

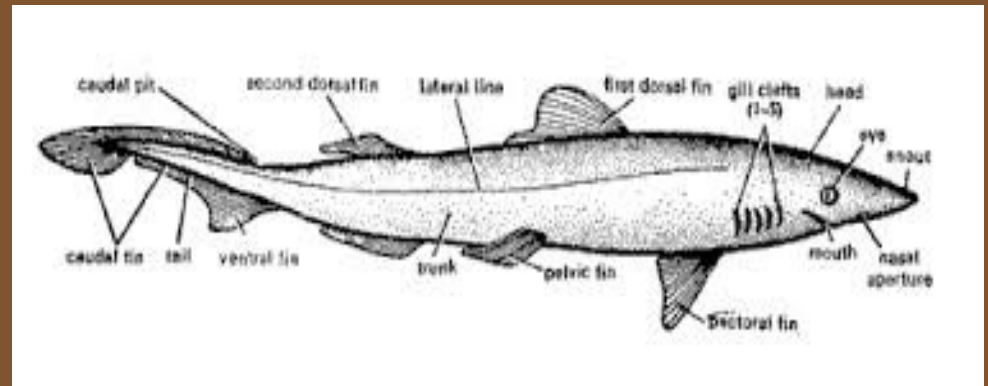
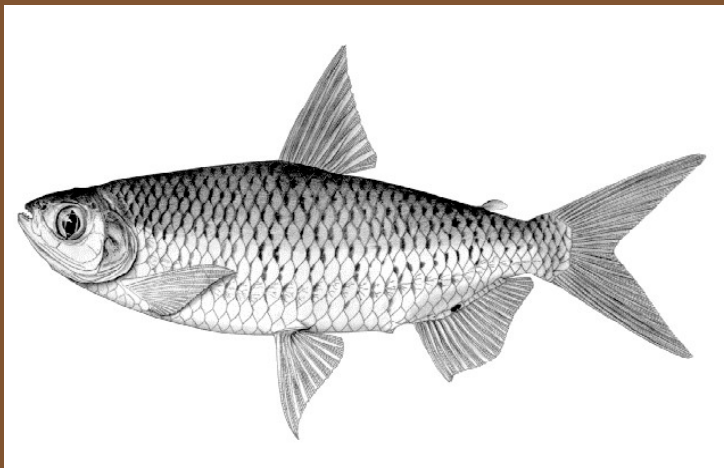


2. Pisces

Out line classification and general characters.

Dr. Laxmikant Shinde

“Fish is cold blooded aquatic animals which respire with gills and locomotion with fins.”



There are about 45000 living species of fishes in the world.

- ❖ They are aquatic, cold blooded vertebrates.

- ❖ Respiration is carried out by gills.

- ❖ The appendages are in the form of fins.

- ❖ The nostrils do not open in to pharynx.

- ❖ The jaws are hinged.

- ❖ The scales are in dermal in origin.

- ❖ Ears are mainly for equilibrium

- ❖ Sexes are separate.

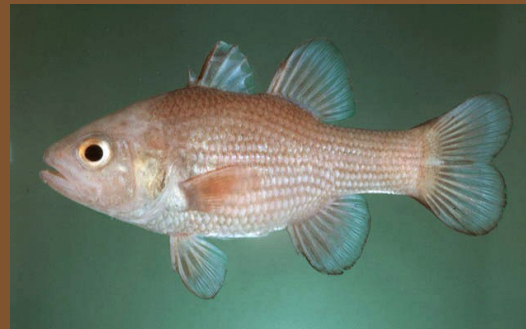
- ❖ Lateral line sense organ is present.

- ❖ The eyes are situated to vision in water.
- ❖ The heart is venous.
- ❖ The body muscles are well developed for locomotion.
- ❖ The alimentary canal is well developed.
- ❖ The kidneys are mesonephros.
- ❖ The cranial nerves are in ten pairs.
- ❖ The sexes are separate. The gonads are paired.
- ❖ Fertilization may be internal or external.

❖ The notochord is replaced by vertebrae.

Fishes are classified into three Classes,
they are as

- Placodermi
- Chondrichthyes and
- Osteichthyes

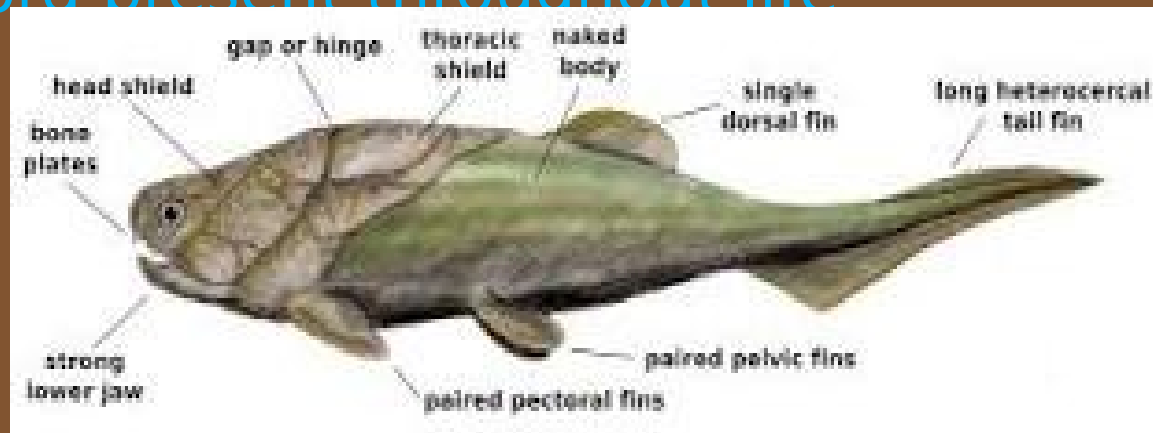


Sr. No.	Class	Sub class	Super order	order
01	Placodermi	-----	Extinct	<i>Ex. Climatius</i>
02	Chondric hthys	Selachii	-----	Squaliformes or Pleurotremata
				Batoidea or Hypotremata
		Brachyodonti		Eubranchydonti
				Holocephali

