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Author(s)	Nishikawa, Teruaki
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CONTRIBUTIONS TO THE JAPANESE ASCIDIAN FAUNA XXXIV.  
RECORD OF *BATHYPERA OVOIDA* (RITTER, 1907)  
FROM SAGAMI BAY

TERUAKI NISHIKAWA

Biological Laboratory, College of General Education, Nagoya University

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*With Text-Figure 1*

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In checking the ascidian specimens of the late Dr. Asajiro Oka's collection deposited at the Institute of Biological Sciences, University of Tsukuba, two strange simple ascidians densely coated over the test surface with peculiar calcareous spicules were found out and identified easily with *Bathypera ovoida* (Ritter, 1907) ever recorded from only the western coast of North America. This short note is presented to confirm the "amphi-pacific" occurrence of this species.

Before going into description, the author would like to express his hearty thanks to Drs. Hiroshi Watanabe and Koichi Sekiguchi and Mr. Tetsuo Iwami, University of Tsukuba, for their kindness in giving him the chance to examine the specimens and every facility during his stay there, and to Dr. Tokioka for the critical reading of the manuscript.

*Bathypera ovoida* (Ritter, 1907)

(Fig. 1)

*Holomolgula ovoida*—Ritter, 1907, pp. 3–8, pl. 1, figs. 1–6.

*Bathypera ovoida*—Van Name, 1945, pp. 369–370, fig. 253. (synonymy); Millar and Goodbody, 1974, p. 158 (ref.); Fay and Vallee, 1979, p. 126 and table 1 (ref.)

*Material*: Two specimens, 35 mm and 43 mm long respectively in the collection. The smaller specimen (No. 20) was collected by Mr. Kumakichi Aoki, the former famous collector of the Misaki Marine Biological Station, from Sagami Bay off Misaki (depth unknown) on June, 1909, while the larger one (No. 297) was collected by the same collector at a depth of 100 fathoms off Matsuwa-se in the same bay on November 7, 1901. Both specimens had been dissected already and named provisionally "*Molgula nuda*" by the late Dr. A. Oka. The mantle body of the larger specimen is too much deteriorated to be available for description, though the test is seemingly completely preserved. Thus, the following descriptions on the mantle body are to be made exclusively on the smaller specimen.

*Description*: Body nearly spherical, the surface whitish and irregularly wrinkled

