

In opposition to the opinion which has been expressed by several authors, *e.g.*, Marshall,<sup>1</sup> to the effect that *Euplectella cucumer* is not specifically distinct from *Euplectella aspergillum*, I must point to the following essential differences. Whilst *Euplectella aspergillum* has the form of a bent tube, which becomes wider towards the upper extremity, *Euplectella cucumer* consists of a perfectly straight, bellied tube, devoid both of the externally projecting ridges and of the cuff on the upper margin. The regularity of the arrangement of the round parietal apertures, which is frequently interfered with in *Euplectella aspergillum*, is everywhere manifest in *Euplectella cucumer*. The fusion of the skeletal spicules which appears in all parts of the tube of *Euplectella aspergillum* soon after the attainment of its full size, has taken place in this obviously old specimen of *Euplectella cucumer* only to a very limited degree in a few regions.

It thus appears to me that (on the whole) *Euplectella cucumer* is more nearly related to *Euplectella suberea* than to *Euplectella aspergillum*. From *Euplectella suberea*, however, it may be distinguished first by the compact sieve-plate, consisting of strong, firmly united spicules, and secondly, by a character which Owen noted, and which Carter subsequently announced as a distinctive peculiarity,—the possession of strong hexacts, 1 to 2 cm. in length, regularly distributed in such a way that one always occurs in the middle space between every four adjoining parietal gaps, with its strong distal ray projecting freely from the summit of the raised arching of the outer wall.

From such considerations I believe I am justified in maintaining that *Euplectella cucumer*, Owen, is an independent species.

#### 4. *Euplectella jovis*, Oscar Schmidt (Pl. VI. figs. 4, 5).

According to Oscar Schmidt's account *Euplectella jovis*—found in the Gulf of Mexico, in 423 fathoms in the neighbourhood of St. Lucia, and in 416 fathoms in the vicinity of Granada—agrees in many points with *Euplectella suberea*, Wyville Thomson. The straight tube, which extends to a length of 50 cm., is provided with a basal tuft and a terminal sieve-plate; but the external ridges are absent. A projecting wreath of spicules surrounds the sieve-plate. The round parietal gaps are arranged in spiral rows, though not quite regularly (Pl. VI. fig. 4). On the inferior extremity O. Schmidt found a transversely placed inferior sieve-plate which divided the inferior conical portion of the tube, which was filled with mud, from the principal vital portion.

As the spicules never become fused the tube remains soft and flexible.

The intersections of the longitudinal and transverse strands of fibres forming the quadrate lattice-like network are here also principally supported by the mutually apposed tangential rays of the strong pentacts, whose distal radial ray projects freely outwards, for a distance of 1 or 2 cm. beyond the surface. An intersection of the fibrous lattice-work, pro-

<sup>1</sup> *Zeitschr. f. wiss. Zool.*, Suppl.-Bd. xxv. pp. 148, 209.