

PISCES – Migration

1. Introduction to Pisces

Pisces includes all fishes, which are aquatic, cold-blooded (poikilothermic) vertebrates. They respire through gills and possess fins for locomotion.

General Characteristics of Pisces

- Aquatic habitat (marine or freshwater)
- Streamlined body (head, trunk, tail)
- Skin covered with scales
- Respiration by gills
- Two-chambered heart
- Mostly oviparous (egg-laying)
- Lateral line system present

Classification (Brief)

1. **Chondrichthyes** – Cartilaginous fishes
Example: *Scoliodon* (dogfish)
2. **Osteichthyes** – Bony fishes
Example: *Labeo* (rohu), *Catla*

Migration in Fishes

2. Definition of Migration

Migration is the regular, seasonal movement of fishes from one habitat to another for breeding, feeding, or climatic reasons.

It is usually:

- Periodic
- Directional
- Associated with reproduction

3. Types of Migration in Fishes

A. Based on Habitat

1. Anadromous Migration

- Fish live in sea but migrate to freshwater for breeding.
- After spawning, adults may die or return to sea.

Example:

Salmo salar (Atlantic salmon)

Importance:

- Protects eggs from marine predators
- Suitable oxygen conditions in rivers

2. Catadromous Migration

- Fish live in freshwater but migrate to sea for breeding.

Example:

Anguilla anguilla (European eel)

- Adults migrate to the Sargasso Sea for spawning.
- Young larvae return to freshwater rivers.

3. Amphidromous Migration

- Migration between sea and freshwater
- Not directly for breeding
- Occurs during different life stages

- B. Based on Purpose

1. **Breeding Migration** – For spawning
2. **Feeding Migration** – In search of food
3. **Climatic Migration** – To avoid temperature changes

4. Causes of Migration

- Change in temperature
- Availability of food
- Reproductive instinct
- Water currents
- Salinity changes
- Hormonal control

5. Mechanism of Migration

Fishes navigate using:

- **Olfactory sense (smell)**
- **Lateral line system**
- **Sun and stars**
- **Earth's magnetic field**

Example: Salmon recognize their native river by smell.

6. Significance of Migration

- Ensures successful reproduction
- Reduces competition
- Maintains population balance
- Helps in genetic diversity