

portion (that which surrounds the cavity, and is streaked by transmitted light) is tougher than the exterior glistening part, and is often torn out in the form of a long appendage to the tip.

The scales amount to twenty pairs, and entirely cover the dorsum, the first and last being small. They are smooth, parchment-like, slightly iridescent organs, showing under a moderate power granular rows radiating from the attached portion. The segments to which they are fixed in an example having twenty pairs are:—second foot, fourth, fifth, seventh, ninth, eleventh, thirteenth, fifteenth, seventeenth, nineteenth, twenty-first, twenty-third, twenty-fifth, twenty-eighth, thirty-first, thirty-fourth, thirty-seventh, fortieth, forty-third, and forty-fifth. They are symmetrically arranged, as usual, on both sides. No dorsal felt exists.

The dorsal cirri are long smooth organs, tapering from base to tip, and each is furnished with the distal pear-shaped process. As usual they occur on the feet devoid of scales. The ventral cirrus is a short subulate process, with a basal division. The tip scarcely reaches the point of exit of the inferior bristles.

The anus is dorsal and well-defined. The last pair of small scales arch over it superiorly.

The ventral surface of the body has many brownish cuticular warts, which also cover the sides of the feet. Some of the younger specimens dredged off Christmas Harbour show a much more villous condition of the ventral surface, and the villi are pale. This papillose state is very conspicuous over the post-oral area.

The play of colours even in the spirit-preparations is varied. The dorsum has a pale iridescent hue from the scales, upon which the lustrous dark golden inner dorsal bristles rest. These are flanked by the boldly developed long spines, which are deep brown, while the pale golden lateral tufts form a conspicuous fringe from head to tail along their outer border. Thus from the first the long spines form a median row flanked by two golden rows of varying shades. Lastly, the long lustrous ventral bristles constitute an interrupted series of palisades below. A large number of parasitic growths—sponges, Foraminifera, Diatoms, hydroid zoophytes, Polyzoa, Loxosomæ, Ascidians, entangled worms, and others in tubes of sponge-spicules—occur amongst the bristles.

One half of the alimentary system of the animal is formed by the powerful œsophageal apparatus or proboscis, the comparatively short intestinal canal succeeding the latter having its surface augmented by lateral diverticula, which in these subserves the purpose of the spiral valve in higher forms. The intestine generally contains a quantity of greyish pulp, showing a vast number of sponge-spicula, fragments of Diatoms, bristles of Polynoidæ and other Annelids, fragments of sessile-eyed Crustacea, ova, a few small Mollusca, and all the organic debris usually found in rich mud. The proboscis is much more flattened from side to side than in *Aphrodita aculeata*, but it seems to be composed of the same densely arranged series of fibres. It differs in its relation to the alimentary