intermediate in length and robustness between them and the general echinulation of the area above mentioned.

The actinal interradial areas are large and well developed, and extend as far as the ninth or tenth adambulacral plate. They comprise numerous intermediate plates arranged in more or less regular series between the adambulacral plates and the marginal plates; the separate plates are to a certain extent indicated by pseudo-sutures and the arrangement of the numerous short, equal, papilliform spinelets which they bear. The form of the groups is often rectangular, the papillæ are extremely short, and there is no tendency whatever to simulate paxillæ, the papillæ appearing to spring from the membrane which uniformly covers the whole area.

The anal aperture is subcentral and distinct, though there is no modification of the paxillæ surrounding it.

The madreporiform body is compound and of great size. It occupies a circular area 13·5 mm. in diameter, the outer margin of which is two to three mm. distant from the marginal plates. The area is rather higher than the plane of the abactinal surface, and is rendered conspicuous by the greater size of the paxillæ which cover it, the spinelets composing them being a little longer and more robust. The striated surface is entirely hidden from superficial view. When the spinelets are removed the furrows are seen to be remarkably fine and to appear to mount the base or pedicle of the paxilla.

The ambulacral tube-feet have a small mamelon-like conical termination.

Colour in alcohol, a greyish or yellowish white, with a slightly brownish or warmer shade on the abactinal paxillar area.

Locality.—Station 246. In the Mid-North Pacific, between Yeddo and San Francisco, near the meridian of 180°. July 2, 1875. Lat. 36° 10′ 0″ N., long. 178° 0′ 0″ E. Depth 2050 fathoms. Globigerina ooze. Bottom temperature 35°·1 Fahr.; surface temperature 73°·0 Fahr.

Remarks.—This species is at once distinguished from all the others in the genus by its broad and comparatively low rays, with the angularly rounded margin and the strong inward bevel of the whole surface of the supero-marginal plates towards the abactinal surface. It is further most conspicuously marked by the presence of the single long secondary spine on the actinal surface of the adambulacral plates behind the furrow series throughout the ray.

2. *Dytaster exilis*, n. sp. (Pl. II. figs. 3 and 4; Pl. IV. figs. 9 and 10: the var. *gracilis*).

Rays five. $R = 124$ mm.; $r = 19$ mm. $R > 6{\cdot}5\,r$. Breadth of a ray near the base, 14 mm.

Rays elongate, very narrow and attenuate, tapering slowly from the base to the extremity. Lateral walls rather high and vertical. Interbrachial arcs wide, open, and well-rounded. Disk small. Abactinal area of the disk more or less inflated, especially at the