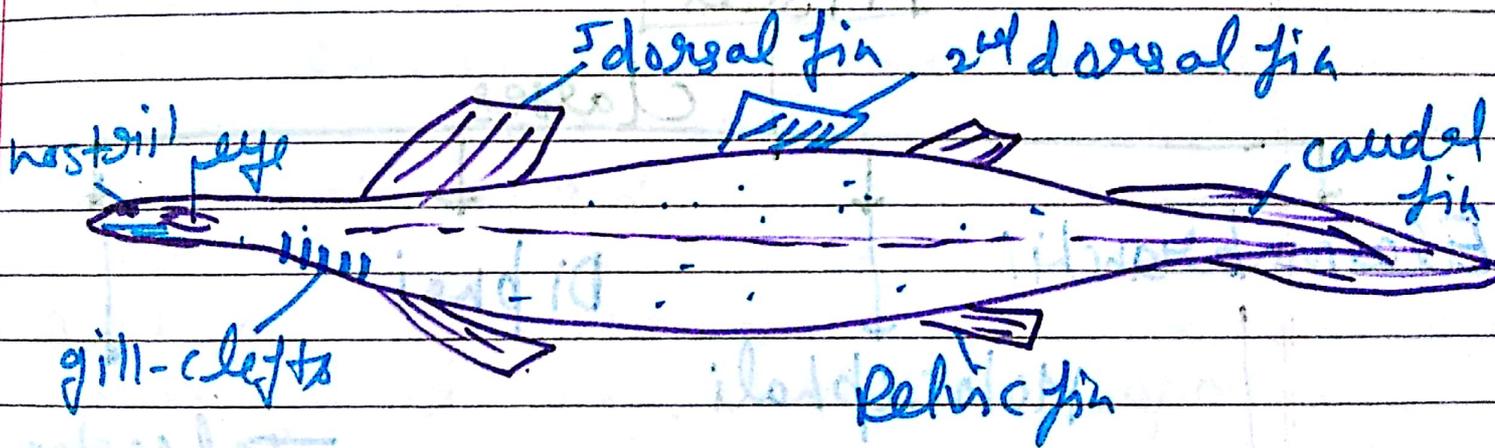


PISCES

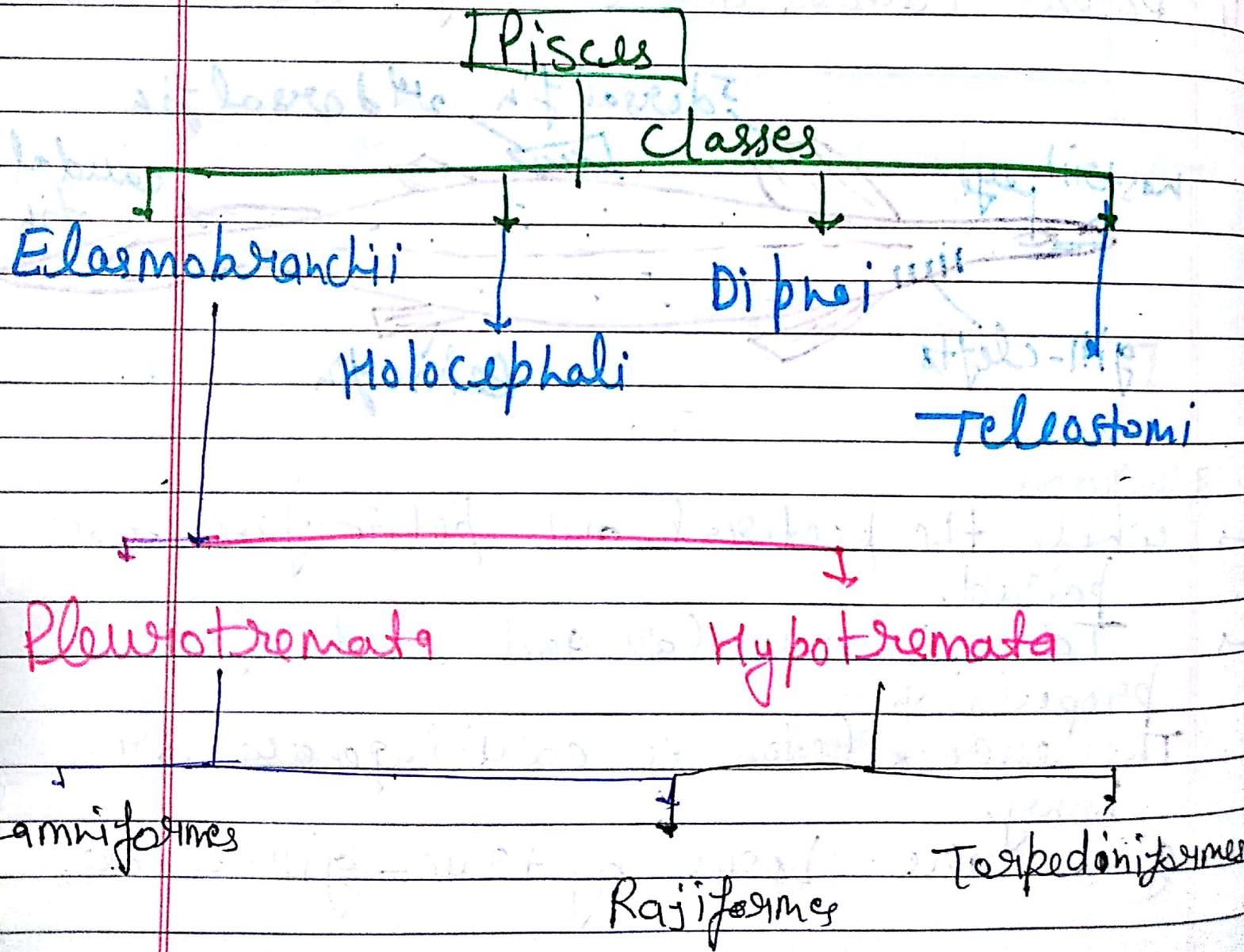
General characters-

1. Aquatic, either fresh-water or marine. cold blooded vertebrates.
2. The skin is covered with scales, dermal denticles or horny plates.
3. Body usually stream-lined but some are elongated snake-like and few are dorso-ventrally compressed.
4. Dorsal, caudal and anal fins are unpaired,



- while the pectoral and pelvic fins are paired.
- Tail is muscular and used for propulsion.
- The endoskeleton is cartilaginous or bony.
- gills are borne by three-gill-arches.

- A swim bladder or air bladder is usually present.
- Lateral line system is well developed.
- Heart is venous and two chambered.
- Ten pairs of cranial nerves are present.
- Sexes are separate and development is indirect.



24 Sphyrna

Classification :

Phylum	...	Chordata
Group	...	Vertebrata
Subphylum	...	Gnathostomata
Series	...	Pisces
Class	...	Elasmobranchi
Subclass	...	Selachii
Superorder	...	Pleurotremata
Order	...	Lamniformes
Genus	...	<i>Sphyrna</i>
Species	...	<i>zygaena</i>

} Characters same as those of *Scoliodon*.

