated and slightly compressed, eyes are small. The dorsal fin is inserted usually anterior to a vertical through the origin of the anal fin. Green-silvery dorsally, grading to whitish below. A series of four or five blotches (absent in young specimens) on the sides between the pectoral and anal fins. Dorsal and anal fins with dark edges.

The fish attains a length of 40cm in total length and 30 cm is the most common size.

The Male pursues a slow-moving female and upon catching up with the female, will begin shuddering from side to side while the pair is oriented parallel to each other; the pair positions themselves close to submerged vegetation, male assumes a slightly head-down position, with his anal fin curled under the female's vent; the pair begins trembling until a single large egg is released, each female produces about a dozen eggs per day and eggs hatch in about a week with no parental care.



# *Minimugil cascasia* (Hamilton, 1822)

## Yellowtail mullet

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Mugiliformes  
**Family:** Mugilidae  
**Genus:** *Minimugil*  
**Species:** *cascasia*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Pakistan; Indus river; India: Ganga, Jamuna and Brahmaputra river systems; and Bangladesh.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Kosi, Gandak, Ghagra, Yamuna.

**BIOLOGY:** The species is greenish-yellow on the back and on the flanks with several black bands. The belly is silver in colour, and a sizeable yellow blotch is present on the caudal fin and a smaller one on the bottom of the pectoral fin. The base of the anal fins and pelvic fins are tinged yellow in colour.

The body is moderately robust. The Head is wide and dorsally flattened. The mullet attains a length of 10 cm and is very common in the upper waters of the Ganga and the Yamuna Rivers.



# *Rhinomugil corsula* (Hamilton, 1822)

## Corsula

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Mugiliiformes  
**Family:** Mugilidae  
**Genus:** *Rhinomugil*  
**Species:** *corsula*

**IUCN:** Least Concern (LC)

**CITES:** Not Included

**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Asia: India, Bangladesh, Nepal and Myanmar.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** The species is dull-brown in colour dorsally and silvery from below. The fins are hyaline with a golden tinge.

The body is rather stout, the head is moderate, and concave between eyes. The mouth is ventral and protrusible. The first dorsal fin is inserted nearer to the caudal-fin base than to tip of the snout. The caudal fin is slightly emarginate. Scales are small 48 to 52 scales along the lateral line.

The species is fishes in small quantities in Ganga River, the Hooghly-Matlah estuary, the Mahanadi estuary and the Chilka Lake.



# *Johnius coitor* (Hamilton, 1822)

## Coitor croaker

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Anabantiformes  
**Family:** Sciaenidae  
**Genus:** *Johnius*  
**Species:** *coitor*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** East coast of India, Bangladesh, Burma, through the East Indies, to the east coast of Australia. Inhabits coastal waters and estuaries.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Kosi.

**BIOLOGY:** This fish is light golden yellow with a light purple-blue sheen in colour. The body is elongated and the snout is conspicuously prominent and projecting about 1.5 times in eye diameter. The mouth is inferior and teeth are villiform differentiated in size on the upper jaw only, the outer upper row slightly enlarged and rather close-set. Scales are cycloid on the snout, below and immediately behind the eyes and anterior part of the breast and ctenoid on top of the head and body. The lateral line has 48 to 51 scales.

This species contributes to a minor fishery in the Hooghly estuary (West-Bengal). It attains a length of 16 cm SL; the standard size is 13 cm.



# *Lates calcarifer* (Bloch, 1790)

## Barramundi

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Perciformes  
**Family:** Latidae  
**Genus:** *Lates*  
**Species:** *calcarifer*

**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Indo-West Pacific: eastern edge of the Persian Gulf to China, Taiwan and southern Japan, southward to southern Papua New Guinea and northern Australia.

**DISTRIBUTION IN GANGA RIVER BASIN:** Lower reaches of the Ganga River.

**BIOLOGY:** The species is either olive-brown above with silvery flanks and belly or green-like above and silvery below. Eyes are bright pink, glowing at night.

The body is elongated and moderately compressed. Mouth is large and slightly oblique. Scales are large and ctenoid.

Feed on fishes and crustaceans.

This fish is esteemed as a good food fish. The maximum size attained is 150cm and the most common size is 45-60cm.

Barramundi is protandrous hermaphrodites, i.e., they undergo sex reversion during their life cycle. Females are generally absent in the smaller length classes but dominate larger length classes. A few females will develop directly from immature fish.

Most barramundi mature first as males and function as males for one or more spawning seasons before undergoing sex inversion.



