

B.Sc First year Zoology (Honours)

Paper-1

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Lecture-1

Foot of Phylum Mollusca: Origin, Structure and Modifications

Meaning and Origin of Foot:

Phylum Mollusca is characterised by the pronounced development of musculature known as the foot. It is the locomotory organ in Molluscs. This organ is quite uncommon and strange to others. It is regarded as the remnant of the 'dermo-muscular tube' of the ancestral form whose ventral side became greatly developed as an adaptation for creeping movement and the dorsal portion became degenerated.

Origin:

In Mollusca, the foot originates at first as the ventral or ventro-lateral elevation of the ectodermal cells behind the mantle emerging in Veliger and some other larval forms, later the mesodermal cells incorporate to give it a definite shape.

The foot and its associated structures are innervated by the pedal ganglia and pedal nerve cord.

Depending on different modes of locomotion and living in varying environment, the foot in Molluscs varies greatly in shape and form. Variation of foot is primarily due to various physiological activities like creeping or crawling, burrowing, leaping, looping, swimming, reproduction, etc. Besides these, in parasitic and sedentary forms, the modification of foot occurs in the form of sucker, byssus apparatus, etc.

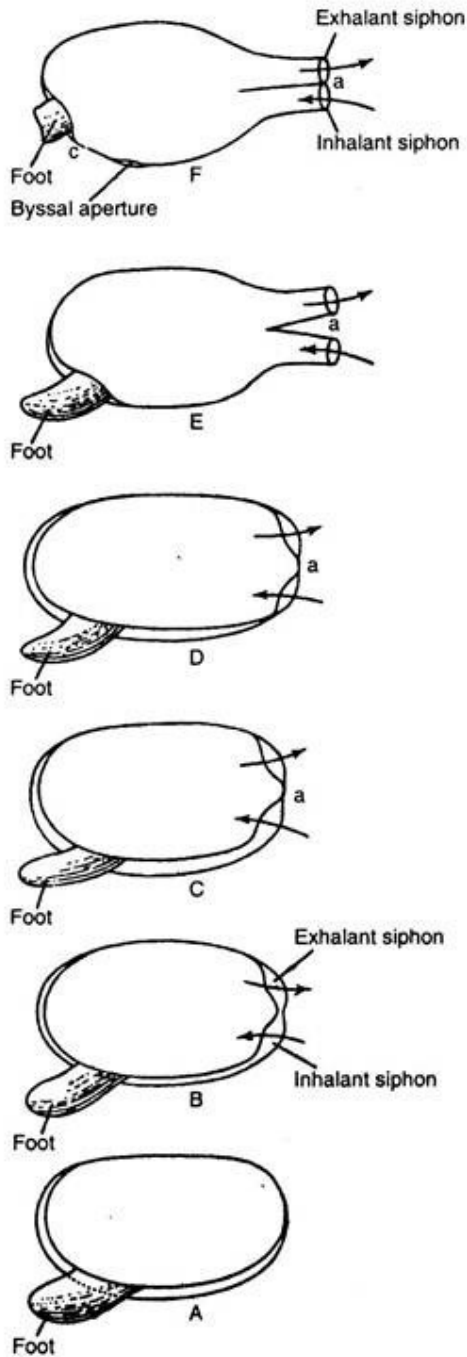


Fig. 16.63: Diagrammatic pictures showing the stages (A-F) of fusion of mantle lobes in different bivalves. a = first indication of union of siphons. b = point of fusion between inhalant siphons. c = point of fusion between foot and byssal aperture.