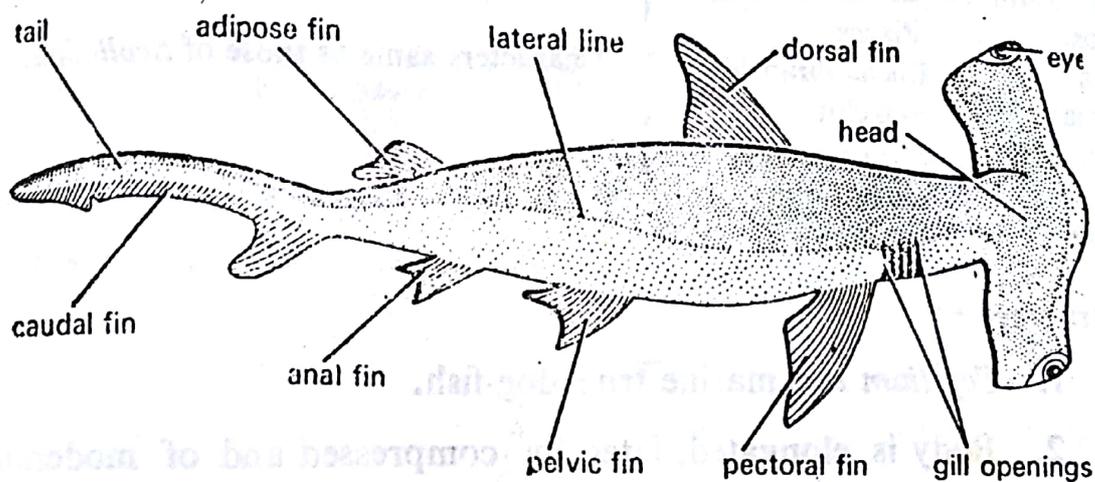


Fig. 79. *Sphyrna zygaena*.

Characters :

1. *Sphyrna* is a marine shark, commonly called as **hammer-headed shark**.

2. Body is elongated, measuring about 4—5 metres in length.

3. The head is flattened in front and expanded sideways into two conspicuous lateral lobes, hence resembling a hammer.

4. The eyes lie at the tips of lateral lobes. Eyes with 3 eyelids and nictitating membrane.

5. Mouth is crescentic and ventral in position.

6. Nostrils lie ventrally at the base of lateral lobes.

7. Five pairs of lateral-gill slits are present.

8. Two dorsal-fins are present. The first dorsal fin is situated in front the pelvic fin and the second opposite the anal fin.

9. Spiracles are absent.

10. Vertebrae are asterospondylus.

11. Viviparous.

10. Carnivorous. They catch their prey by covering it in their large pectoral fins.

11. Viviparous.

Geographical distribution : *Myliobatis* is found in tropical and subtropical seas. *Myliobatis nichofii* occurs in the mouth of Ganges and Chilka lake and also along the east and west coasts.

29. **Pristis**

Classification :

Phylum	...	Chordata
Group	...	Vertebrata
Subphylum	...	Gnathostomata
Series	...	Pisces
Class	...	Elasmobranchi
Subclass	...	Selachii
Superorder	...	Hypotremata
Order	...	Rajiformes
Genus	...	<i>Pristis</i>

Characters same as those of *Rhinobatus*.

Characters :

1. *Pristis* is commonly known as **saw-fish**.
2. Body is elongated, depressed and shark-like.
3. It may attain the considerable length of 3—6 metres or even longer.
4. Head and skull prolonged into a long flattened **rostrum**, the lateral margins of which are provided with a series of strong tooth-like denticles giving it the appearance of a saw.
5. No rostral tentacles.
6. Teeth in jaws are minute and obtuse.
7. Spiracles are present behind the eyes.
8. Dorsal fins are large, the first dorsal fin is opposite to the pelvic fin.
9. Tail is well-developed and terminating in heterocercal caudal fin,

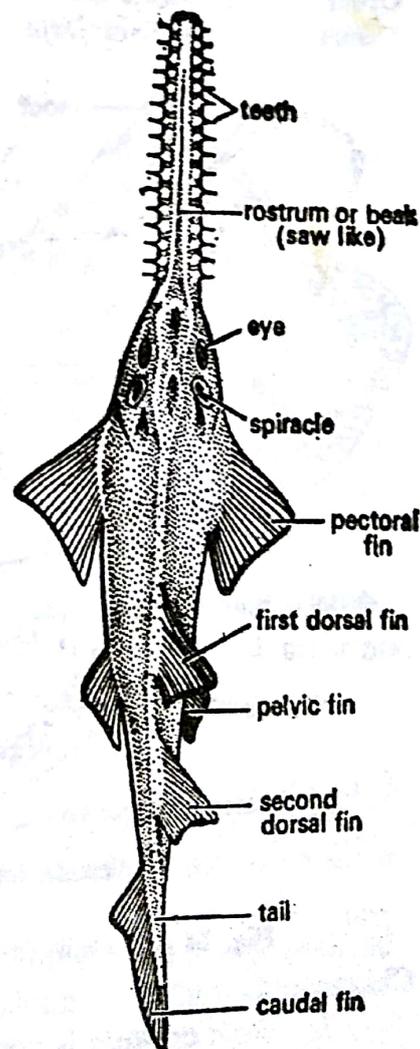


Fig. 83. *Pristis*.

Geographical distribution :
 found in fresh waters of India and Burma.

