

1. *Microptilum willemöesi*, n. sp. (Pl. VII. fig. 27).

Small, rachis longer than the stalk. Stalk with very inconspicuous swellings. Polyp-cells of two kinds, larger and smaller; the larger, 2·8 to 3·4 mm. in length, alternate pretty regularly with the smaller, the size of which is about 0·8 mm., and which are to be regarded as belonging to developing polyps. Number of larger cells 12; underneath the lowest, three smaller cells follow, visible with the naked eye, and three or four zooid-like undeveloped polyps, which are only to be seen with the microscope. The polyps are the only coloured parts of the polypidom, and have brownish stomachs, while the rest of their bodies has a yellowish tint.

Zooids flat, oval, 0·37 mm. long, without spines.

Calcareous corpuscles of the form of needles, 0·86 mm. long on the rachis, and decreasing to from 0·080 to 0·14 mm. and less on the stalk.

Rachis broad, 0·70 mm.

Stalk 0·45 to 0·48 mm.

Length of the whole polypidom 65 mm., of the stalk 25 mm.

*Habitat*.—One single specimen from Station 235, south of Yeddo, lat. 34° 7' N., long. 138° 0' E. Depth, 565 fathoms. Bottom temperature, 3°·3 C. Mud. June 4, 1875.

*Leptoptilum*, n. gen.

Sea-pens of the family of Protoptilidæ. Polyps with cells, sessile, disposed alternately in one single row on each side of the rachis. Cells cylindrical, with eight long spines. No real zooids, but a certain number of rudimentary polyps between each pair of the full-grown individuals. Axis round, pointed, and straight at both ends. Calcareous corpuscles in the stalk, rachis, the cells, and the tentacles of the polyps

1. *Leptoptilum gracile*, n. sp. (Pl. VII. fig. 28).

Small, rachis longer than the stalk.

Stalk with a small enlargement at its upper end, and a little end-bulb.

Polyp-cells 2 to 3 mm. long, and 0·85 mm. broad, with eight well-developed spines at their opening, but disposed in such a manner that many of them appear to be opposite, which is in reality nowhere the case. Another peculiar feature is that the size of the polyp-cells does not decrease regularly towards both ends of the rachis, as is usually the case, but that in the centre smaller and larger cells are found without any rule in their distribution.

The polyps are the only coloured part of this sea-pen, their stomachs being brown, and the other parts yellow. The axis of the tentacles bears a row of calcareous needles 0·11 mm. in length.

The rudimentary polyps lie two to five in number, and 0·16 to 0·32 mm. and upwards in size, between each pair of developed polyps. They possess similar cells, but