

behind the tentacles. It has a remarkably undulating course (see Pl. VII. fig. 2), and is rather broader than the peripharyngeal band.

*Dorsal Tubercle.*—This organ (Pl. VII. fig. 6) is placed at the anterior end of the dorsal edge of the branchial sac, just in front of the end of the dorsal lamina, and in the bay formed by the bending posteriorly of the peripharyngeal band. It lies in the prebranchial zone, and is therefore anterior to the peripharyngeal band. On account of the blood sinus immediately superficial to it, which contains in this species a mass of very opaque white corpuscles (Pl. VI. fig. 3, *n.g.*), it is only in a few cases, and with great difficulty, that the dorsal tubercle can be made out at all. Its outline is oval or nearly round, and the aperture is simple (Pl. VII. fig. 6).

*Nerve Ganglion.*—The nerve ganglion (Pl. VII. fig. 5) is in its usual position on the dorsal side of the branchial aperture, nearer the branchial than the atrial aperture. It lies in the inner part of the mantle, and is covered by a large blood sinus (Pl. VI. fig. 3, *n.g.*), on account of which it is only visible from the inner aspect. It is elliptical or nearly circular in outline, the ends being a little pulled out where the nerve fibres run outwards towards the two apertures (Pl. VII. fig. 5).

*The Alimentary Canal* is contained partly in the thorax and partly in the abdomen. Excluding the branchial sac, it may be divided into three parts, the œsophagus, the stomach, and the intestine (Pl. V. fig. 13).

The œsophageal opening is placed at the posterior end of the branchial sac, nearer the dorsal than the ventral edge, but pointing towards the endostyle, from which it is separated by a slight elevation. A short wide œsophagus (Pl. VII. fig. 7) leads backwards and dorsally to the cardiac end of the large stomach. The wall of the œsophagus is lined by columnar epithelium, and is rather thin. Seen on the inner surface, the cells form an irregular minute mosaic; their nuclei are generally not visible.

The stomach (Pl. VII. fig. 7; and Pl. V. fig. 13, *st.*) is a large cavity of somewhat oval form, the anterior or cardiac end being the largest. Its outer (dorsal) edge is sometimes flattened or even depressed in the centre, but is usually gently convex. The internal (ventral) edge is always convex, and is shorter than the outer edge. The internal surface of the stomach is not raised into any folds or rugæ, such as are found in some other Compound Ascidiæ. The wall is thicker than that of the œsophagus, and is lined by columnar cells with shorter columnar, fusiform, or irregularly shaped smaller cells between and below them. As in the wall of the œsophagus, the inner ends of the cells present a mosaic-like appearance.

The intestine (Pl. VII. fig. 7) begins at the pyloric end of the stomach, runs downwards and inwards for a short distance, then turns upwards and runs nearly parallel with the œsophagus till it reaches the level of about the middle of the stomach, then it curves round to the dorsal side, crossing the upper end of the œsophagus; and finally, turning anteriorly, becomes the rectum, which courses along the dorsal edge of the left