

exteriorly, and measure as much as 0.15 mm. in length, while the buttons (Pl. V. fig. 3, *b*), on the contrary, have a more constantly regular form and a length of about 0.1 mm.

Probably, it will at once be stated that the species in question is identical with one of the before-mentioned species, these being younger forms, but for the present I think it better to hold them apart.

The small individuals mainly differ from *Cucumaria salmini* by the want of anal teeth, from *Cucumaria dubiosa* by the fact that the pedicels are present even in the ventral interambulacra, and from *Cucumaria koellikeri* by the number of Polian vesicles and by the simple genital tubes. *Cucumaria dubiosa* is possibly a young individual of *Cucumaria koellikeri*.

*Cucumaria abyssorum*, n. sp. (Pl. IV. fig. 6; Pl. XVI. fig. 6).

Body inflated, fusiform, with the posterior extremity tapered, caudiform. Tentacles ten, of almost equal size. Anus without teeth. Pedicels completely retractile, thinly distributed in a double alternating row along each ambulacrum. The spacious interambulacra naked. Integument thin and soft, supported by scattered, rather large four-armed calcareous bodies with the ends of the arms dilated, spinous and pierced by some holes; one of these arms especially is more developed, provided with more spines, and communicates to the surface of the body a certain degree of roughness. Pedicels strengthened by terminal plates and straight or slightly curved rods with the ends dilated, perforated and spinous, and with a larger or smaller spinous process in the middle; sometimes this process is larger and perforated. Colour in alcohol, yellowish-white. Length, 45 mm.

*Habitat*.—Station 147, December 30, 1873; lat. 46° 16' S., long. 48° 27' E.; depth, 1600 fathoms; bottom temperature, 34°.2; Diatom ooze; seven specimens. Station 156, February 26, 1874; lat. 62° 26' S., long. 95° 44' E.; depth, 1975 fathoms; Diatom ooze; three specimens.

The largest individual is remarkable in possessing only nine tentacles, but this can only be an abnormality. A single Polian vesicle and madreporic canal are present. The calcareous ring (Pl. IV. fig. 6, *a*) is not very well developed, and has no posterior prolongations. The retractors communicate with the muscular bands nearer the anterior end than the middle of the body. Anteriorly, the alimentary canal is provided with a very powerful, expanded, muscular stomach. The reproductive organs consist of short simple tubes arranged in a bundle on each side of the dorsal mesentery. The respiratory-trees have comparatively few and short branches, scattered all over their length.

The perisome is soft and pliable; its calcareous deposits (Pl. IV. fig. 6, *b*) are more thinly scattered. The diameter of the deposits measures 0.3 mm., and sometimes they bear some spines not only at the ends of the arms, but even in their middle.