

surface of the plate bears small, equal-sized, obtuse, papilliform granules, which, although not regularly arranged throughout, usually fall into two longitudinal series, more or less clearly distinguishable; and some additional granules are present on the inner plates of the ray near the mouth.

The mouth-plates are elongate, the united pair elliptical and prominently convex actinally, with the median suture widely open. Their armature consists of six to eight mouth-spines on each plate, all very small and subequal, excepting the innermost, which is large and robust, with an abruptly conical point. This spine forms with its companion a conspicuous pair of large spines, directed over the actinostome. A few small papilliform spinelets, irregular in position and number, but sometimes (and perhaps normally) forming a line parallel to the suture, stand on the actinal surface of the plates, those immediately behind the anterior spine being larger than the others.

The actinal interradial areas are small, very narrow, and occupied by comparatively few intermediate plates, which may extend as far as the third infero-marginal plate and the sixth free adambulacral plate. These plates bear small papilliform granules similar to those on the actinal surface of the adambulacral plates. The two innermost plates on each side of the median line immediately behind the mouth-plates bear five or six equal, longer and more robust spinelets, that form a compact and conspicuous group which simulates, if it does not actually perform the functions of, a pedicellarian apparatus.

The madreporiform body is very near the margin and partially concealed by paxillæ. The striations visible are coarse and few in number.

The anal aperture is small but distinct, at the summit of the central cone.

The tube-feet have a very minute, globular, mamelon-like terminal knob.

Colour in alcohol, an ashy white.

*Locality*.—Station 191. In the Arafura Sea, west of the Arrou Islands. September 23, 1874. Lat. 5° 41' 0" S., long. 134° 4' 30" E. Depth 800 fathoms. Green mud. Bottom temperature 39°·5 Fahr.; surface temperature 82°·2 Fahr.

*Remarks*.—In referring this Asterid to the genus *Dytaster* I have felt much hesitation. The examples are small and are probably in an early stage of growth. Their resemblance, however, to the young forms of those species of *Dytaster* with which we are acquainted is sufficiently near to warrant my present decision. The apparently broad border of the marginal plates as seen in the abactinal view, the very small and narrow actinal interradial areas, and the small uniform papilliform granules on the actinal surface of the adambulacral plates at once distinguish the form under notice from all the other species of *Dytaster* in the adult stage. The breadth of the adambulacral plates is relatively greater than in any of the other species in the immature or even in the adult stage. Although it may afterwards be necessary to remove this species to another genus, I consider that the course which I have followed is the best way of indicating what seem to me to be the natural affinities of the species until a larger supply of material is available.