53. Clarias

Classification :

Phylum	...	Chordata
Group	...	Vertebrata
Subphylum	...	Gnathostomata
Series	...	Pisces
Class	...	Teleostomi
Subclass	...	Actinopterygii
Order	...	Cypriniformes
Division	...	Siluri
Genus	...	<i>Clarias</i>
Species	...	<i>batrachus</i>

Characters same as those of *Polypterus*.

Characters same as those of *Arius*.

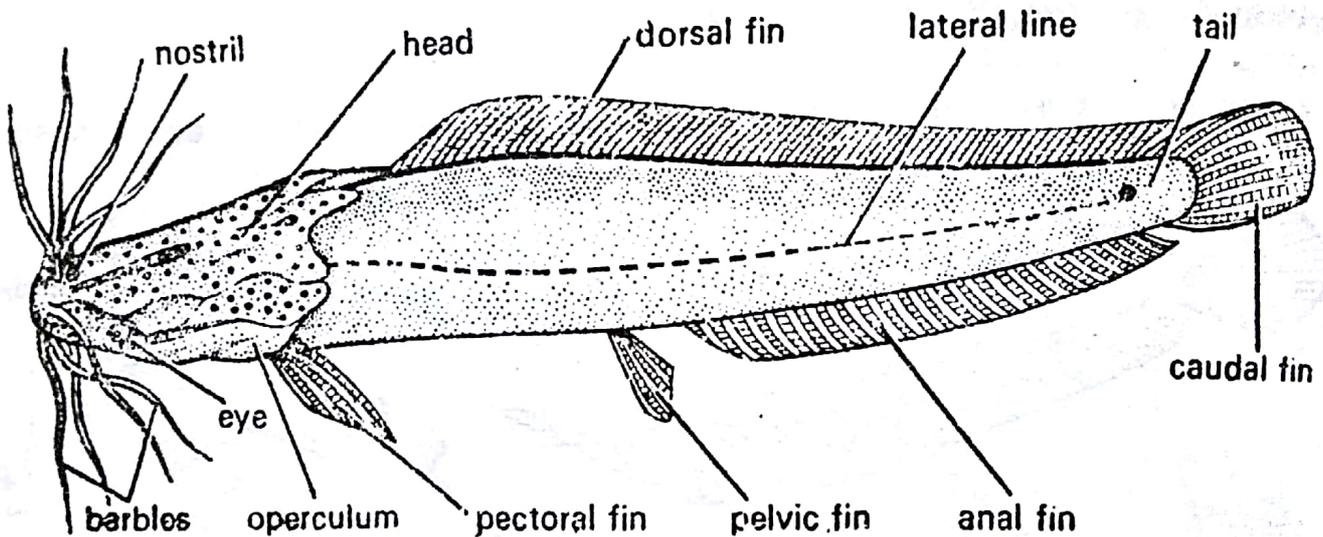


Fig. 107. *Clarias batrachus*.

Characters :

1. *Clarias batrachus* is called as mangri in Hindi.
2. Body is elongated, scaleless and measuring upto 45 cm in length.
3. The general colour of the body is uniform brown or greyish-black.
4. Head depressed with top and sides covered with osseous plates.
5. Sensory barbules are four pairs.

6. Dorsal fin is long and without spines, extending from the neck to the caudal fin.

7. Anal fin also long. No adipose fin.

8. Caudal fin is more or less rounded. Pectoral fins are provided with spines.

9. Accessory respiratory organs are branched tree-like, especially designed to take in oxygen from the air.

10. The air-bladder is connected with internal ear by Weberian ossicles.

11. It is highly nourishing and esteemed as food.

12. It is also used in laboratories for experimental purposes.

Geographical distribution : *Clarias* is found in Africa and South and West Asia. *Clarias batrachus* occurs in fresh and brakish waters throughout India.

54. Wallago

Classification :

Phylum	...	Chordata
Group	...	Vertebrata
Subphylum	...	Gnathostomata
Series	...	Pisces
Class	...	Teleostomi
Subclass	...	Actinopterygii
Order	...	Cypriniformes
Division	...	Siluri
Genus	...	<i>Wallago</i>
Species	...	<i>attu</i>

Characters same as those of *Polypterus*.

