

The mantle also varies considerably in its strength and degree of muscularity. In *Polycarpa sulcata* the mantle is strong, and (in the spirit specimens) has contracted completely away from the test, while in *Polycarpa quadrata* and others, it is thin and closely adherent to the inner surface of the test. The branchial sac agrees in all its characters very closely with that of *Styela*. The tentacles are invariably simple, but may differ greatly in size. The dorsal lamina may be slightly crenated at the edge, but is not known to be transversely ribbed or distinctly toothed.

The intestine usually curves round in rather an open loop, but this varies somewhat, and cannot be depended upon as a characteristic.

The reproductive system, however, is peculiar: there are a large number of distinct genital masses or polycarps present, scattered over the inner surface of the mantle, and projecting into the peribranchial space. Besides these there are usually a number of other distinct bodies, rounded, oval, oblong, or sometimes stalked, which at first sight appear very similar to the genital glands, but are in reality merely processes of the connective tissue of the mantle, which contain numerous blood sinuses, and have been called "endocarps." These may serve as pads to protect the genital masses lying between them, or may be reservoirs into which the blood circulating in the mantle passes when the body is violently contracted, as suggested by Kupffer.

There are twelve species of *Polycarpa* in the Challenger collection, and eleven of these were new to science, the only known species which was obtained being *Polycarpa tinctor*, Quoy and Gaimard.

*Polycarpa viridis*, Herdman (Pl. XXI. figs. 7-14).

*Polycarpa viridis*, Herdman, Prelim. Rep., Proc. Roy. Soc. Edin., 1880-81, p. 74.

*External Appearance.*—The body is variable in shape, but usually more or less pyriform, the anterior end being the broadest, and the posterior forming a short stalk, sometimes more elongated, and twisted, by the lower end of which the animal is attached. Both apertures are placed at the anterior end, generally a little to the right side of the extremity. The branchial is terminal or subterminal; the atrial is a little way down the dorsal edge, and not distant from the branchial; both are four-lobed, sessile, and inconspicuous.

The surface is not uneven, but is generally more or less covered by other animals, sand, shell fragments, &c., adhering to it. The colour is a dull green, and is darkest in the neighbourhood of the apertures.

Length of the body, 3 cm.; breadth of the body, 2.5 cm.

*The Test* is not thick but is tough; it is rough externally from adhering sand, &c., and is of a beautiful dark green colour throughout. Vessels are very numerous, and are seen anastomosing frequently.

*The Mantle* is muscular, is closely united to the test, and is of a dull green colour.