or they may proliferate, in the neighbourhood of the Ascidiozooids, to form the groups of closely-placed cells with large nuclei. These cells then deposit between them a calcareous spicule, around which they are, when it is completed, stretched in the form of a thin membranous capsule containing nuclei. Such a capsule may be readily stained in the case of most of the large discoid spicules, and is sometimes seen hanging loosely from fragments of broken spicules. The nuclei are very like those of the rounded cells in figure 8, and intermediate conditions may be found covering the smaller spicules.

The calcareous capsule around the Ascidiozooid is formed of a large number of circular disks placed vertically in the layer of test immediately surrounding it (Pl. XIX. fig. 3, *sp.*). The disks are in most parts so numerous as to overlap one another's edges (Pl. XIX. fig. 7), and are on an average 0·4 mm. in diameter. Each disk is thickest in the centre, and tapers towards the circumference. This, as well as the general arrangement, may be seen from the transverse section of an Ascidiozooid and the neighbouring part of the common test shown in figure 3. It is also seen that the capsule is by no means a regular uniform covering, but is thick in some places (where it may be five or six spicules deep), and thin or absent in others. Some of the disks are not perfectly flat, but are slightly curved, as seen in section, and are placed with the concavity towards the body of the Ascidiozooid. In the cases of a few of the spicules in the figure (Pl. XIX. fig. 3, *sp.*), the capsule is seen to fit very loosely, leaving a large open space between itself and the enclosed spicule. Whether this is natural, or a result of the method of preservation and after-treatment, it is difficult to say. The disks, when seen in surface view as in figures 6 and 7, are beautifully marked by delicate concentric bands and by radiating lines. The latter in many cases go in groups, being absent or more openly placed in particular regions of the spicule, and closer in others (Pl. XIX. fig 6).

The mantle is of considerable strength. The musculature over the greater part of it is in the form of a close network formed by strong bundles of longitudinal and transverse bands running at right angles, and forming narrow quadrangular meshes (Pl. XIX. fig. 9). When these muscle bands reach the anterior end they become the radiating and circular bundles which surround the branchial aperture in a somewhat irregular manner (Pl. XIX. figs. 10, 11). The branchial sphincter is well developed and compact. Beyond it for a short distance the radiating muscle fibres are not collected into bundles, but form an evenly distributed layer which passes outwards, crossing several series of circular fibres. Further out, however, the radiating fibres become grouped together into definite bundles separated by clear spaces free from muscle fibres (Pl. XIX. fig. 10), and these bundles are continued down the sides of the body, as the longitudinal bands of the network shown in figure 9. The muscular fibres throughout the greater part of the mantle are very narrow, but in some places fibres of considerable size, up to 0·004 mm. in breadth, are met with. There are many variously shaped connective tissue cells with very large distinct nuclei scattered through the mantle (Pl. XIX. fig. 10).