

regard them as distinct species. The specimens from Station 142 are, however, intermediate in some of their characters.

The shape of the colony varies with that of the object to which it is attached. The largest colony (the dimensions of which are given above) has grown over the surface of a Sponge and some other objects, and its form is most irregular (Pl. XXXIV. fig. 8); while some of the smaller colonies are attached to the branches of a Plumularian Zoophyte, around which they have grown in such a way as to form nearly regular cylinders (Pl. XXXVI. fig. 9). One of the smaller colonies on the Zoophyte is, however, quite irregular in form (Pl. XXXVI. fig. 9, left side of figure). The colour is not quite such a pure white as in the case of *Leptoclinum speciosum*, but this is probably the result of the roughness of the surface.

In number, size, distribution, and position in the test, the Ascidiozooids resemble those of the typical specimens of *Leptoclinum speciosum*. The common cloacal apertures are also similar to those of that species, but are not quite so numerous. As in *Leptoclinum speciosum*, both the branchial apertures and the common cloacal apertures are surrounded by six triangular lobes.

The bodies of the Ascidiozooids are considerably elongated antero-posteriorly (Pl. XXXIV. fig. 9), and the abdomen is longer than the thorax. The posterior end of the Ascidiozooid does not reach to the lower surface of the colony.

As in the case of *Leptoclinum speciosum* the spicules in the test are more abundant near the upper surface than elsewhere. They are, however, fairly numerous in all parts. A vertical section through the colony (Pl. XXXIV. fig. 9) shows that the cause of the roughness on the upper surface is the presence of a number of short spine-like projections from the surface of the test. These are formed of test matrix containing numbers of sharply pointed spicules which are developed close up to the surface of the test (see Pl. XXXIV. figs. 9, 10). In the spaces between these pointed projections, the surface layer of test is for a short distance generally free from spicules, and is on the other hand occupied by large bladder cells (Pl. XXXIV. fig. 10, *bl.*). The bladder cells are, as a rule, only one row deep, and are placed closely side by side. They are polygonal or ellipsoidal in shape from mutual pressure, and are usually elongated at right angles to the surface of the colony. The test cells are small and not very abundant; they are mostly of rounded or fusiform shapes (Pl. XXXIV. fig. 10). The matrix shows in some places a delicate fibrillation.

The spicules are more than usually regular (Pl. XXXIV. fig. 10, *sp.*). The rays are long and pointed, and spherical or mammillated forms are very rarely met with. In an optical section, through the centre, the spicule has the appearance shown in figure 11, where each ray is seen to be continued into the centre of the spicule in the form of a short wedge. There is a tendency for the spicule to break up along the lines separating the wedges, so as to produce pieces having the form shown in figure 12. Consequently