

only suggested. The comparatively strong and straight basal rays, which are sparsely covered with small externally directed teeth, are only about 0.05 mm. in length. At first gradually narrowing, they end in a short conical point. The distal ray, which has an average length of 0.3 mm., is in some regions decidedly shorter, while it may, on the other hand, attain double the above length. It is as a rule perfectly straight, strongly developed at the base, and very gradually diminishing in diameter up to the fine narrow point. It is covered with strong, distally directed spines or teeth, which stand out somewhat markedly towards the base, and become shorter and more closely apposed towards the extremity (Pl. XXVII. fig. 12).

In some positions on the lateral surface of the body the pinuli are specially long and somewhat bent (Pl. XXVII. fig. 11). The dermal skeleton of the superior terminal sieve-plate does not differ in essential characters from that of the lateral wall. Instead of the large pentact hypodermalia, however, strands of diacts of various sizes predominate.

The marginalia forming the marginal fringe of the whole sieve-plate are straight or but slightly curved oxydiacts, 1 to 1.5 mm. in length. Four distinct, cruciately disposed, broad and rounded protuberances from the point of intersection represent the tangential rays. The freely projecting distal portion bears externally directed spines, and narrows very gradually to a fine point. The proximal portion, which is inserted in the parenchyma, is either smooth or but sparsely beset with small pointed elevations, which stand out transversely or are somewhat turned towards the apex, *i.e.*, internally. The proximal portion is always thicker and less pointed than the distal external portion, and its length is to that of the latter generally in the proportion of 1 : 2.

Though it cannot be doubted that these marginalia belong to the rank of the dermalia, and are most nearly related to the autodermal pinuli, no distinct transitional forms are to be observed; they can indeed be distinguished with equal sharpness from the pinuli of the sieve-plate and from those of the sides of the body.

Special attention must be directed to those remarkable elements of the dermal skeleton which were designated birotulate spicules by Bowerbank, and amphidiscs by Max Schultze and others. They consist of a straight main stem, both ends of which bear a similarly composed campanulate umbel formed of a varying number of radiate processes, varying in length, and either of a leaf-like form, or narrow like the ribs of an umbrella. This form of spicule is typical and characteristic of the whole family of the Hyalonematidæ. Manifold variations occur in shape and size, and these are partially characteristic of the different genera and species, and thus useful for diagnostic purposes. That we have here really to deal with diacts is evident, in spite of the absence of any intersection of the well-developed axial canal by one or two small transverse canals, from the fact that amphidiscs are not unfrequently found, in which four, cruciately disposed,