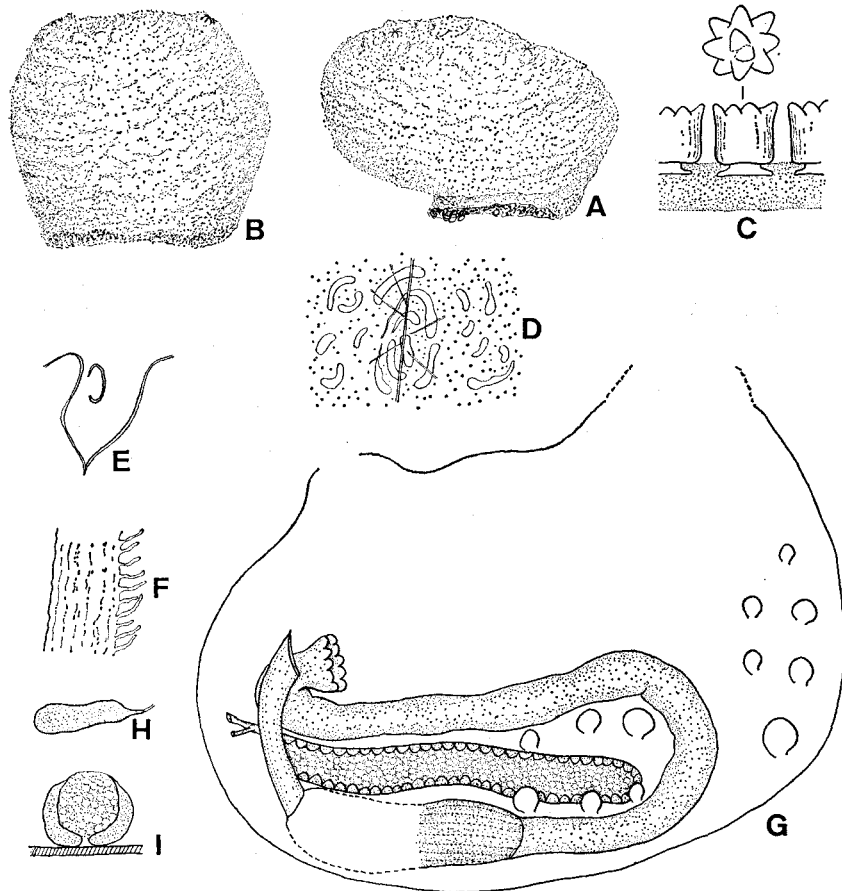


Fig. 1. *Bathypera ovoida* (Ritter) from Sagami Bay. A-B: The whole body, side view. C: Spicules on the test surface, top view (above) and side view (below). D: Part of an interspace of branchial sac. E: Ciliated groove. F: Part of serrated dorsal lamina. G: Left half of mantle body, inner side. H: A testicular follicle. I: Optical cross section of gonad. A: 43 mm long specimen (No. 297). B-I: 35 mm long specimen (No. 20).

(Fig. 1, A and B). The whole test surface, except the attachment surface, is coated very densely with white calcareous spicules; test itself is thin, up to  $125\ \mu$  in thickness, tough, whitish and translucent. Spicules are cylindrical, ca.  $100\ \mu$  in height and nearly the same in diameter in the smaller specimen, while up to  $125\ \mu$  in both height and diameter in the larger one. They are provided on the truncated distal end with 8 to 10 or more conical rays with blunt tip and anchored in the surface layer of the test by their conical base expanded proximally (Fig. 1, C). Both siphons nearly sessile.

Mantle body somewhat injured by dissection. Mantle delicate; musculature consists of longitudinal muscle bands, radiating from both siphons and covering nearly all over the body, and circular muscles limited to the siphonal regions. Branchial siphon terminal, while the atrial with the anterior base at the middle of the

body. Tentacles (partly missing?) 18 in all, comprising 15 larger and 3 smaller ones; branched rarely in 4 orders. Ciliated groove C-shaped opened to the right (Fig. 1, E). The edge of tall dorsal lamina provided with filamentous projections (Fig. 1, F). Nine branchial folds on each side; the formula is:

L.D. 3 (20) 3 (20) 3 (23) 3 (22) 2 (21) 3 (21) 2 (18) 2 (13) 2 (12) 0 V.

R.D. 0 (23) 2 (21) 1 (20) 2 (22) 3 (20) 2 (17) 2 (19) 1 (18) 1 (12) 0 V.

Infundibula may be formed under the folds, while stigmata in interspaces are more or less curved (Fig. 1, D). No branchial and atrial vela. An amphipod was found in the peribranchial cavity.

Stomach partly injured, but seemingly rather large and with longitudinal plications on the surface. Oesophagus rather long. First intestinal loop very deep and wide, while the distal branch of second loop is very short. Anal margin cut into 10 lobules. A few endocarps distributed on both sides along the mid-ventral line and around the gonad (Fig. 1, G). Renal organ indiscernible. A single elongated gonad on each side; the left one situated in the first intestinal loop, while the right near the postero-ventral end of the mantle body. Numerous elongated testicular follicles along the whole side of each gonad (Fig. 1, G-I); ovarian eggs up to 250  $\mu$  in diameter.

*Remarks:* The specimens from Sagami Bay conform well with the original description of *Bathypera ovoida* (Ritter), only excepting that the spicules on the test surface are seemingly distributed more densely in the former than in the latter, though the distribution in the latter is judged from the Figures 2 and 3 in Plate 1 given by Ritter. As to the "renal organs" described in the original paper, that are "in the form of two or three distinct patches on the inner surface of the mantle in the vicinity of the gonads" (p. 5), it is suspectable that these might be the endocarps as was already noted by Van Name (p. 370). Thus, the specimens examined here may safely be identified with this species.

*B. ovoida* has been recorded off San Nicolas Island, southern California, 1000 to 1100 fathoms deep (Ritter, 1907); Saanich Inlet, Vancouver Island, British Columbia, 100 m deep (Millar and Goodbody, 1974); and near Santa Catalina Island and Santa Monica Bay, southern California (Fay and Vallee, 1979). Therefore, the present record is the first locality for this species other than the western coast of North America, and thus one more species of the "amphi-pacific" distribution is here added (see Tokioka, 1963).

In the genus *Bathypera*, there are three more species ever described: *B. splendense* Michaelsen, 1904 from the Antarctic (Kott, 1969, p. 140), *B. hastaefera* Vinogradova, 1962 from the Antarctic (Vinogradova, 1962, pp. 206-7) and *B. goreau* Millar and Goodbody, 1974 from West Indies (Millar and Goodbody, 1974, pp. 156-8). All these species may be easily distinguishable from *B. ovoida* by the shape of spicules on the test surface and fewer branchial folds (6 on each side).

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