

siliceous matter or a drop of fat. On the outside of the sponge, in fine tangential sections, the small dermal pores could be detected in the quadrate meshes of the dermal skeleton.

This genus contains only a single species.

Polylophus philippinensis, (Gray) (Pl. LIII. figs. 1, 2; Pl. LIV.).

Some very young spherical or egg-shaped specimens of *Polylophus* (*Rossella*, Gray) *philippinensis*, Gray, were procured, along with *Lanuginella pupa*, O. Schmidt, near Little Ki Island (Station 192) from a depth of 129 fathoms. But besides these, numerous adult forms of the same species were collected near the Philippine Island, Zebu (Station 209, lat. 10° 14' N., long. 123° 54' E.), from a depth of 95 fathoms and a blue mud bottom. Some of these specimens were as large as a man's fist. They agree exactly with the careful description and figure given by Carter¹ and by Marshall. All the specimens exhibited a short, thick-walled, cup-form, with a wide round upper opening to the simple sack-like gastral cavity. Into the latter the efferent canals open with more or less wide round apertures, while the outer surface, covered with a fine lattice network, is elevated into numerous mammilla-like papillæ. From the summit of each of these radially disposed papillæ, which are especially thick and long on the lower surface of the body, a thin bundle or tuft of long hair-like siliceous spicules projects. On the upper and lateral surfaces these tufts of needles stand out radially, stiff and straight; on the median and basal papillæ, however, the siliceous hairs are much longer, and are apposed to one another to form a long, broad, loose root-tuft, by which the sponge is anchored in the mud (Pl. LIV. fig. 1). Very frequently, on the larger specimens, some or most of the papillary elevations are thickened terminally in a club-shaped fashion, and more or less markedly constricted at the base, so as to form pear-shaped appendages represented by a whole series of stages varying greatly in size and differentiation. Each protuberance begins as a small conical, subsequently pear-shaped, structure 2 to 3 mm. in length, and attains the size of a hazel nut. Fully developed forms exhibit lateral radial papillæ, and a basal radial tuft, while at the upper pole a circular aperture communicates with the central cavity. The whole form of a young *Polylophus* is thus assumed, and it remains connected to the mother organism merely by a few spicules. These give way of themselves, and a small form is set free which undeniably resembles the mother sponge in all essential points (Pl. LIV. fig. 1). It is noteworthy that almost all the larger specimens exhibit that tendency to form buds which has been repeatedly noted by earlier observers. Between the papillæ the external skin-covering appears to be as smooth as the concave interior surface of the gastral cavity. On the simple, somewhat sharp-edged oscular margin, there is no trace of a cuff-like marginal fringe of spicules.

¹ *Ann. and Mag. Nat. Hist.*, ser. 4, vol. xv., pl. x, fig. 1.