

2. *Leptoptychaster arcticus*, Sars, sp.

Astropecten arcticus, Sars, 1851, Reise i Lofoten og Finmarken, Nyt Mag. f. Naturvidensk., Bd. vi. p. 161; Fauna Litt. Norvegiae, 1856, Heft 2, p. 61, pl. ix. figs. 16-18; Oversigt af Norges Echinoderm, 1861, p. 32.

Astropecten Lütkeni, Barrett, 1857, Ann. and Mag. Nat. Hist., ser. 2, vol. xx. p. 46, pl. iv. fig. 3, a, b, c.

Archaster arcticus, Perrier, 1878, Nouv. Archives Mus. Hist. Nat., 2e Sér., t. i. pp. 32, 88. (Also Verrill, and Storm).

Localities.—"Porcupine" Expedition:

Station 65 (1869). Between the Shetland and the Faerøe Islands. Lat. $61^{\circ} 10' N.$, long. $2^{\circ} 21' W.$ Depth 345 fathoms. Bottom temperature $-1^{\circ} 1 C.$; surface temperature, $11^{\circ} 1 C.$

Station 82 (1869). In the Faerøe Channel. Lat. $60^{\circ} 0' N.$, long. $5^{\circ} 13' W.$ Depth 312 fathoms. Bottom temperature $5^{\circ} 2 C.$; surface temperature $11^{\circ} 2 C.$

Station 3 (1870).¹ West of Ushant. Lat. $48^{\circ} 31' N.$, long. $10^{\circ} 3' W.$ Depth 690 fathoms.

Remarks.—This form was originally described as an *Astropecten*. Some subsequent writers have retained it in that genus, whilst others have regarded it as an *Archaster*. I am unable to agree with either of these determinations. After careful study I consider that its structure accords in all points of generic import with the genus *Leptoptychaster* established by Mr Smith for the foregoing form from the Southern Ocean, and I have therefore referred the species under notice to that genus. It is readily characterised by the aborted supero-marginal plates, the short but broad infero-marginals (both alike unarmed), the well-developed actinal interradiial areas, the character of the paxillæ, and likewise that of the armature of the adambulacral plates. Finally, the species has more or less well-developed superambulacral plates; the whole forming a combination of characters which accords neither with *Archaster* nor *Astropecten*.

2a. *Leptoptychaster arcticus*, var. *elongata*, nov.

The American examples of this species, of which a large series was taken at Station 49, are all distinctly longer in the ray, and have the paxillæ of the abactinal area somewhat more delicate and less compact in character than in the European forms, although even in these some variation occurs. It would, however, be an easy matter to say which were the American examples out of a large number of mixed specimens, and on these grounds I consider that we are dealing with a well-marked variety.

Localities.—Station 46. Off the coast of North America, east of New Jersey and Long Island. May 6, 1873. Lat. $40^{\circ} 17' 0'' N.$, long. $66^{\circ} 48' 0'' W.$ Depth 1350 fathoms. Blue mud. Bottom temperature $37^{\circ} 2$ Fahr.; surface temperature $40^{\circ} 0$ Fahr.

¹ Recorded by Sir Wyville Thomson in *The Depths of the Sea*; but I have not seen a specimen from this locality.