

the colour, &c. Nevertheless, further examination may prove that *Cucumaria capensis*, *Cucumaria discolor*, and *Cucumaria planci* represent different types of one and the same species.

*Cucumaria discolor*, n. sp. (Pl. IV. fig. 8).

Body subcylindrical, without any marked demarcation between the dorsal and ventral surfaces. Tentacles retracted, ten of almost equal size. Mouth stellate. Arms without teeth, and the anal portion not caudiform. Ambulacral appendages only on the ambulacra, completely retracted, more numerous on the ventral surface. The ventral pedicels larger, arranged in a double row along each ambulacrum. The dorsal appendages seem to be of a more conical form, present, when retracted, considerably smaller openings, and may possibly be considered as "papillæ;" they are evenly arranged in double rows. Integument thick, leathery, with the surface smooth without any visible scales. Deposits—slightly concave, very delicately constructed, perforated plates or cups with numerous spines or knobs; crowded buttons larger than the former, with a varying number of holes and large knobs; rounded, compact reticulate thick scales of varying but never of any considerable size. A complete series of transitional forms between the buttons and scales occurs. Colour in alcohol, light brownish-violet, with larger and smaller darkish brown spots. Length, 70 mm.

*Habitat*.—Simons Bay; depth, 10 to 20 fathoms; a single specimen.

Not having had the opportunity of examining the dorsal ambulacral appendages in an extended condition, I am somewhat uncertain whether they may be referred to papillæ or pedicels. If they were to be considered as true papillæ, the species might belong to the genus *Colochirus*, which contains forms (*Colochirus spinosus* and *Colochirus inornatus*) presenting an undoubted relation to it. The ventral pedicels as well as the dorsal are in communication with ampullæ depending into the peritoneal cavity, but those of the dorsal pedicels are smaller. A single Polian vesicle and madreporic canal are present. The retractors are attached at about the middle of the body. A small muscular stomach is present. The genital organs are composed of two thick bundles of simple, rather long tubes. The respiratory-trees are of common shape. The ventral pieces of the calcareous ring are inconsiderably smaller than the rest, and the undulated posterior margin of the ring is devoid of any processes.

The calcareous deposits closely resemble those found in the two above cited, nearly related species. The exterior layer of the perisome contains numerous small, slightly concave, very delicately constructed perforated plates or cups (Pl. IV. fig. 8, *a*), with the margin uneven, and with numerous long spines or knobs on their upper and inner surfaces; they measure as much as 0.06 mm. in diameter. The buttons which lie beneath the former commonly grow larger, up to 0.09 mm. or more, but it is no rarity to find much smaller ones provided with only four holes and a smaller number of knobs