

Colour in alcohol, a bleached yellowish white, The large madreporiform body is conspicuous by its slightly orange shade of light brown.

*Locality*.—Station 304. Off the Peninsula of Tres Montes, west coast of Patagonia. December 31, 1875. Lat. 46° 53' 15" S., long. 75° 12' 0" W. Depth 45 fathoms. Green sand. Surface temperature 57°·2 Fahr.

Family PTERASTERIDÆ, Perrier, 1875.

Prior to the Challenger Expedition this family was represented by a very limited number of forms, only nine species being on record. Eight of these belonged to the genera *Pteraster* and *Retaster*, and the ninth was the type and solitary representative of *Hymenaster*, a genus established by Sir Wyville Thomson for a remarkable Asterid discovered during the cruise of H.M.S. "Porcupine."

Thirty-five species of Pterasteridæ were obtained by the Challenger, only two of which were previously known. Of the thirty-three new species, three belong to *Pteraster*, four to *Retaster*, and the remarkable number of twenty to *Hymenaster*, a genus which is now found to possess a world-wide distribution in deep waters. The remaining six species are representatives of four new genera, viz. :—*Marsipaster*, two species; *Benthaster*, two; *Calyptraster*, one; and *Pythonaster*, one.

Two new genera have been recently added to the family by Perrier, viz., *Myxaster*<sup>1</sup> and *Cryptaster*;<sup>2</sup> but the brief notices which are given of these interesting forms are too short to enable me to class them satisfactorily in the subjoined synopsis.

*Note on Terminology*.—For the sake of brevity, and to avoid verbose repetition, several terms are employed in the following descriptions which have not previously been used in their present special signification. The introduction of these terms is necessitated by structural peculiarities in the forms comprised in the family Pterasteridæ, several of which have hitherto been unobserved, whilst others have been ignored or passed over by previous systematists. The application of the terms will, in most cases, be self-evident. The following is a brief definition.

The *supradorsal membrane* is the veil-like covering or external independent tissue whereby the dorsal nidamental cavity is formed. The membrane is supported above the true abactinal surface of the animal by the paxillæ, which consist of a long columnar pedicle surmounted by a "crown" of fine, more or less elongate spinelets. In the majority of forms belonging to this family, fine muscular fibrous bands extend between the tips of the spinelets and constitute a more or less regular fibrous network; and the general tissue of the supradorsal membrane which fills in the interspaces or meshes is usually perforated by small contractile pores, styled *spiracula* by Sars. A large aperture occurs in the

<sup>1</sup> *Comptes rendus*, 1885 (November), t. ci. p. 886.

<sup>2</sup> *Ann. Sci. Nat. (Zool.)*, 1885, 6e Série, t. xix., art. No. 8, p. 69.