

# EURYHALINE FISHES OF RIVER GANGA



**GNAMAMI  
GANGE**



**ICAR-CENTRAL INLAND FISHERIES RESEARCH INSTITUTE**

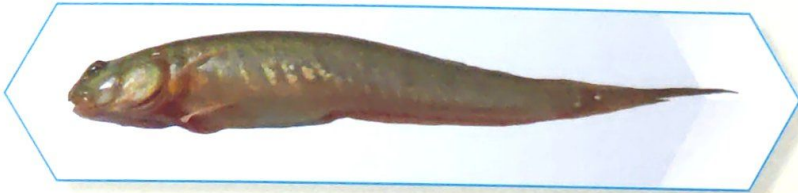
BARRACKPORE, KOLKATA-700 120  
WEST BENGAL, INDIA



## BACKGROUND

River Ganga stretching out from Gangotri to the Bay of Bengal encompasses wide range of salinity regime. The fishes sustaining in the river can tolerate variable salinity i.e. they can survive both in freshwater and brackishwater respectively. They are defined as euryhaline fishes. These fishes have a unique osmoregulatory feature that enables them to survive in environments at different salinity. Habitats of a euryhaline organism are tide pools and estuaries where salinity changes from time to time. The ichthyofaunal diversity of River Ganga is studied under National Mission for Clean Ganga (NMCG) project by ICAR-CIFRI. As many as, ten euryhaline fish species are identified out of 190 reported fish species.

### APOCRYPTES BATO (HAMILTON, 1822)



#### Classification

Order : Perciformes  
Family : Gobiidae  
Genus : Apocryptes  
Species : *Apocryptes bato*

Salinity tolerance Range: **0 - 20 ppt**

IUCN Red List Status: **Not Evaluated (NE)**

Found in rivers and estuaries. Burrows within tidal limits of river deltas from the east coast of India to Burma. Six to seven vertical narrow, brown bars along sides, anteriormost coursing from dorsum through pectoral base. Amphidromous refers to fishes that regularly migrate between freshwater and the sea (in both directions). Migration is cyclic and predictable covering more than 100 km. Habitat demersal and amphidromous.

### CORICA SOBORNA (HAMILTON, 1822)



#### Classification

Order : Clupeiformes  
Family : Clupeidae  
Genus : Corica  
Species : *Corica soborna*

Salinity tolerance Range: **0 - 30 ppt**

IUCN Red List Status: **Least Concern (LC)**

Body fairly elongate, belly keeled with scutes. Teeth minute or absent in jaws. Last two anal fin rays forming a separate finlet. Found in rivers, estuaries and also found in coastal areas of Bay of Bengal

### GAGATA CENIA (HAMILTON, 1822)



#### Classification

Order : Siluriformes  
Family : Sisoridae  
Genus : Gagata  
Species : *Gagata cenia*

Salinity tolerance Range : **0 - 19 ppt**

IUCN Red List Status : **Least Concern (LC)**

Widely distributed in the Ganges basin, Found in fresh and tidal rivers. Caudal fin with transverse black bar across peduncle and round or square black spot on middle of each lobe. Dorsal fin with black spot on distal part of anterior rays.



**HYPORHAMPHUS LIMBATUS**  
(VALENCIENNES, 1847)



**Classification**  
Order : Belontiiformes  
Family : Hemiramphidae  
Genus : Hyporhamphus  
Species : *Hyporhamphus limbatus*

Salinity tolerance Range : **7 - 29 ppt**

IUCN Red List Status : **Least Concern (LC)**

Greatly prolonged, beak-like lower jaw, equal to, or longer than head length; upper jaw short, triangular and scaly. Found at surface levels of tidal freshwaters and brackish estuaries. Migration is cyclic and predictable covering more than 100 km.

**JOHNIUS GANGETICUS**  
(TALWAR, 1991)



**Classification**  
Order : Perciformes  
Family : Sciaenidae  
Genus : Johnius  
Species : *Johnius gangeticus*

Salinity tolerance Range: **5 - 35 ppt**

IUCN Red List Status: **Not Evaluated (NE)**

A species of Johnius having closely set villiform teeth on jaws; snout swollen, projecting, about equal to eye diameter. Inhabits in river Ganga, including its estuary in India and benthopelagic.

