



Topic Biology of Culturable Carps

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Introduction:-

Carps are various species of freshwater fishes from the family cyprinidae. These are the toothless fishes.

Biology of carps involves geographical distribution, hybrids, food , growth, size, age of first maturity, spawning, Fecundity, Hatchling.

Classification:-

Phylum- Chordata

Group - vertebrata

Sub phylum- Gnathostomata

Super class- Pisces

Class- Teleostomii

Family- Cyprinidae

Order- Cypriniformes

Catla catla

Geographical distribution:- It found in rivers of northern India, Bangladesh and Burma.

Food:- Crustacea, algae, rotifers, insects, protozoa, molluscs, decayed organic matter.

Hybrids:- Four Hybrids have been produced artificially in India

- 1) Male catla X female rohu,
- 2) male catla X female Labeo calbasu
- 3) male catla X female mrigal
- 4) male rohu X female catla.



Growth and size:-

Year	Length	weight
1 st	295 mm	354 g
5 th	917 mm	14,665g

Age of first maturity:- At second year of life

Fecundity:- It vary from 23,0831 to 42,02,250 depending upon the length and weight and weight of ovary.

Spawning:- twice in a year during monsoon.

Hatchling:- A catla hatchling after it's yolk sac is absorbed weight about 0.0025 g.

Labeo rohita

Distribution:- Rivers of north India ; the rivers of Narmada , tapi ,and Mahanadi in central India, rivers of Pakistan, Bangladesh, Burma and Telai region of Nepal.

Hybrids:- The interspecific hybrids involving rohu are:-

- 1) Male rohu X female labeo calbasu
- 2) Male labeo calbasu X female rohu
- 3) Male labeo bata X femal rohu

Food and feeding:- Rohu is a bottom and column feeder and prefer to on plant matter including decaying vegetation.



Growth and size:- It is very quick growing fish.

1 st yr - 310 mm

5 th yr - 800 mm

10 th yr - 960 mm.

Age or first maturity:- Rohu attains maturity towards the end of second yr in ponds.

Fecundity:- It vary from 22,6000 to 2,79,4000

Spawning:- It appear to be somewhat variable in different part of India.

Hatchlings:- A rohu hatchling after absorption of it's yolk sac weight approximately 0.0021 g.

Cirrhinus mrigala

Distribution:- Rivers of Northern India, Bangladesh, Burma and Pakistan.

Food and feeding:- Mrigal is detritus eater. It is a bottom feeder. Some workers consider mrigal an omnivore also frequenting water column for feeding.

Growth and size:- Fish shows a very rapid growth rate in the first four yr of it's life. It attains 290.9mm length at the first yr of age, 858mm at fifth yr of age.



Age of first maturity:- It attains its first maturity when about one yr old.

Fecundity:- It varies from 1,24,800 to 19,05,000.

Spawning:- The spawning season of mrigal depends on the onset and duration of the monsoon.

Hatchling:- A mrigal hatchling after its yolk sac is absorbed weighs about 0.0025 g.

Exotic carps

Silver carp(*Hypophthalmichthys molitrix*)

Distribution:- Rivers of Yangtze, West river, south and central china and in the Amur basin in USSR.

Food and feeding:- It feeds on primarily phytoplankton and secondarily zooplankton. It has phytoplaktophagous feeding habit.

Growth and size:-

Year	Length	weight
2 nd	50 cm	1,803g
5 th	63 cm	6,000g

Age of first maturity:- In china maturity comes at the age of 2-3 yr of age and in Rumania at the age of 6-9 yr of age.

Fecundity:- It vary from 14,5,000 to 20,44,000.



Spawning:- It spawn during June- July.

Hatchling:- A silver carp hatchlings after it's yolk sac absorbed weight approx. 0.0031 g.

Grass carp(*Ctenopharyngodon idella*)

Distribution:- Rivers of china and the middle and lower reaches of river Amur in the USSR.

Food and feeding:- For fish above 30mm the natural diet is Wolffia, lemna, Hydrilla, Chara, Vallisnaria, Rice bran.

Growth and size:-

Year	Length	weight
1 st	15-30 cm	225-650g
4 th yr	10 cm	4.5 kg

Age of first maturity:- Age at which grass carp attains maturity varies greatly with climatic and environmental factors especially temperature.



Fecundity:- It vary from 372,600 to 618,100.

Spawning:- They do not spawn naturally.

Hatchling:- It hatchlings after it's yolk sac is absorbed weighs approx. 0.0031 g.

Common carp(*Cyprinus carpio*)

Distribution:- Narrow belt of central Asia .

Food and feeding:- Fish feeds on decayed vegetable matter . the fish gulp in mud from which digestible matter sifted and rest rejected, a habit which often makes water turbid.

Growth and size:-

Year	weight
1 st	300 g
2 nd	900 g
4 th	2,000 g

Age of first maturity:- At the 0.5 year of age.



Fecundity:- It vary from 6,360- 20,45,552

Spawning:- It spawns year round in India and March – June in U.S.A.

Importance:-

- 1) **As food**:- the fish flesh is an excellent source of protein.
- 2) **Employment opportunity**:- Development of fishing industry generates more employment opportunities.
- 3) **Biological control**:- Fishes prey upon insects and their larvae in water. .
- 4) **Scientific study**:- Fishes have considerable use as experimental animal in the field of genetics, embryology, animal behavior, and pharmacology. E.g.. *Labeo*.



THANK YOU