

same number more distantly placed in the interspaces. The transverse vessels are all much about the same size, and most of them have wide horizontal membranes hanging from their inner edges (Pl. XXI. figs. 4 and 5, *tr.* and *h.m.*). The meshes are square or a little elongated transversely, are often divided by delicate horizontal membranes (Pl. XXI. fig. 5, *h.m.*), and contain four or five stigmata each. The endostyle is well marked and may be seen distinctly running to the base of the long sac.

The tentacles are simple and are not long. They are of three sizes, placed usually with several of the smaller ones between each pair of larger ones (Pl. XXI. fig. 6, *tn.*).

The dorsal tubercle (Pl. XXI. fig. 6, *d.t.*) is large and prominent, and each horn forms a spiral; the right one is large and is turned inwards, while the left is much smaller and coils outwards. The peritubercular area is shallow and symmetrical. Both polycarps and endocarps are very numerous.

About a dozen specimens of *Polycarpa tinctor* were obtained at Port Jackson, at depths varying from 2 to 15 fathoms.

*Polycarpa minuta*, Herdman (Pl. XXII. figs. 1-4).

*Polycarpa minuta*, Herdman, Prelim. Rep., Proc. Roy. Soc. Edin., 1880-81, p. 78.

*External Appearance.*—This species is dome-shaped, or nearly hemispherical; the anterior end is convex, and the posterior is wide, flattened, attached, and slightly expanded at the margin. The apertures are both anterior; they are not distant, and are sessile but distinct.

The surface is perfectly smooth and even. The colour is pale-yellowish brown.

Length of the body, 0.6 cm.; breadth of the body, 0.9 cm.

*The Test* is thin, but tough and strong.

*The Mantle* adheres closely to the test, and is very thin.

*The Branchial Sac* has four folds upon each side. The transverse vessels are all of the same size. The internal longitudinal bars are very few, there being only two between each pair of folds. The meshes are transversely elongated, and contain each six to eight stigmata.

*The Dorsal Lamina* is a plain membrane.

*The Tentacles* are numerous and filiform.

This is a very small species of *Polycarpa*, and is rather like *Styela grossularia*, van Beneden, in general appearance. It forms a small blister-like prominence on the stone to which it adheres (Pl. XXII. fig. 1), is perfectly smooth on the surface, and of a yellowish-brown colour. The apertures are placed close together at the anterior end. The test and the mantle are both very thin, and adhere together closely.

The branchial sac (Pl. XXII. fig. 2) has the folds in the rudimentary condition which