

more or less well-marked pentagonal or hexagonal (usually the latter) form. The test for a short distance around the branchial aperture is very thin and transparent, and thus a circular light coloured area around the aperture is produced (Pl. XX. fig. 10). I regard this (the region between *br.* and *br.si* in fig. 10) as the thin layer of test which turns in at the branchial aperture and lines the branchial siphon. So that, according to this view, although *br.* is the actual aperture in the test through which water, &c., enters the branchial sac, *br.si* indicates the apparent edge of the branchial aperture on the outside of the body. The diagrammatic vertical section given in Plate XX. figure 11 shows this more clearly. The remainder of the surface layer of test, although still thin, is a good deal thicker and less transparent than the part lining the siphon. The area occupied by each Ascidiozoid is clearly marked out and separated from the neighbouring areas by a projecting ridge with a broken top, forming an irregularly hexagonal figure (Pl. XX. figs. 10, 11, *t.*). This is simply the test matrix left between the various Ascidiozooids (Pl. XX. fig. 12, *t.*), and it is merely this comparatively narrow ridge which is torn across in removing the superficial layer of test. It tears along the dotted line in the diagrammatic section (Pl. XX. fig. 11, *t.*). Lower down this ridge expands (Pl. XX. fig. 12) into the general test mass of the lower part of the colony in which the calcareous spicules are formed. The large cavities enclosed by the ridges projecting inwards from the surface contain the anterior parts of the Ascidiozooids. In the alcoholic specimens these latter have contracted greatly, and as a result of this in most cases the branchial siphon has been drawn downwards towards the posterior or lower part of the cavity, allowing a free passage from the outside into the cavity in the test. This is shown by the arrow in the middle of the diagrammatic figure (Pl. XX. fig. 11). If the specimens are taken out of the alcohol for a few minutes small air-bubbles enter in this manner and give a very remarkable appearance to the upper surface of the colony.

The mantle is thick and strong. The muscle fibres are in most parts both numerous and of large size; they form a close network (Pl. XX. fig. 7). Longitudinal and transverse bands are equally well developed. The sphincters are not specially powerful.

The transverse vessels of the branchial sac are nearly as wide as the stigmata are long (Pl. XX. fig. 8). The stigmata though short are regularly arranged.

The tentacles are very numerous, their bases touch. They are many of them long, but not so narrow as in the last species. Various sizes are seen, but there appears to be no regular arrangement.

The colony as a whole is stiffer and more brittle than in *Cystodytes draschii*. This is, I believe, due to the stronger calcareous spicules and to the extreme vacuolation of the test. The calcareous investments of the Ascidiozooids are also whiter and more conspicuous than in the case of the last species.