

Cultivable Freshwater Finfishes Of India

❖ Submitted To:-

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TYPES OF CULTURABLE FRESH WATER FISHES

- India occupies second position in prawn culture and seventh position in fish culture and production.
- Fresh water fishes cultured in India are :-
 - (a) Major carps
 - (b) Minor carps
 - (c) Murrels
 - (d) Cat fishes
 - (e) Exotic fishes
 - (f) Cold water fishes.

(A)Major carps

- Indian major carps grow fast and can reproduce even in artificial ponds.
- They feed upon phytoplankton, zooplankton, decaying organic matter, aquatic plants etc.
- Stomach is absent in the alimentary canal of major carps.
- Three types Of Indian major carps are cultured in fresh water ponds.

1. Catla catla : (catla)



1. Catla catla (catla)

- This is commonly called *catla*. It is the largest carp with grayish colour above and silvery on sides.
- It grows to about one meter. It has broad and stout body, broad head with upturned mouth, prominent lips and elongated fins.
- Caudal fin is sharply forked.
- The dorsal side of the body is more concave than ventral side.
- It occurs in surface water.
- It matures by second year.
- Body is silvery but dark gray along its back and Pectoral, ventral and anal fins are with orange tinge.

2. Labeo rohita (Rohu)



2. Labeo rohita (Rohu)

- ▶ Head is small but it is with a prominent terminal mouth, thick lips with short barbels.
- ▶ Colour is bluish or brownish gray above.
- ▶ Scales are gray and red or black.
- ▶ It grows to about 90 cms.
- ▶ This carp occurs in column waters of all rivers and canals.
- ▶ The above major carps are extensively cultured in fresh water ponds and lakes of India.



3. Cirrhinus mrigala (mrigal/white crap)



3. Cirrhinus mrigala (mrigal/white crap)

- **Body depth about equal to length of head.**
- **Upper lip entire and not continuous with lower lip, lower lip most indistinct.**
- **Mrigal is a bottom dwellers, feeding habits. Detritus and decayed vegetation form its principal food components.**
- **Mrigal attains maturity in its second.**
- **Average fecundity varies from 100000-150000/kg body weight.**
- **Spawning season between may to September.**
- **It is widely farmed as a component of a polyculture system of three indian major carps, along with rohu & catla.**

(B) MURREL FISHES

- **These are air breathing fishes with long cylindrical body, flattened head and protractile mouth.**
- **These can grow in fresh water ponds, irrigation canals, wells and marshy areas.**
- **They breed even before the onset of monsoons.**

