

The pores are arranged in regular symmetrical cyclo-systems, a circular group of dactylopores surrounding in each system a single centrally-placed gastropore. The pores of both kinds occur only arranged in these systems in this species.<sup>1</sup> The cyclo-systems so closely simulate in appearance the calicles of ordinary Hexactinian corals, that the genus *Stylaster* and its allies, such as *Allopora* and *Cryptohelia*, have hitherto been placed amongst the Oculinidæ. The cyclo-systems in the present species appear as small cylindrical masses of calcareous matter, which have a somewhat greater diameter at the free extremity than at the base. In the growth of the coral new systems bud off from the sides of the older cylinders, at the tips of the branchlets. The cylinders thus newly formed have their axes at right angles to those of the old systems to which these are attached, but in the same plane with them, which is also that of the entire flabellum. The branchlets of the cœnosteum, already described as given off by the main stem and branches, are composed of zooid systems thus related to one another. In the more recently formed twigs the arrangement described is plainly apparent, and they have thus a zigzag appearance; but in proportion as the branchlets are traced nearer and nearer to the stems from which they spring, this zigzag arrangement becomes more and more obliterated by deposit of cœnenchym, and in the older regions of the cœnosteum, on the sides of the main branches and stem, the mouths only of the zooid systems remain unburied by the swollen dimensions of the support.

No pore systems occur on either of the flabellar faces of the stem or branches. Short branchlets, as well as single pore systems, are evidently swallowed up, to some extent, by the spread of cœnenchym and increase of the dimensions of the stem, and all stages of the process appear at the lateral margins of the stem near its base. But in order to secure an excessive strengthening of the stem, with the least amount of encroachment upon early-formed pore systems, the stem swells to the greater extent in the direction of its surfaces which correspond with the faces of the flabellum and bear no pore systems. Hence, as already described, it becomes oval in section, being flattened in a plane at right angles to that in which the younger branchlets are compressed.

The cyclo-systems are groups of zooid pores as already described, which have a regular symmetrical arrangement, a single gastropore in each system being surrounded by a circlet of dactylopores. The centrally placed gastropore in each system is a wide tubular cavity with a circular transverse section. This pore is much deeper than its surrounding dactylopores, and has at its bottom a short stout style, with a brush-like

<sup>1</sup> In another species of *Stylaster*, *S. granulata*, dredged off Ascension Island, in 420 fathoms, small isolated dactylopores were observed to occur on the surface of the cœnosteum as a rare exception, apart from the pore systems. One such was observed situate on the side of a cylindrical cyclo-system, and two others at the margin of an ampullar prominence. These were very probably occupied, in the recent state of the coral, by small dactylozooids, the rudiments of those which, in an earlier stage of evolution of the Stylasteridæ, overspread the surface of the ancestral form, as in *Sporadopora*.