

shell fragments. The shape also is peculiar. It is much elongated dorso-ventrally, and is depressed so as to form a transversely elongated sausage-shaped body.

The test also is like that of most species of *Molgula*, in being prolonged into branched hair-like processes, to which the sand is attached. The branchial sac is strong, on account of the presence of numerous very wide internal longitudinal bars (Pl. XXII. figs. 6 and 7, *i.l.*). Most of the transverse vessels are very narrow, but occasionally one meets with one which is considerably wider. The meshes in the interspaces are transversely elongated, and contain each about a dozen rather narrow stigmata. The whole branchial sac, and the numerous tentacles, are of a dark brown colour.

The polycarps only project slightly, as they are imbedded in the thick mantle.

Two specimens of this curious species were dredged off East Moncœur Island in Bass Strait, at Station 162; April 2, 1874; depth, 38 to 40 fathoms; bottom, sand.

*Polycarpa quadrata*, Herdman (Pl. XXII. figs. 8–10).

*Polycarpa quadrata*, Herdman, Prelim. Rep., Proc. Roy. Soc. Edin., 1880–81, p. 78.

*External Appearance.*—The body is oblong or oval in shape, erect and somewhat compressed laterally; both ends are broad and rounded, and the dorsal and ventral edges are nearly straight and parallel. The body is attached chiefly by the posterior end. The branchial aperture is terminal, sessile, inconspicuous and minute, the atrial is on the dorsal edge, more than one-third of the way from the anterior to the posterior end, it also is minute and inconspicuous.

The surface is considerably creased in all directions, especially round the apertures. The colour is dirty white.

Length of the body, 2 cm.; breadth of the body, 1.6 cm.

*The Test* is not thick, it is tough and strong, but not stiff, and is white and glistening on the inner surface.

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

*The Branchial Sac* has four slight folds upon each side, and in these places the internal longitudinal bars are very numerous and close. The meshes are elongated antero-posteriorly, and are usually divided by a narrow transverse membrane, and each contains from one to four stigmata.

*The Dorsal Lamina* is a plain membrane.

*The Tentacles* are simple.

*The Dorsal Tubercle* is ovate in outline; it is very minute, and is placed at the posterior end of a deep peritubercular area.

This species has the typical Cynthiad appearance (Pl. XXII. fig. 8). The test is thick but tough, is not covered with sand, and is of a dirty white colour. The apertures are minute, and are both cross-slit (see atrial aperture in Pl. XXII. fig. 8).