1. Channa punctatus or Ophiocephalus:(Snake head)

Channa punctata (Bloch, 1793)
Spotted Snakehead

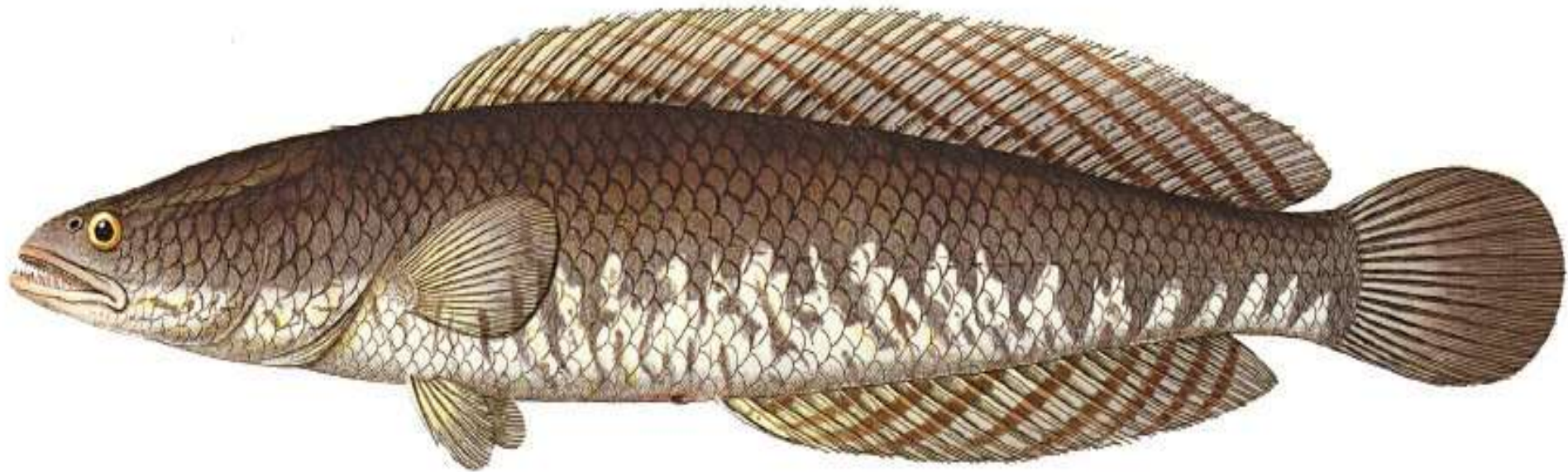


1. Channa punctatus or Ophiocephalus : (Snake head)

- It is a long fish snake like body and accessory respiratory organs.
- As it outside the water also, it is commonly called livefish.
- Body colour in live brown on the back, fading to lighter beneath, not spotted or striated.
- It grows to an average length 30 – 35 cm.
- It is a common food fish of high demand.

2. Channa striatus (stiped snake head)

Channa striata (Bloch, 1793)
Chevron Snakehead



2. Channa striatus (stiped snake head)

- **Body elongate, fairly rounded in cross-section.**
- **The body is coloured dark brown with yellow bands on either side.**
- **Feeds on worms, insects, fishes and crustaceans.**
- **It grows to size of 45 cm with a weight of 2.5 kg.**
- **Its flesh is good for health as it does not contain cholestrerol.**

(C)CAT FISHES

- **The cat fishes are predatory fishes.**
- **Their skin is devoid of scales.**
- **Two pairs of barbels are present on upper and lower jaw.**
- **Most of the fish body is utilized as food due to absence of scales and spines.**

1. *Clarias batracus* (magur)



Magur (*Clarias batrachus*)

1. *Clarias batracus* (magur)


- Body elongate, head moderate depressed.
- Mouth terminal with villiform bands on jaws.
- Barbels four pairs.
- Body colour is brown or dark gray.
- It grows upto a size of 45 cms.
- It is carnivorous fish.
- It is an air breathing fish and well adapted to adverse ecological conditions.
- Among the catfishes, it is of utmost importance to its taste, medicinal and high market value.

2. Heteropneustes fossilis:



2. Heteropneustes fossilis:

- **The head is flat with laterally compressed body.**
- **It possesses accessory respiratory organs.**
- **It is Omnivorous, feeds on molluscs, algae and grows to a size of 45 cm.**
- **This species grows to a length of 30 cm (12 in) TL and is an important component of local commercial fisheries.**
- **Male matures at 12cm (1yr) and female matures at 5.5cm (1yr)**

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- **Adults found mainly in ponds, ditches, swamps and marshes, but sometimes occur in muddy rivers.**
 - **Breed in confined waters during the monsoon months, but can breed in ponds, when sufficient rain-water accumulates.**
 - **Oviparous, Eggs are deposited in a depression usually excavated by both parents in mud, in shallow water.**
 - **Parents guard the eggs and young until they can fend for themselves which lasts for about one month.**
 - **In great demand due to its medicinal value.**

3. Mystus seenghala



4. Mystus seenghala

- Body elongate and compressed; snout broad and spatulate.
- Barbels extend posteriorly to pelvic fins or beyond to anal fin.
- Color is brownish-gray on back, silvery on flanks and belly. A dark well-defined spot is on the adipose dorsal fin.
- Found in rivers, canals, beels, ditches, inundated fields and other freshwater areas.
- Adults fight well and provide good sport.
- It is Carnivore fish.
- Breeding occurs before the commencement of monsoons.
- They are Oviparous fish.

