

FASCIOLA HEPATICA (LIVER FLUKE)

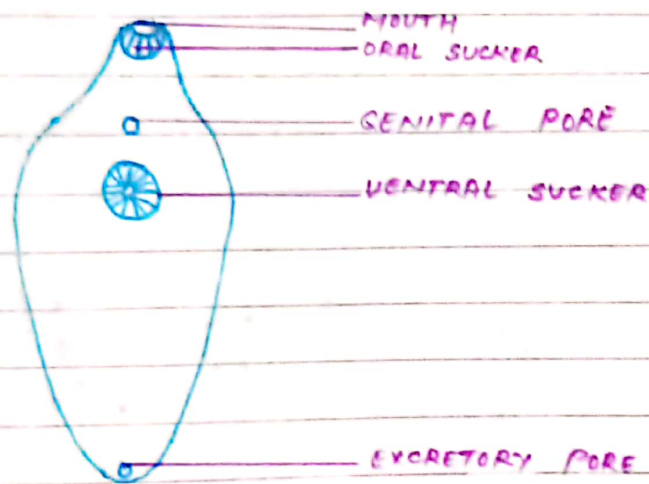
INTRODUCTION — The "TREMATODA" is one of the biggest assemblage of the parasite worms. The trematodes infect the human being as well as the domestic animals. Among the parasites of the domestic animals, fasciola hepatica is the most common. It is found in the bile duct of the sheep. Fasciola hepatica was first of all discovered by Tchan di-Brie (1879).

SHAPE — The body is oval in shape flattened and leaf like. The anterior end is more round and broader than posterior end. The posterior end is narrow. The anterior end of the body is distinguished into a conical projection known as the oral cone or head lobe.

EXTERNAL FEATURE —

- (i) At the extreme anterior end there is a small opening known as the mouth which is surrounded by muscles arranged in radial manner and forming a cup like depression. This muscular structure is known as the oral sucker or the anterior sucker.
- (ii) At the distance of about 3-4 mm. from anterior end there is another large saucer shaped ventral suckers or acetabulum. Some times it is known as posterior sucker.

- (iii) The ventral sucker is bigger than the oral sucker. Both the suckers act as the organ of adhesion.
- (iv) At the posterior end of the body there is an opening known as excretory pore.
- (v) In between the oral and the ventral sucker there is a small opening near the ventral sucker known as the genital opening or gonopore.
- (vi) During the breeding season a temporary opening is formed on the dorsal surface and is known as the opening of "Laurer's canal".