03	Osteichthys	Actinopterygii	Chondrostei	Polypteriformes
				Acipenseriformes
			Holostei	Amiiformes
				Lepidostiformes
			Teleostei	Clupiformes
				Ostario physic
				Ophiocephaliformes
				Anquilliformes
				Beloniformes
				Syngnathiformes
				Perciformes
				Pleuronectiformes
				Tetradontiformes
				Echeiniiformes
				Lophiiformes
		Sarcopterygii		Crossopterygii
				Dipnoi

CLASS- I PLACODERMI

- ✓ These are extinct fish. They flourished from early Devonian to Permian periods.
- ✓ Body was typically fish like
- ✓ They had a bony armour like the ostracoderms
- ✓ Jaws were not properly formed
- ✓ Paired and unpaired fins were present
- ✓ Cranium was partly ossified
- ✓ Vertebral column has neural and haemal arches
- ✓ Notochord present throughout life



Class –Placodermi is divided into 6 sub classes or order

SUB-CLASS 1: ACANTHODII

Example : Clamatus

SUB-CLASS 2: ANTRHODIN

Example : Cocosteus

SUB-CLASS 3: PETALICHTHYIDA

Example : Macropetalichthys

SUB-CLASS 4: ABTIARCHI

Example : Pterichthyodes

SUB-CLASS 5: RHENANIDA

Example : Gemuendina

SUB-CLASS 6: PALAEOSPONDYLA

Example : Palaeospondylus

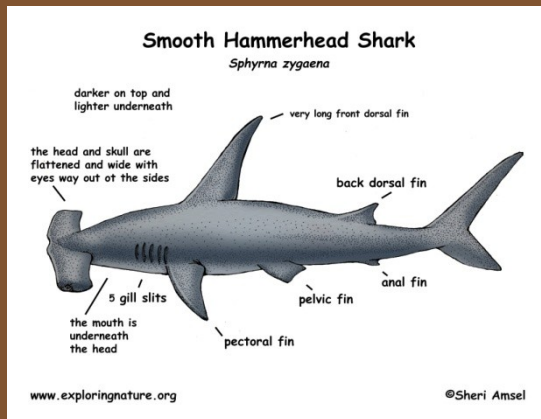
Class II: CHONDRICHTHYES

Chondrichthyes includes sharks, skates and rays.

These fishes are cartilaginous and marine.

Chondrichthyes possess the following characters;

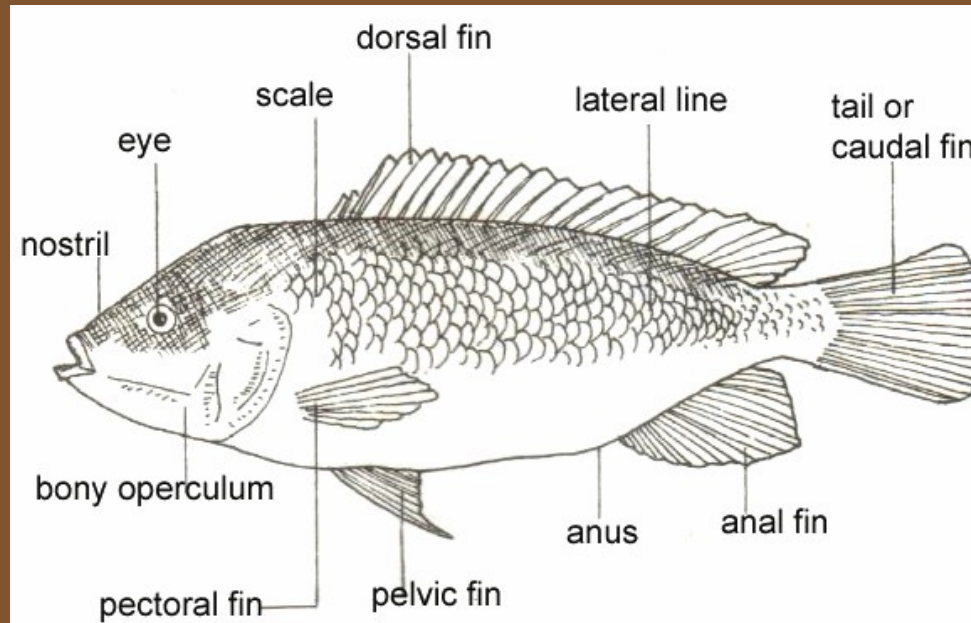
- Body is laterally compressed and spindle shaped
- Paired and unpaired fins are present



- Endoskeleton are entirely composed of cartilage , sometimes calcsified
- Exoskeleton consist of dermal denticals or placoid scales
- There are five pairs of gill clefts without cover.
- Tail or Caudal fin is hetro-circle.
- Jaw suspemsion is holosylic , amphistylic or hyostylic
- Gills are never covered opercula except some
- No lungs or air bladder exist
- Male usually have clasper
- They may be oviparous, ovo-viviparous or viviparous

Class: Osteichthyes;

- Skeleton made from bone.
- Skin with many mucous glands with embedded bony dermal scales (Cycloid, ctenoid and ganoid).
- Usually mouth terminal.
- Tail homocircle.



- An air bladder present.
- External nostrils are open into mouth cavity.
- Fertilization external.

This class is divided into two subclasses and seventeen orders.

Subclasses:

- Actinopterygii and
- Sarcopterygii (Choanichthytes)

