

40. *Stichopus owstoni*, sp. n.

(Pl. II., figs. 18—20; textfig. 31.)

Specimens examined:—

Sci. Coll., Spec. No.	No. of individuals.	Preservation	Locality	Depth in <i>hiro</i>	Collector	Date
1053	2	Alc.	Naka-no-Yodomi, Sagami Sea.	70— 100	Mitsukuri	Apr. 2, '99.
1054	1	"	Outside Okinosé, Iwado-line, Sagami Sea.		Aoki	May, '95.
1333	3	"	Off Misaki, Iwado-line, Sagami Sea.	60	"	Dec. 18, '02.
1057	1	"	Yodomi, Sagami Sea.	400?	"	Mar. 15, ?
1331	1	"	Maye-no-Yodomi, Sagami Sea.	200	"	Jan. 13, '97.
1330	1	"	Enoshima, Sagami Bay.		Owston	
1332	7	"	Nishiura, Prov. Noto.	70	Shioi	
1056	1	"	Döketsuba, Tokyo Bay.	200	Aoki	Dec. 6, ?
1061— 1062	2 lots	Dried	Prov. Noto			
1353	2	"	Shimoniikawa Distr., Prov. Etchū.			Autumn, '00.
1271	2	"	Aomori Prefecture			
1372	2	"	"			
1640	4	Alc.	Isohama, Ibaraki Prefecture.		Sasaki	

Description:—Tentacles 20. Body semicylindrical, i.e., dorsum vaulted and ventrum flat. In life, one specimen measured 41×10 cm. and another 33×6 cm. Color in life greenish with dark-

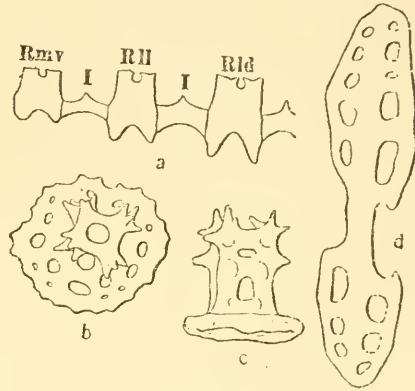
shaded papillæ; in alcohol, uniform grey with slightly darker papillæ. Pedicels in three longitudinal bands, the middle band twice as broad as the lateral band. Scattered among these pedicels numerous dark spots which look indented. These are probably small pedicels or papillæ. At the lateral edges large conical papillæ in a row, 7—10 mm. in height, 17 or 18 in number. Smaller papillæ of various sizes scattered all over the dorsal surface, the tallest of these being very much smaller than the lateral papillæ. In specimens observed in life, some of the taller of these dorsal papillæ were arranged in a more or less irregular double row along each of the two dorsal ambulacral lines. Smaller papillæ were scattered all over the dorsal surface. In some specimens, these smaller ones were more or less in a straight line along the lines of the taller papillæ (dorsal ambulacral), so that longitudinal lines of black dots were noticeable, especially when contracted. In other specimens no such arrangement could be observed. Around the subventral mouth, a crown of tentacles, surrounded by a membrane fringed with 25 or more medium-sized papillæ, these being more conspicuous on the dorsal and lateral parts and rudimentary on the ventral part of the membrane. Anus terminal, subdorsal, with some large papillæ in the neighborhood.

Genital bundles two. Stone-canal attached to the mesentery. Madreporic body as usual, near the opening in the mesentery opposite the middorsal interradial piece of the calcareous ring. Polian vesicles variable in number. In one (No. 1054) there are four, of which one is large, two middle-sized, and one small. In another (No. 1053) only one. In a third (No. 1332) two large vesicles united at the base into a single tube. Calcareous ring as given in textfig. 31*a*. Both radial and interradial pieces of the

dorsal part are taller than the ventral ones.

Calcareous deposits:—Over the general surface of the body there are to be found tables only (*b, c*). Disk well-developed, 0.06—0.85 mm. in diameter. Around the four large central holes, one

or two more or less incomplete circles of smaller holes with indented margin. Spire well-developed, built of four pillars, but not rarely of five, 0.048 mm. high; nearly all with two transverse beams, with teeth on each beam. A top view gives 8—12 or more teeth. There seem to be no noticeable differ-



Textfig. 31.