# *Scatophagus argus* (Linnaeus, 1766)

## Spotted scat

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Acanthuriformes  
**Family:** Scatophagidae  
**Genus:** *Scatophagus*  
**Species:** *argus*

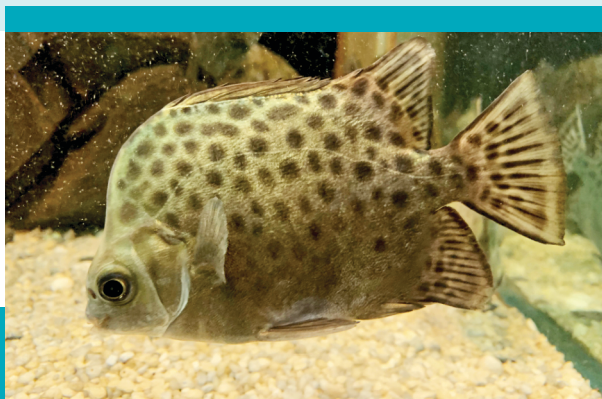
**IUCN:** Least Concern (LC)  
**CITES:** Not Included  
**IWLP:** Not Included

**GEOGRAPHICAL DISTRIBUTION:** Indo-Pacific: Kuwait to Fiji, north to southern Japan, south to New Caledonia. Reported from Samoa, Tonga, and the Society Islands.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga.

**BIOLOGY:** The species is Ground color greenish and juveniles with a few large round blotches about the size of the eye with about 5 to 6 broad ark vertical bars. In adults spots may be faint and restricted to dorsal part of the flank.

Body is quadrangular, strongly compressed. Eyes are moderately large. Mouth is small and protractile. It inhabits in natural embankments, in brackish estuaries and in the lower reaches of freshwater streams. Feeds on worms, crustaceans insects.



# *Leiodon cutcutia* (Hamilton, 1822)

## Ocellated Puffer Fish

|                 |                   |               |                    |
|-----------------|-------------------|---------------|--------------------|
| <b>Kingdom:</b> | Animalia          | <b>IUCN:</b>  | Least Concern (LC) |
| <b>Phylum:</b>  | Chordata          | <b>CITES:</b> | Not Included       |
| <b>Class:</b>   | Actinopterygii    | <b>IWLP:</b>  | Not Included       |
| <b>Order:</b>   | Tetraodontiformes |               |                    |
| <b>Family:</b>  | Tetraodontidae    |               |                    |
| <b>Genus:</b>   | <i>leiodon</i>    |               |                    |
| <b>Species:</b> | <i>cutcutia</i>   |               |                    |

**GEOGRAPHICAL DISTRIBUTION:** Bangladesh, Sri Lanka, Burma and Malay archipelago. Inhabits fresh and brackish water.

**DISTRIBUTION IN GANGA RIVER BASIN:** Ganga, Yamuna, Damodar, Gandak.

**BIOLOGY:** The species is dark-green to olive-green from the back, whereas the flanks are yellowish to pale grey. The belly is dull white, and the back with dark cloudy or reticulated markings is often descending to the sides.

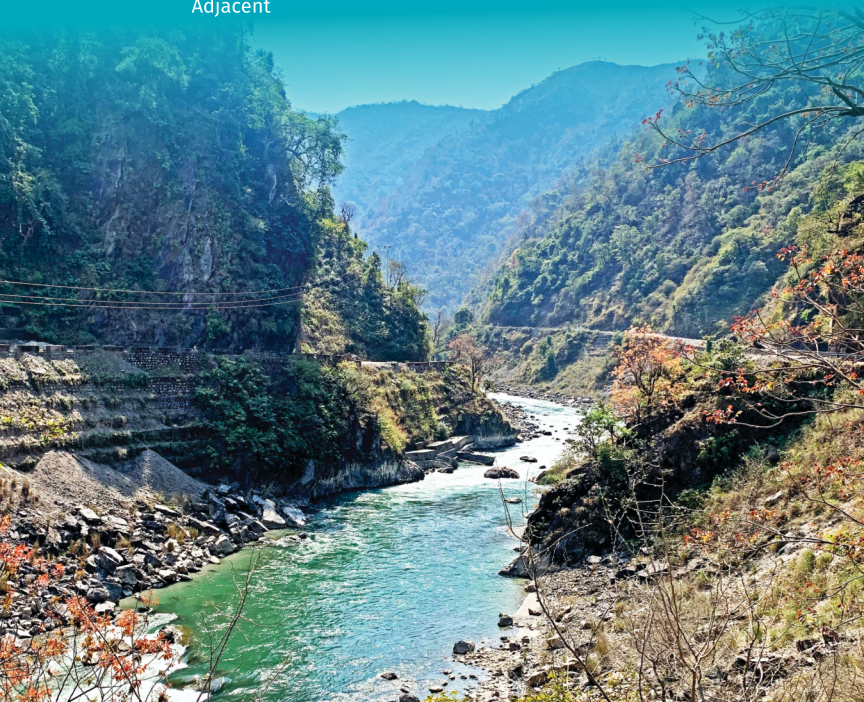
The body is compressed laterally, and the dorsal profile rises nearly rectilinearly to the middle of the back and then slopes gradually to the caudal fin. Mouth terminal directed forward or downward with no prominent chin. Nostril is a short, simple tube, about twice as comprehensive as the terminal opening.

Skin is leathery without dermal spinules. Fins are rounded.



# REFERENCES

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**This publication entitled "Fins Of Ganga River basin" includes important river and wetland fishes of the Ganga River basin". This publication includes a total of 84 fish species. The representative species were selected on the basis of criteria listed follows:**

International Union for Conservation of Nature and Natural Resources (IUCN) Red List categories.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices.