

# **Amphioxus: General characters and external features**

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## **Systematic Position:**

**Phylum- Chordata**

**Sub-Phylum-Cephalochordata**

**Class-Leptocardii**

**Order-Amphioxiformes**

**Type-Branchiostoma/Amphioxus**

Amphioxus ,the lancet was first discovered by Pallas in 1778.it has world -wide distribution from the Mediterranean to the North sea , in the Atlantic coast to America and in the Indian Ocean.

Branchiostoma dwells in the shallow waters of tropical and semitropical seas and has apparently retained a great many relatively simple features, despite the fact that it has probably evolved a long way from the actual ancestors of chordates. These animals are most active at night.

## **External Features of Branchiostoma/Amphioxus:**

1. Branchiostoma is a transparent, fish-like animal occurring near the shore, burrowing in rocks.
2. The body of Branchiostoma is narrow, 2.5-5.8 cm long, laterally compressed and pointed at both the ends. The anterior two-thirds of the body is triangular in cross section.

Along the mid-dorsal line a dorsal fin extends the whole body length. It is joined posteriorly to a somewhat broader caudal fin around the tail (Fig.1A).

4. A ventral fin is situated mid-ventrally running from the caudal fin to a median opening, the atriopore.

5. The muscles of Branchiostoma are arranged in sixty two V-shaped segments or myotomes.

**6. Three unpaired apertures are present:**

(a) The mouth overarched by the median, ventral oral hood, and fringed with tentacle-like cirri. (Fig. 1B).

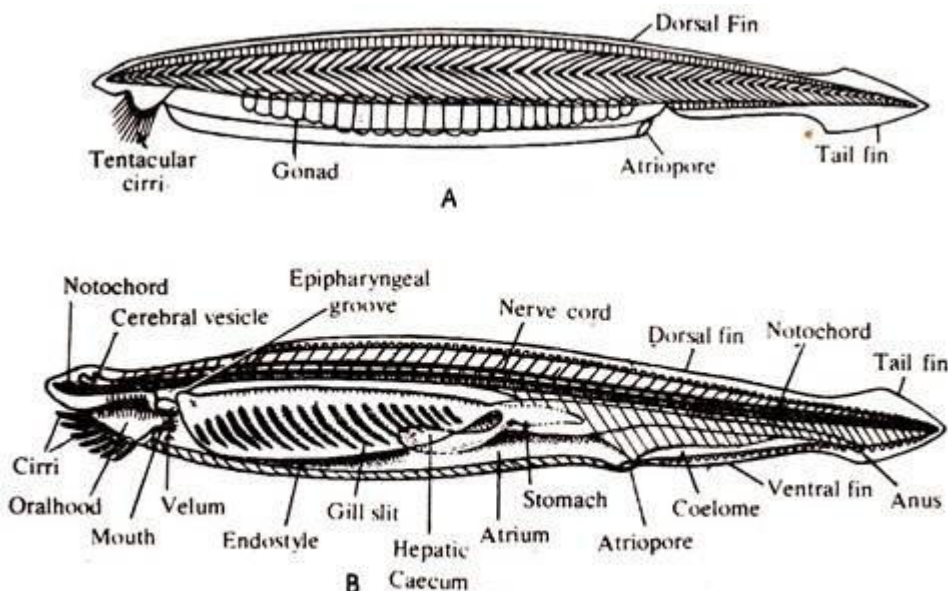


Fig. 1 . *Branchiostoma* sp. A. Lateral view  
(internal structure)

(b) The atriopore in myotome thirty six to expel water from the pharynx which enters through the mouth.

(c) The anus, ventral and slightly to the left behind the atriopore but at some distance from the posterior end of the body.

7. The notochord of Branchiostoma is a flexible, unsegmented rod, pointed at both the ends and runs from one to the other end of the body.

8. The pharynx is supported by gill-rods, which border the numerous gill slits.
9. The intestine of Branchiostoma is straight and without any loop.
10. The liver diverticulum is simple in Branchiostoma.
11. The circulatory system of Branchiostoma is ill developed. A definite heart is absent but the ventral or the branchial artery is rhythmically contractile.
12. The blood of Branchiostoma is colourless. A few amoeboid cells are present in it.
13. About ninety pairs of segmentally arranged nephridia are present on the dorsolateral walls of the pharynx.
14. The dorsal nerve cord is shorter than the notochord, above which it lies.
15. A definite brain is absent although anteriorly the central canal of the nerve cord widens to form the so-called cerebral vesicle.