Stichopus oustoni: *a*—Calcareous ring; *b, c*—Tables; *d*—Supporting rod of dorsal papilla. (*b-d* × 300). *I*—Interradialia; *Rld*—Left dorsal radialia; *Rll*—Left lateral radialia; *Rmv*—Mid-ventral radialia.

ence in the tables of the dorsal and ventral surfaces, but if anything, there are more tables with smaller disk in the ventral than in the dorsal perisome. In the dorsal papillæ, end-plates none or very slightly developed. In the ventral pedicels, end-plates well-developed, with similar supporting rods. No calcareous bodies in the peritoneal membrane or Polian vesicle. Beautiful complex calcareous deposits in the cloacal wall and respiratory tree.

Remarks:—In the specimens from the north, there are many tables with five pillars and others with six, seven, eight, or only three. This is especially noticeable in No. 1372, in which tables with four pillars are not common. AOKI observed a *Fierasjer* come out from one of the specimens (1333).

Found so far in 80—100 fathoms or deeper waters of the Sagami Sea. Rather common. Taken in numbers by "Teguri".

nets in Yodomi in 80 fathoms. Strangely enough, the species is also found in about the same depth in the Japan Sea in Hakui District, Province of Noto, for the specimens from which locality I am indebted to the goodwill of Mr. Y. SHIOI. There the specimens, dried for commerce, are known as "Mukade-iriko." It is therefore reasonable to suppose that the species will be found in intermediate stations.

This species is near to *Stichopus griegi* ÖSTERGREN, but I can not detect any X-shaped spicules below the layer of tables. Moreover the calcareous bodies in the cloacal wall, etc., are much more complex than in that species.

I have pleasure in naming this after my friend, Mr. A. OWSTON, who has been instrumental in bringing up many treasures from the depths of the Sagami Sea, and to whom I owe some specimens of this species.

41. *Stichopus variegatus* SEMPER.

(Textfig. 32).

Stichopus variegatus SEMPER 1867-'68, pp. 73, 246-7, 275, Taf. XVI., XXX., Figs. 1-6; Taf. XXXI., Figs. 2, 3, 6, 9; Taf. XXXII., Figs. 1, 3, 5; Taf. XXXIII., Figs. 4, 5, 6, 9, 17; Taf. XXXV., Figs. 1, 11, 12, 13; Taf. XXXVI., Fig. 1; Taf. XXXVIII., Fig. 10.—LUDWIG 1882, p. 134.—LUDWIG 1883, pp. 156-7, 164.—BELL 1884, p. 151.—LAMPERT 1885, p. 105.—THÉEL 1886a, pp. 162, 191, Pl. VII., fig. 7.—BELL 1887a, p. 140.—LUDWIG 1887b, pp. 1224, 1242.—SLUITER 1887, p. 196.—BELL 1888, p. 389.—LUDWIG 1888, p. 311.—LAMPERT 1889, p. 814.—LUDWIG 1889-'92, p. 331.—KENT 1893, pp. 57, 226, 234, Pl. XXXV., fig. B.—SLUITER 1894, p. 104.—SLUITER 1895, p. 79.—KOEHLER 1895c, p. 384.—LAMPERT 1896 p. 59.—LUDWIG 1899, p. 561.—SLUITER 1901b, p. 31.

Stichopus variegatus var. *herrmanni* SEMPER 1867-'68, pp. 73-4, 275,

PLATE II.

Bathyplores golden-hindi, sp. n.

Fig. 16. Ventral view. $\times \frac{1}{4}$.

Fig. 17. Dorsal view. $\times \frac{1}{4}$.

Stichopus owstoni, sp. n.

Fig. 18. Dorsal view. $\times \frac{5}{8}$.

Fig. 19. Do. $\times \frac{1}{2}$.

Fig. 20. Ventral view. $\times \frac{1}{2}$.



K. Nagahara & I. Sakuma del.

Figs. 16-17 *Bathyplores golden-hindi*, sp. n.
Figs. 18-20 *Stichopus owstoni*, sp. n.

Lith. Y. Koshiba, Kanda, Tokyo.