Pseudostichopus mollis, n. sp. (Pl. X. figs. 5, 6).

Body more or less elongately oval, equally rounded anteriorly and posteriorly. Mouth almost completely ventral in position. Tentacles twenty. Anus ventral, hidden in a rather deep furrow formed by two vertical folds of the perisome. Pedicels very minute, present only on the paired ambulacra; the odd ventral ambulacrum seems to be naked, if pedicels really exist, they must be very rudimentary. Pedicels of the dorsal surface arranged in a narrow double row along each ambulacrum, those of the lateral ventral ambulacra being more crowded and, as it seems, placed in two to five (?) rows. Calcareous deposits of the perisome absent. Colour in alcohol, light yellowish-white. Length, 140 mm.

Habitat.—Station 309A, January 8, 1876; lat. 50° 56′ S., long. 74° 14′ W.; depth, 140 fathoms; blue mud; six specimens. Station 311, January 11, 1876; lat. 52° 45° 30′ S., long. 73° 46′ W.; depth, 245 fathoms; bottom temperature, 46°·0; blue mud; numerous specimens. Station 144A, off Marion Island, December 26, 1873; lat. 46° 48′ S., long. 37° 49′ 30″ E.; depth, 50 to 75 fathoms; bottom, volcanic sand; two specimens.

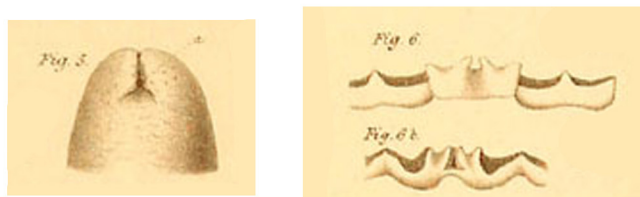
Though I cannot find any deposits in the perisome, it seems very likely that such were present in the living animals, and, consequently, that they have been dissolved in the Challenger specimens by the influence of some acid. From the want of deposits as well as from the minuteness of the pedicels in general, a very careful examination is necessary to be convinced of the presence of these pedicels, which are almost indistinguishable from the exterior of the body. At first sight therefore one is tempted to consider the animals as belonging to the apodous Holothurids. For the same reasons I cannot positively state the absence of pedicels in the odd ambulacrum; sometimes I thought I observed some rudimentary ones. It is also almost impossible to tell the true shape of the ambulacral appendages, but, to judge from some small ones which I saw extended, they are probably pedicels and not papillæ. The vertical furrow in the posterior extremity of the body appears to be characteristic of the forms of this genus (Pl. X. fig. 5). The tentacles are retracted within the body and their processes retracted, but, as far as I can see, they must be allied to those present in the Aspidochirotæ.

The body-wall is soft, thin, and pliable; along the sides of the animals it is inconspicu-

ously thicker. The calcareous ring (Pl. X. fig. 6) is well developed, but in want of posterior prolongations. A single ventral Polian vesicle is present. The madreporic canal must be very inconsiderable, because I did not detect it in the three specimens examined by me. A bundle of rather long, slender unbranched genital tubes is situated on each side of the dorsal mesentery, and the long wide efferent duct opens on a small papilla, placed anteriorly on the dorsal surface. The longitudinal muscular bands are simple and not divided into two bands. Two well-developed respiratory-trees are present, running out from a common base, and neither of them seem to be in communication with the plexus of pseudhæmal vessels, though the left tree is embraced and held in a proper position by some larger "connecting branches" of vessels.

Since the above description was written I have received the two individuals dredged at Marion Islands. They agree closely with the specimens obtained from the other Stations, and the only difference of importance seems to be with regard to the tentacles, which in one of the examples from Marion Island are nineteen in number, but this must evidently be considered as a variation. In these two specimens, also, no pedicels are distinguishable in the odd ventral ambulacrum. With regard to the ventral lateral ambulacral appendages I am very dubious whether they be papillæ or pedicels. In one of the specimens they obviously resemble papillæ. The dorsal ambulacral appendages, on the contrary, bear a greater similarity to pedicels. The arrangement of the ventral lateral appendages, whether placed in two rows or more, is not clear. The deposits are totally dissolved, excepting in the dorsal pedicels, in which I have seen some fragments of spicules. The surface of the skin is covered with small Ascidians, Sponges, Bryozoa, &c., which have grown on it.

PLATE X.



5-6. PSEUDOSTICHOPUS MOLLIS, n. sp.

Fig. 5. *Pseudostichopus mollis*, n. sp. Posterior extremity of the body, natural size. *a*, anal furrow.

Fig. 6. *Pseudostichopus mollis*, n. sp. Calcareous ring, four times the natural size.