

Depth 1375 fathoms. Globigerina ooze. Bottom temperature 35°·5 Fahr.; surface temperature 62°·5 Fahr.

Remarks.—This species may be recognised by the remarkably uniform character of the small rounded elevations on the supradorsal membrane, and by the great number and regular arrangement of the spiracula. The armature of the adambulacral plates and of the mouth-plates also furnish conspicuous features by which the species may be distinguished.

16. *Hymenaster graniferus*, Sladen (Pl. XC. figs. 1 and 2; Pl. XCI. figs. 7-9).

Hymenaster graniferus, Sladen, 1882, Journ. Linn. Soc. Lond. (Zool.), vol. xvi. p. 233.

Marginal contour almost pentagonal, the interbrachial arcs being very slightly incurved. The rays are more or less attenuated or produced at the extremity, which is upturned; and their effect on the contour is consequently inconspicuous. Minor radial proportion about 69 to 73 per cent. $R = 30$ mm.; $r = 22$ mm. The radial areas are not specially defined externally from the rest of the abactinal surface. Lateral fringe or web thickened at the margin and little conspicuous.

The supradorsal membrane is delicate. The paxillæ-spinelets, which are delicate, and have fine sharp extremities protruding well through the supradorsal membrane, are evenly distributed over the area, but present no definite pattern of arrangement. The fibrous bands, which are rather thin but clearly defined, are comparatively few in number, well isolated, and radiate not only to those spinelets which form the immediate circle, but some also pass through the interspaces and reach to the spinelets beyond. In this manner a more or less irregular and very open network is produced, in which, however, a tendency to an interpenetrant hexagonal pattern is discernible as the general plan here and there; and the whole is overlaid by a very delicate semitransparent membrane, in which a number of small, round, closely placed granule-like bodies occur. The spiracula are small and sporadically placed; very frequently two or even three occur together in the mesh, but the groups are well isolated, and the apertures by no means numerous. The oscular orifice is large and closed with five regular valves which fit evenly together, each with about a dozen spines, the innermost two being longest, and the others diminishing regularly and gradually, the articulatory base being prominent.

The ambulacral furrows, which are narrow, are much constricted towards the actinostome and at the extremity of the ray. The armature of the adambulacral plates consists of three acicular spinelets, which are unequal in length and rather short, placed in line parallel to the median line of the furrow, excepting towards the extremity, where the series becomes rather oblique. The aboral spine is almost abortive, and the middle one less than the adoral spine of the trio; this latter is invested with a widely expanded sacculus, which makes the spine appear many times thicker than its companion