Read May Meeting, 1935

Introduction

Some of the hydroids, collected in or near Sagami bay, southeast Hondo, by His Majesty, the Emperor of Japan, were forwarded for examination, by Dr. H. Hattori of the Biological Laboratory, Imperial Palace, Tokyo.

These proved to be of much interest, since, to record them, it appears necessary to describe eight new species and one new genus, Another species has been described, apparently, but the specific name given to it was preoccupied, hence a new name is necessary. Another species has been recorded in different publications, but the gonosome, as it appears in these specimens, has not been described.

The name *Endothecium* is given to the new genus, which has a trophosome similar to that of Halecium, but the gonangium springs from the interior of the hydrophore, where it replaces a hydranth. The new spcies are:—*Eudendrium biseriale, Endothecium reduplicatum, Halecium cymosum, H. fabellatum, H. minor, H. nullinodum, H. vasiforme,* and *Antennella paucinoda. Sertularia* brevis takes the place of *Sertularia minuta* Hargitt, and a description is given of *Campanularia chinensis* Marktanner-Turneretscher.

Here, I wish to express my appreciation of the privilege of examining hydroid material of so much interest.

To my wife I am indebted for the drawings used to illustrate the species described.

Eudendrium biseriale new species

Pl. I, Fig. 1

Trophosome. Colony short, 20 mm., stout; stem simple, irregularly branched, the stem and branches seldom straight throughout their whole length, more or less annulated throughout, but often the annulations are broken or incomplete, so as to give a wrinkled appearance. The angle that the branch makes with the stem varies much, sometimes the branches twist almost around one another. The hydranth bears 16-20 tentacles.

Gonosome. The male gonosome is borne oil a small secondary branch or on a stem of much the same size, arising directly from the stolon. The branch bearing the gonosome may be again branched so as to have two or more gonophore clusters grouped. The gonosome differs very materially from the usual type in *Eudendrium,* as the gonophores are monothalamic and appear in two whorls, somewhat closely approximated, instead of the single whorl found in other species. The hydranth at the end of the branch is entirely aborted.

The female gonosome is borne similarly on the secondary branches. The gonophores appear in clusters of three *or* more at die end of a branch, the hydranth being wholly aborted.

Colour. Main stein almost black at the base, branches, brown; hydranths, brownish-orange ; female gonophores, deep brown ; male gonophores, lighter.

Distribution. At tide-mark, Eboshi-iwa, near Enoshima.

Campanularia chinensis Marktanner-Turneretscher

Pl. I, Fig. 2

Campanularia chinensis Marktanner-Turneretscher, Die Hydroiden des K.K. naturhistorischen Museum, 1890, p. 203.

Trophosome. Colony large, **up** to **3** cm., coarse, the main stern and principal branches fascicled; flabellate, as the few main branches are long, spreading and irregularly arranged. As the hydrothecae come off on all sides of rhe stem or branch, there is an approach to a verticillate arrangement, but a true verticil is not formed. The pedicels vary much in length, from 1 mm. to 3.5 nini. or perhaps even greater; they may be annulated at the proximal end aad always have one pronounced annulation below the base of the hydrotheca. The hydrotheca is cylindrical ; the wall is thickened at the base below the diaphragm. In the specimens examined there were 12 deeply cut teeth, rounded at the tip ; from each indentation in the margin, a distinct line passes backward almost to the base.

Gonosome. The gonangia are given off similarly to the hydrothecae but the pedicel is very short ; they are somewhat irregularly elliptical. 1.2 mm x 0.4 mm.

Distribution. At 10 m., Hayama, Sagami bay.

Note :—The trophosome of this species as here diagnosed agrees fully with the original description given by Marktanner-Turneretscher, and with other descriptions given since, but as there seems to be some doubt that the gonosome, as seen here. has been described. **A description with a figure is therefore given.**

Genus Endothecium new genus

Trophosome. As in *Halecium.*

Gonosome. Gonangia springing from the interior of hydrophores, where they replace hydranths.

Endothecium reduplicatum new species

Pl. I, Fig 3

Trophosome. Unbranched stems, 10 mm. high, arise from a stolon that forms a loose network. Stem somewhat geniculate, divided into internodes by slightly oblique nodes; in most of the colonies, each internode bears a hydrophore near its distal end, but occasionally, there is a basal internode, or one or more intermediate internodes, that do not bear hydrophores. Hydrophore with short pedicel, almost sessile in some cases; the distal end of the pedicel expanding and the rim flaring; extensive reduplication may take place, the pedicels all short.

