

Family 3. ANTHOPTILIDÆ.

Anthoptilum, n. gen.

Polypidom without leaves, of the general appearance of *Funiculina*. Polyps in many short rows on the sides of the rachis, large, without cells. At the lower end of the rachis no prolonged streak of undeveloped polyps. Zooids lateral, ventral, and dorsal, all of one kind, small, wart-like. Axis round. No calcareous corpuscles, except at the end of the stalk.

1. *Anthoptilum thomsoni*, n. sp. (Pl. V. figs. 16–18).

A large, magnificent sea-pen, with a short, thick stalk, long feather, and long polyps crowded eight to ten in one row. Polyps often united at their bases. Zooids very numerous. Rachis free only on the ventral side.

Stalk with a thick swelling at the upper part, and a smaller end-bulb, with short pointed free end.

Polyps very long, without cells, and with long tentacles very seldom retracted. These polyps are disposed in many oblique rows on both sides of the rachis, so as to cover more or less completely its dorsal aspect. In the higher parts of the rachis it is quite impossible to find a free surface on this side, whilst the reverse is the case below in the neighbourhood of the stalk. On the other side the ventral surface of the rachis is free in its whole length. With regard to the position of the polyps, I have further to remark that very often the lowest parts of two, three, or more of them are united so as to produce the appearance of very small pinnules, shorter even than those of *Pavonaria finmarchica*, but in no place are all the polyps of one row united in such a manner. The tentacles of the polyps are very long, and provided with long, slender branches (pinnules), which are remarkable from their moniliform appearance (fig. 18), and the great number of small thread-cells situated in their single protuberances.

The zooids of *Anthoptilum thomsoni* are very numerous. The principal are lateral, and lie between the rows of polyps; but these lateral zooids reach everywhere the ventral surface of the rachis, and in many places the single lateral rows coalesce there so as to form genuine ventral zooids. This coalescence, however, never takes place on the greater part of the rachis, and generally coalesced lateral zooids alternate with separated sets. On the dorsal side the zooids avoid the middle line where this line is free of polyps, but where the polyps cover the whole dorsal surface the zooids are also to be found everywhere. A peculiar feature of this sea-pen is that in many places little groups of zooids reach as far as the base of the polyps themselves, and are also found between the individuals of one row. The size of the zooids is from 0.40 to 0.58 mm., and their structure the ordinary one, inasmuch as they possess two well-developed mesenteric filaments. With regard to the colour of *Anthoptilum thomsoni*, some specimens are totally uncoloured; others have all the polyps more or less brown, the stalk and rachis on the contrary colourless.