(D)EXOTIC FISHES


- ➔ **When the indigenous fishnet are not favored for culture due to economic viability, exotic breeds are selected and cultured. These fishes yield nutritious food and earn foreign exchange.**

1. Cyprinus carpio: (Common carp)

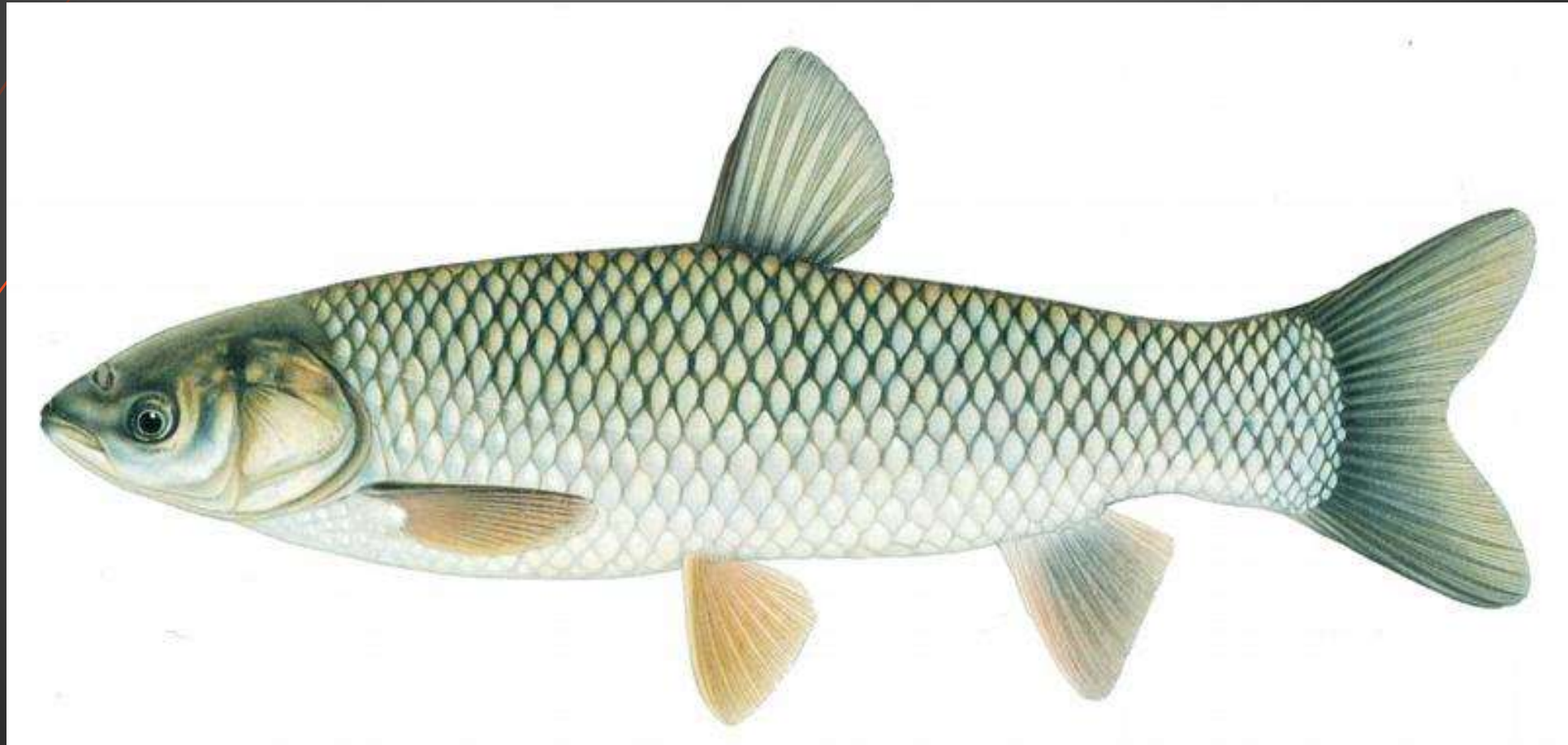


1. Cyprinus carpio: (Common carp)

- This fish was imported from China and introduced into Nilagiri lakes.
- The growth of the fish is higher and grows to a length of 75cm and 6.5 kg weight.
- It breeds thrice in a year. When cultured under extensive system, the productivity was at 1500 kg/ha.
- Relative fecundity is 2,85,000.
- It is a seasonal spawner in temperate waters, breeds at a temperature range of 15° C to 20°C; eggs hatch in 4 days.


