

two sides. The tissue of the lateral web is thickened along the margin, especially over the extremity of each spine, to which it gives a rounded capitate appearance, the web having the very faintest trace of incurving between the spinelets. The thickening of the membrane just mentioned is much more pronounced in the arm-angle, where all indentation of the web is obliterated and indications are present of a tendency to excrescent growth. A further faint line of thickening can be made out at the union of the abactinal and actinal tissues, which occurs just within the margin, especially round the shaft of the spines.

Colour in alcohol, greyish white.

Locality.—Station 158. South of Australia, 1099 miles south-west of Cape Otway. March 7, 1874. Lat. $50^{\circ} 1' 0''$ S., long. $123^{\circ} 4' 0''$ E. Depth 1800 fathoms. Globigerina ooze. Bottom temperature $33^{\circ} \cdot 5$ Fahr.; surface temperature $45^{\circ} \cdot 0$ Fahr.

Remarks.—*Hymenaster formosus* may be recognised at once by the small, uniform, rounded, and almost wart-like elevations on the abactinal surface; and by the single, large, and uniformly spaced spiracula—a character which readily distinguishes it from the other species having only one spine in the adambulacral armature.

3. *Hymenaster pergamentaceus*, Sladen (Pl. LXXXI. figs. 1 and 2; Pl. LXXXIII. figs. 1-3).

Hymenaster pergamentaceus, Sladen, 1882, Journ. Linn. Soc. Lond. (Zool.), vol. xvi. p. 215.

Marginal contour stellato-pentagonal; interbrachial arcs moderately indented, although the actual angle is masked by an abnormal development of the actino-lateral spines, which meet there and form a peak and an irregular excrescence of the web. The minor radial proportion is about 60·5 per cent. $R = 66$ mm.; $r = 40$ mm. (approximately). The radial areas are well defined from the lateral fringe, and taper rapidly at the extreme tip to a fine, slightly produced extremity, which is recurved. The "fringe" is more or less irregular, owing to the thickening at the margin and abnormal growth, and is only slightly indented or festooned between the spinelets, the tips of which are rounded and thickened.

The supradorsal membrane is thin, smooth, and vellum-like. The paxillæ are comparatively few in number and bear five to eight spinelets, which are robust and widely expanded. Although these are in a certain sense regular in their distribution over the area, no definite pattern of arrangement is produced. The extremities of the spinelets do not protrude through the membrane, but simply elevate it into small eminences; and owing to the thinness of the supradorsal membrane, the outlines of the spinelets which form each paxilla may be more or less clearly discerned. The rays are well defined, and no paxillæ-spinelets occur in the intermediate interradial portion of the lateral fringe, nor do any spinelets encroach upon a narrow clear space which runs down the median line of each radius. The fibrous bands are very numerous and closely massed together;