

Order II. PEDATA.

Body of various shapes, provided with pedicels or papillæ, the latter often situated on the top of larger or smaller protuberances. Tentacles dendroid or peltate. Respiratory-trees present.

Family DENDROCHIROTÆ.

Subfamily STICHOPODA.

Genus *Cucumaria*, Blainville, 1834.

Cucumaria lævigata, Verrill, 1876 (Pl. III. fig. 5; Pl. VI. fig. 13).

Habitat.—Station 149B, Kerguelen Islands, January 17, 1874; lat. 49° 28' S., long. 70° 30' E.; off Royal Sound; depth, 25 fathoms; numerous individuals: January 29, 1874; off Christmas Harbour; depth, 120, 105, and 45 fathoms; numerous individuals. Station 151, February 7, 1874; lat. 52° 59' 30" S., long. 73° 33' 30" E., off Heard Island; depth, 75 fathoms; volcanic mud; a single specimen.

The specimens examined by me do not quite agree with the description given by Verrill, but, considering that the Challenger specimens were dredged in great numbers on the very same localities in which Verrill, Studer, and Smith state that *Pentactella lævigata* is "very common," there seems to be not the least doubt of their identity.

The body is fusiform, more or less elongated. The largest individuals, though contracted, have a length of as much as 115 mm. or more. The tentacles are almost without exception of equal size; only in a very few individuals are they unequal, some dorsal or ventral ones being smaller than the rest, and it is worthy of note that these smaller tentacles are not fixed in position, as is the case in the typical *Cucumariæ*. The anus is destitute of any teeth. The Polian vesicles are three to five, rather long, but in some individuals only one vesicle of considerable size is visible, while the others are very rudimentary. The retractor muscles issue from the longitudinal muscular bands near the middle of the body or nearer its posterior end. The genital tubes are simple. The pedicels of the bivium and trivium are almost equally large, and arranged in a double alternating row along each ambulacrum. No pedicels are found on the inter-ambulacral spaces. In the smaller individuals the pedicels at the middle of the body are more scattered, so as to give the impression of being disposed in a single zigzag row.

According to Verrill, this species should be destitute of any calcareous ring, for