

is placed above the termination of the ambulacral furrow in the median line, and one on each side a little beneath. Occasionally one or both of these lateral spines may be accompanied by a supplementary spine, thus producing the additional number.

The infero-marginal plates correspond in number and length to the superior series, and are, like them, longer than high; they do not curve round upon the actinal surface of the ray, which is flat.

One cribriform organ is present in each interbrachial arc; it is very broad, well defined, and with a deep depression down the median line. The structure is lamelliform. (See Pl. XXVII. fig. 12.)

The ambulacral furrows are broad, open, and straight. The adambulacral plates are small, rather elongate in the direction of the ray, and rather widely separate. The margin towards the furrow is incurved, and the adoral extremity is somewhat scooped out, and has the margin slightly lipped, the aboral extremity of the next plate being rounded, thickened, protruded, and lipped in correspondence; but the two do not join up closely, and a narrow vacant space is left between. The armature of the adambulacral plates consists of two minute, delicate, acicular, and sharply-tapering spines; the adoral spine, which is the longest, is placed at the extreme adoral end of the margin of the plate, and the companion spine is situated at the commencement of the curve along the furrow margin; the long spine is consequently directed almost transversely across the furrow, whilst the small spine stands at an angle of about 45° to it.

The mouth-plates are rather broad and suboval, elevated into a moderately high and well-rounded keel, a small elliptical space being left between the two adjoining plates near the middle of the median line. The aboral extremity of the plates is gracefully rounded, and the margins of the plates do not meet along the lower portion, but leave a triangular outline of the odontophore visible. The armature of the mouth-plates consists of one short conical spinelet at the adoral peak of the mouth-angle, standing at the junction of the two plates, and two small spinelets, similar to this, on the lateral margin of each plate. The aboral spinelet is placed near the middle of the margin, and the companion one, which is smaller, nearer the adoral extremity of the plate. All the mouth-spines are smaller than the spines which constitute the armature of the adambulacral plates.

The actinal interradial areas are small, subtriangular, and covered with membrane; the actinal intermediate plates are irregular and small.

Colour in alcohol, greyish white, with a darker shade of bluish grey over the disk.

Locality.—Station 191. In the Arafura Sea, west of the Arrou Islands. September 23, 1874. Lat. $5^{\circ} 41' 0''$ S., long. $134^{\circ} 4' 30''$ E. Depth 800 fathoms. Green mud. Bottom temperature $39^{\circ} \cdot 5$ Fahr.; surface temperature $82^{\circ} \cdot 2$ Fahr.

Remarks.—*Porcellanaster caulifer* is distinguished by the elongate tapering rays, by the long delicate spinelets on each supero-marginal plate, by the small terminal plate