Zoology Part LI: Report on the ASTEROIDEA. By W. Percy Sladen, Bound in Volume 30,1889.

entertained similar doubts as to the anal function of an excentral aperture on the abactinal area in *Brisinga*. In the case of *Brisinga*, however, the opening seems to me to be really an anal pore.)

I have also found a similar pore at the extremity of the epiproctal peak in *Ctenodiscus*, and likewise in *Hyphalaster*.

Sir Wyville Thomson[1] stated that "the excretory opening [in *Porcellanaster cæruleus*] is very distinct in the centre of the dorsal perisom of the disk." This seems to me rather an inadvertent remark, and probably arose from the examination of a specimen in which the extremity of the epiproctal funnel was either invaginated or actually broken off.

I have observed under the microscope that some of the small membrane-invested spinelets on the abactinal area are either cleft or double, and simulate the appearance of the sacculate pedicellariæ in *Bathybiaster* described by Danielssen and Koren.[2] Whether they actually perform the functions of pedicellariæ or not, I am unable to say. They are generally situated near the marginal plates, and are usually most numerous in the neighbourhood of the madreporiform body.

So far as I can judge from the description, the genus *Caulaster*, founded by Perrier[3] in 1882, seems to be a synonym of *Porcellanaster*. The new genus was established for the reception of two small starfishes dredged by the "Travailleur" in 1880 off the north coast of Spain from a depth of 1960 and 2650 metres respectively, and the name had reference to the "dorsal peduncle" with which they are furnished. Both specimens are very small, the larger of the two measuring only 5 mm. from the centre of the disk to the extremity of a ray. In the smaller one the embryonic plating of the disk is still present. The few striking characters briefly mentioned by M. Perrier accord in every particular with *Porcellanaster*; and so far as I am able to judge from the meagre information, I am constrained to regard these interesting starfishes as young forms of some species of that genus. As to their identity with, or distinction from, the western Atlantic species *Porcellanaster cæruleus*, Wyville Thomson, I am not in a position to express an opinion. The smallest examples of that form with which I am acquainted are larger than those named *Caulaster pedunculatus* by M. Perrier.

In referring to the alliance of his type with *Ctenodiscus*, M. Perrier states that the marginal plates of *Caulaster* form only a single row ("les plaques marginales, peu visibles, ne forment qu'une seule rangée, comme chez les *Ctenodiscus*"). I venture to think that on closer examination a double row (*i.e.*, a supero-marginal

[1] Voyage of the Challenger, The Atlantic, London, 1877, p. 380.

[2] *Nyt Mag. f. Naturvidensk.*, 1877, Bd. xxiii., 3die Hefte, p. 63; Den Norske Nordhavs-Expedition, 1876–78, xi., Zoologi, Asteroidea, Christiania, 1884, p. 90.

[3] *Comptes rendus* (Dec. 1882), t. xcv. p. 1379.

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