

rays of these pinuli exhibit a median curvature like that of the figure 8, as we formerly saw in the dermal pentact pinuli of *Poliopogon*. The free strongly developed distal ray has usually a length of about 0.15 mm., and is beset with strong, though not long, lateral spines bent like hooks upwards and outwards. The very upper end forms a free point (Pl. LI. figs. 5, 13).

As to amphidiscs, I find a large isolated form about 0.25 mm. long, with thick knotted axial rod, and short, broad, terminally somewhat transversely truncate umbels. The eight broad rays are paddle-like and terminally rounded (Pl. LI. fig. 10). Beside these, though also but sparsely, a similar form of medium-size occurs (Pl. LI. fig. 8), and somewhat more abundantly the familiar small type with hemispherical terminal umbels, 0.02 to 0.03 mm. in length (Pl. LII. fig. 7). More frequent than in the stretched, freely exposed, dermal lattice-work, is the occurrence of these various amphidiscs in the portions of the skin which lie over the insertion of the parenchymatous canalicular wall (Pl. LII. fig. 3).

The same kinds of spicules, but with somewhat different development and dimensions, compose the skeleton which forms the wide-meshed sieve-network in the oscular regions of the bevelled sides and of the superior extremity of the whole sponge body. The large supporting pentacts exhibit indeed the same fundamental form and dimensions as those of the dermal membrane, but reductions of individual rays very frequently occur, with the production of rounded ends, or with the formation of slight, terminal, club-shaped swellings. The downward curvature at right angles, exhibited by some of the tangential rays, is also of very common occurrence. Especially remarkable, however, is the considerable length attained by the free distal ray of the pinuli. As a rule, this thick ray, beset with short hook-like lateral spines, measures 0.5 mm. in length, and ends in a projecting point. The four basal rays are moderately long, less curved, and terminally somewhat spinose and rounded (Pl. LI. fig. 4). Besides these, shorter pinuli occur with slimmer distal ray. The strong eight-rayed amphidiscs (figured in Pl. LI. fig. 10) occur here more abundantly than in the dermal lattice-work, and always exhibit in successful preparations the characteristic disposition represented in Pl. LII. fig. 3. Numerous eight-rayed amphidiscs of similar form, but of medium size occur, and also quite minute forms with hemispherical umbels.

It is noteworthy that neither pinuli nor amphidiscs occur on either of the bounding surfaces of the parenchymatous septa between the afferent and efferent canals, but only the familiar parenchymalia, including numerous medium-sized oxypentacts, with numerous bent, or with more or less reduced rays. I have, however, frequently found—instead of the familiar small oxypentacts with several laterally projecting, somewhat bent spines,—pentacts of similar structure, in which the sixth ray was either wholly absent, or represented only by a small conical elevation.

The freely projecting portion of the basal tuft exhibits spicules up to 20 cm. in length, which terminate superiorly in a very gradual point, while the lower end forms a strongly