

and nearly twice as long, the large sacculus usually taking a pointed or sublanceolate form, whilst the small investment of the abortive aboral spine is generally rounded and somewhat knobbed. The aperture-papillæ are remarkably large and elongately oval, and are, with their membrane, acumino-spatulate in shape, and much broader than the sacculated spinelets on the adambulacral plates, and often nearly as long.

The mouth-plates are short and comparatively broad, with widely expanded lateral flanges. No prominent keel is formed along the line of junction, which is flatly rounded. Two robustly clothed, rather short, obtuse secondary or superficial spines are present on each plate, one near the adoral edge, the other near the middle of the plate, both maintaining a wide space between their corresponding spines on the adjoining plate. About four mouth-spines proper stand on the horizontal margin of each plate, which are moderately long, very wide at the base, and sharply tapering, the external one sometimes being reduplicated.

The actino-lateral spines are delicate, well spaced, and the longest is about the fifteenth from the mouth; none meet in the interradial line, but are widely separate even at the summit of the interbrachial arc; the spines vary but little in length up to this point, but diminish very rapidly beyond.

Colour in alcohol, white.

Locality.—Station 146. Between Marion Island and the Crozet Islands. December 29, 1873. Lat. $46^{\circ} 46' 0''$ S., long. $45^{\circ} 31' 0''$ E. Depth 1375 fathoms. Globigerina ooze. Bottom temperature $35^{\circ} \cdot 6$ Fahr.; surface temperature $43^{\circ} \cdot 0$ Fabr.

Remarks.—*Hymenaster graniferus* is a very distinct form, characterised by the presence of granular bodies in the supradorsal membrane, by the simplicity of the muscular fibres in the membrane, by the paucity of the spiracula, and by the armature of the adambulacral plates and mouth-plates.

17. *Hymenaster geometricus*, Sladen (Pl. XCII. figs. 2 and 3; Pl. XCIII. figs. 4-6).

Hymenaster geometricus, Sladen, 1882, Journ. Linn. Soc. Lond. (Zool.), vol. xvi. p. 234.

Marginal contour substellate. Interbrachial arcs well rounded, the minor radius being in the proportion of 52.3 per cent. $R = 42$ mm.; $r = 22$ mm., approximately. Rays greatly attenuated and tapering, with the fringe almost, if not quite, aborted towards the extremities. Abactinal surface uniformly flat. Actinal surface prominently convex.

The supradorsal membrane is thin and semitransparent, supported by extremely delicate thread-like fibres, which form a regular pattern upon the disk. Usually six fibres proceed from the tip of each paxilla-spinelet, and pass to the tips of the neighbouring spinelets; as these are all equidistant, it follows that a series of regular interpenetrant hexagons is produced. The fibres are all of uniform length, and do not cross over or under one another as in *Hymenaster pullatus*. The spaces marked out or