

found for examination having been disappointed. In Plate I. fig. 1 the mesenterial filament is, in the drawing, stopped short above the ovum in order to allow the ovum to be seen. The filaments belonging to the septa bearing ova hang down below the ova. No trace of any male elements was found in any polyp. The colonies of *Heliopora* are probably unisexual.

*Disposition of the Dorsal and Ventral Aspects of the Polyps.*—The investigation of the positions of the dorsal and ventral aspects of the polyps in the *Heliopora* colony relatively to the axes of growth is extremely difficult, because, when a horizontal section is cut sufficiently deep down to display the muscular arrangement, nothing remains to hold the various sections of polyps in position but the imbedding substance made use of; and where the only substance at command, as in the present case, was wax, the sections with the wax unremoved were found almost too opaque and indistinct for observation. By examining such sections, held together by the wax and made transparent with glycerine, I have found that the polyps (although they are often turned on their central axes to a considerable extent, so that the long axes of their stomachs are not by any means parallel, but often inclined to one another at very considerable angles) have nevertheless their dorsal surfaces, or the intermesenterial spaces devoid of retractor muscles ("Dorsalfächer"), always nearer to the summits of the colony than are the "Ventralfächer." The "Dorsalfächer" thus show a general tendency to take a superior position, *i.e.*, lie uppermost, in the vertical plates of which the colony is composed. The entire coral makes up a flat plate, with two outer surfaces, towards which the polyp-tubes are directed in curves on either hand from the vertical axis of growth; and the polyps thus curving away from one another have their "Dorsalfächer" approximated, or may be said to be placed back to back.

#### On the structure of a species of *Sarcophyton*.

An Alcyonarian dredged in shallow water amongst the reefs on the shores of the Admiralty Islands was examined in order to compare its structure with that of *Heliopora*. The Alcyonarian in question appears to belong to the genus *Sarcophyton*, Lesson,<sup>1</sup> originally described in the *Zoologie du Voyage de la Coquille*, and possibly to his species *lobatum*.<sup>2</sup> The genus is stated by Milne-Edwards to be imperfectly known. The specimens correspond in every particular with the description as given by Milne-Edwards. The Alcyonarian has exactly the form of a mushroom, with a cylindrical stem and polyps confined to the upper surface of the pileus. Many specimens were obtained, but unfortunately only one was retained for dissection during the voyage, the remainder packed away.

<sup>1</sup> Milne-Edwards and Haime, *Hist. Nat. des Coralliaires*, tom. i. p. 122.

<sup>2</sup> *Zooph.*, p. 92, 1831.