

but only near their ends. Teeth, but no tooth papillæ, and only a few small mouth papillæ irregularly arranged high up on the sides of the mouth angle. At the tips of the twigs the side arm plates are like long flaps, free of the arm and bearing at their ends a pair of little hooks. Further inward they cling close to the arm and take on the usual form of such plates, while the hooks become spine-like tentacle scales (or arm spines). The side arm plates, connected below by a solid under arm plate, are continued upward by swollen lime nodules homologous with upper arm plates. Large side mouth shields, but no mouth shield proper. Two small genital openings in each interbrachial space, between which is a fine madreporic pore leading into a stone canal.

Species of *Trichaster* not herein described.

*Trichaster palmiferus*, Agas., Mém. Soc. Scien. Nat. Neuchatel, p. 193, 1835; Müll. and Tr., Syst. Ast., p. 120, 1842.

*Euryale palmiferum*, Lmk., Syst. Anim. sans Vert., vol. ii. p. 539, 1801: Encycloped. Meth., p. 384, pl. cxxvi.

*Astrophyton palmiferum*, Bronn, Syst. d. urweltl. Pflanz., pl. ii. fig. 3.

*Trichaster flagellifer*, V. Mart. Wieg. Archiv, vol. xxxii. p. 87, 1877.

India.

*Trichaster elegans*, Ludwig, Zeits. für Wissen. Zoologie, vol. xxxi. p. 59, 1878.

Great Ocean.

*Astroclon*.

*Astroclon*, Lym., Bull. Mus. Comp. Zool., vol. vi., part 2, 1879.

Arms beginning to branch at a considerable distance from the disk, and having but few forks, nearly as in *Trichaster*. Disk rising well above the arms, and granulated, as are the latter. The tips of the twigs are encircled at each joint by a double belt of hook-bearing grains. Along the under surface of the base of the arm are two longitudinal lines of large, transverse slits, a pair to each joint, from which issue short tentacles; and above these on either side is a row of peg-like tentacle scales. Mouth angles naked on their sides, but with a bunch of spine-like papillæ at the apex. Two very large genital openings in each interbrachial space.

*Astroclon propugnatoris*,<sup>1</sup> Lym. (Pl. XXIV. figs. 6–11).

*Astroclon propugnatoris*, Lym., Bull. Mus. Comp. Zool., vol. vi., part 2, p. 69, pl. xviii. figs. 481–486, 1879.

Animal covered above by a closely soldered granulation, in which appear numerous

<sup>1</sup> Dr. Carpenter has happily translated Challenger by *πρόμαχος*, the Homeric word for a champion who stood in front of the line of battle and challenged the leaders of the enemy. *Propugnator* is a verbal translation, although it seems usually to signify rather a defender. I am told by high authority, however, that its present use is allowable. Goliath was such a challenging champion, but he is described in the Vulgate as *vir sputrius*, an expression not applicable here.