

variable. The typical condition seems to be a flattened cake-like mass attached by one end (Pl. XXX. fig. 1). In one case, however, it is attached by one of the flattened sides, so that the compression is from above downwards and not laterally. In other cases the shape is quite different and is very irregular, being either a lobed mass or having an elongated bent form somewhat like that characteristic of *Atopogaster elongata* (compare Pl. XXIV. fig. 3, and Pl. XXX. fig. 2).

In all cases there is an area of attachment at one end, marked by the presence of sand-grains and small stones. This region may be very small (a few millimetres across) or of considerable size (Pl. XXX. fig. 1), up to 7 cm. in length by 3 cm. in breadth; but scattered sand-grains are frequently found attached to the test even on the upper surface of the colony. The colour is a very light grey with a yellowish tint caused by the bodies of the Ascidiozooids showing through the semi-transparent test. The lower end of the colony is always of a dark colour on account of the adhering sand (Pl. XXX. fig. 1). A few of the more irregularly shaped colonies (Pl. XXX. fig. 2) have decidedly more of a yellow colour than the others, and at first I was inclined to separate these forms as a variety, but finally decided not to do so, as they seem to agree with the other specimens in all other respects. One or two of the more remarkably shaped colonies have probably been deformed from growing in chinks between stones, or in some such places where they had not room to expand in all directions.

The measurements given above are those of an average specimen. The smallest colony is 1.4 cm. in length and 1 cm. in breadth. The longest measures 9 cm., and the greatest breadth attained is nearly 7 cm.

The Ascidiozooids are placed in the test with great irregularity, and incline at various angles to the surface. The thorax and the post-abdomen are rather long (see Pl. XXX. fig. 3, *th.* and *p.abd.*), while the abdomen between is very short. The Ascidiozooids are not arranged in distinct systems, and the common cloacal apertures are not visible.

The test is softer and more pliable than in most allied forms. It becomes brittle, however, at the lower end of the colony, where there is much sand imbedded in it. In some of the colonies the smooth membrane formed by the outer layer of the test is much more distinct than in others. I am inclined to think that the specimens of a greyer colour, with fewer and larger Ascidiozooids and a distinct smooth membrane over the outer surface, are old colonies; while those with a yellowish colour, numerous Ascidiozooids, and no distinct outer layer on the test, are younger, although they may be of large size. The test cells are especially numerous in the layers of test immediately around the bodies of the Ascidiozooids. The matrix is exceedingly clear and transparent in thin sections, and shows no fibrillation. There are no vessels present, but occasionally the tip or extreme posterior end of the post-abdomen is seen cut in section in the test, and then looks exactly like the transverse section of a vessel. In some