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- **Adults often make considerable spawning migrations to suitable backwaters and flooded meadows.**
 - **Individual females spawn with a few males in dense vegetation.**
 - **The sticky eggs are attached to water plants or other submerged objects.**
 - **Reproductive success is restricted to years when the water level starts rising in May and when high temperatures and flooding of terrestrial vegetation last for a long period during May and June.**

2. Ctenopharyngodon idella: (Grass carp)



2. Ctenopharyngodon idella: **(Grass carp)**

- **It is native of Japan and China and was introduced into Cuttack waters in 1959.**
- **Snout very short, its length less than or equal to eye diameter.**
- **Postorbital length more than half head length**
- **It grows in fresh water, polluted water and brackish water of low salinity.**
- **It feeds on aquatic weeds and used to eliminate them.**
- **It can grow to a size of 0.9m in size and 7kg in weight**

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- **Adults occur in lakes, ponds, pools and backwaters of large rivers, preferring large, slow-flowing or standing water bodies with vegetation.**
 - **Tolerant of a wide range of temperatures from 0° to 38°C, and salinities to as much as 10 ppt and oxygen levels down to 0.5 ppm.**
 - **Feed on higher aquatic plants and submerged grasses; takes also detritus, insects and other invertebrates.**
 - **One of the world's most important aquaculture species and also used for weed control in rivers, fish ponds and reservoir**

3. Hypothalamychthys molitrix: (silver fish)



3. Hypothalamycthis molitrix: **(silver fish)**

- **It was imported from Hongkong and introduced into fresh water of Cuttack region.**
- **The mouth is located dorsally at the tip of snout, the body is laterally compressed and enclosed by small shiny scales.**
- **It feeds on the left over food particles of carp fish and grows quickly.**
- **It reaches to a length of 60 cm and weighs about 1.5 kg.**
- **Silver carp are usually farmed in polyculture with other Asian carp, or sometimes with catla or other fish species.**



(E) Cold Water Fishes

- **These fishes are commonly called sport fishes.**
- **These fishes include trouts and Mahseers**

1. Salmogiardneri: (Rain bowtrout)


Oncorhynchus mykiss



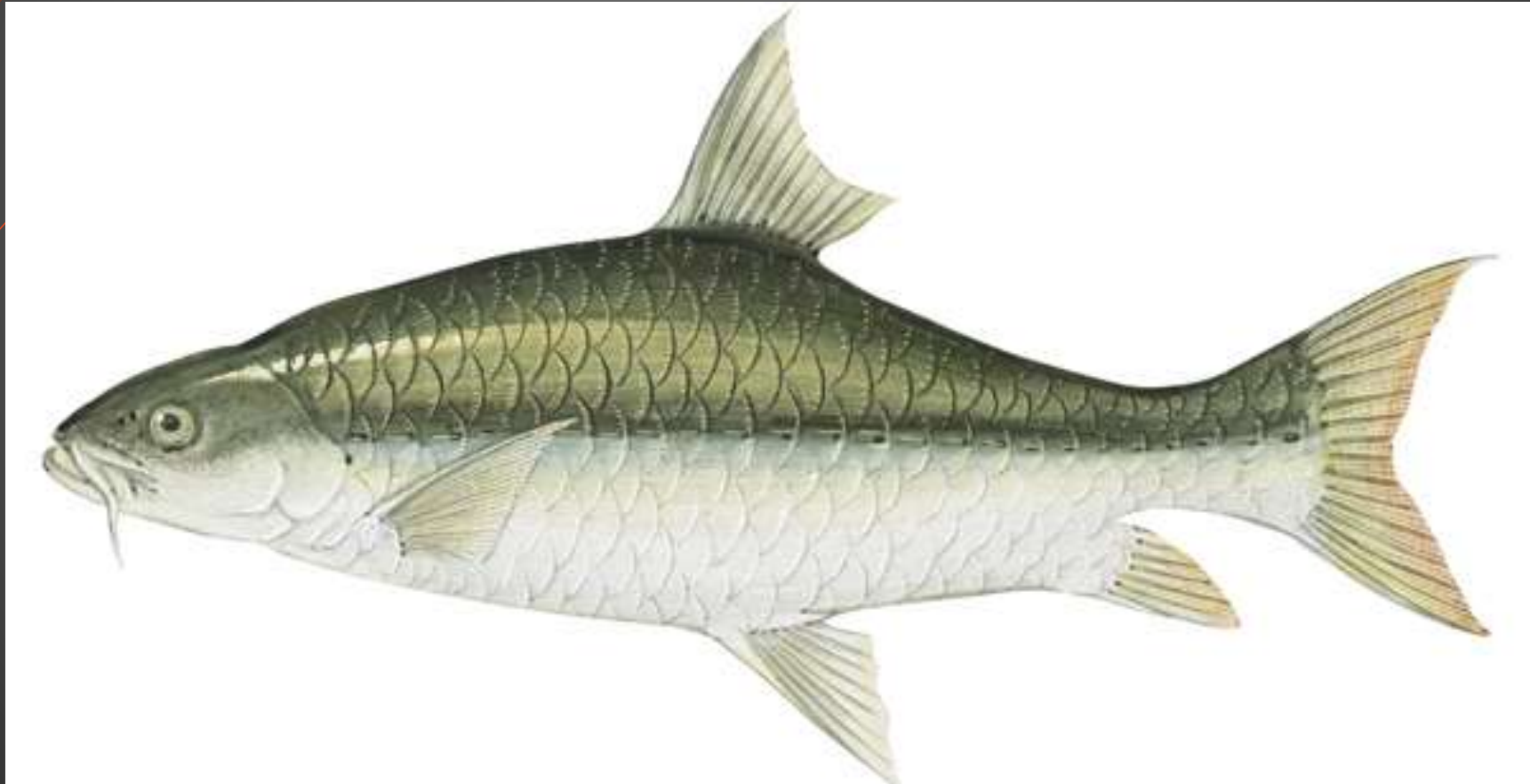
1. Salmogiardneri: (Rain bowtrout)

