

UNIO (=LAMELLIDENS) – THE FRESHWATER MUSSEL

Unio is a bivalve mollusc that inhabits freshwater rivers and ponds and lakes. It burrows in a furrow in sand with the help of a hatchet-shaped foot, keeping the inhalant and exhalant siphons above the sandy surface for maintaining a current of water. It is a filter feeder of planktons which are trapped by the specially modified gills.

The bivalve shell is held together by anterior and posterior adductor muscles and it can be opened by retractor muscles. Protractor muscle moves the foot while burrowing. Just below the two valves of the shell there are flap-like mantle lobes on either side which provide insulation between the hard shell and soft body. Mantle is also respiratory in function. Gills or ctenidia are large and made of two gill plates on either side of body under the mantle flaps. They are respiratory as well as food gathering in function.

DIGESTIVE SYSTEM

Unio is filter feeder and traps planktons by the enlarged sieve-like gills plates or demibranchs. Water current enters the mantle cavity through the inhalant siphon and moves upwards through the gills to the suprabranchial chamber. Gills are coated with mucous which traps the planktons on the gill surface. Movement of cilia on the gill surface pushes the food particles downward into the food groove present on the lower margin of gill lamina. Inside the food groove the food is constantly pushed forward towards the mouth where two pairs of feeding palps sort out the sand particles from the mucous cord and push the food and mucous into the mouth.

The stomach is bag-like with ciliated lining and a crystalline style that rotates at the bottom, churning the food and mixing it with the digestive juices. Digestive gland is dark brown to greenish in colour and surrounds the stomachs and opens into it through many ducts.

The intestine is coiled and passes through the gonad and pericardial cavity to end in rectum that opens by anus at the base of the exhalant siphon. Rectum carries a typhlosole to increase the absorptive area. Most of the digestion and absorption takes place in the intestine.

Intracellular digestion also takes place in the digestive gland by wandering amoebocytes.