

development. It was the examination of this set of specimens which first convinced me that the Stylasteridæ were Hydroids and not Anthozoans, a fact which I had already been led to suspect from the structure observed in the case of a species of *Astylus* obtained from 500 fathoms off the Meangis Islands, and that of a *Cryptohelia*, a short reference to which was given in a paper On the Structure and Relations of Certain Corals (Proc. Roy. Soc., No. 64, 1875, p. 64, and Phil. Trans., vol. clxvi., part 1, 1876, p. 116). I have examined also other specimens of Stylasteridæ obtained by the dredge and trawl of the Challenger in various parts of the world, and a few specimens from those obtained by the United States' dredging expeditions, which have been generously placed at my disposal by Mr Alexander Agassiz and Count de Pourtalès of the Museum of Comparative Zoology of Cambridge, Massachusetts. I have also examined specimens of *Distichopora* preserved in spirits, which I obtained from the Museum Godeffroy.

LITERATURE OF THE SUBJECT.

The family Stylasteridæ was formed by the late Dr Gray in his Outline of an Arrangement of the Stony Corals (Ann. and Mag. Nat. Hist., vol. xix. p. 127, 1847). The family was made to contain the genus *Stylaster* alone, and was thus characterised :—

“Coral minutely porous, cells deep, cylindrical, with six grooves, each ending in a pore and a central style.”

MM. Milne-Edwards and Haime placed *Stylaster* in a sub-family Stylasteraceæ, from which, however, they excluded *Errina* and *Distichopora*, although they included *Axohelia*, which is a *Madracis*.

Count de Pourtalès, in his Deep-Sea Corals (Illustrated Catalogue of the Museum of Comparative Zoology at Harvard College, No. 4, 1871, p. 33), writes as follows :—

“Professor Verrill first recognised the close affinity of *Distichopora*, *Errina*, and *Stylaster* (Bull. Mus. Comp. Zool., No. 3, 1864). In his Notes on the Radiata (Trans. Conn. Acad., vol. i., 1870) he adopted a suggestion of mine to make a distinct family of the Stylasteridæ, which he places in his sub-order Oculinacea, both of us overlooking the fact that Gray had already established it.”

Portalès, struck by the porous nature of the cœnenchym of the cœnostea of the Stylasteridæ, and other points in the hard structure which he observed, removed the Stylasteridæ from amongst the imperforate corals, and ranged them next to the Eupsammidæ. He fully recognised many strong points of affinity which rendered the family a natural one, but failed to ascertain the true character of the organisms, because he had not opportunity of examining their soft structures.