

BRANCHIOSTOMA

For- B.Sc. IIIrd Sem Paper I Unit-I

By

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Branchiostoma

Systematic position

Phylum	Chordata
Subphylum	Cephalochordata
Class	Leptocardii
Genus	Branchiostoma

Habit and Habitat

- Marine animal found in shallow brackish and salty water.
- It live in burrow and most of time it found project it's anterior end from above the borrow.
- Branchiostoma is a ciliary feeder animal feeds on planktonic microorganisms.

External features

- Branchiostoma is a fish like animal it's posterior end is more tapering and pointed than the anterior end.
- It's body size is about 5-8 cm and it's body colour is creamy white.
- Body of Branchiostoma is divided into two parts it's anterior longer part is trunk and shorter is the tail.
- Branchistoma have no true head it's anterior end of trunk project to form a pointed snout or rostrum.
- Trunk bears three openings i.e. mouth, atriopore and anus.
- Mouth is wide anteroventral aperture bordered by oral hood .Oral hood is formed by dorsal and lateral projections of the body.
- Atriopore is a small mid ventral circular opening lie just Infront of the ventral fin. Atrial cavity open outside through this pore.
- Anus is a small aperture situated some what near the left mid ventral line at the base of the caudal fin.
- Behind the anus posterior region of the body called tail. Tail is surrounded by caudal fin.

Fins and folds

- It bears three longitudinal median unpaired fins i.e. dorsal, ventral and caudal fin.
- Dorsal fin runs as low mid dorsal fold along the entire length of trunk and join the caudal fin. Caudal fin surrounded the tail and ventral fin runs from caudal fin upto atriopore along the posterior trunk region.

- Ventral fin is slightly wider than the dorsal fin. Both dorsal and ventral fin internally supported by small rectangular finray boxes. Finrays are absent in caudal fin.
- Branchiostoma also have two hollow membranous metapleural folds. These folds helps preparation of burrow in sand.

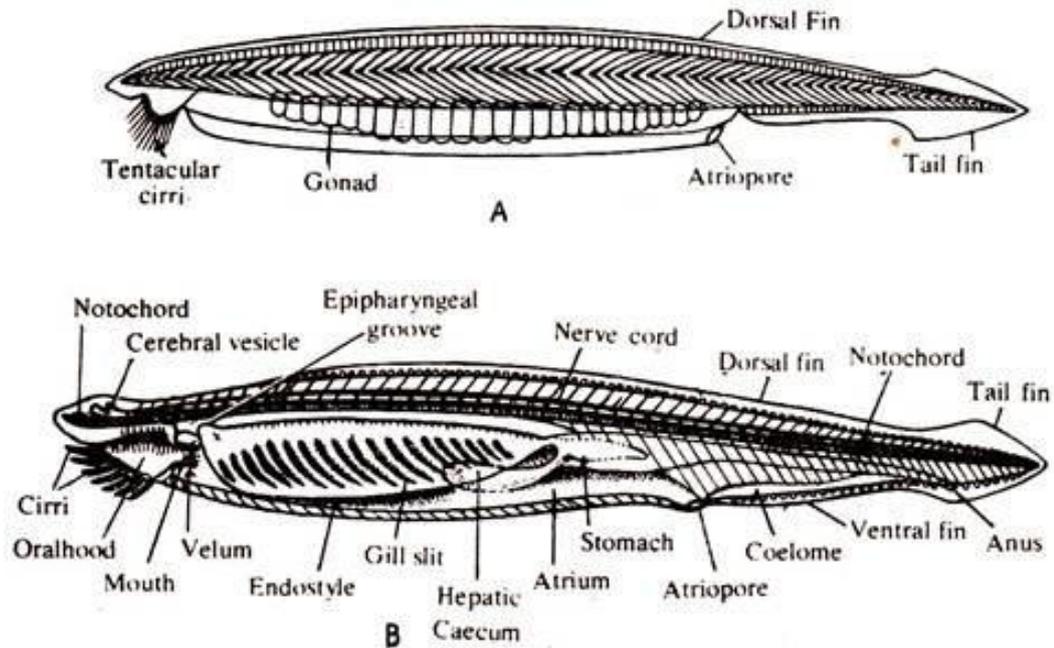


Fig. 1 . *Branchiostoma* sp. A. Lateral view (internal structure)

