

layer of test is merely a superficial layer or crust, in most places about 1 mm. in thickness. The remainder of the test forms a semi-transparent hyaline mass. Sections of the deeper part of the test show comparatively few spicules (see Pl. XXXIII. fig. 4), while the test cells are abundant, of large size, and vary greatly in shape. Some of them are stellate and have their angles prolonged into processes which connect them with the angles of adjacent cells. Vascular appendages containing muscle fibres are found running vertically through the deeper parts of the test; they form more or less parallel lines (see Pl. XXXIII. fig. 4, *v.ap.*).

The Ascidiozooids are short, and are more or less rounded in form. Their branchial apertures, when examined from the interior, are found to be small and rather variable in shape. Usually they are rounded or irregularly hexagonal, but they may be stellate (probably the result of contraction), and in the example figured (Pl. XXXIII. fig. 5) the aperture is distinctly triradiate, its margin having three well-marked lobes. The sphincter muscle (*sph.*) surrounding the branchial aperture is strong, and from its outer edge a number of radiating bands arise and run posteriorly over the body, forming the longitudinal muscles of the mantle.

The test immediately around the branchial aperture is in some cases free from spicules (Pl. XXXIII. fig. 5), and consequently forms a circular lighter-coloured area representing the anterior end of the Ascidiozoid; but in other specimens the spicules extend up to the edges of the aperture (Pl. XXXIII. fig. 3, *sp.*). The commonest form of spicule in the test is seen highly magnified at Plate XXXIII. figure 6, *a.* Spicules with narrower and more sharply pointed rays are also found, and more rarely spherical forms with short blunt projections occur (see Pl. XXXIII. fig. 6).

The alimentary canal forms a short open loop. The stomach is small and of rounded form. The testis is very large, and the vas deferens form a number of close spiral coils around it (Pl. XXXIII. fig. 7).

A number of fully-developed tailed larvæ were found imbedded in the common test. They are of very large size, usually larger than the Ascidiozooids, and have two distinct pigmented sense organs (see Pl. XXXIII. fig. 8).

*Didemnum* (?) *inerme*, n. sp. (Pl. XXXIV. figs. 6, 7).

*The Colony* is a rounded mass attached by the greater part of its lower half. The upper surface is convex and quite smooth. The colour is a dull grey.

The length is 1.2 cm., the greatest breadth is 1.5 cm., and the greatest thickness is 1.3 cm.

*The Ascidiozooids* are apparently small and not very numerous. They are scattered irregularly in the upper layer of the colony, and seem not to be arranged in definite systems. No common cloacal apertures are visible.