

The hard tissues are transversed in all directions by fine capillary branching canals which are provided at intervals with numerous spherical cavities attached to them laterally (Pl. XIV. figs. 6, 8). In *Millepora alcicornis*, from Bermuda, in which the cœnosteum is comparatively soft and cancellar, borings of the parasites could only here and there be detected. When set free by acids the organisms are seen to consist of ramifying mycelial threads, with abundance of fructification. Their structure has been described at length by Professor Duncan. It is remarkable that they have a distinctly green colour. They are not confined to the calcareous structures, but in *Millepora nodosa* at least, occur also in abundance amongst the soft superficial tissues; and it appears probable that they become included within the calcareous tissue by the calcareous matter being deposited around them as the cœnosteum is extended by growth.

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## SECTION II.—ON THE STRUCTURE OF THE STYLASTERIDÆ.

WITH A LIST OF ALL THE SPECIES OF THE FAMILY AT PRESENT KNOWN, AND DESCRIPTIONS OF SOME NEW SPECIES OBTAINED BY H.M.S. CHALLENGER.

### INTRODUCTION.

In the Proceedings of the Royal Society, No. 172, 1876, I published a preliminary note on the present subject, and gave a short account of the results which I had arrived at from a somewhat hurried examination of the material at disposal. After this short account had been written, I devoted my time during the remainder of the homeward voyage of H.M.S. Challenger to the further study of the structure of the Stylasteridæ, and the preparation of drawings illustrating it; I have supplemented this by additional work in England, and the results are embodied in the present paper.<sup>1</sup> The main part of the specimens of Stylasteridæ, from the study of which the anatomical details were determined, was obtained at a single haul of the trawl-net taken on February 14th, 1876, in lat. 37° 17' S., long. 53° 52' W., off the mouth of the Rio de la Plata, in a depth of 600 fathoms. The specimens then obtained included six genera of the family Stylasteridæ. They were in most excellent preservation, although they had been slowly raised from the bottom, and in all the genera but one the generative organs were in full

<sup>1</sup> The greater part of this present treatise is a reprint of the Croonian Lecture for 1878, On the Structure of the Stylasteridæ (Phil. Trans. Roy. Soc., part 2, 1878, p. 425), which was published in advance in the Philosophical Transactions by the permission of the Lords Commissioners of the Treasury.