Characters same as those of *Arius*.



57 Anguilla

Classification :

Phylum	...	Chordata	}
Group	...	Vertebrata	
Subphylum	...	Gnathostomata	
Series	...	Pisces	
Class	...	Teleostomi	
Subclass	...	Actinopterygii	
Order	...	Anguilliformes	→

Characters same as those of *Polypterus*.

Body elongated eel-like; skin naked or with minute scales embedded in it; dorsal and anal fins are long and narrow and usually confluent behind; pelvic fins, if present, abdominal; fins devoid of spines; air-bladder connected with the intestine.

Genus ... *Anguilla*

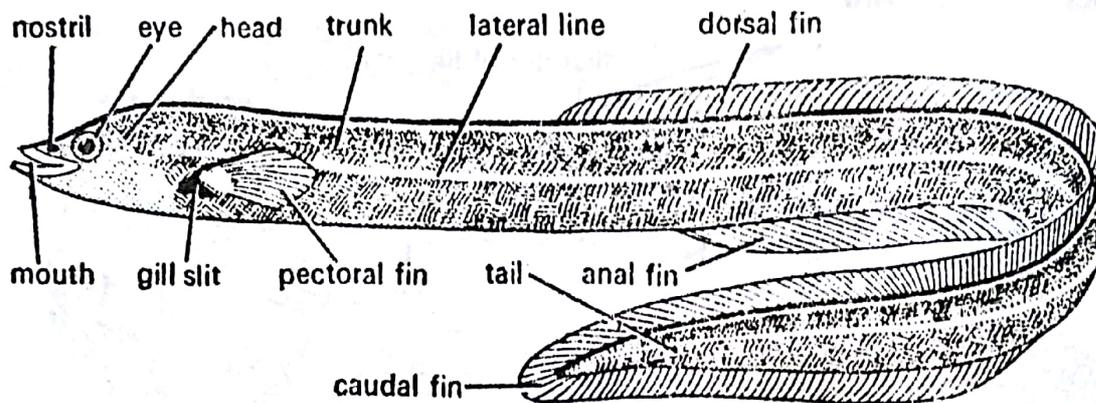


Fig. 111. *Anguilla*.

Characters :

1. *Anguilla* is commonly known as eel.
2. Body is elongated, cylindrical and snake-like.
3. It measures upto one metre in length.
4. Small more or less linear rudimentary scales are embedded in the skin, arranged in small groups which are placed obliquely at right angles to one another forming a curious pattern.
5. The colour is brown on the back and yellowish below.
6. Dorsal and anal fins are long and narrow.
7. Pectoral fin small and pelvic fin is absent.
8. Tail is long and caudal fin is quite large.
9. Fins are supported by rays, spines being absent.
10. Gill-opening is narrow and minute.

Geographical distribution : *Anguilla* is found in Gangetic estuaries, the Bay of Bengal, the Indo-Pacific region to the seas of China and beyond.

Pacific and Indian Oceans.

... is found in Atlantic,

72

Echeneis

Classification :

- Phylum ... Chordata
- Group ... Vertebrata
- Subphylum ... Gnathostomata
- Series ... Pisces
- Class ... Teleostomi
- Subclass ... Actinopterygii
- Order ... Echeneiformes

Characters same as those of *Polypterus*.

→ First dorsal fin is modified into an adhesive-disc for attachment ; scales cycloid ; no spines in second dorsal and anal fins ; air-bladder is absent.

