

about 4 mm. in length and scarcely 1 mm. in greatest breadth. The post-abdomen is much narrower than the anterior portion of the body, but the thorax and abdomen are not distinctly separated.

*The Test* is moderately firm and tough. There is a certain amount of incrusting and imbedded sand, but not sufficient to render the mass stiff or brittle. In the interior of the colony the test is of a light grey colour and semi-transparent. The matrix is clear and structureless. The test cells are not very abundant, and are mostly small but irregular and much branched forms. No bladder cells are present.

*The Mantle* is strong and the musculature is well developed. Over the anterior part of the body both longitudinal and transverse muscle bands are present, while in the post-abdomen they are all longitudinal and are rather closely placed.

*The Branchial Sac* is large and well developed. The transverse vessels are moderately wide and are provided with muscle fibres. The stigmata are fairly long and are placed with regularity.

*The Tentacles* are long and thin. They are of two sizes.

*The Alimentary Canal* is relatively of very small size, and forms a short loop.

*The Post-Abdomen* is long and narrow.

*Locality*.—Torres Strait, north of Australia; depth, 3 to 11 fathoms.

Two colonies of this species were obtained in shallow water off Cape York at the northern extremity of Australia. They differ somewhat in shape, the one being ovate with the long axis vertical (Pl. XXXI. fig. 13), and the other roughly hemispherical with the long axis horizontal. The dimensions given above are those of the former specimen, the latter measures 1.2 cm. in length, 2.5 cm. in breadth, and 1.5 cm. in thickness.

No common cloacal apertures are visible on either of the colonies. The Ascidiozooids are seen externally as small circular areas slightly elevated above the general surface (Pl. XXXI. fig. 13). In some places the open branchial apertures are visible. The shape of the Ascidiozoid is remarkable. The thorax and abdomen form a single cylindrical mass, tapering posteriorly into the long narrow post-abdomen (Pl. XXXI. fig. 15, *p.abd.*).

The amount of sand imbedded in the test is not nearly so great as in the case of some allied species (*e.g.*, *Psammaplidium spongiforme* and *Psammaplidium subviride*). It is enough, however, to render the colony opaque and roughen its outer surface. Some of the test cells are very coarsely granular, and a few are slightly pigmented. The transverse muscle bands in the mantle are very well marked (Pl. XXXI. fig. 15, *m.*). The lobes around the branchial aperture are distinct, and the sphincter is well developed (Pl. XXXI. fig. 15).

The endostyle is narrow, but has a very undulating course. In the young Ascidiozoid, however, where there are only three rows of stigmata in the branchial sac, the endostyle is quite straight (Pl. XXXI. fig. 16, *en.*). The interstigmatic vessels