Gonosome. Gonangia growing from the hydrophores on some of th proximal internodes, taking the place of hydranths. Male gonangium, obovate, 1 mm. in length; in the later development, the contents, or a part of them, become extruded into a spherical, apical capsule. The female gonangium is larger, 1.5 mm., elongated oval.

Distribution. A t low tide, Hayama, Sagami bay.

Halecium cymosum new species

Pl. I€, Fig. 4

Trophosome. This is a minute, delicate species, reaching a maximum height of 3 mm. in the specimens examined; branching definitely cymose; stem, branches and pedicels irregularly annulated or wrinkled; hydrophores Raring but little; hydranths with 16-18 tentacles.

Gonosome. Gonangia, male and female, of much the same size, growing from the stolon; small, 0.6 mm. x 0.25 mm., pyriform in one view, slender oval in the other; the gonophore arise from the base of the gonangium, not from the side, as it does in the somewhat similar but much larger species *Halecium cymiforme* Allman.

Distribution. At low tide, Yeboshi-iwa, Sagami bay.

Note.—This is probably the same species that Stechow has recorded as *Halecium cymiforme* Allman (Hydropolypen der Japanischen Ostküste, 1913, p. 84), but the species is much more minute than *Halecium cymiforme,* is more extensively annulated or wrinkled. The gonangia are much smaller, arise from the solon, and have a basally placed gonophore.

Halecium flabellatum new species

Pl. II, Fig. 5

Trophosome. Colony flabellate. 5 cm.; stem and main branches strongly fascicled; stem, branches and branchlets in the same plane; branchlets stout, irregularly arranged; branch, nearly straight, divided into internodes by oblique nodes, commonly a double annulation at the node. A hydrophore, almost sessile, is given off near the distal end of the internode, the hydrophores alternating to one side and the other on successive internodes; rim flaring but little; reduplication often appears, but the pedicel of the extra hydrophore is short; hydranths large.

Gonosome. Both male and female gonangia borne on the branches just below the hydrophores; pedicels short. Male gonangia nearly circular in the plane of the colony, with nodule like projections from the distal portion; lenticular in the plane at right angles; when mature, the sporosacs pretty well fill the gonangia, so that the coarsely reticulate supporting structure is masked.

Female gonangia larger than the male, each diameter from 25% to 50% greater. Here the sporosac is a cylindrical structure with a diameter about one-third that of the gonangium, and the coarsely reticular supporting structure is, hence, much more evident. The gonangium is much the same shape as the male gonangium but the distal nodular processes are more numerous.

Distribution. 30-35 m., Shio-no-misaki, Kii, Wakayama Prefecture.

Halecium minor new species

Pl. II, Fig. 6

Trophosome. A creeping stolon gives rise to individual hydrophores with pedicels 0.5 to 1.0 mm. in length; occasionally, a colony appears, with, at the most, four or five hydrophores; these may be given off alternately from a continuous stem, or each succeeding hydrophore may grow out from near the distal end of the pedicel **of** the preceding hydrophore. There is no indication of nodes. The pedicels are smooth, slightly wavy- or occasionally with one or more annulations. Margin slightly everted; hydranths with 16-18 tentacles.

Gonosome. Both male and female gonangia are attached to rhe pedicels (short) of individcal hydrophores, with short pedicels. separated from the gonangia by single annulations.

The female gonangium is very similar to that of *H. beani,* but is much smaller; the abcauline side is regularly convex, the adcauline,

abruptly concave, with two hydranths passing out from the opening. The sporosac with four or five ova lies parallel to the convex surface.

The male gonangium, also like that of *H. beani,* has a convex abcauline, and nearly straight, adcauline side, with the attachment of the sporosac parallel to the straight side.

Distribution. On an anthozoan, 2-3 m., Hayama, Sagami bay.

Halecium nullinodum new species

Pl. II, Fig. 7

Trophosome. Stein strongly fascicled, 6 cm., with very few large branches, irregularly arranged, also strongly fascicled; secondary branches slender, slightly geniculate, with no distinct nodes; hydrophores sessile, with rim very slightly everted; reduplication common, with long pedicels between the hydrophores.

