

The retractor muscles are attached at about the middle of the body. The two bundles of the genital organs are composed of simple unbranched tubes. The respiratory trees are not very richly provided with branches.

The integument is thin, pliable, and smooth. The minute  $\times$ -shaped bodies are very scattered, and situated in the exterior layer of the perisoma; their arms are curved, directed outwards, and sometimes even bipartite at their ends. They measure as much as 0.06 mm. in diameter. The plates are closely disposed, and vary greatly in form and size. Thus, one may find a complete series of developmental stages from  $\times$ -shaped bodies with the arms simple or dichotomously branched, and small irregular plates with a few holes, up to large round oval or angular, thick, convex, scale-like plates with numerous holes and knobs. These larger plates are composed of several layers, with the upper surface convex, almost acquiring an aspect like that of the scales of a *Colochirus*. The largest plates measure as much as 0.6 mm. or more. In the ventral perisome, especially near the middle row of pedicels, the plates often seem to be elongate, narrow, with two or three longitudinal rows of holes. The pedicels are supported by numerous crowded irregular transverse rods or rod-like plates, with a few perforations, and their terminal plates are not very well developed. *Cucumaria parva* is doubtless very nearly related to this species, and having found nothing contrary in the description of Ludwig, excepting the largeness of the individuals and the anal armature, I was almost inclined to consider them to be identical.

*Cucumaria insolens*, n. sp. (Pl. IV. fig. 5).

Body subcylindrical, with the anal portion often slightly curved upwards. Tentacles ten, of almost equal size. Pedicels of two kinds: larger, completely retractile ones arranged in double rows along the three ventral ambulacra, and even distributed on or near the dorsal ambulacra; and considerably smaller (papillæ?) present all over the dorsal surface as well as in the anterior and posterior parts of the ventral surface. The integument is thick and hard from the presence of three kinds of deposits arranged in several superposed layers. The exterior part of the integument is furnished with numerous small cruciform bodies with the arms curved and more or less branched (incomplete cups); beneath these there is a rich layer of large, elongate or oval, thick, knobbed, and perforated buttons with one end drawn out into a narrow spinous portion, which is directed obliquely outwards; interiorly densely crowded, small, rounded, more regular buttons with few holes and knobs are to be found. The pedicels, the larger as well as the smaller, are strengthened by terminal plates and strong, irregular, branched or unbranched slightly perforated rods. Colour in alcohol yellowish-grey, often darker and brownish on the back. Length up to 40 mm.

*Habitat.*—Simons Bay; depth, 10 to 20 fathoms; numerous individuals.

This form of *Cucumaria* is very remarkable, and seems to present a certain relation