very striking feature when this form is compared with *Pararchaster semisquamatus*. The spinulation of the actinal surface is rather short and robust, and the spinelets which form the furrow series on the adambulacral plates are distinctly more cylindrical and robust, and show less tendency to radiate apart. The tube-feet have large, well-developed, button-like knobs at their distal extremity. The madreporiform body is large and oval, with much-convoluted striations.

Although this and the preceding species conform so closely in their general structure, the variations mentioned above, although slight when taken singly, seem to constitute an assemblage of characters which mark off this form specifically from *Pararchaster semisquamatus*. This view is strengthened by the fact that the characters are either indicated or present in the young form.

Young Phase.—A small example measuring only R = 20 mm., r = 4 mm., may be referred without hesitation to this species, so well are several of the characters noticed above as distinguishing the species indicated even at this early stage. The disk is slightly inflated, especially in the radial regions, and there are not more than about a dozen of the large spines in the central area, belonging to the primary apical plates. One or two small thornlets accompany the supero-marginal spine, although the largest of these latter is not more than 1·5 mm. in length. On the infero-marginal plates there is as yet only one true infero-marginal spine, but on each side of this and slightly below, there is regularly present a short thorn-like denticle or spinelet, and there is usually another above or beside it on the aboral side. The adambulacral plates have three spinelets on the furrow margin (occasionally four near the mouth), and two large spines on their actinal surface. The tube-feet have a large and well-developed terminal knob-like extremity. No actinal intermediate (ventral) plates are present. The madreporiform body is small, subcircular, slightly convex, and situated nearly midway between the centre of the disk and the margin: its surface is deeply fissured by a few coarse, convoluted striations. The anal aperture is distinct and a little excentral, *i.e.*, to the side of the dorso-central plate. Three moderate-sized spinelets stand round its margin. I have not been able to detect any papulæ in this example.

Colour in alcohol, a bleached yellowish white, with a slight brownish or warm ochre shade on the abactinal area of the disk.

Locality.—Station 153. In the Southern Ocean, amongst the pack ice, close to the Antarctic Circle. February 14, 1874. Lat. 65° 42′ 0″ S., long. 79° 49′ 0″ E. Depth 1675 fathoms. Blue mud. Surface temperature 29°·5 Fahr. This was the most southern dredging station during the expedition.

3. *Pararchaster spinosissimus*, n. sp. (Pl. I. figs. 1 and 2; Pl. IV. figs. 1 and 2).

Rays five. R = 66 mm.; r = 7·5—8 mm. R > 8r. Breadth of a ray near the base, 7·5 mm.