

CONTRIBUTIONS TO JAPANESE ASCIDIAN FAUNA

XIV. SPORADIC MEMORANDUM (5) ON TWO LARGE COLONIES OF COMPOUND ASCIDIANS DREDGED IN THE TYOSEN STRAITS¹⁾

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With Plate XIX and 1 Text-figure

I had a chance to examine two large colonies of compound ascidians which were dredged by the training boat of the Hiroshima University at a station in the Tyosen Straits, 85 m deep and ten miles east of Okinosima, on October 12, 1954. One is a colony, possibly referable to the "*Aphanibranchion*"-stage of *Syndiazona grandis* OKA, while the other one belongs to the genus *Amaroucium* and seems to represent a new species, the descriptions of which are given in the following. Before going further, I want to express my hearty thanks to Prof. IWAO TAKI of the Hiroshima University, who collected these specimens and so kindly submitted them to my examination, and also to Dr. I. YAMAZI of our laboratory, who prepared for me photographs of the plate.

1. *Amaroucium takii* n. sp.

(Text-fig. 1; Pl. XIX, figs. 3 and 4)

A gelatinous colony of 130 mm high, 130 mm wide and 30 mm thick, being compressed laterally and fastened to the sand mass by the under side, 85 mm long × 60 mm wide and 20-30 mm in thickness. The surface is nearly smooth and quite free from foreign matters. The test is of moderate hardness, translucent and pale pinkish brown in colour. Probably the colony might be much more swollen when it was alive. Zooids are arranged in groups, although the systems are not distinct; each group comprises 7-15 zooids.

Zooid: Zooids are very elongate, up to 23 mm in length in examined ones. The thorax is very small, only 1 to 1.2 mm in length in a considerably contracted state. The proportional length of the abdomen varies considerably according to the degree of contraction of both thorax and abdomen; it is about a half of the length of the thorax when it is short, but it may be as long as the thorax when it is long.

1) Contributions from the Seto Marine Biological Laboratory, No. 325.

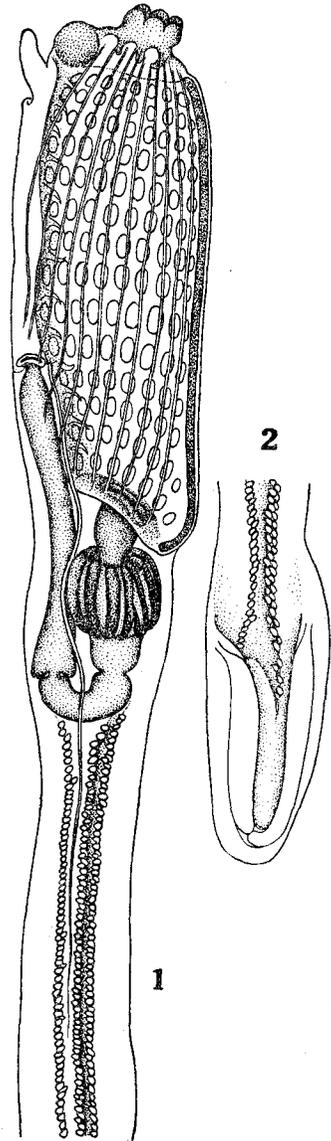
Thorax: Rather small. The branchial aperture 6-lobed, the atrial is situated approximately at the level of the third stigmatal row and provided with a short atrial languet pointed distally. Some zooids seem to be devoid of atrial languet. About a dozen longitudinal muscles on each side of the thorax. From twelve to fifteen stigmatal rows are present; and eight to ten stigmata in each row. Tentacles 6, dorsal languets are slightly displaced to the left side from the dorso-median line. The anus is located in the posterior part, three to four stigmatal rows are found posterior to the level where the anus is attached.

Abdomen: The stomach is situated near the middle of the abdomen, roughly globular in outline and marked with about 15 longitudinal plications. The mid-intestine distinct; the proximal portion of the rectum is swollen and forms a pair of small coeca.

Postabdomen: Extremely long. Testicular follicles very small and numerous, being arranged in two pairs of longitudinal rows. The ovary was not found in any dissected zooids. The heart occupies the distal part of the postabdomen.

Remarks: Both the appearance of the colony and the structure of zooids of this specimen remind us of those of large colonies of *Am. glabrum* VERRILL and *Am. constellatum* VERRILL. From these VERRILL's species, however, the present specimen differs apparently in the number of stigmatal rows and that of stigmata in each row; namely VERRILL's species have fewer rows, but a little more stigmata in each row. In *Am. constellatum*, the stomach wall is marked with much more longitudinal plications.

Am. solidum RITTER & FORSYTH from the Californian coast of the U. S. resembles closely the present specimen, too. It has 13 to 15 stigmatal rows, but stigmata in each row attain to about 15 and the stomach has only ca. eight longitudinal plications. For these reasons, I am inclined, at present, to treat the present specimen as a new species.



Text-fig. 1. *Amaroucium takii* n. sp.
1...Thorax, abdomen and anterior part of postabdomen; right side, magnified. 2...Distal end of postabdomen, magnified.

2. ?*Syndiazona grandis* OKA

(Pl. XIX, figs. 1 and 2)

A big conical colony, about 250 mm in height and 160 mm in diameter across the basal surface from where many short root-like protuberances are issued and by which the colony is fastened to coarse sand grains. The tip of the colony is obtusely pointed. The test is hard gelatinous and dark grayish brown in colour. The surface is nearly smooth. The surface layer, about 20 mm in thickness, is occupied by zooids, while the wide inner core portion is completely filled with gelatinous test substance. Of the zooidal layer, inner 10 mm is occupied by abdomens. The thorax is very small, less than 2 mm in length. The thoracic musculature seems to consist of transverse muscles; about twenty stigmatal rows are defined. The abdomen is ca. 10 mm in length; the internal structure is quite obscured by mesenchyme cells which fill the whole abdomen and dark yellowish brown in colour.

Apparently, the rudimentary appearance of thoraces proves that the present colony shows the so-called "*Aphanibranchion*"-stage of a form of *Syndiazona*. And the possible arrangement of thoracic muscles alludes that the colony might belong to *S. grandis* OKA.

EXPLANATION OF PLATE XIX

- Fig. 1. ?*Syndiazona grandis* OKA, 250 mm high colony.
Fig. 2. " " , longitudinal section of the same colony.
Fig. 3. *Amaroucium takii* n. sp., 130 mm high colony.
Fig. 4. " " , a part of the section of the same colony, slightly enlarged.

