

circular, or elliptical. Oœcia inconspicuous, opening at or near the summit of the area above the orifice. In the decalcified condition the interareolar septa exhibit a delicate chitinous probably tubular filament apparently continuous throughout the segment; and on each side of the oral orifice a slender curved chitinous rod or trabecula, which sometimes unite so as to form a complete or incomplete ring. Avicularia usually present, either vicarious or intercalated.

The Family *Salicornariadæ*, as thus constituted, appears to be a very natural one. It includes besides *Salicornaria* or *Cellaria*, the genus *Melicerita* of M. Milne-Edwards, the close relationship of which to *Salicornaria* has also been perceived by Mr. Waters.¹

Under the name *Salicornaria* I have included all the cylindrical forms, though strongly inclined to separate *Salicornaria magnifica* from the rest, on account of its unjointed branched zoarium, and the absence, so far as I have been able to perceive, of any avicularian organs.

As in very many other cases, the chitinous elements of the skeleton will in this Family be found of the utmost value in diagnosis, as affording the most distinct and invariable characters. Among these elements are included, besides the opercula and avicularian mandibles:—1. A delicate, sometimes distinctly tubular filament, running along the interareolar septa, and affording probably a channel through which the extension and calcification of the septa are effected. This filamentary network appears to be continuous throughout the branch or internode, and the network formed by it should be regarded as zoarial rather than as appertaining to the individual zoœcia enclosed in the meshes.

2. A second chitinous element, peculiar, so far as I am aware, to this Family, consists in the delicate rods or trabeculæ on either side of, or completely surrounding the orifice and its operculum, to which the rods or ring afford support. It may be added that these trabeculæ or the analogous chitinous ring are plainly visible, in many cases without any previous decalcification. This is especially seen in *Salicornaria magnifica* and *Melicerita atlantica*. They appear to lie beneath the common epitheca and not to form mere thickenings of it.

A further peculiarity, common, so far as I know, to the whole Family, is the existence of a rounded apparent opening at each lower angle of the operculum, and which in the descriptions of several species are termed "foramina." Subsequent examination, however, seems to show that these marks are not really openings, but in all probability merely the optical expression of the bases of short conical projections on the dorsal surface of the operculum—a sort of levers—for the attachment of the ocluser muscles.

¹ *Quart. Journ. Geol. Soc.*, August, 1881, p. 332.