

bundles. The comitalia, which for the most part compose the fibrous bundles, are, on the other hand, very much prolonged triacts with short transverse rays; more rarely they are diacts or tetracts. Inferiorly and in the outer part of the longitudinal bands of fibres numerous diacts always occur with abundant barbs and with inferior anchors on whose knob-like thickened extremities an indefinite number of anchor teeth form a projecting wreath. I have not found pentact anchors such as occur in the basal tuft of *Euplectella aspergillum* (Pl. III. figs. 23). Between the bundles of longitudinal and transverse fibres, which intersect at right angles, oblique or spiral fibrous bands alone occur. These are, on the whole,<sup>1</sup> somewhat more loosely compacted than those formed from the tetract principalia just described, and consist almost exclusively of very long thin triacts with short transverse rays, and more rarely in part also of diacts and tetracts. Sometimes some spiral bands also extend over the outer side of the longitudinal and the inner side of the transverse beams, or pass over some longitudinal bands externally, then along their inner side between the longitudinal and transverse beams for a certain distance, again passing outwards, and so on. Since each of the quadrate principal meshes, which are from 3 to 5 mm. in breadth, encloses a circular parietal gap, the obliquely crossed bands of fibres cannot lie along the diagonal line of the meshes, but pass close to the parietal foramina, and assist in forming their margins. In this way a woven meshwork is formed, which—as Marshall has pointed out—somewhat resembles that of our common cane-bottomed chairs. The parenchymalia which lie between the long spicules of the principal bands of fibres are for the most part triacts, pentacts and diacts with slightly bent rays, also small normal hexacts and oxyhexasters less regularly arranged. In general they resemble the corresponding structures of *Euplectella aspergillum* so completely that I may refer to the description and figures given for that species. It is only in the circular membrane, which surrounds the parietal foramina, that the parenchymal spicules—as has also been noted by Marshall—present a somewhat different character, since in this locality and in the neighbourhood of the free margin substantial spindle-like diacts with four or two median tubercles occur in great numbers. These Marshall<sup>2</sup> has happily designated compass spicules. Passing from the outer portion of the iris-like circular membrane towards the interior, all transitions from the circular hexacts to those peculiarly deformed diacts may be observed. While externally greatly prolonged curved diacts occur beside the isolated strong hexacts and the numerous pentacts, further towards the interior it may be seen that tetracts and triacts of the same strength predominate, while just at the innermost margin compass spicules are almost exclusively found.

There may also be observed a system of slender dagger-shaped hypodermalia with

<sup>1</sup> The long tetracts which are represented by Marshall in his diagrammatic figure (*loc. cit.*, pl. xv. fig. 54, cc), as principalia of the oblique spicular bands, I have sought for in vain in this young specimen.

<sup>2</sup> *Loc. cit.*, pl. xv. fig. 57.