

ON THE OCCURRENCE OF A STARFISH IN THE UPPER
SILURIAN SERIES OF BOWNING, N. S. WALES.

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STARFISH have not so far been recorded from the rich fossiliferous deposits of Bowning, nor was I cognisant of their presence in those rocks until Mr. John Mitchell presented a specimen to the National Collection.

The rarity of this form of life in the Bowning rocks must plead my excuse for describing so fragmentary an example as that now referred to. The specimen is interesting, not only on this account, but also from the fact that it may possibly belong to one of two by no means common genera of Upper Silurian age—*Palæocoma*, Salter (*non*. D'Orb), or *Palasterina*, McCoy.

As now preserved, the Starfish consists of portions of three rays and traces of the interbrachial disk, with the actinial surface exposed. The ambulacra are deep proximally, but become faint distally. The ambulacral plates are not clearly distinguishable, but the margins of the valleys are bordered by a row of adambulacral plates, quadrangular and distinct, although the presence of an outer row is questionable. Combs of rigid spines are attached to the arm edges, of whatever construction they may be. The mouth is very large, strongly pentagonal; the oral plates large, triangular, and apparently of one piece each, instead of two, as should be the case in a true *Palæocoma*. The arms are united by a disk broken up by a series of anastomosing lines, giving rise to the appearance of a polygonal-plated integument when pressed together, but in a normal condition squamose, as seen through the oral cavity. From the margin of the disk stream fine long spines that in all probability covered the whole of the dorsal surface.

It must be at once admitted that, without a more definite knowledge of the ambulacral plates, and in the face of single instead of double oral plates, the reference of this form to *Palæocoma*, Salter, is open to doubt; but the presence of the disk with its squamose plates, laden with spines, seems to place our fossil nearer to that genus than to any other. The only other genera known to me that it appears to approach are *Edrioaster*, Billings; *Schenaster*, M. & W.; and *Palasterina*, McCoy. As regards the first-named,* the form of the arms, and nature of the disk, are characters sufficient for separation; whilst the form of the adambulacral plates in the second† genus are likewise distinct.

* Canadian Org. Remains, Dec. iii., 1858, p. 82.

† Illinois Geol. Survey Report, ii., 1866, p. 277.