

specimen was obtained in Agassiz's expedition of 1879 off Morrolight in 250 to 400 fathoms.

*Remarks.*—Of this singular and interesting sponge, only the cloacal tube was known to Weltner, who not unnaturally regarded it as a complete organism, although a histological examination would have revealed the absence of choanocytes and flagellated chambers, and thus have suggested its real nature. The specimens of the Challenger collection are fortunately entire, and thus afford an opportunity for complete examination and full description. A longitudinal section through the sponge (Pl. XVII. figs. 9, 10) reveals a cortex sharply differentiated from the choanosome, which is restricted to the spherical body, and does not extend into the cloacal tube. This latter commences in a pointed extremity at the centre of the sponge, where also the spicular fibres of the skeleton originate, thence it gradually enlarges as it proceeds radially outwards, so that within the sponge-body it has the form of an inverted cone, with its base at the periphery and its apex at the centre of the sponge. It is continued outside the sponge-body as an almost cylindrical tube, tapering very gradually towards its distal termination, which is truncated, and closed by a sphinctrate diaphragm, centrally perforated by the terminal oscule. The tube is usually slightly curved, with a tendency to be twisted. The following are the dimensions of six of the most perfect specimens in the collection:—(1) spherical body (spongomere) 20 mm. in diameter, cloacal tube, conical basal part 10 mm. long, diameter on emerging from the spongomere 8 mm., length to which it extends beyond the spongomere 65 mm.; (2) spongomere 16 mm. in diameter, cloacal tube 63 mm. long, 6 mm. wide at its point of emergence, 2 mm. wide at its distal termination; (3) spongomere 12 mm. in diameter, cloacal tube 4 mm. wide at its point of emergence, 45 mm. in length; (4) spongomere 11 mm. in diameter, cloacal tube 45 mm. in length; (5) spongomere 8 mm. in diameter, cloacal tube 4 mm. wide at its emergence from the spongomere, 32 mm. in length; (6) spongomere 6 mm. in diameter, cloacal tube 6 mm. long. Besides entire sponges there are a few separate cloacal tubes in the collection; one of these measures 95 mm. in length.

*Spongomere—Ectosome.*—The cortex is of irregular thickness: in a specimen 8 mm. in diameter it varies from about 0·22 to 0·39 mm. in thickness; it consists of a middle collenchymatous layer about 0·1 to 0·2 mm. thick, faced externally by a thin fibrous layer about 0·002 mm. thick, in which the constituent fusiform cells run parallel to the surface, and continued inwards into a thick layer of fibrous tissue, from about 0·1 to 0·2 mm. thick, in which the fusiform cells arranged in fibres run in various directions, mostly tangentially. The collenchymatous layer, which is widely excavated by intercortical canals, contains, as well as the usual collencytes, numerous fusiform cells, which cross obliquely from the outer to the inner fibrous layer, surround more or less concentrically the intercortical canals, and wander in various other directions; some