

like openings which led into the four subjacent cavities. In this lid, and in the conical terminal knob, the same fir-tree-like amphidiscs occurred as in the external skin.

From my own examination of the specimen in Professor O. Schmidt's possession, which was originally investigated by Marshall, I am able to corroborate the essential results of Marshall's research, and I shall therefore only confine myself to extending and completing the latter.

The parenchyma proper in the above-described *Hyalonema* is supported by medium-sized, smooth, regular oxyhexacts, beside which numerous smooth, straight, or curved diacts occur, with or without central swellings. These have been already figured in detail by Marshall. Small oxyhexacts with straight roughened rays—and these only—occur in moderate abundance (Pl. XXXIV. fig. 4). In the dermal skeleton the familiar smooth hypodermal pentacts occur, as also autodermal pentact pinuli with somewhat long terminally toothed basal rays, and with a freely projecting pointed distal, about 0.24 mm. in length, and beset with long oblique curved spines (Pl. XXXIV. fig. 6). Roundish amphidiscs of various form and size, of which the largest have an average length of 0.2 mm., also occur. They are characterised by the possession of a flat, short, terminal umbel on either side, with six simple hook or claw-shaped, narrow rays, not terminally broadened. The moderately strong axial rod bears isolated hemispherical nodes, four of which, usually somewhat more strongly developed, are cruciately disposed in the centre (Pl. XXXIV. fig. 2). An amphidisc of this type, in process of formation, is figured in Pl. XXXIV. fig. 7. Besides these typical six-rayed large amphidiscs, others half as large occur, with long, campanulate, narrow, eight-rayed umbels, the slender rays of which almost meet, diverging somewhat laterally towards one another. The narrow axial rod has a central nodule (Pl. XXXIV. fig. 3). Still smaller forms whose umbels with eight or more rays are short and hemispherical (Pl. XXXIV. figs. 5, 8), occur abundantly. In the basal pad of the lower end of the body strongly developed spicules occur, variously provided with rays from six to two in number. These truncate rays are thickly studded with spines or teeth from the ends to within a varying distance of the centre (Pl. XXXIV. figs. 10, 11).

The tuft of spicules is composed solely of long spicules, which bear toothed ringed ridges. These are either broken off inferiorly, or continued into a club-shaped or hemispherical four-toothed anchor with four strong, backwardly bent, narrow, pointed teeth (Pl. XXXIV. fig. 9).

Among some Hexactinellids of the "Porcupine" Expedition which I obtained through the Challenger Office, I found a specimen with characters exactly corresponding to those above described. This was obtained from Station 47 of the "Porcupine" Expedition, from a depth of 542 fathoms. The extended spindle-shaped form had a total length of 4.5 cm. The body proper, which was about 5 mm. in thickness, occupied 3 cm.; and was continued superiorly into an apex, while the narrowed lower end bore a colony of three or four *Palythoa* polypes, embracing the basal tuft for 2 mm. The spicules both of