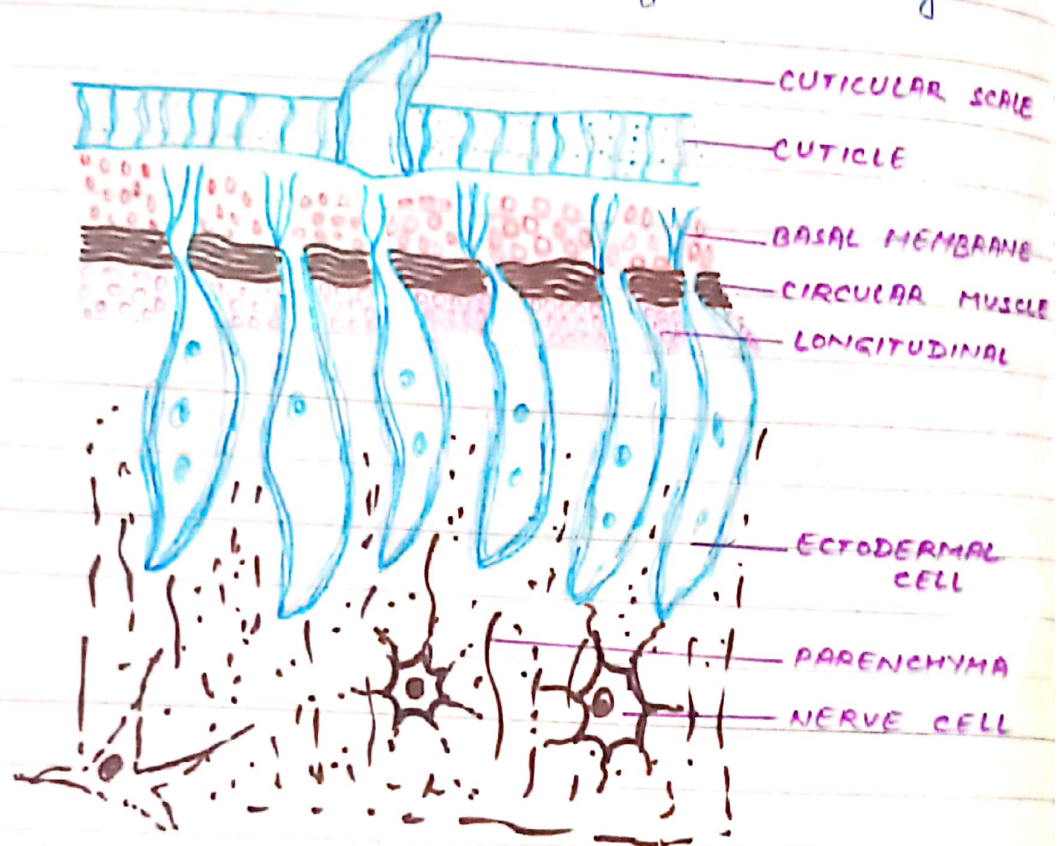


Body Wall —

- (i) In the body wall of the fasciola hepatica the outermost covering is of cuticle which is a thick homogeneous layer.
- (ii) Beneath the cuticle is a layer of circular and longitudinal muscles.
- (iii) In between the muscles and cuticle is a thin and delicate basement membrane.
- (iv) The cuticle is provided with the spines and

in contact with water it can swell.

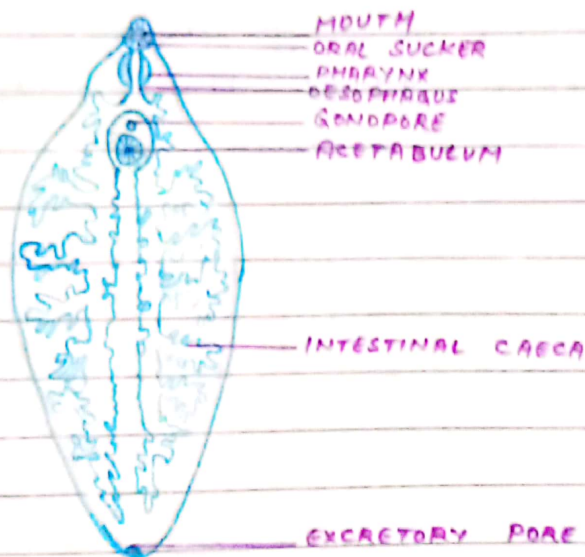
(v) The anterior of the body cavity is occupied by parenchyma. The parenchyma consists of a reticulum of branched cells, the muscles of which are occupied by large clear oval cells. The parenchyma is surrounded by muscles fibres which pass diagonally from the dorsal wall of the body.



DIGESTIVE SYSTEM —

- (i) The mouths situated at the anterior tip of the body lead into small buccal cavity and later on it is connected with the pharynx.
- (ii) Pharynx is a round and highly muscular structure provided with the pharyngeal glands. The pharynx leads into a very small oesophagus.

- iii) The oesophagus leads into the intestine which immediately divides into right and left limbs. Both the limbs run posteriorly.
- iv) The outer margin of these limbs branches and finally gives rise to caecal or diverticula.
- v) The inside of the limbs are very sparsely branched.
- vi) There is no anus.
- vii) The digestion takes place in the intestinal caeca. Digested foods are distributed to different parts of the body by diffusion and undigested wastes are egested through the mouth.



RESPIRATORY AND CIRCULATORY SYSTEM — The respiratory and circulatory organs are absent due to endoparasitic mode of life.

EXCRETORY SYSTEM —

- (i) The excretory system consists of the flame cells and median longitudinal excretory duct.

- (ii) The excretory duct divides into 4 branches, 2 dorsal and 2 ventral, which separately divide to form smaller vessels. These vessels again divide and in the last give rise to the flame cells.
- (iii) The flame cells are the modification of the parenchymatous cells. It possess the central nucleus and pseudopodia like branches entering into the parenchyma. The cells are provided with a lumen which is continuous with a tubule. Excretory tubule is finally jointed with the longitudinal excretory duct. The excretory materials diffuse into the flame cells and finally after passing through different vessels and tubules go to the exterior through the excretory pore.

