

3. *Steganoporella*, Smitt.

Steginoporella, Smitt, Florid. Bryoz.

Steganoporella; Hincks, Brit. Mar. Polyz. ; Waters ; Macgilliv.

Membranipora (pars), Brit. Mus. Cat. ; Aucutt.

Vincularia (sp.), d'Orb.

Character.—Zoarium polymorphous; erect and branched or lobate; or decumbent, and foliaceous and crustaceous. Zoœcia oblong, arched above. Frontal area occupied by a delicate chitinous membrane, which is closely adnate to the internal calcareous lamina for about the lower half of the area; above free, and supporting the operculum, and having on each side, below the orifice, a minute forked or irregularly branched vertical chitinous rod. Opercula large, semicircular, usually of two kinds, the membranous portion supported by a branching chitinous framework. A strong internal calcareous lamina, which, about the middle of the length of the cell, bends backwards to the posterior wall, forming a transverse diaphragm, by which the cell is divided into two distinct chambers, communicating by a phrenic opening through which the polypide is protruded supported on or passing over a large hollow process rising from the upper and anterior part of the transverse diaphragm.

The very peculiar conformation of the zoœcium in this genus or subgenus is not very easily described. It may be briefly said that the general cavity of the zoœcial cell is divided into two chambers, an upper, probably oœcial in function, in the fertile cells, and an inferior, in which the polypide is lodged. This division into two chambers is effected by the bending backwards of the calcareous lamina, which, instead of ceasing with a free border as in *Vincularia (mihi)*, is apparently attached all round to the sides and back of the general zoœcial cavity, but leaving posteriorly a rather large opening, through which the polypide is extruded along an imperfectly tubular passage which bends forwards to the orifice, and is supported beneath by a very peculiar hollow process rising from the convex upper surface of the diaphragm.

The space, therefore, of the upper chamber, on each side of the diaphragmatic opening and supporting fulcrum, forms a vaulted cavity occupying the upper half of the entire cell, and no doubt, as has been suggested, serving as an oœcial receptacle. There are no other distinctly oœcial organs. In two out of the three existing species of the genus, limited as above, with which I am myself acquainted, this upper or oœcial compartment is more developed in some of the zoœcia than in others, and the difference is marked by a difference in the size and pattern of the chitinous framework of the operculum. In the third species, a New Zealand form, which I have termed *Steganoporella neo-zelanica*,¹ which does not occur in the Challenger collection, there is, however, no marked difference between the opercula of different cells. Other peculiarities, not at first sight so obvious

¹ *Quart. Journ. Micr. Sci.*, N. S., vol. i. p. 155, pl. xxxiv. fig. 4.