Station 49. South of Halifax, Nova Scotia. May 20, 1873. Lat. 43° 3′ 0″ N., long. 63° 39′ 0″ W. Depth 85 fathoms. Gravel, stones. Bottom temperature 35°·0 Fahr.; surface temperature 40°·5 Fahr.

3. *Leptoptychaster antarcticus*, n. sp. (Pl. XXXI. figs. 3 and 4; Pl. XXXII. figs. 7 and 8).

Rays five. R = 15 mm., r = 6 mm. R = 2·5 r. Breadth of a ray between the fourth and fifth marginal plates, 5 mm.

Disk large and inflated; rays short, broad at the base and thence tapering gradually to a sharply pointed extremity. Interbrachial arcs wide and subparaboloid in outline. Abactinal surface of the disk convex and subject to more or less inflation; that of the rays subcarinate, with the character strongly marked at the extremity, but towards the disk gradually merging into the general tumidity, the inflation being sometimes emphasised in spirit specimens by the presence of a slight depression along the median interradial line, probably consequent on the posture of the rays at death. Actinal surface plane. Lateral margin thin and rounded.

The abactinal surface of the disk and rays is covered with very small and rather widely spaced paxillæ, consisting of twelve to fifteen or more extremely fine, short, delicate spinelets disposed in a little tuft, but radiating more or less apart. No definite order of arrangement is discernible in the paxillæ.

The marginal plates are small and short. The superior series are very small; and have the appearance of being enlarged paxillæ rather than true marginal plates. They are confined entirely to the margin and the abactinal side; and not infrequently the edge of the infero-marginal plates is also just visible when the animal is viewed from above. They bear a tuft of spinelets similar to, but slightly larger than, those on the true paxillæ, and these are arranged on a well-developed eminence. They are devoid of any large spines whatever.

The infero-marginal plates are twenty-one in number, counting from the median interradial line to the extremity, and their breadth on the inner part of the ray is four or five times the length or even more, but diminishes as they proceed along the ray. They are well rounded at the margin and form a broad border to the actinal surface; their posture being very oblique in relation to the median radial line. Along the median line of each plate, that is to say, traversing its greatest dimension, is a high, narrow keel, which bears a covering of small, delicate, uniform spinelets, slightly larger than those on the supero-marginal plates and abactinal paxillæ; these are directed outwards and over the intervening channels between the keels.

The adambulacral plates are small, with the length and breadth nearly equal. They bear an armature closely resembling that found in some species of *Astropecten*, which con-