Gonosome. Female gonangia 'large, attached to the branch, immediately below the hydrophore, shaped somewhat **like** an interrogation **mark,** with the pedicel enlarging as it passes *out;* the aperture of the gonangium situated between the tip of the mark **and** the terminus of the pedicel. The pedicel serves for the support of two hydrophores, one on each side of the proximal margin of the aperture; hydranths **of** full size. The bfastostyle follows the outline of the gonangium; to it is attached a pod-like structure in which are situated the ova, 5-8 in number. This pod disintegrates when the ova are mature, and these adhere to the blastostyle for a time before they escape through the aperture of the gonangium.

Male gonangia not observed.

Distribution. 100-150 m., Okinose, outside of Sagami bay.

Halecium vasiforme new species

Pl. SI, Fig. 8

Trophosome. The stolon forms a close, slender network over the surface of barnacle shells; solitary hydrophores, **quite** closely placed so that they and the hydranths they bear, make a felt **work** over the surface; pedicel short, 0.25 mm., without annulations; hydrophore distinctly flaring; hydranth with 16-18 tentacles.

Gonosome. Female gonangium arising from the pedicel, just **below** the hydrophore; the side of the gonangium away from the hydrophore, strongly convex, that toward the hydrophore, nearly straight, except for a hydrophore protuberance near the centre, which

supports two small hydranths,—much like the female gonangium of *H. beani.*

No male gonangia observed.

Distribution. At low-tide, Hayama, Sagami bay.

Sertularia brevis new name

Pl. II, Fig. 9

Sertularia minuta Hargitt, Philippine Hydroids, 1924, p. 494.

Trophosome. Simple, unbranched stems arise from a creeping stolon, 7 mm.; stem is divided into regular internodes, separated by somewhat interlocking nodes; hydrothecae in pairs, each pair adnate for about one-third of their length, strongly divergent distally, so that the distal portion is at right angles to the stem; margin with two low, lateral teeth and a small sharper, adcauline tooth; operculum of two flaps. (So abcaaline "Blindsack" in the hydranth).

Gonosome. Gonangia arising from the stern near the base *or* from the stolon, with short pedicels; obovate, with deep, regular, corrugations; aperture wide, circular.

Distribution. On Sargassum from Hayama, Sagami bay.

Note:—This species appears to be the same as that described by Hargitt from the Philippines, as *Sertularia minuta,* but this name was preoccupied by Bale (Australian Hydroid Zoophytes, 1884, **p.** 91)- This preoccupation was observed by Nutting (Report on Philippine Hydroids, 1927, p. 213), but he did not propose a new name because he said "it is extremely likely that it is the sarne species that was described by Bale under the name *Sertularia tenuis"* (as above, **p.** 82). This can scarcely be the case since the gonangia are entirely dissimilar. The gonangium of Hargitt's species is deeply corrugated while that of Bale's is smooth, and they are not the same shape. It follows, therefore, that to date the species is without a name that will stand, hence, the name *Sertularia brevis* is now supplied.

Antennella paucinoda new species

Pi. II, Fig. 10

Trophosome. Colony reaching a height of 35 mm.; stem absent. hydrocladia springing from the stolon; two or three of the proximal internodes without hydrothecae (nodes transverse). **but** with a varying number of nematophores; an oblique node is present, proximal to the first hydrotheca, but in the remainder **of** the hydrocladium, the

nodes are very indistinct or entirely absent. The hydrothecae are given off at regular intervals; the margin is circular and there is little or no flare. There is a pair of nematophores above each hydrotheca and three of them on the hydrocladium between each successive pair of hydrothecae.

Gonosome. Usually two gonangia are given off at the base of the hydrotheca, one on each side of the basal nematophore, but sometimes only one. The short pedicel has two annulations; the gonangium is obovate. Two nematophores are present a short distance from the base of each gonangium.

Distribution. 70-80 m., off shore near Hayama, Sagami bay.

EXPLANATION OF PLATES.

Note:—All figures show a magnification of 20 diameters.

PLATS 1

Fig. 1. *Eudendrium biseriale*

a. Part of colony with male gonophores.
b. Part of colony with female gocophores.

Fig. 2. *Campanularia chinensis*

Portion of colony, showing fascicled stem, hydrothecae and gonangia.

Fig. 3. *Endothecium reduplicatum*

a. Portion *of* colony showing reduplicated hydrophores.
b. Portion of colony showing male gonophores.
c. Portion of colony showing female gonophores.

