

of the adjacent arm, so that the angles between the arms are entirely filled up by a delicate membrane stretched on and supported by spines, and the body thus becomes regularly pentagonal. There is no trace on the ventral surface of the arms of the transverse ranges of membranous comb-like plates which are so characteristic in *Pteraster*.

By far the most abundant and conspicuous forms among the star-fishes in deep water were the genera *Astropecten* and *Archaster*, and their allies. At one to two hundred fathoms the small form of *Astropecten irregularis*, *A. acicularis* of NORMAN, literally swarmed in some places, usually in company with the small form of *Luidia savignii*, M. and T., *L. sarsii*, D. and K. I feel no doubt that these two forms, *A. acicularis* and *L. sarsii*, are mere deep-water varieties of the forms which attain so much larger proportions in shallow water. Mr. Edward Waller took charge of Mr. Gwyn Jeffreys' yacht during the summer of 1869, on a dredging cruise off the south coast of Ireland. He worked principally about the 100-fathom line and a little within it, and procured a magnificent series both of *Astropecten* and *Luidia* showing a gradual transition through all intermediate stages between the large and the small varieties.

The cold area gave us *Astropecten tenuispinus* in great abundance and beauty. The tangles sometimes came up scarlet with them, and associated with this species a handsome new form of a peculiar leaden grey colour, and with paxillæ arranged on the dorsal surface of the disk in the form of a rosette, or the petaloid ambulacra of a *Clypeaster*. *Astropecten*