

short, conical, placed on the margin of the lateral flange of the plate, and have saccular investments.

The actino-lateral spines, which are about forty-five in number on each side of the furrow, are hidden in the thick fleshy tissue, and shallow channels or wrinkles traverse the membrane between each spine, which give a fluted appearance to the interradial area on the under side of the starfish. The longest spines are little more than the extreme breadth of the ambulacral furrow,—a wide space, greater at the margin than the length of the spines themselves, intervening in the interradial area between their extremities and those of the spines of the neighbouring ray. The spines are directed slightly backward (*i.e.*, adorally in relation to the direction of the ray); and the series of those spines whose extremities terminate in the ray-margin diminish very rapidly in length.

Colour in alcohol, abactinal surface greyish white, tinged with purple on the radial areas, the interradial areas and fringe being purplish grey. Actinal surface livid purple. Ambulacral tube-feet yellowish grey.

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.—This species, which is by far the largest *Hymenaster* known, is distinguished by the single spinelet on the adambulacral plates, by the raised areas of the paxillæ-crowns, and by the small, numerous, and equidistantly spaced spiracula. In the specimen above described, Sir Wyville Thomson¹ states that "there were one or two eggs in the pouch; but they were apparently abortive. It seemed that the brood had been lately discharged; for some oval depressions still remained on the floor of the central chamber, in which the eggs or the young had evidently been lodged. I have on three occasions found the eggs beneath the membrane in the angles of the arms, and, in a more advanced stage, congregated in the central tent, but never under circumstances such that I could keep and examine them; exposed or loosely covered eggs or embryos, or any soft and pulpy organs or appendages are always in a half disintegrated state when they are brought up from such great depths, if they are not entirely washed away."

2. *Hymenaster formosus*, Sladen (Pl. LXXXI. figs. 3 and 4; Pl. LXXXIII. figs. 4-6).

Hymenaster formosus, Sladen, 1882, Journ. Linn. Soc. Lond. (Zool.), vol. xvi. p. 213.

Marginal contour subpentagonal, interbranchial arcs very slightly indented, the minor radius being in the proportion of 73·6 per cent. $R = 19$ mm.; $r = 14$ mm. General form depressed, abactinal area rising slightly conoid in the centre. Radial areas not specially defined although to a certain extent indicated, the paxillæ-spinelets being confined to the rays and not encroaching on the median interradial portion of the membrane. Marginal fringe very narrow, faintly crenulated, tips of spines rounded and thickened.

¹ Journ. Linn. Soc. Lond. (Zool.), vol. xiii. p. 75; Voy. of Challenger, vol. ii. p. 239.