

Fig - (A) Branchial vessels and four stigmatic areas in a portion of pharyngeal wall of Herdmania (B) one stigmatic area.

Midgut: The midgut is formed of stomach. The stomach is thin walled wide tube. It leads into intestine.

Hindgut: The hindgut is formed of an intestine, a rectum and an anus. The intestine is thin wall tube. The intestine leads into the rectum. The rectum is a short curved tube. It opens into atrium through an anus. The atrium opens to the exterior by the atrial aperture.

Digestive glands: - Two types of digestive glands namely liver and pyloric glands are found in Herdmania.

Liver: Around the stomach chocolate coloured gland is present called liver. It consists of two lobes. Small ducts arise from the liver and they open into the stomach. Liver produces digestive enzymes.

Pyloric glands: In the wall of stomach, intestine and rectum, the tubules of highly branched pyloric glands lie imbedded. The tubule joins together to form a common ducts which open into the intestine. The pyloric gland combines the functions of pancreas and excretory organ.

Physiology of Digestion:

The food consists of micro-organisms such as protozoans, fragments of decaying animals, algae etc.

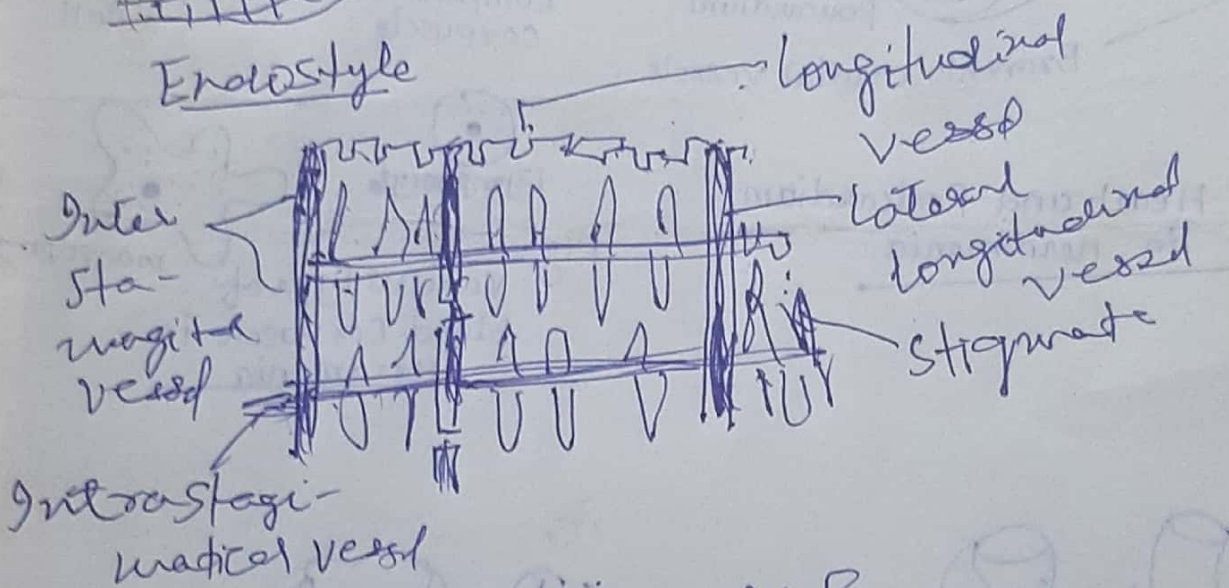
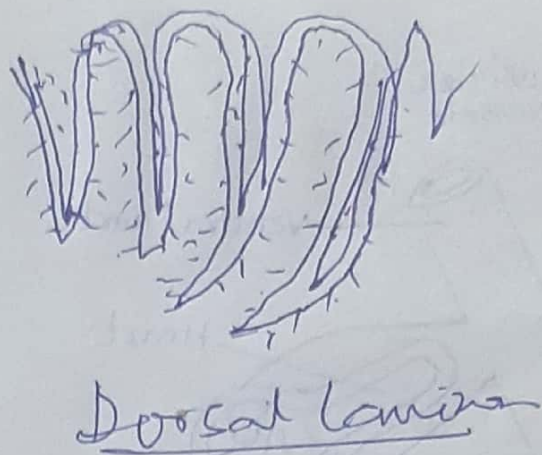
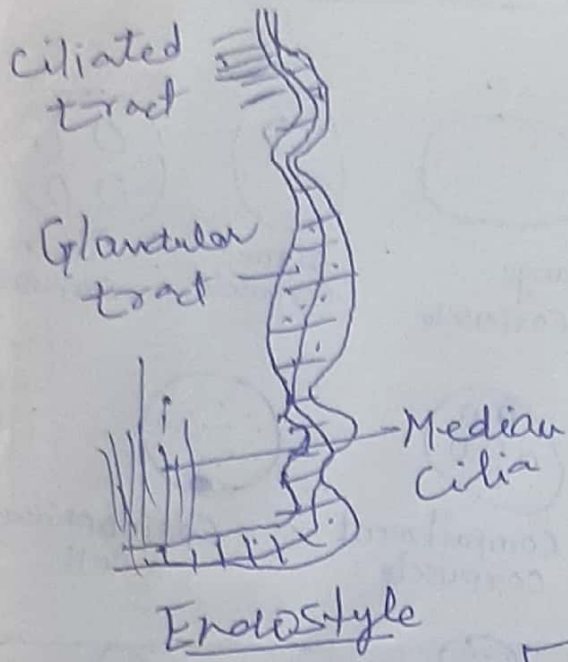


