

*Polycarpa longisiphonica*, Herdman (Pl. XXIII. figs. 3-6).

*Polycarpa longisiphonica*, Herdman, Prelim. Rep., Proc. Roy. Soc. Edin., 1880-81, p. 77.

*External Appearance.*—The body is oblong, or somewhat flask-shaped, and erect. The posterior end is large and rounded, the anterior end narrow and pointed. It is apparently not attached, or only slightly by the posterior third of the left side. The apertures are conspicuous, at the ends of very long siphons; the branchial is terminal, and is directed anteriorly; the atrial is on the dorsal edge, half way down, and is directed dorsally and anteriorly; it is fully as long as the branchial siphon.

The surface is covered, except on the siphons, by a fine coating of sand and shell fragments. The colour is a dark brown.

Length of the body, 7 cm.; breadth of the body, 4 cm.

*The Test* is thin and brittle; but rather stiff.

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

*The Branchial Sac* has four folds upon each side. Every fifth or sixth transverse vessel is wider than the intermediate ones, which are all of one size. There are eight internal longitudinal bars on the folds, and about the same number in the interspaces. The meshes are square, they contain each four to six stigmata, and are occasionally divided by a narrow horizontal membrane.

*The Dorsal Lamina* is a narrow and plain-edged membrane.

*The Tentacles* are not very long, and are placed rather far apart. There are about eighteen, some shorter than others, but not placed symmetrically.

*The Dorsal Tubercle* is circular in outline, or somewhat horse-shoe-shaped, with both ends turned slightly outwards.

This species resembles *Polycarpa rigida* in its erect body and stiff test, partly covered with adhering foreign matter (Pl. XXIII. fig. 3). If attached at all, it is only slightly so by the posterior part of the left side. The length of the siphons upon which the apertures are placed is a characteristic feature.

As in the last species, the transverse vessels are of two sizes (Pl. XXIII. fig. 4, *tr.* and *tr.'*), but here the internal longitudinal bars are narrow, and not wide as in *Polycarpa rigida*. The interspaces are wide, and have each about eight rows of meshes. The internal longitudinal bars are crowded on the folds. In one of the specimens of this species all the vessels in the sac appear to be rather wider. The ordinary meshes in the interspaces are square, or a little elongated transversely, and are occasionally divided by narrow horizontal membranes.

The tentacles are of different sizes, but these are not arranged symmetrically. In one specimen examined there were about sixteen larger tentacles and two or three very small ones between each pair of larger. There is a double line of columnar cells (probably ciliated when living) running down the anterior face of each tentacle, and becoming