

Locality.—Station 162, April 2, 1874; lat. 39° 10' 30" S., long. 146° 37' 0" E.; depth, 38 fathoms; bottom, sand and shells.

This is an ordinary *Polycarpa* with well-marked family and generic characters, but apparently distinct from any previously described species. The single specimen was obtained in Bass' Straits, from a depth of 38 fathoms. The external form (Pl. XLIX. fig. 1) is not remarkable. It has a leathery Cynthiad test corrugated and somewhat incrustated externally, and having inconspicuous apertures with no well-marked lobes. The mantle is remarkably thick (see Pl. XLIX. fig. 3), but is of a firm gelatinous consistency, and has comparatively few muscle bands.

The coarse branchial sac, although long, is rather narrow, and so leaves a considerable cloaca on the dorsal edge in which the rectum lies (Pl. XLIX. fig. 3). The transverse vessels in the branchial sac are irregular, occasionally branching or uniting. They are supplied with muscle fibres, some of which are continued into the interstigmatic vessels (Pl. XLIX. fig. 2).

The dorsal tubercle is distinctly Cynthiad in its appearance, and resembles that of *Cynthia cerebriformis*, Herdman, where, however, the aperture is lateral, not posterior. The endostyle is very prominent.

The alimentary canal is long and narrow. The œsophagus starts from the dorsal edge of the posterior end of the branchial sac, and runs almost directly ventrally, with merely a slight backward inclination, round the posterior end of the peribranchial cavity, and is attached to the inner surface of the left side of the mantle. There seems to be no marked dilatation representing the stomach (see Pl. XLIX. fig. 3), the œsophagus and intestine being directly continuous; towards the ventral edge of the posterior end the intestine turns anteriorly, then dorsally, and then somewhat posteriorly again, so as to form three-fourths of a circle. This open intestinal loop encloses a pale grey homogeneous looking soft mass (see Pl. XLIX. fig. 3), which is clearly the structure erroneously described as the ovary by Savigny in his *Cynthia mytiligera*,¹ and afterwards shown by R. Hertwig² to be merely a thickened fold of the lining membrane of the peribranchial space. The intestine finally runs to the dorsal edge of the body, and turns anteriorly to become the long narrow rectum, which may be traced along the dorsal edge nearly to the atrial aperture (Pl. XLIX. fig. 3). The polycarps are very numerous, and are found on both sides of the body imbedded in the mantle. Their short narrow ducts are all directed towards the atrial aperture (see Pl. XLIX. fig. 3).

This species is allied to *Polycarpa mytiligera*, Savigny,³ but is readily distinguished from it by the external form, the absence of the stomach, and the condition of the dorsal tubercle.

¹ Mémoires, p. 98, pl. viii. fig. 2².

² Beiträge zur Kenntniss des Baues der Ascidien, *Jenaische Zeitschr.*, Bd. vii. p. 81.

³ Mémoires, p. 158, pl. viii. fig. 2.