

mally placed spinelets really belongs to the true marginal series it is probable that the prominent and enlarged mouth-spine should be reckoned as the foremost of the actinal or superficial series. On the actinal surface of each plate is a longitudinal series of eight to twelve rather robust and conically pointed spinelets, parallel to the median suture; and an intermediate series, fewer in number and more widely spaced, between these and the marginal series.

The actinal intermediate plates are confined to a very small area in the interradial region, but I am unable to say from superficial observation whether their arrangement presents any regularity or not. Each of the plates bears two or three short, robust, conical tipped spinelets, which have a more or less marked tendency to form a group.

The madreporiform body is entirely obscured by paxillæ.

Colour in alcohol, a dirty greyish white.

*Locality*.—Station 237. Off the coast of Japan, south of Kawatsu. June 17, 1875. Lat.  $34^{\circ} 37' 0''$  N., long.  $140^{\circ} 32' 0''$  E. Depth 1875 fathoms. Blue mud. Bottom temperature  $35^{\circ} \cdot 3$  Fahr.; surface temperature  $73^{\circ} \cdot 0$  Fahr.

*Remarks*.—*Psilaster gracilis* has a very different facies from any of the other species described, and it is not without hesitation that I have included it in the genus. It is at once distinguished by its narrow subcylindrical rays and widely rounded interbrachial arcs; by the papilliform covering of the marginal plates; by the large inner pair of mouth-spines; and by the general character of the actinal spinulation.

5. *Psilaster patagiatus*, n. sp. (Pl. XLI. figs. 3 and 4; Pl. VII. figs. 11 and 12).

Rays five.  $R = 79$  mm.;  $r = 20$  mm.  $R < 4r$ . Breadth of a ray near the base (between the second and third supero-marginal plates), 19.5 mm.

Rays elongate, broad at the base, and tapering continuously and gradually up to the extremity. General form comparatively flat and depressed. Abactinal and actinal areas subplane. Interbrachial arcs widely open and rounded.

The abactinal paxillar area of the disk and rays is covered with numerous, rather large, distinctly spaced paxillæ. These are composed of very small, short, delicate, cylindrical spinelets, three to five or rarely more being central, and surrounded by a marginal circle of about a dozen; the latter, instead of radiating outward as usual in paxillæ, have a slight inclination inward, which gives the groups a more or less closed and highly characteristic appearance. By this means the papulæ, which are remarkably small, are all exposed to view. In some of the paxillæ three or four of the central spinelets are slightly enlarged, and appear to form a pedicellarian organ. Along the margin of the area the paxillæ, are arranged in very regular transverse series; but there is no definite order along the median radial line or in the central area of the disk.

The supero-marginal plates, thirty in number from the median interradial line to the