

very irregular shape, being all more or less strongly spinose; the largest ones, having their arms 0·24 mm. to 0·16 mm. in length, are much scattered in comparison with the smaller ones, the arms of which only attain to 0·08 mm. In the ventral perisoma I have found, besides the four-armed form, three-armed bodies as well as simple arcuate spicula. The pedicels (Pl. XXXV. fig. 17) are strengthened only by a few spinose spicula, and the tentacles (Pl. XXXV. fig. 15) by a number of short, thick, more or less curved ones which are very poor in spines.

The calcareous ring appears to consist of a very fragile network, which, as far as I can determine, does not form a continuous ring, but is made up of five separate pieces; from want of materials I have not been able to make a closer examination. The polian vesicle is narrow, cylindrical, and attains a length of 45 mm. The madreporic canal opens externally by three pores situated close in front of the genital pore; it is supported by a great number of closely-crowded deposits resembling those of the inner layer of the integument though of a rather more irregular shape. The cloaca is considerable, without any cæcal prolongation. The reproductive organ consists of two very wide tubes, 35 to 40 mm. long, one on each side of the dorsal mesentery; each tube carries in its posterior half a small number of large, oval cæcal sacks, about 5 mm. long, which are either simple or show a tendency to dichotomous branching. The genital pore is situated 45 mm. in front of the posterior extremity of the body.

The specimen dredged at Station 156, from a depth of 1975 fathoms, seems to bear the strongest resemblance to this species. The length of its body is 80 to 85 mm., and the dorsal appendage, which measures 80 mm., does not terminate in the same manner as in the typical form, but tapers to a point which communicates with the left of the two canals; the right canal terminates inconspicuously near the point just mentioned. The terminal part of the appendages appears in general to change its form in the very same species. The back has only four pairs of minute processes. The integument is very rough.

Concerning the specimen from Station 298 I feel somewhat uncertain whether it ought to be considered as belonging to this species or not. Its body attains the gigantic length of 260 mm. and the dorsal appendage measures 150 mm. The calcareous substance of the integument is completely dissolved. Each of the dorsal ambulacra possesses only a couple of minute processes.

*Psychropotes longicauda*, var. *monstrosa*, n. (Pl. XXIX. fig. 2, and Pl. XXX.).

*Habitat*.—Station 157. March 3, 1874. Lat. 53° 55' S., long. 108° 35' E. Depth, 1950 fathoms; diatom ooze. One specimen.

The general appearance of the body closely resembles that of *Psychropotes longicauda* wherefore I only intend to point out the insignificant characters which distinguish them from one another. The animal, of a dirty brown colour, reaches an enormous size, its length being about 250 mm., and its greatest breadth about 95 mm.; the body narrows