

1. *Neomorphaster eustichus*, n. sp. (Pl. LXVI. figs. 3 and 4 ; Pl. LXVIII. figs. 9 and 10).

Rays five. $R = 49$ mm. ; $r = 11$ mm. $R < 4.5 r$. Breadth of a ray at the base, 10 mm.

Rays high and broad at the base, tapering gradually to the extremity ; roundly arched abactinally ; plane actinally. Interbrachial arcs subacute, with a tendency to be rounded. Actinal surface plane, but deeply depressed round the mouth.

The disk is high and a central area occupying more than half the abactinal surface is distinctly depressed, the plates round its margin being on a higher level. This area contains the primary apical plates, which are disposed in the following manner. The centre is occupied by the dorso-central plate, external to this are five small under-basals, which are succeeded by five large basal plates, slightly larger than the dorso-central ; and between these and the under-basals are large isolated papulæ. Outside the cycle of basal plates are five large primary radial plates, nearly as large as the basals, each of which is separated from its accompanying under-basal by a large papula. On the outer side of the basal plates are two small plates side by side, and these with the primary radials complete the outermost cycle of the depressed area.

The rays are covered with large, subhexagonal, slightly convex plates which imbricate on one another and are arranged in perfectly regular longitudinal lines, the plates diminishing regularly as they proceed outward. The adjacent plates of the different series are equal in length and consequently form transverse series. The plates of the median radial series are the largest. The plates of the next series are smaller ; and the succeeding ones, which represent the supero-marginal plates, are nearly as large as the median series. The infero-marginal plates, which stand vertical in the lateral wall of the ray, are nearly equal to the superior series.

All the plates of the seven longitudinal series above-mentioned and the abactinal plates of the disk bear a few, large, widely spaced, semicircular, translucent granules.

Along the rays a large papula stands opposite the suture between each plate, and these form regular longitudinal lines separating the rows of plates.

Small forcipiform pedicellariæ are present on the lateral regions of the ray and also, but less frequently, on the abactinal area, in the neighbourhood of the papulæ.

The adambulacral plates are small, and their armature consists of two short, thick, robust, obtuse, equal spines, which radiate apart, one directed toward the furrow, the other outward, and form two regular longitudinal series.

Between the adambulacral and the infero-marginal plates is a series of elongate actinal intermediate plates which bear two or rarely three short, robust, obtuse, papilliform spinelets, placed side by side and forming a longitudinal series along the ray. This series of spinelets coincides with the more or less angular junction of the lateral and actinal surfaces of the ray, and leads at first sight to the inference that these are the representatives of lateral spines and that the series of plates are the infero-marginal plates. From their form and character, however, I do not consider that this is the true interpretation. At