

1. *Bathybiaster loripes*, n. sp. (Pl. XXXVI. figs. 1 and 2; Pl. XLII. figs. 1 and 2).

Rays five.  $R = 82$  mm.,  $r = 14.5$  mm.  $R > 5.5 r$ . Breadth of a ray near the base (between the third and fourth supero-marginal plates), 15 mm.

Rays moderately elongate, tapering continuously from the base to a finely pointed extremity. Lateral walls high and nearly vertical. Interbrachial arcs acutely rounded. Abactinal surface slightly inflated over the disk, and very slightly convex along the rays. Actinal surface of the rays convex and merging gradually into the lateral wall, which gives the rays a distinctly cylindrical appearance when viewed from below. On the other hand, when seen from above they appear more or less flat in consequence of the small degree of convexity of the abactinal area.

The abactinal surface of the disk and rays is covered with numerous rather small and closely crowded paxillæ. These are low and of uniform height throughout, and consist of seven to twelve small, very short, clavate or flaring, skin-covered, papilliform spinelets—one or two irregularly central, and the whole forming a more or less compact and flat-topped group. Often two or three thinner and more delicate spinelets may be seen on the outside of the group. The paxillæ diminish in size in the central area of the disk, and in the immediate centre become extremely small and indistinguishable as separate paxillæ; there is also a more or less strongly marked tendency to develop a conical prominence in the centre of the abactinal area. The paxillæ gradually diminish in size as they proceed along the ray, and become very small at the extremity. A more or less clearly defined arrangement in transverse lines is discernible at the sides of the paxillar area along the ray, but along the median line no order can be made out, nor are the paxillæ there distinguished by any difference in size.

The supero-marginal plates, sixty-two in number from the median interradial line to the extremity, are confined entirely to the lateral wall of the ray; they are high and short, the height being more than twice the length. On the inner part of the ray the height is even three times the length and sometimes more. The surface of the plates is covered with small, uniform, squamiform papillæ, covered with membrane, which are more or less closely appressed to the surface, their direction being upward, or towards the abactinal surface; and the squamules along the margins of the plate have a slight inclination over the suture-line, which is thus emphasised superficially. At the extreme abactinal edge of the plate is a short, conically-outlined but flat and squamule-like spinelet, very little longer than broad, which is directed perpendicularly to the plane of the abactinal surface, and to which this series of spinelets forms a well-defined boundary.

The infero-marginal plates correspond exactly to the superior series, their length is the same and their height subequal to those above described, or slightly less on the inner part of the ray. The surface of the plates is covered with squamule-like papillæ similar to those on the supero-marginal plates, and there is a similar small, short, flat, pointed and squamule-like spinelet close to the abactinal edge of the plate; the series of these forming along