

## SECTION I.—ON THE STRUCTURE OF THE MILLEPORIDÆ.

## INTRODUCTION.

In a paper treating mainly of the structure of *Heliopora cœrulea* which was communicated to the Royal Society in the autumn of 1875,<sup>1</sup> I gave a short account of the result at which I had arrived from the examination of two species of *Millepora*, obtained at Bermuda and at the Philippines, and expressed my intention of further prosecuting the subject at the Sandwich Islands and Tahiti, should material be forthcoming.

At Honolulu no *Millepora* was met with; and this form apparently does not occur at the Sandwich Islands, the water being too cold for it. At Tahiti a *Millepora* is very abundant on the reefs, in from 1 to 2 feet of water, and is very conspicuous because of its bright yellow colour.

I failed in an attempt to procure the animals of this species in an expanded condition; but my colleague, Mr J. Murray, succeeded on two occasions, and on the second occasion showed me the expanded zooids, and handed the living specimens over to me for examination. I am greatly indebted to Mr Murray for having thus afforded me the opportunity of studying the zooids of *Millepora* in the expanded condition, and I do not think that I should ever have succeeded in arriving at a satisfactory knowledge of their structure without this aid. Mr Murray further, who had had better opportunities of observing the living coral than I, first drew my attention to the fact that the central zooid of each system had a mouth. No species of *Millepora* appears hitherto to have been known to occur on the reefs of the Society Islands. In Dana's work on Corals<sup>2</sup> no *Millepora* is mentioned as occurring at Tahiti, and this locality is not given for any species of *Millepora* by MM. Milne-Edwards and Haime. The Tahitian species, of which the structure is here described, was determined for me by my friend, the late Dr F. Brüggemann, who, at the time of his death, was engaged in arranging and determining the collection of corals in the British Museum, to be *Millepora nodosa* of Esper.<sup>3</sup> The species is mentioned by M. Milne-Edwards under *Millepora gonagra*;<sup>4</sup> it resembles closely in form *Millepora tuberculosa* (*Millepora gonagra*), figured by MM. Milne-Edwards and Haime.<sup>5</sup> Like this species, it never forms foliaceous expansions, but is tuberculate and irregular in shape, and often encrusting, commonly overgrowing the dead fronds of *Lophoseris cactus*, which is a principal component of the Tahitian reefs. The present species seems, however, to differ from *Millepora tuberculosa* in that its pores are disposed over

<sup>1</sup> Phil. Trans. Roy. Soc., vol. clxvi., 1876, part 1, p. 91.

<sup>2</sup> United States' Expl. Exped., vol. vii., Zoophytes, by J. D. Dana, Philad., 1846.

<sup>3</sup> Esper, Pflanzenthier, vol. i. p. 199, Millep., pl. i. (1791).

<sup>4</sup> Hist. Nat. des Cor., vol. iii. p. 230.

<sup>5</sup> *Ibid.*, pl. xiii. figs. 1a, 1b.