

The Ascidiozooids, of which there are probably ten or twelve thousand, are arranged in systems which are clearly visible on the outside of the colony, on account of the test being decidedly more transparent than the whitish-grey bodies of the Ascidiozooids. The systems are mostly circular in outline (Pl. XXIII. fig. 2), like those of the genus *Botryllus*, but in some cases they are elliptical, ovate, crescentic, or more irregular; they never form branched lines as in *Botrylloides*. Each system has a centrally placed common cloaca, usually of large size and distinctly visible. Many of these cavities are occupied by Copepoda, and the legs of the Crustaceans may usually be seen projecting from the openings. The systems are closely placed, and are nearly equally numerous over all parts of the colony. An average sized system has nine or ten Ascidiozooids, and is about 5 mm. in diameter.

The Ascidiozooids, although small relatively to the size of the colony, are of considerable length. The anterior end, which is visible on the outside, is only about 0.5 mm. in diameter. The middle of the thorax is the widest region, while the abdomen and post-abdomen are both narrow, especially the latter (Pl. XXIII. fig. 3). The widest part of the abdomen is about its middle, as it is connected with the thorax by a narrower region anteriorly, and tapers posteriorly to join the genital region. The post-abdomen is usually very long and narrow, and the test in all parts of the colony is found to be penetrated by the delicate thread-like posterior ends of the bodies of the Ascidiozooids. Even the very centre of the colony at the widest part, where it is at least 2 or 3 cm. from the surface, is traversed in all directions by these threads. They are, like the rest of the body, of an opaque pale yellowish-white colour, and have an irregularly undulating course. The anterior part of the Ascidiozooid is placed approximately at right angles to the outer surface, but the posterior part becomes bent so as to run downwards towards the base of the colony.

The test is a solid firm mass but it is not hard, and is transparent in small pieces. The small test cells are very numerous and are of all shapes; some very beautifully branched forms occur. The test is slightly softer and less dense, and contains more cells, in a layer immediately surrounding the bodies of the Ascidiozooids. This is seen very clearly in sections stained with aniline blue, where this layer takes on the stain a little differently from the remainder of the test, and is thus rendered conspicuous. Many of the cells are very granular, but there are no opaque pigment-corpuscles present. The cells are particularly granular near the edges of the colony, where the test is growing most rapidly, and they are arranged more or less regularly in rows running parallel with the outer surface.

The mantle varies considerably in the different regions of the body. Over the branchial sac the muscle bands are rather distant. Some transverse muscles are present, but the longitudinal bands are the most important. Over the abdominal viscera there are no transverse muscles, and the longitudinal ones are few and slight, but on the post-