

Colour in alcohol, light-brown above, pure white beneath.

Locality.—Station 286. In the Mid-South Pacific, near the meridian of 135° W., approximately midway between Sydney and Valparaiso. October 16, 1875. Lat. 33° 29' 0" S., long. 133° 22' 0" W. Depth 2335 fathoms. Red clay. Bottom temperature 34°·8 Fahr.; surface temperature 63°·0 Fahr.

Remarks.—*Hymenaster echinulatus* is remarkable for the large peak-like prominences formed by the paxillæ-spinelets elevating the supradorsal membrane; it is also distinguished by the two large, often unequal spinelets in the adambulacral armature, and by the deeply festooned marginal fringe.

6. *Hymenaster carnosus*, Sladen (Pl. LXXXVIII. figs. 1-5).

Hymenaster carnosus, Sladen, 1882, Journ. Linn. Soc. Lond. (Zool.), vol. xvi. p. 220.

Marginal contour substellate; interbranchial arcs well defined, the minor radius in the proportion of 59·2 per cent. $R = 103$ mm.; $r = 60$ mm. Rays tapering regularly to the extremity. Abactinal area slightly convex, rising somewhat conoid in the centre; rays rather roundly arched. Actinal area flat or convex. A narrow, thick, fleshy, conspicuous fringe surrounds the entire margin.

The supradorsal membrane is thick, fleshy, and opaque. The paxillæ-spinelets are uniformly and closely distributed over the whole area, protrude greatly, and are covered with membrane, which gives them the appearance of broad-based, robust, conical thornlets, about 3 or 4 mm. in height, springing from the general surface. They are very uniform in size; and no definite order of arrangement is perceptible, nor is it possible to distinguish the individual crowns to which the spinelets belong. A more or less homogeneous muscular layer overspreads the whole area; and no specialised bands or fibres are superficially apparent. The spiracula are quite microscopic, and confined to small round groups, containing two or more very closely crowded together, placed in the hollow interspaces between the spinelets, and the whole quite invisible to the naked eye. The oscular orifice, which is large, has broad valves, squarely truncate at the extremity and all webbed together, the prominent thorn-like spinelets above mentioned marking out a circle at their bases of attachment 24 mm. in diameter.

The ambulacral furrows are wide (8·5 mm.), nearly uniform in breadth until near the extremity, where they gradually contract. The tube-feet are numerous and closely crowded, but maintain the regular biserial arrangement. The armature of the adambulacral plates consists of two long, needle-shaped spinelets, placed side by side, in line with the margin of the furrow, or the very slightest trace oblique. The adoral spinelet is somewhat the longer, and both are invested with an extensive saccular membrane extending beyond the extremity, often to a length equal to that of the spinelet itself. The aperture-papillæ are moderately large, elongate, and suboval. A fleshy thickening