

The colour on the upper surface varies from yellowish-grey to various shades of brownish-grey. It is lightest on the edges where composed of test only. The bodies of the Ascidiozooids show through indistinctly (Pl. XIX. fig. 1) as opaque light coloured rounded spots.<sup>1</sup> The common cloacal apertures are fairly numerous but not conspicuous. They are irregularly scattered. The under surface of the colony is rather lighter coloured than the upper, but is more opaque-looking, probably on account of the absence of the very transparent glistening superficial layer of test found on the upper surface. The Ascidiozooids are placed nearer to the lower surface, and their white calcareous capsules show through more distinctly than they do on the upper surface.

The Ascidiozooids seem to be to a certain extent arranged in systems of five or six together, but these are by no means regular. Although the branchial apertures are all on the one surface of the colony, and the posterior ends are all placed nearest to the other surface, still the Ascidiozooids are not regularly arranged perpendicularly to the upper surface; consequently, in a vertical section of the colony (such as Pl. XIX. fig. 4), they may be cut at various angles. The shape of the Ascidiozooid is remarkable (Pl. XIX. figs. 4, 5), but it must be remembered that it is mainly due to the presence of the thick calcareous capsule which encloses the posterior end, and which, although it adheres closely to the Ascidiozooid as dissected out from the colony, really belongs to the common test in which it is produced.

The test varies somewhat in structure in the different regions of the colony. Figure 2 shows a section extending from the outside (on one of the margins) for a considerable distance inwards. The outer layer is seen to be free from bladder cells, and to have scattered in the matrix merely the ordinary rounded fusiform and stellate cells. These are comparatively large and numerous. Then as the section is traced inwards, bladder cells make their appearance and rapidly become very abundant,—even more abundant in some places than appears from the figure. They are large, spherical or ellipsoidal in shape, and have distinct nuclei adhering to one part of the wall. In the narrow bars of test matrix left between these bladder cells, the small fusiform and stellate cells are still found. This is the region of the test where the bladder cells are most abundant. Further in towards the centre of the colony they become less numerous, although they are always fairly abundant. The small test cells continue to be thickly scattered in all parts of the colony (Pl. XIX. figs. 2, 3, *t. c.*).

In the deeper parts of the test, away from the margins, are found groups of rounded cells with very large distinct nuclei (Pl. XIX. fig. 2, *t. c.*'), and occasionally a small calcareous spicule may be found in the centre of such a clump. These indicate the mode of origin of the remarkable calcareous capsules enclosing the Ascidiozooids. The small fusiform or branched test cells may apparently in this genus either develop into large bladder cells,

<sup>1</sup> The upper surface of the single specimen presents rather a curious appearance in some parts from small air-bubbles having gained access to spaces (the cloacal cavities) under the surface layer of test.