

*Habitat*.—A single specimen from Station 232, south of Yeddo, Japan, lat. 35° 11' N., long. 139° 28' E. Depth, 345 fathoms. Sandy mud. Bottom temperature, 5° C. May 12, 1875.

*Pennatula naresi* at first sight somewhat resembles *P. grandis*, Ehrenberg (*P. borealis*, Sars, *Ptilella grandis*, Koren and Danielssen), but on closer inspection the differences are numerous and great. Before entering into this subject, I wish to say that I cannot accept the genus *Ptilella* of Gray, which has been defined by him as follows:—“Pinnules membranous, broad, rounded, fringed with three close parallel series of short polyp-cells on the edge. Rachis granular on each side behind without any spines.” Koren and Danielssen have accepted the genus *Ptilella*, and define it as follows:—“Very large sea-pens, with large, broad, semilunar fins bearing several rows of polyp-cells. The ventral surface naked. The zooids lateral, extending towards the centre of the dorsal surface. On the ventral margin of the fins strongly developed zooids. The sexual organs in the fins. On the upper part of the stalk a fleshy enlargement. The axis is thick and round, curved downwards in the form of an S, terminating in a hook, while in the upper part it terminates in a volute.” With regard to this definition I have to add, (1) that *Pennatula grandis*, Ehrb., has very fully developed ventral zooids, which are tolerably well represented in fig. 2 of Sars; and (2) that this species has also a row of zooids at the dorsal end of the polypiferous margin of the leaves on the ridge, with which each leaf runs out upon the rachis. Now, if we define, as I have done, the Pennatulidæ as sea-pens with well-developed leaves, which bear the zooids principally upon the ventral surface of the rachis; and the genus *Pennatula* as a pennatulid the leaves of which are beset in their totality with calcareous needles, whilst these are found only in the polypiferous zone, in the genera *Ptilosarcus* and *Leioptilum*, and are totally wanting in *Halisceptrum*,—*Pennatula grandis* is a true *Pennatula*. At all events, I would rather unite the genera *Ptilosarcus* and *Leioptilum* with *Pennatula* than subdivide the *Pennatulæ* on ground so slight as the number of rows of polyp-cells, the size of the enlargement of the stalk, the disposition of the zooids in each group, or even the presence or absence of zooids on the ventral and dorsal margins of the leaves.

2. *Pennatula pearceyi*,<sup>1</sup> n. sp. (Pl. II. fig. 5).

Small, of a reddish colour, with four to five polyps on the margin of the small lanceolate pinnules. Zooids ventral and lateral, two to four in each set, small, all of the same size. Feather more than double the length of the stem.

Pinnules thin, transparent, slender, obliquely attached to the rachis, 3 mm. broad at their base. Ventral margin of the pinnule straight, dorsal margin with obliquely disposed polyp-cells, and thus appearing serrated. Free end of the pinnule formed by one polyp-cell.

Polyps four to five on the dorsal margin of the pinnule, and two to three small

<sup>1</sup> Named after Mr Frederick Pearcey, an excellent assistant attached to the Civilian Staff.