

of small, very spinous cylindrical papillæ, thus stellate in appearance. Ambulacral appendages—papillæ, rather closely placed all over the body, without any arrangement in rows. Deposits—tables with rounded, somewhat irregularly perforated disk and a short spire, built up of four rods and one transverse beam, and terminating in a rounded very spinous top; knobbed buttons, mostly with six holes and very often with irregular beams joining the tops of several knobs. Besides numerous perforated transverse rods, the papillæ possess tables near their ends which have the disk perforated by numerous holes and the spire drawn out into a very long simple point, communicating to the papillæ a very rough and spinous aspect. Colour in alcohol—ventral surface whitish inclining to yellowish, with some large light brownish spots at the middle; dorsal surface light brown inclining to yellowish on the sides, and with some larger darker spots at the middle. Length about 240 mm.

Habitat.—Station 208, January 17, 1875; lat. $11^{\circ} 37' N.$, long. $123^{\circ} 31' E.$; depth, 18 fathoms; blue mud; one specimen.

This species is doubtless nearly allied to Semper's *Holothuria aculeata*, but Semper does not mention anything about the characteristic tables in the papillæ, and therefore I must suppose that *Holothuria aculeata* is devoid of them. Some other differences exist which will be stated further on.

To judge from the single contracted specimen I have at my disposal, the conical papillæ along the sides of the body are slightly larger than the rest, and the sides themselves slightly thickened. Besides, the dorsal papillæ seem generally to be more conical than those of the ventral surface, which are like rounded warts. Especially the dorsal papillæ and the papillæ round the anus are obviously spinous to the naked eye, owing to the long spire of the tables. Owing to the groups of papillæ, the anus acquires a stellate aspect.

The calcareous ring is of the usual shape without posterior prolongations. The Polian vesicle has a length of 35 mm. The madreporic canal is uncommonly large and thick, attaining a length of about 40 mm. or more; it contains a network of very fine calcareous threads. A thick bundle of long, genital tubes, branched three to four times, is situated on the left side of the dorsal mesentery. The respiratory-trees are very well developed and branched.

The calcareous tables (Pl. VIII. fig. 1, *a*, *b*) attain a height of about 0.1 mm., and their disks are commonly convex on the inner surface; the buttons (Pl. VIII. fig. 1, *e*, *f*), are about 0.05 mm. long, and their central knobs are generally larger than the peripheral ones. The buttons often have a very asymmetrical appearance owing to the beams which join the tops of the knobs. The characteristic tables of the papillæ (Pl. VIII. fig. 1, *c*, *d*) have a large, irregular disk with numerous holes, and measuring as much as 0.14 mm. in diameter; and their spire, attaining a length of 0.36 mm., is built up of four rods which become united so as to form a single long, straight spire.