

37. *Stichopus hirotai*, sp. n.

(Textfig. 28).

Specimens examined :—

Sci. Coll., Spec. No.	No. of individuals	Preserva- tion	Locality	Collector	Date
1058	6	Alc.	Futami Harbor, Chichi- jima, Ogasawara Is.	Hirota & Sekiguchi	Apr., '94.
1326	11	„	?*		'80?
1342	3	„	Ōgūra, Chichijima, O- gasawara Is.	Tokunaga	

Description:—Tentacles 18. Dorsal papillæ on conical warts of some mm. diameter; arranged in rows on the two dorsal ambulacra and on the lateral edges of the dorsal surface; no papillæ in the intervening spaces. Ventral pedicels numerous, in three zones, each with several rows of them. The median twice as broad as the two lateral zones. Polian vesicles in one specimen three, of which two were large and one small. Stone-canal attached to the mesentery, meandering greatly in its course. Mad-reporic body somewhat large. Calcareous ring as in the allied species: radialia four-pointed, interradialia single-pointed, somewhat oblique, the dorsal part being higher than the ventral part. The posterior prolongations of the radialia grow gradually larger toward the dorsal part.

Calcareous deposits:—(i) Slender, delicate tables with the disk mostly small, almost quadrangular in shape, about 0.028 mm. (textfig. 28*a*, *b*). Those on ventral pedicels up to

* The specimens are marked "Tokyo Market" which, I am certain, is a mistake; they were probably collected by Sasaki and party in the Ogasawara Is.



Textfig. 28.

Stichopus lirotui: a, b—Tables of perisome; c—Same of pedicel; d—C-shaped body; e, f—Rosettes; g—Supporting rod. (a—f $\times 320$; g $\times 240$).

0.052—0.060 mm. or more (c). The spire is often absent or is represented merely by four knobs. When present it is rarely formed of five columns; about 0.035 mm. high, with one cross-beam and twelve or more points, expanded above. I can not discover any conical tables. (ii) C-shaped bodies numerous, usually small, measuring about 0.032—0.36 mm. (d). (iii) Rosettes not numerous but not rare (f), not much smaller than C-shaped bodies, and some at least formed apparently by combinations of the latter (e). Supporting rods in pedicels 0.4 mm. or more (g).

Size of body up to 10 cm. in alcohol. Color uniformly light brown in alcohol. Skin soft and flaccid.

Remarks:—This species is nearest to *Stichopus horrens* SELENKA, from which it differs only in two points: (1) in having 18 tentacles instead of 20, and (2) in the calcareous deposits. In *S. horrens* C-shaped bodies are 0.1 mm. long, and tables are of three kinds: (a) ordinary delicate ones, (b) similar but larger ones distributed among (a) at regular intervals, and (c) large conical ones. Whereas, in the present species I can find only two kinds: (a) ordinary kind and (b) larger disked ones, mostly with imperfect spires and found in ventral pedicels, especially near the end-disks. Conical tables can not be found. C-shaped bodies are much smaller than in *S. horrens*.

The original specimen of SELENKA was only 5 cm. long. The only other investigator who has examined this species is LAMPERT, and he also gives 5 cm. as the average length of the species. Now it is possible that the difference in the calcareous deposits of this species and *S. horrens* is due simply to a difference in age. The number of tentacles is not a wholly reliable character. It is therefore possible that this species may prove to be the same as *S. horrens* or only a variety of it. But at present, the differences are too great and leave no choice but to describe this as a new species. An individual in lot No. 1342, 4 cm. long, does not show any large tables distributed at regular intervals, nor any conical tables at the base of the pedicels.

A *Fierasfer* is said to have come out of specimen No. 1342.

I have pleasure in naming this species after the late Mr. HIROTA, a friend and pupil of mine, who spent some time exploring the Ogasawara Islands and collected a set of the specimens under consideration. His untimely death cut off a career of much promise.

38. *Stichopus japonicus* SELENKA.

(Pl. IV., figs. 32—44 ; textfig. 29).

Stichopus japonicus SELENKA 1867, p. 318, Taf. XVIII., Fig. 33-36.—SEMPER 1867—'68, p. 74.—v. MARENZELLER 1881, p. 136, Taf. V., Fig. 11.—LAMPERT 1885, p. 104.—THÉEL, 1886*a*, pp. 160, 194, Pl. VII., fig. 3.—LUDWIG 1887*b*, p. 1242.—LUDWIG 1889—'92, p. 331.—MITSUKURI 1896, p. 408.—MITSUKURI 1897*a*, p. 31.—ÖSTERGREN 1898, p. 134.—SLUITER 1901*b*, p. 142.—CLARK 1902*a*, p. 563.

Holothuria armata SELENKA 1867, p. 330, Taf. XVIII., Fig. 66.—LAMPERT 1885, p. 91.

Stichopus armatus ?SEMPER 1867—'68, p. 75.—v. MARENZELLER 1881, p. 121.