

united so as to form a tube, which constituted the present connecting bridge and the under extremity of the small tube, while from its upper convex side a new young tube grew upwards.

Another young specimen, in which the amalgamation of the spicules has not yet commenced, is from 2.5 to 3 cm. broad, possesses a highly arched sieve-plate, and a very well developed system of ridges, together with a completely formed cuff. The ridges have already attained a height of 3 mm. or more. The inferior extremity is unfortunately absent.

2. *Euplectella suberea*, Wyville Thomson (Pl. V.; Pl. VI. fig. 3).

Though the Challenger specimens of the new species which Wyville Thomson named *Euplectella suberea* were not, as a whole, well preserved, the discoverer was still able by combining the various fragments, to obtain so perfect a conception of the size, form, and structure of the whole sponge that he was able to publish, with the help of the artist, the restoration presented in Pl. V. fig. 1. As is evident indeed from this excellent figure, and from Wyville Thomson's own words, which have been quoted verbatim above on p. 60, the sponge in question is a straight, round, slightly swollen tube, varying from 20 to 25 cm. in length, and measuring about 5 cm. in its greatest breadth. Its walls, it is true, present a general similarity to those of *Euplectella aspergillum*, but it may be readily distinguished from the latter by the greater regularity of its structure, by the absence of the high external ridges and of the cuff, as well as by the numerous separate projecting radial spicules.

The parietal gaps lie at a distance of 6 to 8 mm. from one another, within trench-like pits, which are connected by intersecting systems of external, oblique, and spiral furrows, so that the regular spiral arrangement of the parietal apertures becomes all the more manifest. Between every four adjoining parietal gaps there is a rhombic area, bounded by the connecting furrows, and provided with a flat, slightly convex, projecting elevation.

The upper transversely truncated extremity of the tube is bordered by a delicate marginal wreath, from which isolated spicules project upwards and outwards in groups, without forming a continuous fringe. Close beneath the margin there is a wreath of densely placed parietal apertures, while inside the margin a wide-meshed lattice-like network is spread out transversely, the delicate strands of which are arranged partly in a circular, and partly in a radial manner.

The inferior extremity of the tube, which has become narrowed to about the half of the greatest transverse diameter, is devoid of soft parts, and runs out into an incompletely preserved basal tuft of long, thin, siliceous fibres.

An examination of the inner surface of the wall shows that here, as in *Euplectella aspergillum*, a quadrate, lattice-like network of longitudinal and circular ridges projects inwards. The meshes are seen to be occupied alternately with a parietal gap, and with a