Fig - Branchial vessels & four stigmatic areas in a portion of pharyngeal wall.

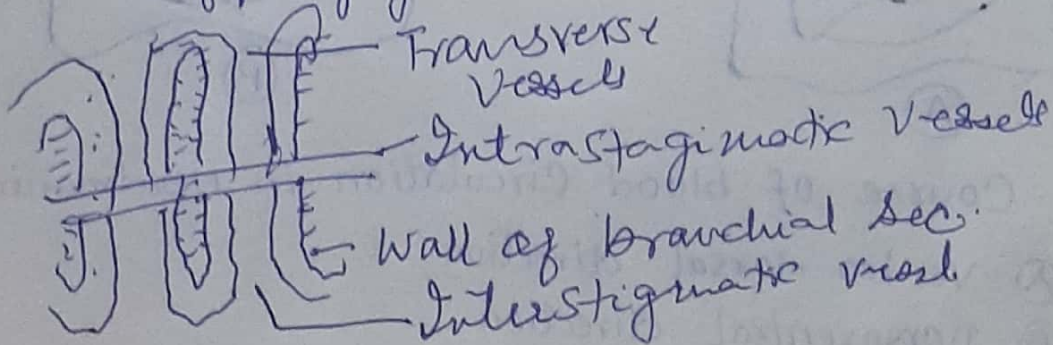


Fig - One stigmatic area

## Feeding Mechanism:

Hydra is a ciliary feeder. A water current is created by the beating of the cilia of the stigmata. The water currents enter the pharynx through the buccal aperture and stomach. From the pharynx water current passes into the atrium through the stigmata and goes out through the atrial aperture. The cilia of stigmata prevents the escape of microorganism (food) through the outgoing water current and the food is retained inside the buccal sac.

The mucous gland cells of endostyle secrete mucous to trap food particles. The cilia of endostyle drive the food-laden mucous thread towards the lamina.

## Digestion:

Inside the stomach the digestive enzymes of liver and pyloric gland mix with the food and bring about digestion. The secretion of liver contains the enzymes like amylase, protease and lipase; digesting starch, protein and lipid respectively.

The intestine receive the secretion of pyloric gland and the digestion is completed in the intestine. Absorption takes place chiefly in the intestine. Undigested residue pass out through rectum, anus and atrial pore.

