

PARENTAL CARE IN FISHES P-1

INTRODUCTION — With an aim to perpetuate their race in this gigantic ocean, the animals have developed certain specialized characters i.e. the power of overproduction of eggs and the instinct to take care of their eggs and young. Thus "the instinct, developed in the parents to take care of their eggs and young, is termed as the parental care".

The power of overproduction of eggs gradually diminished from the lower chordates to the higher chordates and the parental care is gradually intensified. The peak of the parental care can be seen in case of mammals, where the egg laying capacity is restricted into either one or sometimes two or more eggs (ova).

PARENTAL CARE IN FISHES — With the fear of extinction, the fishes have undergone extreme degenerations and modifications. The modifications in structure as well as the habits and habitats

tend the fishes to show the great degree of the parental care.

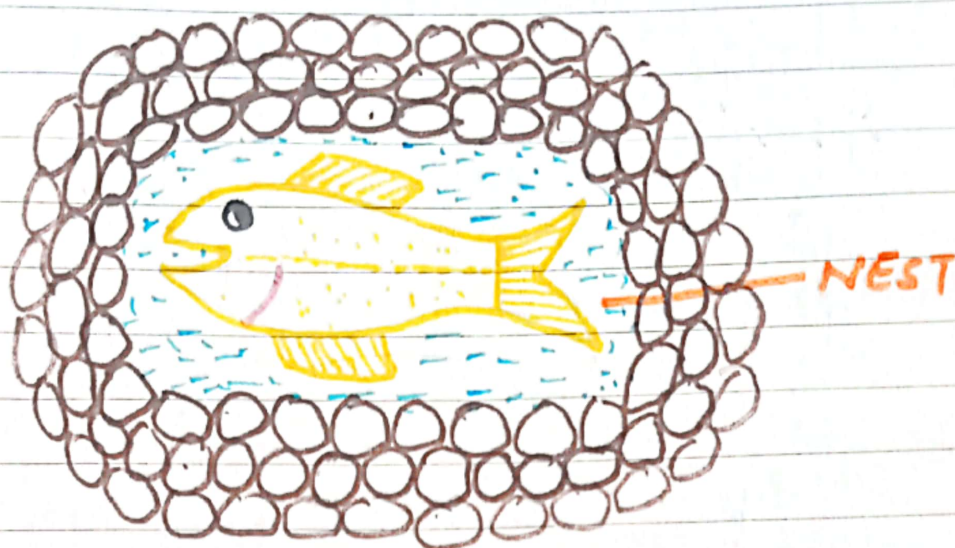
There are many fishes who lay eggs at random and do not provide any parental care to those eggs, e.g. - Lampreys Salmons etc. and they leave the eggs on their fate. But, there are many fishes, who lay eggs at suitable places and protect them until their development is completed by showing a great degree of the parental care.

With the purpose to have a clear knowledge about the parental care in fishes, it can be studied under the following headlines -

A. FORMATION OF THE NESTS — There are many fishes who build their nests and provide a great nursing, as well as protection to their eggs, which are placed into the nests.

The fishes, like Etheostoma Cichlids and Seafishes, make the basin like nests. They

remove stones and pebbles from these area. The female lays eggs and the male protects these eggs.



MALE SUNFISH

The protopterus and the lepidosirens make their nests in the form of holes within the water. The female lays eggs in these holes and the male guards these eggs until their hatching into the young. The Amia male produces a crude like substance in the nest and protects the eggs in this nest, which are laid by the female.

The Catfish, Gasterosteus aculeatus shows advanced type of parental care. The male collects the aquatic

weeds and joins them with the secretion of its kidneys. Then the male drags a mature female into the foam for copulation and egg laying. After laying the eggs, the female comes out of the nest and the male guards these eggs until their development. The fishes like Betta, Macropodus and several other fishes produce the foamy nests. Their males carry the eggs in their mouth and throw the eggs in such a way that these eggs get attached to the base of the foamy nests. The eggs are also guarded by the males.



In case of an exotic fish, Oryzias latipes, the male prepares the nest from the aquatic weeds and guards the eggs, which are laid by the female.

Table → Showing the diversity into the nests and the spawning grounds in some selected fishes of North America

I. Nest building fishes -
A. Those, showing the parental care -

(i) Nest, a circular depression -

(a) Nests in the bed of mud, silt and sands -

e.g. - Sunfishes
Rock basses (Ambloplites)
Bowfin (Amia).

(b) Nest in the gravel bottom -

e.g. - Rock basses (Ambloplites)

(ii) Nest, excavated under stones or other submerged objects -

e.g. - Johnny darters (Etheostoma nigrum)

Stream lined sculpins (Cottus)

(iii) Nest, made up of aquatic plants and is spherical or mound shaped -

e.g. - Gasterosteus aculeatus.

(iv) Nest, a tunnel -

e.g. - channel catfish (Ictalurus punctatus)

B. Those, deserting the nests after spawning -

e.g. - Loach
Salmon (Salmo salar)

II. Fishes which do not build nests

A. Scattering the eggs in the aqu-

atic plants -

e.g. - Cyprinus carpio
Carrasius auratus

B. Depositing the eggs in a single mass -

e.g. - Yellow Perch

(Perca flavescens)

B. MOUTH CAVITY AS SHELTER -

Many fishes protect the eggs by using their mouth cavity as shelter. In case of Cichlids, the male carries the eggs into its mouth, laid by the female and protects these eggs until their development.

In case of Tilapia mosambica, the developed fries use the mouth cavity of the male as shelter for protecting themselves from the predators:



TILAPIA MOSAMBICA