

the tentacles are simple and have no calcareous needles. Between these rudimentary individuals and the full-grown polyps many intermediate stages may be found, and I have no doubt that this sea-pen grows not only at the end, but also by the formation of new individuals between the old ones.

The calcareous corpuscles are very numerous in the cells, and in the integument of the rachis, and have the form of long needles 0.35 mm. and upwards in length. On the stalk the needles are also very numerous, but they diminish gradually in size, and measure only 38 to 58 μ in its lower parts. In the end-bulb itself the muscular layer contains the same small oval bodies of 3 to 15 μ , which have been described in the genus *Anthoptilum*.

In the axis radiating fibres are wanting, and are represented by the same oval plates, which I have described in other Pennatulida.

Measurement of the largest specimen—

Length of the whole,	.	.	.	.	.	75 mm.
Length of the stalk,	.	.	.	.	.	23
Breadth of the stalk above and below,	.	.	.	.	.	0.58
Breadth of the rachis,	.	.	.	.	.	0.23–0.34
Breadth of the axis,	.	.	.	.	.	0.20

Habitat.—Several well-preserved specimens from Station 169, north-east of New Zealand, lat. 37° 36' S., long. 179° 24' E. Depth, 700 fathoms. Bottom temperature, 4° 2 C. Grey ooze. 10th July 1874.

Protoptilum, Köll.

1. *Protoptilum aberrans*, n. sp. (Pl. VIII. fig. 30).

General appearance of *Protoptilum carpenteri*, Köll. Polyps larger, disposed in one row only on each side of the rachis. Polyp-cells truncate at their upper end, without spines. Zooids dorsal, lateral, and ventral, larger than in *Protoptilum carpenteri*. Rachis with a swelling in which the sexual products are found, in the lower part, in the region of the undeveloped polyps.

Polyps disposed, partly alternately, partly nearly opposite, forming in general a single row on each side, but in some places showing a tendency to an arrangement in series of two; polyp-cells of the form of a cornucopia, 2.85 mm. long, and 1.14 mm. wide at the opening. Zooids of the form of the polyp-cells, 0.57 to 1.0 mm., with cells like the polyps. The number of zooids is much more numerous than that of the polyps, and they are placed without any apparent rule except at the lowest, thickest part of the rachis, where the zooids alternate with the here rudimentary polyps in such a manner that one dorsal and one ventral zooid is placed between two polyps.

Rachis, 0.85 mm. broad in the upper parts, increasing below to 1.7 mm. and 2.0 mm.