

Family III. SPIRASTRELLIDÆ, Ridley and Dendy.

Spirastrellidæ, Ridley and Dendy. *loc. cit.*, p. 229.

The megascleres are rhabdi or styles, the microscleres are spirasters or discasters. The microscleres form a dense dermal layer.

Genera.

Spirastrella (O. Schmidt), Ridley and Dendy, *loc. cit.*, p. 229.

Latrunculia, Bocage, Ridley and Dendy, *loc. cit.*, p. 233.

Podospongia, Bocage, Journ. Sci. Math. Phys. et nat. Lisbonne, p. 159, pl. x. fig. 1, 1869.

THE RELATIONS OF THE SPINTHAROPHORA TO THE TETRACTINELLIDA.

That the Spintharophora are nearly related to the Tetractinellida I do not doubt, but am inclined to think that the connection is not as Vosmaer imagines with the higher Tetractinellida, but with the lowest, such as Placinidæ. If we compare the lowest form of the Spintharophora (*Astropeplus*) with the lowest of the Tetractinellidæ (*Placina*), we cannot fail to perceive a close resemblance, but if for *Placina* we substitute the very nearly related *Placortis simplex* the similarity becomes surprising. With the same general kind of canal- and chamber-system, the prevailing spicules of *Placortis* are diactinose asters, or microxeas, 0·1 mm. in length in *Placortis* and from 0·2 to 0·4 mm. in *Astropeplus*; the chief difference between the two forms lies in the replacement of the triactinose asters of *Placortis* by smaller polyactinose asters in *Astropeplus*, and the importance of this difference, though it is not great, is further lessened by the fact that the actines of the aster in *Astropeplus* are inconstant in number and are frequently reduced to three. The passage from *Placortis* to *Astropeplus* is so easy that one cannot help thinking that *Astropeplus* has been derived from some Placinid form by a variation in the number of actines of the aster, and a slight modification of the microxea, which is seldom of a quite regular form in the Placinidæ. The microxeas of *Astropeplus* may readily pass into megoxeas, and, given these two forms, asters and oxeas, the different spicules of the Spintharophora can readily be derived. In *Epallax*, which probably lies near the root of the Axinellidæ, we find asters similar to those of *Astropeplus*, and oxeas, which in accordance with the mode of growth of the sponge have acquired greatly increased size both in length and breadth. The tendency to pass into strongyles or strongyloxeas is manifested by these spicules, and the strongyloxeas and styles of the more differentiated Axinellidæ are thus foreshadowed. The canal-system and