

internal longitudinal bars and transverse vessels give off trunks which branch and anastomose, forming an irregular but close network, the meshes of which are the stigmata.

*The Dorsal Lamina* is a plain membrane, short, 4 mm. wide, and rather thick. There are no ribs nor teeth.

*The Tentacles* are compound and large. There are eight larger and eight smaller placed alternately, and about sixteen very minute ones intermediate to the others.

*The Dorsal Tubercle* is large and prominent. Both horns are much coiled, forming conspicuous spirals.

*The Alimentary Canal* is placed on the left side of the branchial sac, lying antero-posteriorly. The œsophagus is short and narrow; the stomach is small and pyriform; the first part of the intestine is large, and turns round posteriorly to form a narrow loop; the rectum runs parallel to the intestine and stomach, and is very narrow.

*Genitalia* are developed on both sides. The gland on the left side is sausage-shaped, and lies parallel to the rectum on its ventral edge. The gland on the right side is similar in shape, and is placed in front of the curved renal sac.

This is the largest Simple Ascidian with which I am acquainted. The figure (Pl. I. fig. 1) is only about three-quarters of the natural size, but otherwise it gives a very good idea of this singular animal. The most notable points in the external configuration are the globular central part of the body, the narrow posterior part forming the peduncle, the wide anterior end, and the two apertures—the atrial, the more anterior of the two, and the posteriorly directed funnel-like branchial. Both are very wide, and it seems almost impossible that the animal should ever be able to close them completely.

The test is remarkably thin and membranous for an Ascidian of such a size. It is, however, very tough. It thickens towards the edges of the apertures and on the peduncle while the thinnest region is in the centre of the right and left sides. It is very finely roughened all over, so as to have a minutely granular texture, while at the posterior end there are a few slight processes for attachment to stones (Pl. I. fig. 1).

Thin sections show that the matrix is homogeneous, and contains large numbers of very small bladder-cells often aggregated in heaps (Pl. II. fig. 4 *bl.*), and minute globular, fusiform, and stellate nucleated protoplasts (*t.c.*).

The mantle is also very delicate, and the musculature is feeble. None of the short-bellied muscles so characteristic of the mantle in the typical Molgulidæ are found. Sphincter muscles are present, but they are not of great strength (Pl. I. fig. 1, atrial aperture).

The branchial sac is most remarkable, and is much the most delicate form known. Its tenuity is such between the folds, that when raised on a fine paint brush it seems like a sheet of mucus, and scarcely holds together. It is perfectly transparent, and requires to be stained before the structure can be made out. Pl. III. fig. 3, represents a small