

(Pl. IV. fig. 8, *b*). The scales are commonly roundish, compact and thick, almost resembling a mulberry (Pl. IV. fig. 8, *c*), and do not attain a greater diameter than about 0·7 or 0·8 mm. A whole series of transitional forms are to be found between the small buttons and these scales, which have evidently been developed from the former. The pedicels and papillæ are strengthened by plate-like perforated rods (Pl. IV. fig. 8, *d*) and terminal plates, the latter being slightly larger in the pedicels.

*Cucumaria mendax*, n. sp. (Pl. V. fig. 3; Pl. XVI. fig. 3).

Body cylindrical or fusiform. Anus without teeth. Tentacles ten, of almost equal size. Pedicels pretty closely disposed, equally distributed all over the body, without traces of any arrangement in rows. Surface of the perisoma almost smooth. Deposits numerous, crowded, of two kinds—round or oval, rather symmetrical buttons with about four holes and ten large knobs, and elongated more or less irregularly formed knobbed plates with as many as ten holes, one end being slightly narrower and provided with spines. Pedicels supported by terminal plates and crowded perforated plates or rods, often with some spines on the margin and knobs on the surfaces. Colour in alcohol, yellowish-white. Length of the largest specimen, about 70 mm.

*Habitat*.—Station 315, January 26, 1876; lat. 51° 40' S., long. 57° 50' W.; depth, 5 to 12 fathoms; sand and gravel; six specimens.

In the largest specimen, brought home from the above mentioned Station, the arrangement of the pedicels completely resembles that characteristic of the genus *Thyone*, and, at first sight, I even referred it to this genus, but, considering the general organisation, it doubtlessly presents the nearest relation to several species of *Cucumaria* before known. In the five other smaller individuals, on the contrary, an arrangement of the pedicels in rows is perceptible, and especially in the smallest, about 25 mm. long, specimens this arrangement becomes most distinct. Thus, the outer aspect of these small specimens is very like that in Semper's *Cucumaria koellikeri* and *Cucumaria dubiosa*, and Ludwig's *Cucumaria salmini*, but they present even a great conformity in their internal organisation, as will be seen further on.

The calcareous ring is of the ordinary shape, without prolongations posteriorly, though traces of such are distinguishable in some of the radial pieces. The madreporic canal is single, dorsal. Four Polian vesicles are present. The retractors are attached at the middle of the body or slightly in front of it. The genital tubes are simple, unbranched, as much as 40 mm. long. The respiratory-trees in comparison to the genital organs are not very richly developed.

On comparing the descriptions of Semper and Ludwig, it will be found that the deposits of *Cucumaria mendax* almost completely resemble those in the three above-mentioned species. The knobbed and spinous plates (Pl. V. fig. 3, *a*) are situated