

serve to indicate the family to which the specimens belong, I have thought it necessary to give the above detailed description.

This species is a notable example of the little value that can be attached to the colour of specimens preserved in alcohol. All of the Challenger specimens are shades of a light slate blue, and those in the British Museum are of very much the same colour, but Cunningham states that the specimens when living were of a vivid scarlet hue, and I find in my notes that the late Sir Wyville Thomson had told me that the Challenger specimens were of the same colour.

The colonies may attain a large size. The dimensions given above are taken from a small specimen, and are only of value as an indication of the proportions of the colony. The smallest Challenger specimens (see Pl. XLV. fig. 2) measure only a few millimetres in length and breadth, while the largest colony is about 46 cm. in length, 3.5 cm. in breadth, and 1.5 cm. in thickness. Cunningham states that his specimens were more than 2 feet in length. Figure 1 on Plate XLV. represents the upper end of a large colony.

The form varies considerably. In the small specimens it is more or less rounded (Pl. XLV. fig. 2). In the larger ones it becomes elongated. The Ascidiozooids are fairly conspicuous on the surface. In some places only the apertures are visible (Pl. XLV. fig. 1). Sometimes these are prominent, at other times depressed. They are irregularly four-lobed when partially open, and cross-slit when closed (Pl. XLV. fig. 3).

A section through the colony shows that the Ascidiozooids occupy only the superficial layer (Pl. XLV. fig. 1); they vary in size from 1 mm. to 5 mm. Cunningham speaks of them as being very small, and 1 line long, but in his figures he represents them as being of different sizes, as they are in the Challenger specimens (Pl. XLV. fig. 1). The shape of the body of the Ascidiozoid is irregularly ovoid, with both apertures at the anterior end.

The test is massive, and is usually firm. In the specimens from Station 313 the test seems to be rather softer and more gelatinous than in those from Station 314 and Station 315; it is also more flexible and elastic; in other respects the specimens are the same.

The delicate fibres in the matrix run in all directions. The test cells are small, and are mostly of rounded form (Pl. XLV. fig. 4). The vessels are conspicuous; most of the larger ones are divided by a median septum which is double, so that three cavities are thus formed (see Pl. XLV. fig. 4). Besides the terminal bulbs, occasional ovate swellings occur upon the course of the vessels. A vessel covered by a layer of mantle leaves the posterior end of each Ascidiozoid close to the intestine (Pl. XLV. figs. 9, 12).

In the mantle the chief muscle bands run transversely and longitudinally, and form a rudely square-meshed network. Oblique bands are also present. There are a large number of blood sinuses in the mantle, which makes it rather opaque. The branchial and atrial sphincters are equally strong (Pl. XLV. fig. 3, *br.* and *at.*).