

sponge is cup-shaped, more or less curved outwards laterally, and truncated transversely or obliquely above. The superior terminal surface is sometimes almost flat, usually, however, markedly concave, and always provided with a sharp-angled projecting marginal fringe, and with a central more or less markedly projecting cone. From the inferior lateral portion of this central cone four radial longitudinal plates extend as septa through the gastral cavity, broadening out laterally to unite with the thick body-wall. By these four cruciately disposed septa, four cavities opening widely on the upper terminal surface are enclosed, and these are continued laterally and inferiorly into the tree-like branched system of efferent canals. The fine terminal canals extend to within a short distance of the external skin, and there end blindly in those diverticula of the membrana reticularis which are characteristic of the Hyalonematidæ (Pl. XXXVII. figs. 1-3; Pl. XXXVIII. fig. 1). Close below the inconspicuous annular basal pad, surrounding the upper portion of the long much twisted root-tuft, there is an incrustation of *Palythoa*, which embraces in some forms only a small portion, and in others two-thirds or more of the long tuft.

The total length of the sponge varies between 18 and 50 cm., of which the body itself occupies, on an average, from 5 to 8 cm. The maximum diameter sometimes occurs just below the upper end, sometimes about the middle, and varies from 3 to 6 cm. The average thickness of the basal tuft, just below the lower end of the body, is 3 to 4 mm.; further down, however, it becomes greater until the brush-like divergence of the spicules begins. Apart from some circular apertures from 1 to 4 mm. in diameter, the superior convex surface of the body and the whole surface of the freely projecting conus are seen to be fairly smooth. On the other hand, the whole lateral surface distinctly exhibits, even to the naked eye, the rectangular lattice-work of the dermal membrane (Pl. XXXVII. fig. 3).

The parenchyma contains a few medium-sized superficially smooth oxyhexacts, and numerous oxydiacts, disposed in strands or lying singly, with or without central swellings or with two or four cruciate nodes (Pl. XXXVIII. fig. 3). The small oxyhexacts which occur in great abundance are all rough, and almost thorny, and have more or less markedly curved rays (Pl. XXXVIII. fig. 5). Isolated very small but strongly developed oxyhexacts, with distally directed teeth (Pl. XXXVIII. fig. 4), occasionally occur.

The dermal skeleton, which appears on surface view as a conspicuous rectangular lattice-work (Pl. XXXVIII. fig. 2), consists of simple smooth medium-sized hypodermal oxypentacts, and of abundant autodermal pentact pinuli, about 0.2 mm in length, with strongly developed short-toothed basal rays, and somewhat strongly developed distal ray, with short obliquely inserted, spines (Pl. XXXVIII. fig. 10), and finally of irregularly scattered, large, medium-sized, and small amphidiscs. The former, measuring from 0.15 to 0.17 mm. in length, have a strong knotted axial rod, and broad umbels with eight paddle-shaped rays (Pl. XXXVIII. fig. 7); the middle-sized forms have from ten to twelve long narrow umbel rays (Pl. XXXVIII. fig. 6); while the very abundant small forms bear