

spaced, papilliform granules, and the prominent "dorsal" spines on the supero-marginal plates are not yet developed. The infero-marginal plates are covered with spiniform granules or thornlets longer and more pointed than those on the supero-marginal plates. There is a distinct though extremely minute lateral spine, and one or two of the thornlets near its base are slightly larger than the rest, especially on the outer part of the ray.

The adambulacral plates, which are long and narrow, have their generic character clearly presented. There is a straight furrow series of five or six short, cylindrical, obtusely tipped spinelets, and behind these a secondary series of four or five similar and equal-sized spinelets. This uniformity in size and character is a very interesting and noteworthy feature in the young form. No other spinelets or granules are present on these plates. Several well-formed large pedicellariæ occur in each of the actinal inter-radial areas, but I have found none elsewhere upon this young example. The paxillæ of the abactinal area have already more or less of the papillose character of the adult.

*Locality*.—Station 44. Off the coast of North America, east of Maryland. May 2, 1873. Lat.  $37^{\circ} 25' 0''$  N., long.  $71^{\circ} 40' 0''$  W. Depth 1700 fathoms. Blue mud. Bottom temperature  $36^{\circ} \cdot 2$  Fahr.; surface temperature  $56^{\circ} \cdot 5$  Fahr.

*Remarks*.—This variety resembles the type more nearly than the variety *gracilis* does. The wide separation of the geographical positions of the type and its two varieties is of the greatest interest, and bears evidence to the enormous range of the *Dytaster exilis* form, and of the comparatively small amount of variation exhibited by this type in what may well be spoken of as extreme limits of position. The type comes from the Pacific, off the western coast of South America, the nearly allied variety *carinata* from the North Atlantic, off the eastern coast of the United States of America, whilst the more divergent variety—if, indeed, it be not a distinct species—was dredged in the South Atlantic, westward of Tristan da Cunha.

3. *Dytaster madreporifer*, n. sp. (Pl. III. figs 3 and 4; Pl. XXXII. figs. 5 and 6).

Rays five.  $R = 113$  mm.;  $r = 18$  mm.  $R = 6 \cdot 25 r$ . Breadth of a ray near the base (between the second and third supero-marginal plates), 14 mm.

Rays elongate, narrow, and tapering, of massive construction, subrigid, or only with very slight flexibility, perfectly rectangular in section, with rather high, vertical, square-cut lateral walls. Interbrachial arcs very wide and flatly rounded. Disk small. Abactinal surface of disk more or less inflated, subcarinate along the median line of the rays. Actinal surface of the disk prominent and tubercular at the mouth-angles, but flat and level externally and along the rays, forming with the lateral walls a sharp angle.

The abactinal surface of the disk and rays is covered with small closely crowded pseudo-paxillæ, which consist of four to seven small, uniform, papilliform spinelets, cylindrical, and obtusely tipped, borne on small, irregularly subcircular, squamiform bases. All are so short, uniform, and closely placed, that it is almost impossible to distinguish the individual