

Station 46. May 6, 1873. Lat. $40^{\circ} 17' 0''$ N., long. $66^{\circ} 48' 0''$ W. Depth 1350 fathoms. Blue mud. Bottom temperature $37^{\circ} 2$ Fahr.; surface temperature $40^{\circ} 0$ Fahr.

Station 47. May 7, 1873. Lat. $41^{\circ} 14' 0''$ N., long. $65^{\circ} 45' 0''$ W. Depth 1340 fathoms. Blue mud. Surface temperature $42^{\circ} 0$ Fahr.

4. *Plutonaster ambiguus*, n. sp. (Pl. XI. figs. 5 and 6; Pl. XIII. figs. 11 and 12).

Rays five. $R = 25$ mm.; $r = 6.5$ mm. $R < 4r$. Breadth of a ray near the base, 6.5 mm.

Rays narrow and pointed, tapering throughout from the base. General form thin and subdepressed, with the abactinal surface slightly inflated along the median radial lines, forming a more or less definite keel. Actinal surface subplane, prominent at the mouth-angles; and sloping thence to the margin and slightly along the ray. Interbrachial arcs widely rounded.

The paxillæ of the abactinal surface are very minute and crowded; each with a crown of five or six small, equal, papilliform spinelets, almost subclavate in form, which radiate outward. The paxillæ diminish in size as they proceed along the ray, and simpler ones are frequent on the outer half.

The supero-marginal plates, twenty-eight to thirty in number from the median interradial line to the extremity, are very small and slightly tumid; they form a well-rounded lateral wall to the disk and rays; and when viewed abactinally present a narrow but definite border. The length of the plates is greater than their height throughout the series, and their breadth is subequal to, or slightly greater than, their length on the inner part of the ray, but gradually becomes slightly less than the length on the outer part. The surface of the plate is covered with small, well-spaced papilliform granules, and one small tubercle-like granule, larger and more robust than the rest, is placed on the rounding of the plate, and represents a supero-marginal spine. This tubercle-like granule is, however, scarcely distinguishable from the rest of the covering of the plate on the outer part of the ray, and it is doubtful whether it extends to the extremity.

The infero-marginal plates correspond to the superior series, but their breadth is fully twice as great as their length on the inner part of the ray, and subequal on the outer part. Their surface is covered with minute conical thornlets of about the same general size and distance apart as the rounded granules on the supero-marginal plates. Each plate bears one short, tapering, pointed, spinelet, not more than a millimetre in length, directed horizontally outward. Their length diminishes along the ray, and I am unable to speak of their character or presence at the extremity.

The adambulacral plates are longer than broad, and of a subrhomboid form, with a slightly convex margin towards the furrow. Their armature consists of:—(1.) A furrow