PLATE 2.

Fig. 4. *Halecium cymosum*

a. Complete colony.
b. Female gonophore.
c. and d. Male gonophores.

Fig. 5. *Halecium flabellatum*

a. Portion of colony showing hydrophores.
b. Male gonophores.
c. Female gonophores.

Fig. 6. *Halecium minor*

a, b and c. Colonies or single individuals.
d. Male gonophore.
e. Female gonophore.

Fig. 7. *Halecium nullinodum*

Portion of colony showing hydrophores and female gonophores.

Fig. 8. *Halecium vasiforme*

a. Hydrophores.
b. Hydrophore and female gonophore.

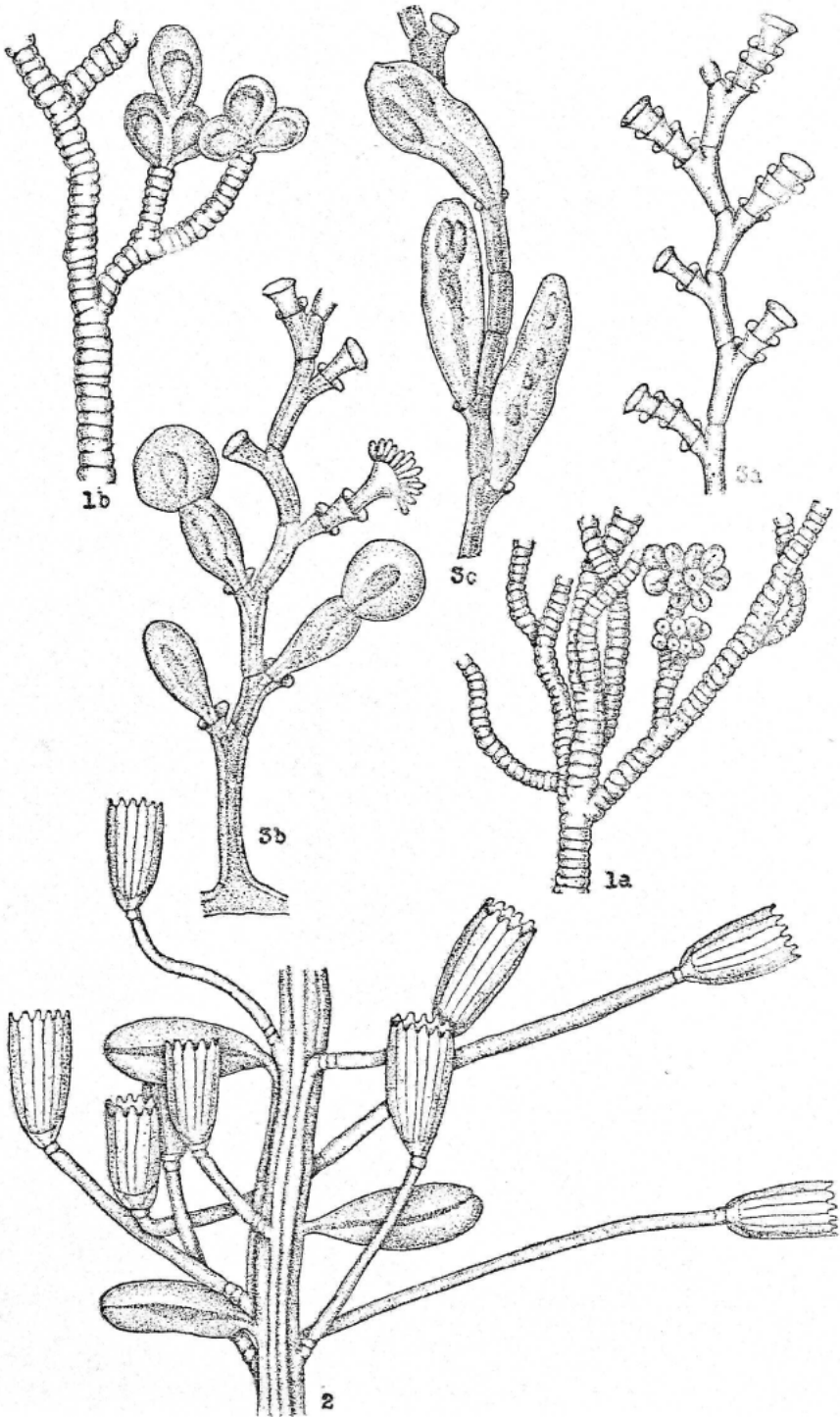
Fig. 9. *Sertularia brevis*

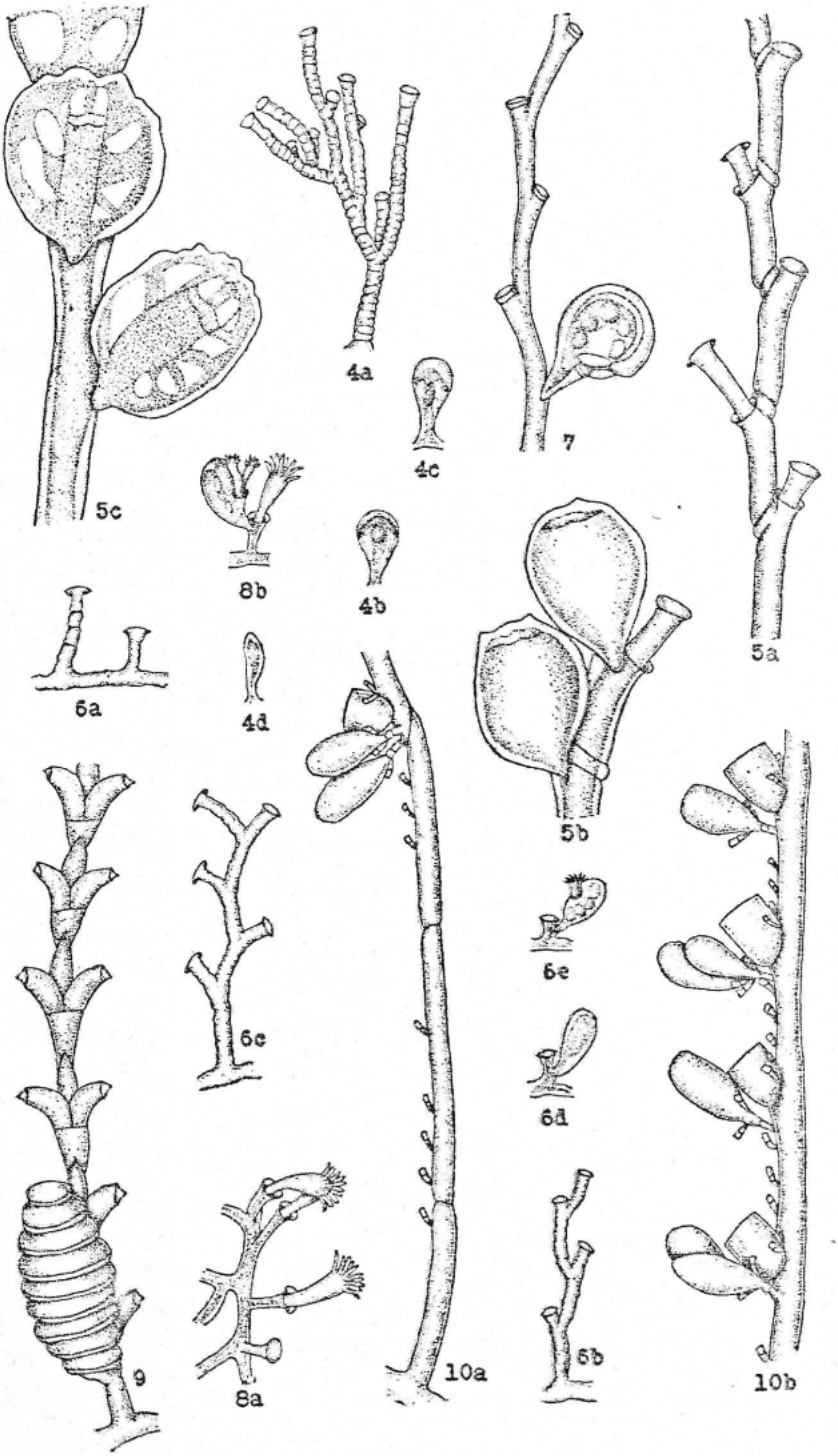
Portion of colony showing hydrothecae and gonangium.

Fig. 10. *Antennella paucinoda*

a. Basal internodes of stem.
b. A more distal portion of the stem showing gonangia.

PLATE I

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