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(Plates XXIII. & XXIV.)

Among much valuable material received last year by Dr. Günther from Mr. John Murray there was a specimen marked "*Archaster vexillifer*, Wyv. T. (unique)." This is, I doubt not, the type of the species shortly described by the late Professor Sir Wyville Thomson in his popularly written narrative of the cruises of the 'Porcupine.'

This specimen, unfortunately, never came into the hands of Mr. W. Percy Sladen, who has given us ample details as to the Starfishes collected by the 'Challenger,' and as to most of those obtained by earlier and later deep-sea expeditions.

Messrs. Koren and Danielssen, the acute and talented describers of the Starfishes of the Norwegian North-Sea Expedition, when instituting a new genus for the form which they first called *Astropecten pallidus*, suggested that Thomson's *Archaster vexillifer* should likewise be placed under *Bathybiaster*, and to this suggestion Mr. Sladen has assented.

The rarity and interest of species of this group justifies, I think, a detailed account of Thomson's unique specimen, but that account cannot, unfortunately, be made as complete as it should, for the specimen has been dried.

**General Form.**—The species is, obviously, flattened, but in the drying the arms have been, unequally, drawn up so that the tips now point upwards, and the dorsal surface is more or less concave. The arms are very regularly triangular, 18.5 mm. wide at the base, and gradually and regularly tapering to a fine point; they are about 87 mm. long from the centre of the disc, the radius of which is 18 mm. The angle between the arms is rather sharp. The sides of the arms are straight and high at the base, where they measure as much as 12 mm.; the diminution in depth of the arms is brought about very gradually. The sides of the arms have a very stout appearance.

**Ambulacra.**—Wyville Thomson was fully justified in drawing attention to the remarkable width of the ambulacra, for they are nearly (8 mm. at the widest) half the whole width (17 mm.) of the arm, near the base, and this relation of groove to bounding plates is retained till quite near the tip of the arm. The proximate cause of this great width is to be found in the relative position of the ambulacral ossicles, which, instead of being set, as they ordinarily are, at an angle to one another, are set side by side and in one and the same plane; the median groove is so extraordinarily shallow that one cannot but be struck by the exposed condition of the ambulacral

1 'Depths of the Sea,' London, 1873, p. 150.