

*Holothuria fossor* n. sp.

*Stichopus rigidus* Selenka, (partly), 1867, p. 317, pl. XVIII, fig. 30-31.

*Holothuria rigida* Semper, 1868, p. 79.—Theel, 1886, p. 231.

*Holothuria pleuripus* Sluiter, 1910, p. 333.

*Holothuria hypamma* † Clark, 1921, p. 178.

*Holothuria hypamma* Clark, 1922, p. 231.

Length 85 mm. Ventral side flattened, dorsal somewhat arched; skin very stiff and rigid, but thin; mouth ventral, the crown of very small and pale tentacles surrounded by a collar of papillæ; anus terminal.

Color, on dorsal side greyish, with about 12 pairs of indistinct spots; ventral surface white, rusty on the middle; and also a ring of rusty red pigment is found around the end of the pedicels. The appendages are small and inconspicuous. On the dorsal side, small wart-like papillæ of different sizes; they are numerous along the edge; ventrally, small retracted pedicels are found, not crowded; they are mostly retracted in the odd ambulacrum, laterally they are more conspicuous on account of the pigmentation.

A small and delicate calcareous ring is present; the posterior edge is undulated; the radialia are broad, squared, with a deep anterior notch; the interradialia are small, with the usual anterior tooth. Tentacle ampullæ small and slender. The vascular ring is about 10 mm. distant from the calcareous ring; one slender Polian vesicle is present and a small stone canal, with small head, free on the right, partly attached to the mesentery. The genital tuft contains numerous long and dichotomously branched tubes, some of which, in the present specimen, are longer than the animal. Two respiratory trees, as usual the left is entangled in the well-developed

rete mirabile. The muscle bands are broad and thick; the circular musculature, very feeble. Plate II.

According to Selenka the Cuvierian organs are branched. There was found a brown mass near the base of the right respiratory tree, but it was impossible to trace any structure in it.

Deposits: In the body wall is found a layer of densely placed large tables, underneath a thick layer of strongly knobbed buttons.

The tables have a knobbed margin, the disk (.059 mm. diam.) has a large central hole and several marginal, but often the primary disk is covered by a secondary network, which hides the original structure; the spire has numerous blunt teeth, which unite and form a network. From the edge of the disk arise rods which unite with projections from the spire. The tables are larger and more complicated dorsally; ventrally they are smaller (.044 mm.) and represent different stages of development. The buttons are smallest and most knobbed dorsally, where they have six holes and are about half as long as the diameter of the tables (.039 mm.); ventrally they have ten to twelve holes and they are twice as long and often nearly flat (.0604 mm.).

In the dorsal papillæ are numerous curved supporting rods (.0832 mm.) but no end plate; in the pedicels the supporting rods (.0858 mm.) are nearly straight; they are broad, with few holes in the ends and on the middle; often they have a low longitudinal ridge; a small end plate is present.

In the pedicels the tables are especially small and of very variable development; Selenka most probably described these simple tables as those with eight rods in the spire. His spinous ellipses are without doubt, the dorsal tables, seen in oblique position.

Clark first noted that the *rigida* from Florida was different from the species of the Society Islands, which is regarded as the type (1921, p. 178). He regards the West Indian species as identical with his *H. hypamma* from Murray Islands (1922). The undeveloped tables in the pedicels of the West Indian species resemble the average tables of *H. hypamma* (.054 mm.); but those found in the body wall of *H. fossor* are large and much more complicated. The buttons are entirely different; they are much more knobbed in the West Indian species, the holes are smaller and they never have the middle bar projecting over the ends of the buttons, as in *H. hypamma*.

Sluiter has recorded a specimen of *H. pleuripus* (Haacke) from Kingston, which he states agrees with the description given by Theel

of some specimens, in the Godeffroy Collection, from Fiji and Tahiti. Undoubtedly Sluiter is dealing with an example of *H. fossor*, which may be inferred from Theel's description of *H. pleuripus*, more easily than from Selenka's description of *H. rigida*. It has been possible to make sure of the identification by comparing spicules of *H. fossor* with those of Selenka's type of *H. rigida* in the Museum of Comparative Zoology.

Inasmuch as the species from the Society Islands is the genuine *Holothuria rigida* (Selenka) and that from the West Indies is different from Clark's *H. hypamma* (Murray Islands), it becomes necessary to name the West Indian form. Dr. Fisher has proposed the name *H. fossor*, on account of its burrowing habit.

1 specimen, Falmouth Harbor, Antigua.

[This species has less "behavior" than a sluggish chiton. It was found under rocks, which rested on sand, Falmouth Harbor, and was never uncovered by tide. It was deeply buried, after the manner of *Brissus brissus*, and probably does not come to the surface, unless at night. In the aquarium it was very sluggish both by night and by day. In life it is covered with fine sand grains.—W. K. F.]