

projection, occupying not only the whole of the peritubercular area, but extending across the prebranchial zone and pushing the tentacles anteriorly (Pl. XI. fig. 7). The anterior border of the tubercle is straight and the posterior gently curved, while both ends are rounded. The projection formed by the tubercle is very considerable, so that in transverse sections it forms roughly about three-fourths of a circle (Pl. XI. fig. 8). The whole surface of this greatly enlarged dorsal tubercle is smooth, but has a finely granular appearance and is soft and spongy to the touch. No traces of coiled horns, of apertures, or of any other markings are visible.

When thin transverse and longitudinal sections of the dorsal tubercle are examined under a low power of the microscope ($\times 50$ diam.), it is seen that the entire free surface is covered by columnar epithelium, which is broken up by the very numerous narrow apertures of ciliated cavities leading into long narrow tubes embedded in the thickness of the tubercle (Pl. XI. fig. 9). I have estimated that there must be about 50,000 of these tubes and the same number of openings on the surface of the dorsal tubercle. The tubes do not penetrate to the centre of the mass, but form a broad zone, occupying nearly the outer half, which is clearly visible both to the naked eye (Pl. XI. fig. 8) and in the microscopic specimens (Pl. XI. fig. 9). The rest of the tubercle is composed of a mass of connective tissue continuous with that of the mantle below, and penetrated by a number of blood sinuses. Where this mass of connective tissue joins the mantle proper, muscle bands are found cut in various directions (Pl. XI. fig. 9, *m.b.*), and at one side of the section is invariably found either one or two large nerves (Pl. XI. fig. 9, *n.*); but no nerve fibrils were found arising from these or distributed through the outer part of the organ.

Each opening on the surface of the dorsal tubercle leads into a globular or ovate cavity (the infundibulum, Pl. XI. fig. 10, *inf.*), from the opposite end of which a long more or less cylindrical tube leads down into the connective tissue. The walls of the infundibulum are formed of tall columnar cells which bear numerous large cilia. At the lower end of the ciliated infundibulum there is generally a marked constriction (see Pl. XI. fig. 10) separating off the glandular portion of the tube. Beyond the constriction the wall of the tube is formed of a delicate layer of squamous epithelium, inside which is found a layer of cubical or rounded cells with well-marked nuclei and granular contents. In many of the tubes the lumen is to a great extent filled up by masses and strings of these granular rounded cells (Pl. XI. figs. 10, 11, and 12), and in these cases a delicate network, formed of small cells with long much-branched processes, is found extending inwards from the outer squamous layer of the wall of the tube, and dividing the lumen into a number of imperfect sections or crypts in which the large gland cells are packed (Pl. XI. figs. 11 and 12). The connective tissue between and around the infundibula and the tubules consists of a clear homogeneous matrix, in which are embedded numerous small rounded and fusiform cells (Pl. XI. fig. 10, *c.t.*). Irregularly-shaped blood sinuses (*bl. s.*) are also present.