

are slight, with generally three or four internal longitudinal bars upon each (Pl. V. fig. 10). Usually there are no bars on the spaces between the folds, but sometimes one may be present. These spaces are, however, traversed by narrow membranes, horizontal, oblique, and longitudinal—the horizontal ones (Pl. V. fig. 10, *h.m.*) indicating the positions of the irregular transverse vessels. The stigmata are in some places arranged in complicated spirals, while in others they form more or less regular transverse rows (Pl. V. fig. 10).

The dorsal tubercle (Pl. V. fig. 11) is much simpler than is usual in the genus. It is not prominent, and the horns are not spirally coiled, but merely turned posteriorly. The peritubercular area is large and irregularly triangular, the peripharyngeal bands bounding it laterally having an undulating course.

The intestine (Pl. V. fig. 9) is long and narrow, and the loop turns anteriorly towards the branchial aperture, so as to partially enclose the left genital gland.

One specimen was obtained at Port Jackson, Australia. Depth, 2 to 10 fathoms.

*Molgula pyriformis*, Herdman (Pl. VI. figs. 1–3).

*Molgula pyriformis*, Herdman, Preliminary Report, Proc. Roy. Soc. Edin., 1880–81, p. 236.

*External Appearance.*—The body is pyriform or almost triangular, and is compressed laterally; it is not attached. The anterior end is wide, straight, truncated, and has an aperture at each extremity; the posterior is narrow and pointed. The dorsal and ventral edges are both convex. The widest point is at about one-third of the length from the anterior end, and from this point the two edges taper rapidly to the narrow posterior end. The apertures are at the extremities of the flat anterior end, they scarcely project, and are inconspicuous. The branchial is rather the more anterior of the two, and the more prominent, and is directed ventrally; the atrial is quite sessile, and points anteriorly.

The surface is entirely covered with a close coating of fine sand.

The colour is dark brown (due to the sand).

Length of the body, 2 cm.; breadth of the body, 1.5 cm.

*The Test* is thin but stiff, and quite opaque.

*The Mantle* is thin, with the musculature moderately developed. The strongest bands are those that radiate from the bases of the branchial and atrial siphons. Over the rest of the mantle the commonest form of muscle band is a short thick fusiform clump of fibres.

*The Branchial Sac* is delicate, with seven folds on the right side and six on the left. These folds do not include the stigmatic part of the branchial sac, but are merely formed of two or three additional internal longitudinal bars united by short transverse ducts, and thus forming an open network. There are no transverse vessels distinct from the fine interstigmatic tubes, but narrow horizontal membranes are present running transversely from fold to fold across the intervening space. The fine interstigmatic vessels are