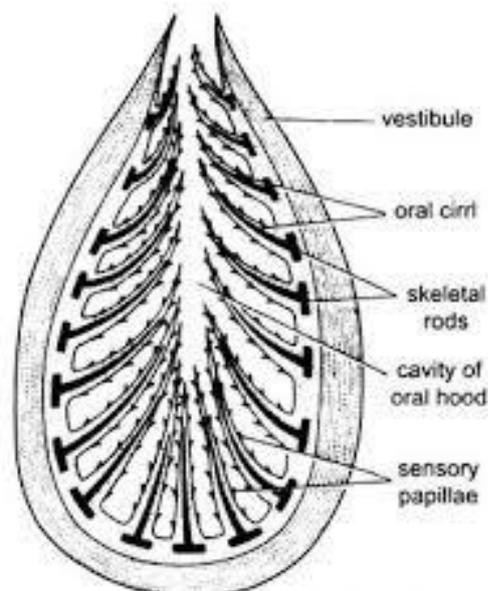


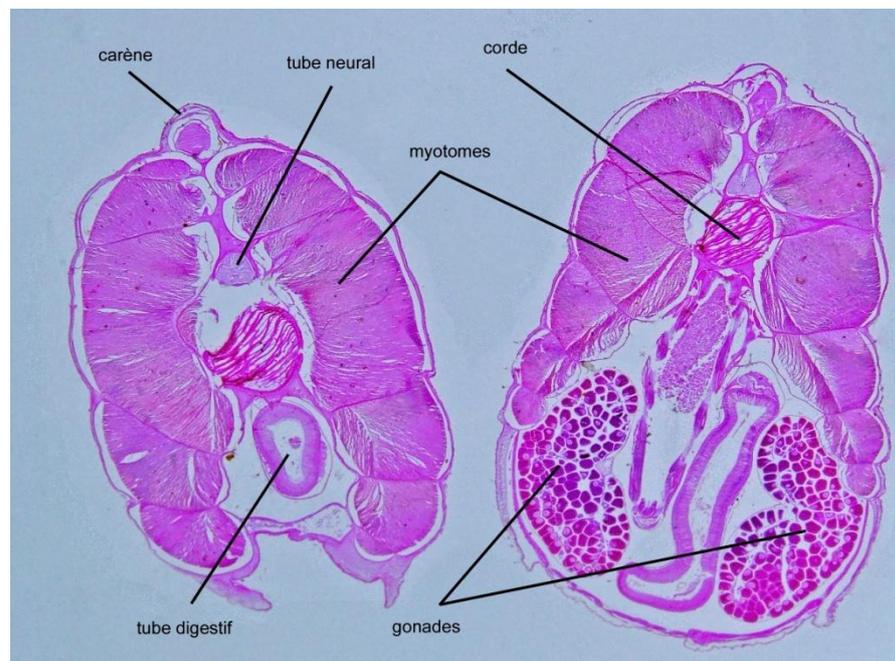
Fig. 6.10. *Branchiostoma*. Oral hood.

Myotomes and gonad

Myotomes are V shaped muscle bands present on each lateral side of the body. A series of gonads present between mouth and atriopore. An adult Branchistoma has 26 to 27 pairs of similar gonads.