Oncorhynchus mykiss

- Sometimes it is also called as “steelhead trout”
- It is a north American fish introduced into rivers and lakes of Ooty and hill ranges of Kerala.
- The dorsal and caudal fins are pinkish with dark spots.
- It grows to a length of 1.8 m. and weighs up to 100kg.
- Coloration blue to olive green above a pink band along the lateral line and silver below
- Coloration varies with habitat, size, and sexual condition.


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- **Female are able to produce upto 2,000/kg of body weight.**
 - **Trouts will not spawn naturally in culture system, thus juveniles must be obtained either by artificial spawning in a hatchery or by collecting eggs from wild stock.**
 - **monoculture is the most common practice in rainbow trout culture, and intensive systems are considered necessary in most situation to make the operation economically attractive.**
 - **A potential site for commercial trout production must have a year-round supply of high quality, that meets a number of criteria.**

2. Tor tor: (Mahseer)



2. Tor tor: (Mahseer)

- Dorsal side of the body is grayish green, lateral sides are gold and belly is silvery white.
- Even though it is adapted to grow well in canals but now it is cultured in reservoirs.
- It grows to a size of 1 mt. and considered as good food fish.
- Inhabit rivers and lakes, also in rapid streams with rocky bottom. Grow better in a river with a rocky bottom.

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- **Travel toward headwaters at the start of the rainy season and downstream at the end of the rainy season.**
 - **Omnivorous, feed on filamentous algae, chironomid larvae, water beetles and crustaceans. Spawn from March to September, over stones and gravel.**


3. Tor Khudree

(Deccan mahseer)



3. Tor Khudree (Deccan mahseer)

- ➔ **Snout is pointed.**
- ➔ **Body dark coloured on dorsal and lateral sides while yellow on ventrolateral sides. Colour silvery or greenish along the upper half of the body, becoming silvery shot with gold on the sides.**
- ➔ **Lower fins reddish yellow and may be grown in ponds.**
- ➔ **Inhabits cool, fast flowing, rocky streams and rivers. Occurs in mountain lakes.**

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- **The fish moves to upper reaches of small streams to spawn.**
 - **They feed on plants, insects, shrimps and mollusks.**
 - **Can be cultured in ponds and lakes. Regarded to be of medicinal value.**
 - **Known to grow over a meter and 45 kg in weight but have not been recorded in recent times.**

THANK
YOU

