

The test is not tough. It is hard and white all though, but the spicules are more abundant near the upper surface than elsewhere (Pl. XXXVI. figs. 3, 8). A section through the test in the middle of the colony shows (Pl. XXXVI. fig. 4) the homogeneous matrix, the test cells, the spicules, and the ectodermal vascular appendages of the Ascidiozooids. The ectodermal appendages (or vessels) are specially noteworthy in the present species on account of their exhibiting branching (Pl. XXXVI. figs. 4, 8), a feature which has not been previously noticed, I think, in any of the Leptoclinidæ. The terminations of the vessels are swollen to form ovate bulbs covered with thickened epithelium (Pl. XXXVI. fig. 4, *t. k.*). A few muscle fibres are found in some of the vessels, but the musculature is not so well developed as in some other species of the Leptoclinidæ. A few small bladder cells are found in this test (Pl. XXXVI. fig. 4, *bl.*), but they are inconspicuous, and in most cases are not so large as the spicules. The ordinary test cells are rather large. Near the surfaces they are elongated in form and lie with the long axis parallel to the surface. The spicules vary considerably in shape. Some, and they are generally the smaller ones, are simple spheres, others are spherical with mammillated or knobbed surfaces (Pl. XXXVI. fig. 4, *sp.*), while the larger spicules are stellate with spherical centres and a number of projecting rays with, in most cases, sharp apices. The spicules are generally very regular, but a few deformed or monstrous forms may be seen.

The branchial siphon is large (Pl. XXXVI. figs. 3, 8, *br.*) and its sphincter is very well developed, but over the mantle generally the musculature is feeble (Pl. XXXVI. fig. 6, *m.b.*). The ectoderm on its outer surface is in some places very distinct, the outlines of the polygonal cells and their central nuclei being clearly visible (Pl. XXXVI. fig. 5). The branchial siphon has a thick lining of test in which spicules are present (Pl. XXXVI. fig. 8, *br.*).

The branchial sac is longer antero-posteriorly than dorso-ventrally. It is of ovate form (Pl. XXXVI. fig. 3). The transverse vessels are wide, and are all of the same size (Pl. XXXVI. fig. 8).

The œsophagus runs directly backwards from the posterior end of the branchial sac to open into the large ovate stomach which is placed with its long axis antero-posteriorly.

The wall of the stomach shows no ridges externally, but is produced internally into four longitudinal pads so as to reduce the lumen to an \times -shaped slit (see Pl. XXXVI. fig. 8, left side of figure). Where the œsophagus and the intestine join the stomach at its anterior and posterior ends these tubes are produced inwards for short distances so as to form valvular arrangements (Pl. XXXVI. fig. 8). The intestine is narrow. It runs posteriorly for a short distance from the stomach, and then turns forwards so as to run alongside the stomach and œsophagus, forming a short loop. Various parts of its course are seen in the sections represented in figures 3 and 8.

The large ovate testis lies alongside the intestinal loop, and the vas deferens