over the surface (Pl. XXXIII. fig. 10). Just as in the case of *Didemnum aurantiacum*, the colour is confined to the superficial layer of the colony, where it forms a thin crust. In the present species, however, it is not the matrix alone that is coloured, as the spicules have a slight but distinct yellow tint.

The test is firm and nearly opaque even in the lower, almost colourless part of the colony. The spicules are very numerous in the upper part of the test (see Pl. XXXIII. fig. 11, *sp.*), and less abundant in the deeper parts. They are very regular in shape and size (Pl. XXXIII. fig. 12).

The Ascidiozooids, as seen in a surface view of the colony, are of elliptical or ovate shape (Pl. XXXIII. figs. 10, 11), and are inclined at an angle to the surface, so that the greater part of the ventral edge of the thorax, as well as the anterior end, is visible. The branchial aperture is usually distinctly seen (Pl. XXXIII. fig. 10, *br*) surrounded by a well-marked sphincter, and the short wide straight endostyle (Pl. XXXIII. figs. 10, 11, *en.*) is always a conspicuous object under a low power. The darker spaces between the bodies of the Ascidiozooids are formed of test containing closely-packed spicules (Pl. XXXIII. fig. 11).

The branchial sac is larger and the stigmata are more distinct (Pl. XXXIII. figs. 13, 14) than in most allied forms. The transverse vessels are regular, and the stigmata are numerous and of very fair size (Pl. XXXIII. fig. 14, *sg.*). The ciliated cells are distinct. Figure 13 on Plate XXXIII. shows part of the sac of a young Ascidiozooid where the stigmata are shorter and more rounded. In the specimen from which this figure was drawn there were no muscle fibres in the transverse vessels.

The dorsal and the ventral tentacles are longer than any of the others. The median lateral tentacles come next in size (see Pl. XXXIII. fig. 15). In each interspace between these four primary tentacles four shorter ones are usually present; these vary in length amongst themselves, and are not arranged with perfect regularity (Pl. XXXIII. fig. 15, *tn.*). It is interesting to find that the two largest tentacles in this Compound Ascidian are not in the same position as those which E. van Beneden and Julin have shown to be the first developed in the young Simple Ascidian,[1] and that the next largest pair (the medio-lateral) correspond to the pair which are developed first. The order of development in the Compound Ascidian is not known. In von Drasche's *Polycyclus violaceus* the medio-lateral tentacles are the largest.

The prebranchial zone is rudely circular in outline, the peripharyngeal bands are distinctly marked, and there is no peritubercular area (Pl. XXXIII. fig. 15). The anterior extremity of the large endostyle encroaches upon the ventral part of the prebranchial zone, carrying the inner peripharyngeal band forwards in front of it. The branchial sphincter is well developed (Pl. XXXIII. fig. 15), and a number of delicate radiating muscle bands start from its edge and run outwards and backwards over the

[1] Recherches sur le développement post-embryonnaire d'une Phallusie, *Archives de Biologie*, t. v. p. 611, 1884.