Genus ... *Echeneis*

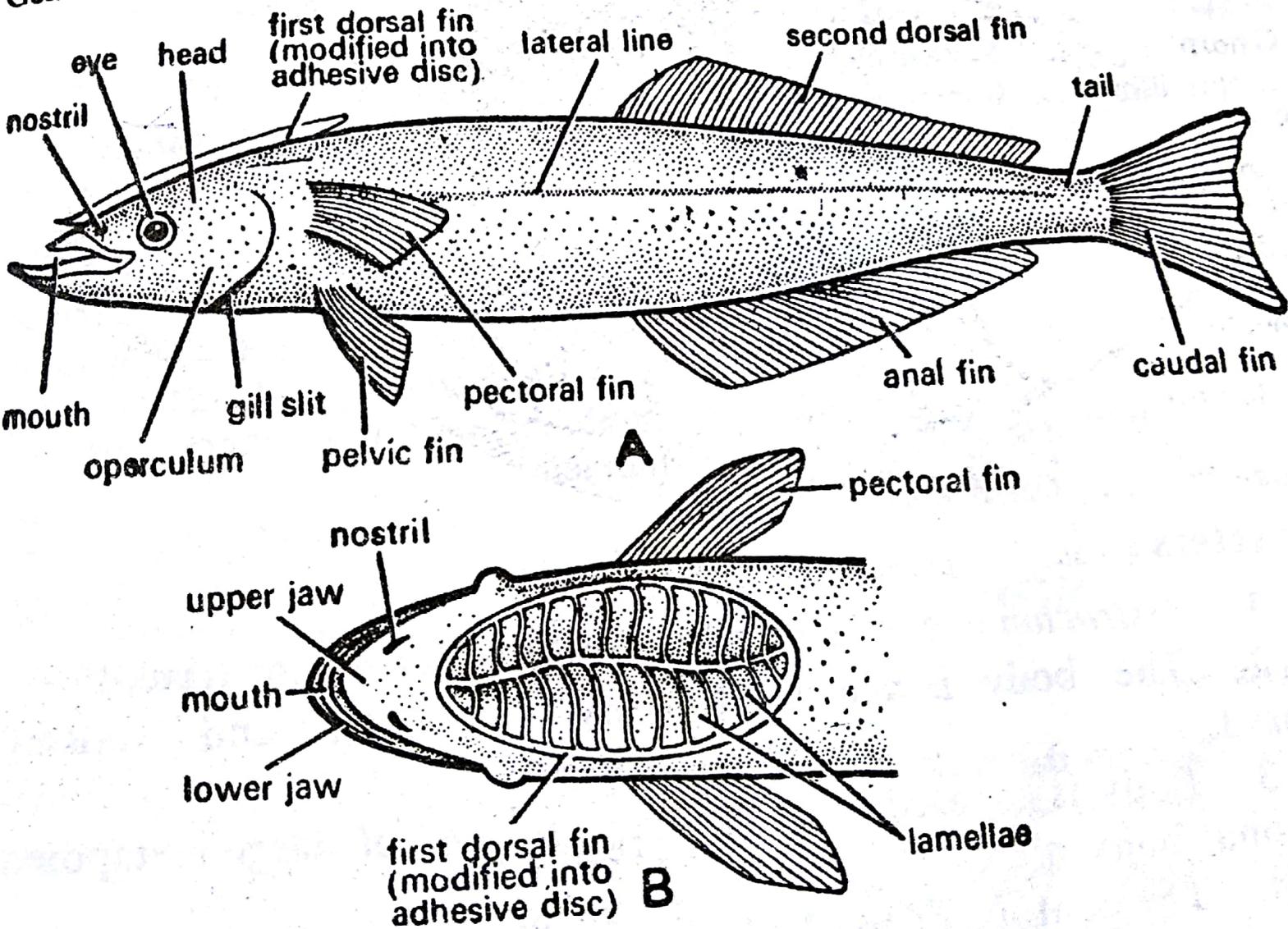


Fig 126. *Echeneis*.
A—Lateral view ; B—Dorsal view of head.

Characters :

1. *Echeneis* is commonly known as sucking-fish.
2. Body is elongated, fusiform and covered with small scales.
3. Head is depressed and furnished above with an adhesive organ.
4. Eyes are lateral in position.
5. Mouth cleft is wide and deep.
6. First dorsal fin is modified into an adhesive disc.
7. Adhesive disc is flat, oval and transversely furrowed and is an effective organ for attachment.
8. Second dorsal and anal fins are elongated without spines and opposed to each other.
9. Tail is homocercal.
10. Air-bladder is absent.
11. It feeds on other fishes and attaches itself by means of its adhesive organ to boats, sharks, turtles, cetaceans and other large swift swimming animals.
12. On the east coast of Africa, it is employed for catching the turtles.

Geographical distribution : *Echeneis* is found in the tropical and subtropical seas including seas of India and China.