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### B12I3\_Fishes

#### Rohu (*Labeo rohita*)

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



#### Habit, Habitat & Distribution:

Rohu (*Labeo rohita*) is a fish of the carp family Cyprinidae, found commonly in rivers and freshwater lakes in and around South Asia and South-East Asia. It is a herbivore. It is treated as a delicacy on Orissa, Bihar and Uttar Pradesh. In fact, the Kayastha community of Uttar Pradesh treats it as one of their most sacred foods: to be eaten on all auspicious occasions. In Hindi it is called Rehu. (Rawas is the Indian Salmon, which is quite different) It is called *rohi* in Oriya, *ru* in Bengali, *rou* in Assamese and is popular in Orissa, Thailand, Pakistan, Bangladesh, Bihar, Uttar Pradesh, West Bengal, Assam, and the Konkan region of India. It is a non-oily/white fish. The roe of rohu is also considered as a delicacy by Oriyas and Bengalis. It is deep fried and served hot as an appetizer as part of an Oriya and Bengali meal. It is also stuffed inside pointed gourd to make *potoler dolma* which is a delicacy often prepared to satisfy the palate of the discerning guest. Rohu is also served deep fried in mustard oil, as *kalia* which is a rich gravy made of concoction of spices and deeply browned onions and *tok*, where the fish is cooked in a flavorful and tangy sauce made of tamarind and mustard. Rohu is also very popular in Northern India such as in the province of Punjab. It is a speciality of Lahori cuisine as in Lahori fried fish, prepared with batter and spices. It is also a very popular food fish in Iraq. During the early stages of its lifecycle, it eats mainly zooplankton, but as it grows, it eats more and more phytoplankton, and as a juvenile or adult is a herbivorous column feeder, eating mainly phytoplankton and submerged vegetation. It has modified, thin hair-like gill rakers, suggesting that it feeds by sieving the water. It is diurnal and generally solitary. It reaches sexual maturity between two and five years. In nature, it spawns in the marginal areas of flooded rivers. When cultured, it does not breed in lentic environments, so induced spawning becomes necessary.

**Characters:** body is laterally compressed & fusiform, attaining maximum length of one meter. Colour blackish grey on the back & silvery white below. Body is covered with overlapping cycloid scales. Head is prominent with blunt snout. Eyes large without eyelids. Mouth is subterminal, directed downwards & surrounded by thick lips. Upper lip with a pair of short barbells & lower lip fringed. But in other species of labeo barbells are absent. Jaws without teeth. Dorsal fin large, present at about the middle of the body. Pectoral fins without spinous rays. Tail small & homocercal. Air bladder is physostomous type & divided into an anterior & a posterior chamber. Weberian apparatus joins the air bladder with the ear. Lateral line canal passes through the scales.

**Special Features:** Both upper & lower lip have an inferior transverse fold, which is fringed on the lower lip.

**Economic importance:** It is the most popular food fish. Its flesh is delicious. It is relished very much in food. Rich in protein content. Carps are cultivated in specially constructed water ponds, having adjacent breeding areas. Mostly cultivated with catla in fresh water ponds & lakes in the absence of carnivorous fish. It is also used as a game fish where it is specially introduced into water reservoirs for the purpose of sport fishing.

### Catla (*Catla catla*):



Kingdom:	<u>Animalia</u>
Phylum:	<u>Chordata</u>
Class:	<u>Actinopterygii</u>
Order:	<u>Cypriniformes</u>
Family:	<u>Cyprinidae</u>
Genus:	<i>Catla</i>
Species:	<i>C. catla</i>

### Habit, Habitat & Distribution:

Catla is endemic to the riverine system in northern India, Indus plain and adjoining hills of Pakistan, Bangladesh, Nepal and Myanmar, and has been introduced later into almost all riverine systems, reservoirs and tanks all over India. The natural distribution of catla seems to be governed by temperature dependency rather than latitude and longitude. The minimum tolerance temperature limit is ~14 °C. At present, catla forms an integral component species, both in three-species polyculture with rohu (*Labeo rohita*) and mrigal (*Cirrhinus mrigala*), and six-species composite carp culture, which adds common carp (*Cyprinus carpio*), grass carp (*Ctenopharyngodon idella*) and silver carp (*Hypophthalmichthys molitrix*) to the species mix. It can live both in fresh & brackish waters & can be seen in tidal areas.

### Characters:

Body short and deep, somewhat laterally compressed, its depth more than head length; head very large, its depth exceeding half the head length; body with conspicuously large cycloid scales, head devoid of scales; snout bluntly rounded; eyes large and visible from underside of the head; mouth wide and upturned with prominent protruding lower jaw; upper lip absent, lower lip very thick; no barbels; lower jaw with a movable articulation at symphysis, without a prominent process; gill rakers long and fine; pharyngeal teeth in three row, 5.3.2/2.3.5 pattern; dorsal fin inserted slightly in advance of pelvic fins, with 14 to 16 branched rays, the simple rays non-osseous; anal fin short; pectoral fins long extending to pelvic fins; caudal fin forked; lateral line with 40 to 43 scales. Greyish on back and flanks, silvery-white below; fins dusky.

**Economic Importance:** It is one of the most valuable food fish. Mostly cultivated in isolated fresh water ponds & lakes in the absence of carnivorous fish. The fish is largely employed for stocking tanks. The fish is fleshy & noted for its delicacy & valued very high in the market. It is best for consumption when not more than 61cm in length. Catla is also game fish. It is used as sport fish.

