

double row along each ambulacrum. The interambulacra naked. Integument rather hard, with numerous deposits—small irregular, slightly concave, cup-like, perforate bodies with spines on the concave and knobs on the convex surfaces; closely disposed buttons of various shape, the more regular with about four holes and a smaller number of larger knobs; and large, scattered, thick, almost scale-like, round, elongate or oval plates with numerous holes and knobs. Pedicels strengthened by transverse plate-like rods with holes and a few knobs. Terminal plates less developed. Colour in alcohol, light greyish. Length about 53 mm.

Habitat.—Station 141, December 17, 1873; lat. $34^{\circ} 41'$ S., long. $18^{\circ} 36'$ E.; depth, 98 fathoms; bottom temperature, $49^{\circ} \cdot 5$; green sand; a single specimen. Station 142, December 18, 1873; lat. $35^{\circ} 4'$ S., long. $18^{\circ} 37'$ E.; depth, 150 fathoms; bottom temperature, $47^{\circ} \cdot 0$.; green sand; two specimens.

The calcareous ring (Pl. V. fig. 2, *e*) is slender, of common form, without posterior prolongations. A single Polian vesicle and madreporic canal are present. The slender retractors are attached at about the first fourth of the body. The reproductive organs are composed of simple unbranched tubes. The respiratory-trees are not very richly provided with branches. The integument is not very thick or hard, and contains a multitude of deposits; the larger deposits communicate to the surface of the skin a punctulate aspect.

The flat cups (Pl. V. fig. 2, *a*) are situated in the exterior layer of the perisoma, and present themselves under very variable aspects; sometimes they are simply cruciform, mostly, however, plate-like, with two to five holes. Their upper, concave surface is always provided with spines, while the inner surface carries some knobs. Their diameter measures as much as 0.04 mm. The buttons (Pl. V. fig. 2, *b*) even vary greatly as to their shape, some being oval symmetrical, others, on the contrary, very symmetrical, with a greater number of lobes and knobs. The smaller, symmetrical, true buttons measure as much as 0.1 mm. in length. The scale-like plates (Pl. V. fig. 2, *c*) are not closely crowded as in the former, but scattered, and attain a considerable size, up to 0.8 mm. in diameter. They are firmly constructed, thick, with numerous holes and knobs. A series of transitional forms between the buttons and plates are to be found. The pedicels carry numerous, knobbed or smooth, perforated plates, and, plate-like, more or less curved rods (Pl. V. fig. 2, *d*). The terminal plates seem not to be very well developed.

As far as I can find, this species cannot be referred to any other *Cucumaria* before known; it bears, indeed, some resemblance to *Cucumaria planci* and *Cucumaria syracusana*, but the former seems to be in want of the large plates, &c., and the latter carries pedicels even on the interambulacra, &c. It may even appear as if this species is very nearly allied to *Cucumaria discolor*, which has been brought home from nearly the same locality, but the latter is distinguished by the stellate mouth, the almost equally large tentacles, the rounded cylindrical body-form, the very thick, leathery perisoma, and by