

General character and classification of pisces

B.SC Honours Part ii

Paper iii A

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Introduction

Pisces are cold blooded vertebrates that breed by means of gills and live in water. Pisces have usually streamlined body but some are elongated snake-like and few are dorsoventrally flattened. They have paired and unpaired fins supported by soft or spiny fin rays.

Characteristics of Pisces

1. They are found in fresh, marine, and brackish water.
2. The body is usually streamlined. Some have a spindle-shaped or elongated body as well.
3. Their body is distributed into a head, trunk and tail.
4. They swim with the help of their tail.
5. Paired and unpaired fins represent the appendages. These help the fish to balance while swimming.
6. The lateral line system functions as a sensory organ to sense the disturbances in the nearby environment.
7. The body is covered with thick-seated scales, which helps by providing protection to the internal organelles.
8. The gills help in respiration.
9. Closed type blood circulation is observed.
10. The internal skeleton is bony or cartilaginous.
11. These are cold-blooded organisms.
12. They may be herbivores or carnivores, oviparous or ovoviviparous.
13. The sexes are separate.
14. Fertilization may be external or internal.
15. They lack extra-embryonic membranes.
16. The digestive system is well-developed

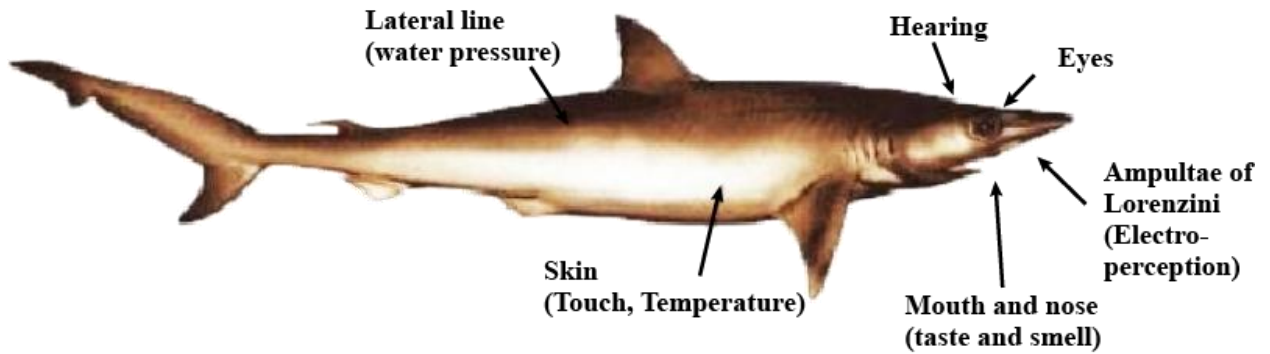


Fig: Torpedo

Classification of Pisces

Pisces are classified into three categories:

- Placodermi (Aphstohyoids)
- Chondrichthyes
- Osteichthyes

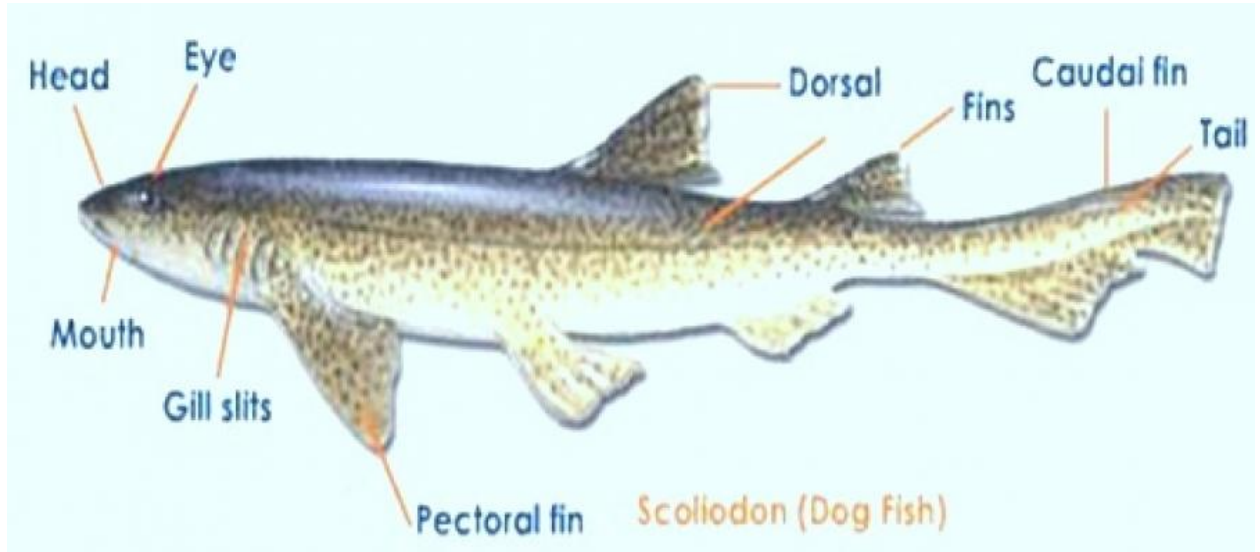
Placodermi (Aphstohyoids)

- All members of this class are extinct today.
- Their exoskeleton is in the form of shields and the endoskeleton is bony.
- These fish exhibit autodiastylic jaw suspension.
- They survived until the end of the Devonian period.
- The heterocercal caudal fin is present.
- Eg., Climatius, Bothriolepis

Chondrichthyes

- These fish are found only in the marine environment.
- The exoskeleton is like placoid scales.
- The endoskeleton is cartilaginous.
- The jaw suspension is amphistylic.
- Gills are the respiratory organs.
- The caudal fin is heterocercal.
- Claspers are the reproductive organs in males.
- These fish do not have air-bladders.
- These are divided into two sub-classes:
 - Selachi
 - Bradyodonti

- Eg., Heteroloatas, Scoliodon



Osteichthyes

- These fish are found in marine water, freshwater or brackish water.
- They have a bony endoskeleton.
- Autostylic jaw suspension.
- They have no daspers.
- The gills are covered with an operculum.
- The air bladders are present in most of them.
- They are further divided into two sub-classes:
 - Crossopterygii
 - Actinopterygii
- Eg., Proptopterus, Lepidosiren

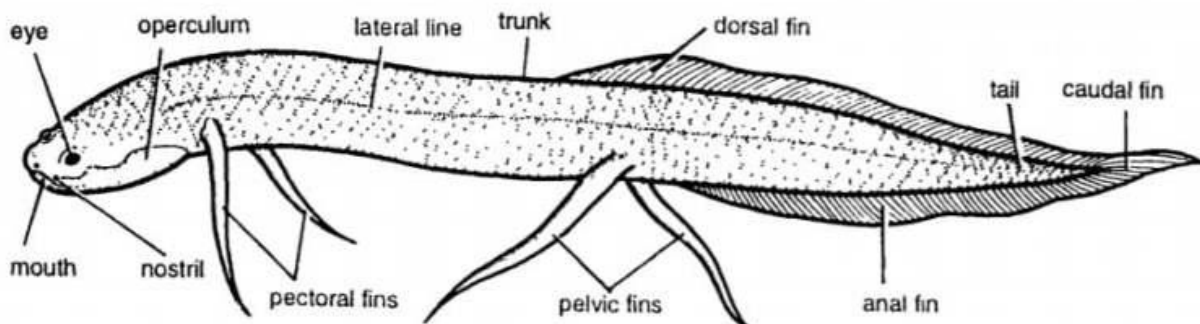


Fig: Lepidosiren

