

form of the body as seen in the second specimen, which is comparatively well preserved, but also destitute of basal tuft, is represented in natural size in Pl. XXIX. fig. 1. We have here an inverted conical form, with slightly bulging sides, and a broad upper end not transversely truncated, but depressed in funnel-like fashion, and covered by a narrow-meshed delicate network, while the external lateral surface of the body is enveloped by a delicate dermal sieve-work—the dermal membrane, through which the more or less regularly distributed large inhalent canals of the afferent system are seen as dark spots (Pl. XXIX. fig. 1). On the upper external margin, which projects as a sharply defined ring, there is a continuous fringe of marginal spicules. On the lower, somewhat incurved end, lies a round gaping opening, about 6 mm. in width. This leads into a straight canal, and there can be no doubt that it represents the position of the torn off basal tuft.

The third much smaller specimen, with a well-preserved tuft of basal spicules, as also figured by Wyville Thomson, differs essentially in external form from the above specimens. The body is not conical but oval, with truncated superior, and somewhat narrowed inferior extremity. The structure, however, agrees so exactly with that of both the other specimens, that one can have no hesitation in acknowledging the correctness of Wyville Thomson's reference of this form to the same species, *Hyalonema toxeres*. The specimen is unfortunately not well preserved, especially towards the upper end. On the middle of the upper terminal surface the conus projects, and from it four cruciate longitudinal septa with smooth, convex, superior margin extend through the central space to the lateral wall into which they pass. The four cruciate cavities thus formed are continued downwards and sideways into the efferent lacunar passages of the parenchyma. Close beneath the narrowed inferior portion with the small basal tuft there is a ring of a few *Palythoa* individuals (Pl. XXIX. fig. 4).

Microscopic examination of the flinty spicules shows the intimate similarity of all the three specimens, and the few variations which are present are referable to differences in age and individual characteristics.

In the parenchyma, besides the familiar regular medium-sized oxyhexacts, and numerous straight or slightly bent, weakly developed diacts with or without central swellings or knobs, especially remarkable and characteristic diacts occur. These are thick and spindle-shaped, curved or somewhat bent, with rounded terminal points, and without central swelling or tubercles. These bent needles measure 3 to 8 mm. in length, and exhibit in the middle a thickness of 0.3 to 0.4 mm. The concentric lamination is very distinctly seen, and on the outer end the relation of the various layers of growth is often most beautifully demonstrable (Pl. XXIX. fig. 11). The distribution of these strong, bent needles in the parenchyma seems to me quite irregular. I have not observed their special abundance in any one region, nor on the other hand any definite disposition. They frequently occur parallel to the skin near the external surface, but also in