**PANGASIU PANGASIU**  
(HAMILTON, 1822)



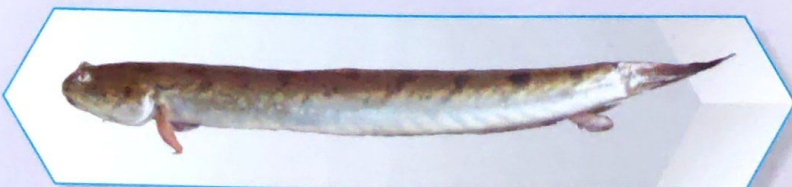
**Classification**  
Order : Siluriformes  
Family : Pangasiidae  
Genus : Pangasius  
Species : *Pangasius pangasius*

Salinity tolerance Range: **0 - 12 ppt**

IUCN Red List Status: **Least Concern (LC)**

Bright yellow caudal fin in adults; maxillary barbel extends to gill aperture. Found in large rivers and estuaries. Occurs in high estuary (freshwater tidal zone) as juveniles, inhabits brackish water as sub-adults, and finally as adults to river mouths and inshore areas. Feeds on snails, other molluscs and plants

**PSEUDAPOCRYPTES ELONGATUS**  
(CUVIER, 1816)



**Classification**  
Order : Perciformes  
Family : Gobiidae  
Genus : Pseudapocryptes  
Species : *Pseudapocryptes elongatus*

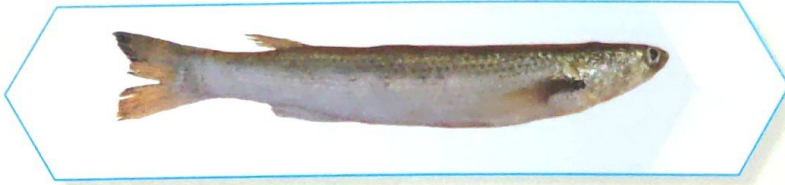
Salinity tolerance Range : **0 - 30 ppt**

IUCN Red List Status : **Least Concern (LC)**

Found in mudflats of estuaries and the freshwater tidal zone of rivers. Amphibious air-breather. Occurs throughout India



**RHINOMUGIL CORSULA  
(HAMILTON, 1822)**



**Classification**

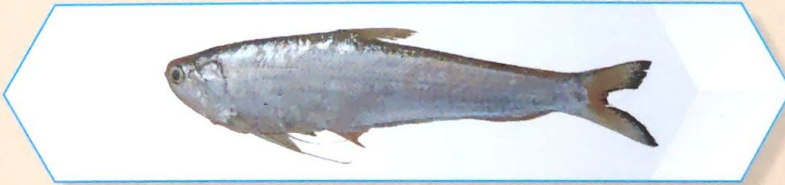
Order : Perciformes  
Family : Mugilidae  
Genus : Rhinomugil  
Species : *Rhinomugil corsula*

Salinity tolerance Range : **0 - 27 ppt**

IUCN Red List Status : **Least Concern (LC)**

Anadromous, found in rivers and estuaries. Oviparous, eggs are pelagic and non-adhesive

**SETIPINNA PHASA  
(HAMILTON, 1822)**



**Classification**

Order : Clupeiformes  
Family : Engraulidae  
Genus : Setipinna  
Species : *Setipinna phasa*

Salinity tolerance Range: **0 - 30 ppt**

IUCN Red List Status: **Least Concern (LC)**

Pectoral filament long, reaching to base of anal fin ray. A riverine species, but also found in estuaries and presumably tolerating some salinity. Adults feed mainly on mysids and small prawns (reduced feeding during breeding), juveniles mainly on copepods. Possibly breeds throughout the year, with peaks in October and November (Hooghly at Barrackpore) or March-May (Ganges at Allahabad). It has an extended breeding season, possibly throughout the year.

**TENUALOSA ILISHA  
(HAMILTON, 1822)**



**Classification**

Order : Clupeiformes  
Family : Clupeidae  
Genus : Tenualosa  
Species : *Tenualosa ilisha*

Salinity tolerance Range: **0 - 34 ppt**

IUCN Red List Status: **Least Concern (LC)**

A dark blotch behind gill opening, followed by a series of small spots along flank in juveniles. Color in life, silver shot with gold and purple. Known to be a fast swimmer, covering 71 km in one day. Breeds mainly in rivers upstream to about 50 km or even over 1000 km as in the Ganges during the southwest monsoon (also from January to February to March). Feeds on plankton, mainly by filtering, but apparently also by grubbing on muddy bottoms.



Prepared by :  
**B. K. Das, Canciyal. J, H. S. Swain, A. Alam, S. C. S. Das, A. Ray & S. Mishra**

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**Director, ICAR-Central Inland Fisheries Research Institute**  
Barrackpore, Kolkata-700 120, West Bengal  
E-mail : director.cifri@icar.gov.in, director.cifri@gmail.com; Web: www.cifri.res.in,  
Contact:- 033 2592 1190, 2592 0177; Fax: 033 25450997



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