

which are shorter than the furrow series, and are flat and expanded towards the tip, which is roundly truncate. The outer series, likewise of three spines, is similar to the second series, the middle spinelet, however, being usually broader and more flaring than its companions; occasionally there may be an additional small spine present in this series. The furrow series is directed more or less over the furrow; the second series is usually perpendicular; and the outer series is directed outward towards the margin of the ray. There is also a tendency in the spinelets to radiate apart. Consequent on this mode of arrangement, the armature of the adambulacral plates has a very widely expanded character on the whole.

The actinal intermediate plates, which are small and very few in number, are confined to the immediate interradial area. The spinelets that cover them are small, more or less subspatulate in form, and radiate apart.

The mouth-plates are of moderate size, each pair forming a subtubercular prominence, and their whole surface is covered with small, robust, papilliform spinelets, which form two or three lincal series on each plate. These spinelets increase in length towards the inner extremity, the innermost ones not being much longer or more prominent than the rest.

The madreporiform body is very small, and is situated at about one-third of the distance from the margin to the centre, and sometimes rather further away from the margin even than this. In some specimens there is a faint depression along the median line of a ray; and in large examples a similar slight sulcus occurs on the outer portion of the median interradial line.

Colour in alcohol, a light purplish shade, of which only a trace remains in some specimens, the rest being almost ashy white.

*Localities.*—Port Jackson. Depth 6 to 15 fathoms.

Station 161. Off the entrance to Port Philip. April 1, 1874. Lat.  $38^{\circ} 22' 30''$  S., long.  $144^{\circ} 36' 30''$  E. Depth 38 fathoms. Sand. Surface temperature  $63^{\circ} \cdot 5$  Fahr.

Station 162. Off East Moncœur Island, Bass Strait. April 2, 1874. Lat.  $39^{\circ} 10' 30''$  S., long.  $146^{\circ} 37' 0''$  E. Depth 38 to 40 fathoms. Sand and shells. Surface temperature  $63^{\circ} \cdot 2$  Fahr.

*Remarks.*—This species is perhaps most nearly related to *Astropecten peruvianus*, Verrill, but is distinguished by the character of the adambulacral armature and by the proportions of the lateral spines. It is distinguished from all the other pectinated species of *Astropecten* by the single continuous series of spinelets on the supero-marginal plates.

5. *Astropecten acanthifer*, Sladen (Pl. XXXIV. figs. 1 and 2; Pl. XXXVIII. figs. 1-3).

*Astropecten acanthifer*, Sladen, 1883, Journ. Linn. Soc. Lond. (Zool.), vol. xvii. p. 253.

Rays five.  $R = 90$  mm.;  $r = 14$  mm.  $R > 6 \cdot 5 r$ . Breadth of a ray at the base, 14.5 mm.