

Another point shown by the table is that while the Bermudas have among their 18 known species not one peculiar ophiuroid, the Galapagos, with less than half as many species, have three peculiar forms. This may illustrate, what there is some reason to believe is the case, that the ophiuroids are more variable than any other class of echinoderms, and that "new species" are now forming under the influence of isolation or other suitable conditions, more rapidly than in the other classes. Or it may simply emphasize the fact that our knowledge of West Indian ophiuroids is far in advance of our knowledge of eastern Pacific forms. But whatever the explanation, these facts, though so few, seem worthy of special note.

THE HOLOTHURIANS OF CLIPPERTON ISLAND.

With the echinoderms from the Galapagos, Mr. Snodgrass sent me 26 holothurians taken at Clipperton Island. This island lies in latitude 10° north, and near longitude 109° west. It is the easternmost of the Pacific coral islands. These holothurians represent only two species, nine of them being large black individuals, the others small and reddish-brown. The former answer well to the descriptions of *Holothuria atra* (Jäger), especially as regards the calcareous deposits, but the specimens do not look at all like Semper's figure nor do they resemble specimens from the West Indies, with similar calcareous bodies. At present, however, there seems to be no recourse but to call them *H. atra*, though I am confident that no less than three distinct species are now included under that name. The case is very similar to that of *H. impatiens* and like that will require an abundance of material from all parts of the globe to make a proper assortment possible. The small holothurians from Clipperton Island seem to represent a new species allied to *H. captiva* Ludwig and *H. difficilis* Semper, the former from the West Indies, the latter from Samoa. For this species I propose the name *Holothuria frequentiamensis*.

HOLOTHURIA FREQUENTIAMENSIS sp. nov.

Dorsal surface somewhat arched, sparsely covered with papillæ; ventral surface flat, closely covered with pedicels, which show no evidence of arrangement in longitudinal rows; line between dorsal and ventral surfaces quite clearly marked. Tentacles 20, not peculiar. Polian vessels, 3 or 4. Stone-canal small, single. Calcareous ring not peculiar, similar to that of *H. captiva*. Cuvier's organs very noticeable, brownish or purplish (in alcohol). Reproductive organs wanting in all but one specimen; some had evidently eviscerated while

others were probably immature. In the one specimen, they were very small but seemed to be present only on the left side of the mesentery. Calcareous deposits, very regular tables, the bases perforated by a central, and 8 or 9 peripheral holes, the rather low spires surmounted by 20-30 teeth; underneath the layer of tables are numerous buttons, most of which are not symmetrical, and have 8-12 holes, though many have only six; in and about the pedicels the buttons increase in size and gradually become transformed into curved supporting plates with four or more longitudinal series of holes; in the papillæ, are curved, rough supporting rods; the holes in the buttons and plates are not large nor of uniform size, but are quite irregular. The tables are very closely crowded in the outer layer of the body wall so that they form a rough, crisp layer, though very delicate, over the whole surface; it is because of this that the name *frequentiamensis* has been selected. Color light brown, with a distinctly reddish tinge; the tentacles and pedicels darker. Length of largest specimen about 40 mm.

Although this species is undoubtedly closely related to *captiva* and resembles it in some respects, it is distinguished from that species by the shape and arrangement of the calcareous particles, especially the buttons. In these respects also it differs from *difficilis* although it may be even nearer this latter species. Semper's description is very brief and he gives the figure of only one table and two buttons, so it is possible the Clipperton Island specimens are really nearer those from Samoa than would appear from the descriptions. But they differ in size, color and number of Polian vessels, as well as in the calcareous particles. Moreover, the genital gland is attached to the dorsal mesentery near the middle of the body in *frequentiamensis*, and not close behind the calcareous ring as Semper says it is in *difficilis*.