



**Centurion**  
**UNIVERSITY**

*Shaping Lives...  
Empowering Communities...*

# Food and Feeding Habits

Dr. Amrutha Gopan  
Assistant Professor  
School of Fisheries

Centurion University of Technology and Management  
Odisha



**Centurion**  
**UNIVERSITY**

*Shaping Lives...  
Empowering Communities...*

Fishes exhibit feeding habits from simple filter feeding to highly predatory life

The feeding habits of fishes are assessed by:

1. Field observations
2. Analysis of gut contents
3. Laboratory experiments



**Centurion**  
**UNIVERSITY**

*Shaping Lives...  
Empowering Communities...*

# Categories of food

Phytoplankton-*e.g.* diatoms, dinoflagellates

Zooplankton-*e.g.* copepods, crustacean larvae, other microscopic invertebrates.

Nekton-*e.g.* fishes, shrimps, cuttlefishes and squids.

Benthos-*e.g.* annelid worms, bivalves, gastropods.

Detritus-particulate or suspended dead organic material associated with rich microbial flora



Centurion  
UNIVERSITY

Shaping Lives...  
Empowering Communities.

## Classification of food based on its importance

- **Main or basic food:** Food which is normally eaten by the fish or the most preferred food is the main food.
- **Occasional or secondary food :** When the main food is not available, fish feed on other available food temporarily. This type of food is called occasional or secondary food.
- **Incidental food:** his type of food that occasionally enters the gut of a fish along with main food items.
- **Emergency or obligatory food:** This is the one which fish takes in the absence of basic food to maintain physiological activities. It is taken when there is no alternative food available.



**Centurion**  
**UNIVERSITY**

*Shaping Lives...  
Empowering Communities...*

Fishes are categorized based on their dependence on food type, preference, position in water column and feeding types.

**Dependence on food type** : In nature, the type of food available does not remain the same throughout. Therefore, fish may change over to other available food or restrict to a limited type and the fishes are classified as:



**Centurion**  
**UNIVERSITY**

*Shaping Lives...  
Empowering Communities...*

## Dependence on food type

- **Euryphagic** – Fishes feeding on a mixed diet with no preference to any certain type.
- **Stenophagic** – Fishes feeding on limited kinds of food/Narrow range of food
- **Monophagic** – Fishes consuming only one kind of food/Single food item



Centurion  
UNIVERSITY

Shaping Lives...  
Empowering Communities...

# Food preference

- 1. Herbivorous** : A number of fishes feed on unicellular algae, filamentous algae, and also higher aquatic plants. If the plant material in the diet is 75% or more the fishes are considered to be herbivorous.
- 2. Detritivorous** : Those feeding mainly on detritus
- 3. Omnivorous** : Those feeding on both plant and animal matter. The food of these fishes consists of varying percentage of plant and animal matter and they form a link between herbivorous and carnivorous fishes.
- 4. Planktivorous** : Feeding mainly on plankton both phyto and zooplankton
- 5. Carnivorous** : Feeding on prey organisms.



Centurion  
UNIVERSITY

Shaping Lives...  
Empowering Communities...

# Food preference

1. Herbivorous : *i.e. Labeo fimbriatus, L. rohita, Ctenopharyngodon idella*
2. Detritivorous : *i.e. Labeo calbasu, Mugil cephalus*
3. Omnivorous : *i.e. Etroplus suratensis, Cyprinus carpio, Tor putitora*
4. Planktivorous : *i.e. catla - zooplankton feeder, silver carp - phytoplankton feeder*
5. Carnivorous : *i.e. Wallago attu, Mystus singhala*



Centurion  
UNIVERSITY

Shaping Lives...  
Empowering Communities...

# carnivorous fishes

- **Insectivorous:** Mainly feeding on insects.
- **Carcinovororous:** Mainly feeding on crustaceans.
- **Malacovororous:** Feeding mainly on molluscs like snails/clams
- **Piscivorous:** Feed on fish other than its own species. But, generally they prey upon small fishes of other species rather than their own .
- **Larvivorous:** Feeding mainly on insect and crustacean larvae/fish larvae.
- **Cannibalistic:** Feeding on the young ones of the same species.



Centurion  
UNIVERSITY

Shaping Lives...  
Empowering Communities...

# Position in water column

- **Surface feeders** : Fishes which live in the surface and feeding mostly on the food available in the uppermost layer of water. e.g. catla feeding on zooplankton and silver carp feeding on phytoplankton.
- **Mid-water or column feeder** : Fishes which live in the mid water or column water and feeding in the middle layer are called mid-water or column feeders. e.g. rohu feeds on plant matter including decaying vegetation.
- **Bottom feeders** : Fishes which live at the bottom and feed on the benthic fauna. e.g. mrigal feeds on detritus and decaying vegetation and common carp on molluscs and chironomids in the bottom mud.
- In composite fish culture, these feeding habits of fishes are advantageous to utilize the available food in water body.



**Centurion**  
**UNIVERSITY**

*Shaping Lives...*  
*Empowering Communities...*

*Thank you*