

PART I.—ON THE HYDROCORALLINÆ.

INTRODUCTION.

THIS Part of the Report contains an account of the structure of *Millepora nodosa*, and a Monograph on the structure of the STYLASTERIDÆ, together with a list of the species dredged by H.M.S. Challenger, and a further list of all species hitherto described. It is divided into three Sections, as follows:—

SECTION I.—ON THE STRUCTURE OF THE MILLEPORIDÆ.

SECTION II.—ON THE STRUCTURE OF THE STYLASTERIDÆ.

SECTION III.—GENERAL REMARKS ON THE HYDROCORALLINÆ.

It is mainly a reproduction of two papers on the structure of Hydroid Corals which were, by the permission of the Lords Commissioners of the Treasury, published as parts of a Preliminary Report on the results of the Challenger Expedition in the Philosophical Transactions of the Royal Society for 1877 and 1878.¹ Certain alterations have, however, been made in the account of the structure of *Millepora*, which were necessitated by the discovery, subsequent to the appearance of that paper, of the Hydroid nature of the STYLASTERIDÆ. The terms made use of have been altered where necessary in order to render them uniform throughout, and the whole has been revised and to a considerable extent rearranged. The list of STYLASTERIDÆ dredged by H.M.S. Challenger, with descriptions of a few new species, is a new addition. The zoological relations of the MILLEPORIDÆ and of the STYLASTERIDÆ are discussed separately at the ends of the parts of the treatise relating to each of them, and a general discussion on the relations of the HYDROCORALLINÆ as a whole, and on their pedigree, concludes the Monograph.

¹ On the Structure of a Species of *Millepora* occurring at Tahiti, Society Islands (Philosophical Transactions of the Royal Society, 1877, p. 117); The Croonian Lecture, On the Structure of the STYLASTERIDÆ, a family of Hydroid Stony Corals (*ibid.*, 1878, p. 425).