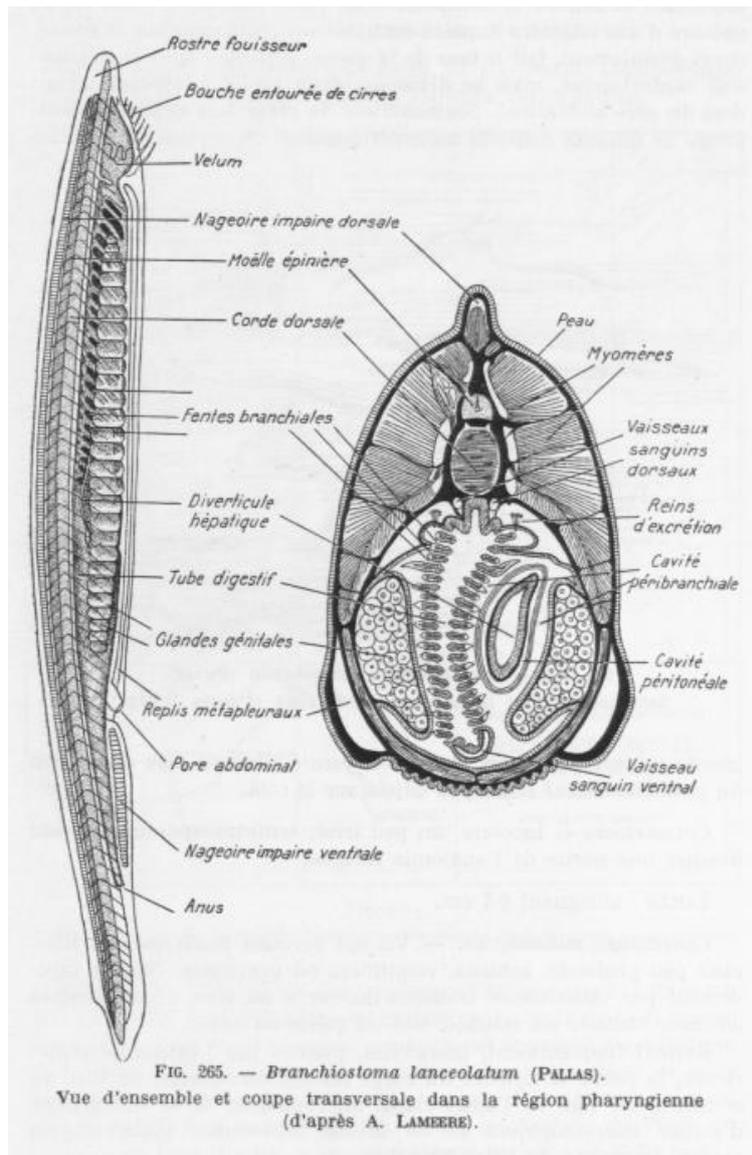
Body wall

- It's body wall comprises a thin transparent skin, well developed musculature and peritoneum.
- Skin consist of an outer thin epidermis made up of single layer of columnar epithelial cells underlying a basement membrane. Upper surface of epidermis has thin nonpigmented chitin like cuticle.
- Musculature is the greater part of the body wall present benrath the skin. It is thick in dorsolateral region which encloses nervecord and notochord. V shaped muscle bands also present throughout the body called myotomes. Many transverse bands running across the ventral surface of the trunk between the metapleural folds, it's construction help in driving water in atrial cavity.
- Muscle layer internally lined by a thin layer called peritoneum.



Skeleton

Exoskeleton is lacking but endoskeleton is present which is neither bony nor cartilagenous . It includes notochord, fin ray boxes, oral ring, gill rods and endostylar plates.



Coelom

- Branchiostoma is enterocoelic animal. Coelom is filled with lymph like coelomic fluid. In the right side of the midgut coelom is reduced by atrial cavity.
- A pair of dorsal longitudinal coelomic canals are present on either side above the pharynx.
- A midventral longitudinal subendostylar coelomic canals run below the endostyle.
- A small space present within the gonads are called gonocoel.

- Atrium is a large cavity formed by a pair of metapleural folds it surrounds pharynx and protect it. Atrium open outside through atriopore.

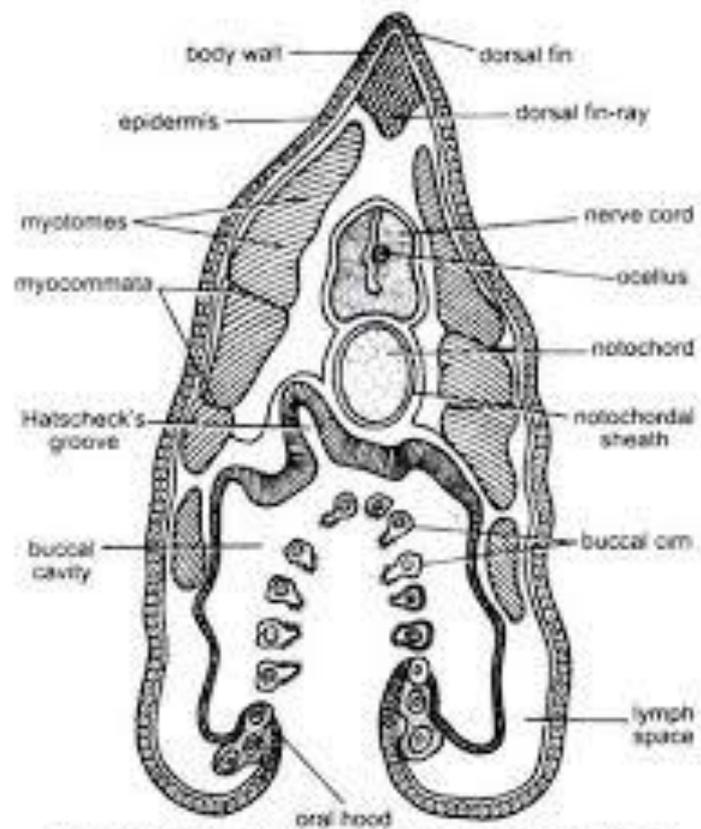


Fig. 6.18. T.S. of Branchiostoma through oral hood.