

spicules placed in horizontal, transverse, and oblique directions, often crossing each other, forming a more or less irregular network, and often closed at the top by a netted lid formed of shorter spicules; the base with elongated free spicules terminating in three or four short spines, by which it is fixed to the mud. The sarcode mucilaginous, studded with differently shaped spines, some of which are many rayed, stellate, with clavate arms."

In the system which Carter proposed<sup>1</sup> in 1873 for the Hexactinellida he did not class together the well-known forms hitherto united in the family of the Euplectellidæ, but referred *Euplectella aspergillum* to one of his three chief divisions, where the "spicules" were "held together by silicified fibre"; the genus *Habrodictyon*, Wyville Thomson, he relegated to the group whose "spicules" were "held together by amorphous sarcode"; while for Owen's *Euplectella cucumer*, whose spicules are only united in the lower portion of the sponge by being cemented with siliceous matter into a rigid framework, while they remain isolated above, he instituted, because of this character, a special third division.

As characteristic of *Euplectella aspergillum*, he noted that the body was "tubular, unbranched, and closed at the extremity." This specific character, however, applies equally well to *Euplectella cucumer*, Owen, and to *Habrodictyon*, Wyville Thomson. The two species of the latter, *Habrodictyon speciosum* and *Habrodictyon corbicula*, although separated by Wyville Thomson, Carter thought it necessary to unite in one species, *Habrodictyon* or *Alcyoncellum speciosum*.

In 1874, Higgin<sup>2</sup> described the skeletal structure of a specimen of *Euplectella aspergillum* preserved in the Liverpool Free Museum, which had already, on an earlier occasion, been inspected by Wyville Thomson during his stay in Liverpool, and was referred to in a letter from the Challenger in Good Words, July 1873, p. 510. That communication by Wyville Thomson ran as follows:—"Several samples of *Euplectella* very closely allied to the Philippine species, if not identical with it, came up in the trawl off Cape St. Vincent, and gave us an opportunity for the first time of seeing this Sponge alive. Dr. J. E. Gray writes to the Annals and Magazine of Natural History that specimens have been received of *Euplectella aspergillum* in spirit, and that in these the glassy framework is entirely masked by a soft brown corky coating of sarcode. Our fresh specimens entirely bear out Dr. Gray's description. It would be difficult to imagine that the thick, somewhat clumsy, brown tube, perforated with irregular openings, contained any arrangement of support so delicate and symmetrical."

"Although the forms of all the spicules, down to the most minute and complicated, are identical, the wall of the tube in the European specimens of *Euplectella* is not coherent as in most of the Philippine examples. The original spicules of the skeleton remain separate from one another, and do not become soldered together. One would think that this would be at all events a perfect specific distinction, but one or two of the

<sup>1</sup> *Ann. and Mag. Nat. Hist.*, ser. 4, vol. xii, p. 349.

<sup>2</sup> *Ann. and Mag. Nat. Hist.*, ser. 4, vol. xiii, pp. 44-48.