

The madreporiform body is compound and of large size, though smaller than in *Dytaster madreporifer*, and not so conspicuous; for instead of being elevated as in that species, it is either flush with the general abactinal surface, or in a slight concavity. The area is sub-circular in outline, and comes very near to the marginal plates; its diameter is nearly 6 mm. The plates bear paxillæ of larger size, and with slightly more robust spinelets, but otherwise of identical character, which entirely hide the striations from superficial view; and these paxillæ, like the others upon the abactinal area, are devoid of pedicellariæ.

Colour in alcohol, a bleached ashy grey.

Locality.—Station 300. Off the coast of South America, between the island of Juan Fernandez and Valparaiso. December 17, 1875. Lat. $33^{\circ} 42' 0''$ S., long. $78^{\circ} 18' 0''$ W. Depth 1375 fathoms. Globigerina ooze. Bottom temperature $35^{\circ} 5$ Fahr.; surface temperature $62^{\circ} 5$ Fahr.

Remarks.—This species is distinguished from *Dytaster madreporifer* by the coarser and more distinct paxillæ of the abactinal surface, by the numerous large pedicellariæ on the actinal interradial areas, and by the well-developed series of secondary spines on the actinal surface of the adambulacral plates. The two forms have a very different facies.

2a. *Dytaster exilis*, var. *gracilis*, nov. (Pl. II. figs. 3 and 4; Pl. IV. figs. 9 and 10).

There is a single example from Station 133 which I propose to rank provisionally as a variety of this form, although it may afterwards be found to merit recognition as a distinct species. With such limited material the course I have adopted seems preferable if only for the purpose of indicating its near affinity to the *Dytaster exilis* type. The following are the points of difference.

The measurements are $R = 85$ mm.; $r = 16$ mm.; $R < 5.5 r$. Although this example is smaller than the type there are a greater number of supero-marginal plates, the variety having forty-eight whilst the type has forty-two. Its smallness, therefore, is not a sign of immaturity. The rays are proportionally narrower and more delicate. The paxillæ of the abactinal surface are smaller and form an extremely compact and crowded area. In the actinal interradial areas the arrangement of the intermediate or ventral plates is very distinct and regular, and the plates bear a paxilliform group of small spinelets, much longer and more delicate than in the type; the spinelets in each group radiate apart, and no pedicellariæ are formed, or at any rate none of the spines are specially modified. The character of these paxilliform groups gives a very different appearance to the area as compared with that of the type.

In the armature of the adambulacral plates there are seven or eight spinelets in the second series, and these are shorter and more delicate than in the type. Furthermore the solitary elongate spine which occurs in this series, extends fully to the middle of the ray, whilst in the type-form they are to be found only at the extremity. The characters that