**Bangda (*Rastrelliger kanagurta*)/Mackerel:**

**Class & subclass** - Osteichthyes,

**Order & suborder** - Perciformes,

**Family & subfamily** – Scombridae

**Genus** – *Rastrelliger*

**Species** – *R. kanagurta*



**Habit, Habitat & Distribution:** Mackerel is a common name applied to a number of different species of fish, mostly, but not exclusively, from the family Scombridae. They occur in all tropical and temperate seas. Most live offshore in the oceanic environment but a few, like the Spanish mackerel (*Scomberomorus maculatus*), enter bays and can be caught near bridges and piers. East & west coasts. Quilon in Kerala to Ratnagiri in Maharashtra. On the east coast, occurs sporadically near Madras, Vishakapatnam & parts of Orissa. There is a flourishing industry on the west coast of India particularly in the Bombay to Karwar area. They are marine, planktonic, schooling fish. Fully mature fish attains a length of 18-22 cm & yields amount of flesh.

**Characters:** Common features of mackerels are a slim, cylindrical shape (as opposed to the tunas, which are deeper bodied) and numerous finlets on the dorsal and ventral sides behind the dorsal and anal fins. The scales are extremely small, if present. The largest species called "mackerel" is the king mackerel (*Scomberomorus cavalla*) which can grow to 66 inches (1.68 m). A female mackerel lays about 1,000,000 eggs at a time. Shearwater, tuna, dolphins, whales, orca, seagulls, marlins, sharks, and humans may hunt mackerels. Head length equals to height of the body, head longer than broad. Snout pointed, eyes with thick adipose eyelids. Mouth large, oblique with deep cleft. Teeth small in a single row in both jaws, but usually worn out with age, vomer & palatine without teeth. Gill rakers numerous, 17-24/33-45 respectively on upper limbs of the gill arch, long & feather like & distinctly visible when the mouth is opened. First dorsal spinous & its first spine shorter than the second spine; second dorsal soft rayed. Dorsal & anal finlets five or six pectoral soft rayed & pelvics with one spine & five soft rays caudal deeply forked with pointed lobes. Body is torpedo shaped with a characteristic bluish black back & silvery belly. In larger specimen when fresh a few golden yellow bands present along & below lateral line & in small juveniles small round grayish dots along upper half of back.

**Economic Importance:** Mackerels are prized (and are highly harvested) for their meat, which is often very oily. They are known for their fighting ability, and are an important recreational and commercial fishery. The meat can spoil quickly, especially in the tropics, causing scombroid food poisoning - it must be eaten on the day of capture, unless cured. For this reason, mackerel is the only common salt-cured sushi. Mackerel fishery is well established in India, the species caught is usually *Rastrelliger kanagurta*. Mackerel is a very important group of commercial fish tanking second in annual tonnage of marine fishes landed. It is in great demand in fresh condition. 60% consumed fresh, remaining preserved. Large percentage i.e; 40% of the catch is preserved in ice & dispatched to inland areas & 60% catch is salt cured or pickled or sun dried or smoked. When the catch is abundant, the surplus is converted into manure which is used for coffee & coconut plantation. The viscera & gills discarded from the curing & canning plants is used in the preparation of fishmeal/poultry feed, cattle feed & manure. They are of importance not only to India, but also to many countries bordering the Indian Ocean & Western Pacific Ocean for which reason several international integrated research projects are sponsored by organization like the Indo Pacific Fisheries Council of the FAO.

## Mrigal (*Cirrhina mrigala*)

Superclass	:Gnathostomata
Class	:Actinopterygii
Subclass	:Neopterygii
Division	:Teleostei
Subdivision	:Euteleostei
Superorder	:Ostariophysii
Order	:Cypriniformes
Family	:Cyprinidae
Subfamily	:Cyprininae
Genus	: <i>Cirrhinus</i> Oken
Scientific name	: <i>Cirrhinus Mrigala</i> )
English name	:Mrigal



**Habit, Habitat & Distribution** : Krishna, Cauvery, Godavary and West-flowing river drainages where it was transplanted. This fish belongs to carp family & resembles *Labeo rohita* except that it has a wider mouth & thinner lips. Breeding takes place in flooded rivers during July-September. During this time fingerlings are collected in basket traps for transporting them to interior areas for cultivation. It attains a length of 50 to 65 cm within a year & a weight of 1.4 to 2.5 Kg.

**Characters**: The length of the body reaches upto 66cm & weight upto 1.4 to 2.8 Kg. Body stream lined, snout blunt. Mouth broad, upper lip entire, lower lip most indistinct. The greatest width of the head equals its length behind the middle of the eyes. Pores present or absent on the snout. Barbels small in folds of lips. Dorsal fin as high as body. Pectoral fins shorter than head. Caudal fin deeply forked. Dark grey with a coppery tinge, flanks silvery with a yellowish tinge and belly silvery -white; eyes golden. Pectoral, pelvic and anal fins orange - tipped; dorsal and caudal fin is sharply forked.

**Economic Importance**: It gives best sport on rod & line & is used as food. Fast growing fish & therefore preferred for pisciculture. When cultured artificially can grow to a great size. Rich in protein content as food. Young fingerlings are usually available as fish seed. These can be purchased & then be cultivated as adult stage. This is a more commercial method of fish culture. When culture on commercial scale, it can yield good margin as profit. The cultivation also generates employment in rural areas. Non edible parts, gills & gut used to prepare fish meal. If excess can be converted to manure.