

Incipient pedicellariæ, formed of two or usually three modified papillæ, are present on some of the plates.

The anal aperture is subcentral, but very indistinct.

The madreporiform body is of enormous size and of compound structure, being apparently made up of a number of plates. It occupies a subcircular area extending from the marginal plates to nearly midway between the margin and the centre of the disk, its diameter being about 11 mm. The surface of this area is covered with paxillæ, which are larger and more widely spaced than the paxillæ of the abactinal surface generally, and have their spinelets radiating nearly horizontally. The striation furrows are thus hidden from superficial view, but may readily be seen when the spinelets are removed. The striæ are of simple construction, and may easily be abraded. Amongst the paxillæ upon the madreporite are a considerable number of simple pedicellariæ, formed of three or four thickened spinelets. In addition to its great size the madreporiform body is rendered more conspicuous by being abruptly raised above the general level of the abactinal surface, which causes it to have a button-like or "put on" appearance.

The ambulacral tube-feet have a small flatly conical termination.

Colour in alcohol, a bleached yellowish white; with sometimes darker shades of dirty grey, or even patches of light brown upon the disk.

Localities.—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.

Station 45. Off the coast of North America, east of Delaware. May 3, 1873. Lat. $38^{\circ} 34' 0''$ N., long. $72^{\circ} 10' 0''$ W. Depth 1240 fathoms. Blue mud. Bottom temperature $37^{\circ} \cdot 2$ Fahr.; surface temperature $49^{\circ} \cdot 5$ Fahr.

Remarks.—This species is distinguished from all the others by its rigid rectangular rays, by the enormous and conspicuous madreporiform body, by the small and very compact paxillæ of the abactinal surface; and by the small and indefinite spinelets on the actinal surface of the adambulacral plates. The characters which separate it from *Dytaster nobilis* are discussed in the comparative description of that form.

4. *Dytaster nobilis*, n. sp. (Pl. III. figs. 1 and 2; Pl. XXXII. figs. 3 and 4).

This form is nearly allied to *Dytaster madreporifer*, with which I at first ranked it as a variety. On closer study I consider it to be a distinct species. It differs from *Dytaster madreporifer* in its larger size, greater development of disk, and shorter rays, the respective dimensions being $R = 132$ mm.; $r = 29$ mm.; $R = 4 \cdot 5 r$. The rays are broader and more depressed, though with a more definite median carination. The paxillæ are larger, more distinct, and with fewer spinelets, which radiate from the small tabulum, the centre of which is often void, and often provided with a central granuliform spinelet. The crown of the paxilla has the appearance of being sheathed in a continuous membrane, con-