

which reason he referred it to a new genus, *Pentactella*, but in this point I cannot agree with him. Among the specimens examined by me only the largest ones seem to want the calcareous ring; often it is very rudimentary, and never becomes visible without treatment with a solution of potash. In the smaller individuals it is more developed than in the larger. The five radial pieces of the ring (Pl. III. fig. 5, a) are more developed than the interradial, which mostly are very inconsiderable. As to its general appearance, the ring presents a certain resemblance to that in *Cucumaria crocea*, though in a much lower state of development.

With a few exceptions, all the individuals from Royal Sound and Betsy Cove are almost devoid of any calcareous deposits; this, however, seems to depend upon some impurity in the alcohol by which they have been dissolved. Thus, nearly all the larger specimens from these localities are totally devoid of deposits excepting in the pedicels. Only in a few forms of a more considerable size the deposits are left, but always in a more or less advanced state of solution, a fact from which I conclude that even the other individuals were provided with deposits, but that they have already been fully dissolved. The smaller forms, on the contrary, seem to resist the influence of an acid for a longer time, because most of them, kept in the same bottles, have their deposits left. At first I was almost tempted to think that I had to work with two different species, though living at the same localities, but having found some larger specimens with deposits in a state of dissolution, I cannot doubt that the smaller forms are only young of the larger. If, however, it should be proved that the largest specimens are destitute of deposits, it cannot cause surprise, considering the known fact that the larger forms of *Cucumaria frondosa*, for instance, are almost entirely devoid of deposits, while others are in possession of such.

The deposits (Pl. III. fig. 5 and Pl. VI. fig. 13) have the form of irregular plates which are rounded, oval, or more or less elongate. They are scattered, and perforated by four to twelve holes, of which the four central are larger, and their upper surface is provided with small knobs or spines. The largest plates have a length of about 0.18 mm. Besides these deposits, the integument contains small x-shaped bodies, which, however, are only developmental stages of the former. The pedicels are strengthened by a well-developed terminal plate, and by some branched spicules and smaller plates resembling those in the body-wall itself. Even in the pedicels of the larger specimens, which are destitute of deposits in the perisome, such deposits are present. There is no doubt that *Cucumaria lævigata* bears the nearest resemblance to the northern form, *Cucumaria frondosa*.

*Cucumaria crocea*, Lesson, 1830 (Pl. XII. figs. 1, 2).

*Habitat*.—Station 313, January 20, 1876; lat. 52° 20' S., long. 67° 39' W.; depth, 55 fathoms; bottom temperature, 47°·8; sand; a few specimens. Station 314,