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Three Hydroids (Cnidaria: Hydroida) from Ullŭngdo and Chejudo, Korea

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울릉도와 제주도의 3 히드라충류(자포동물류 : 히드라충류)

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적 요

한국 해산 히드라충류의 분류학적 연구의 일환으로 1973년부터 1987년까지 울릉도와 제주도에서 채집되어 이화여자대학교 자연과학대학 생물학과에 보관되어 있는 미동정 표본들을 동정 분류하였다. 그 결과 *Cryptolaria pectinata* (Allman, 1888), *Modeeria rotunda* (Quoy & Gaimard, 1817) 그리고 *Thecocarpus myriophyllum orientalis* Billard, 1908가 한국 미기록종으로 밝혀졌다.

Key words: Hydroide, Cnidaria, Ullungdo and Chejudo, Korea.

INTRODUCTION

The Korean hydroid fauna which has so far been reported in the previous works (Kamita & Sato, 1941; Rho, 1967, 1969; Rho & Chang, 1972, 1974; Rho & Park, 1979, 1980, 1983, 1984, 1986; Park & Rho, 1986) is composed of 102 species and 4 subspecies of 15 families.

As a part of systematic study on the marine hydroids in Korea, the materials collected from Ullŭngdo and Chejudo, Korea during the years 1973-1987 were examined. As a result, *Cryptolaria pectinata* (Allman, 1888), *Modeeria rotunda* (Quoy & Gaimard, 1827) and *Thecocarpus myriophyllum orientalis* Billard, 1908 are turned out to be new to the Korean fauna. The descriptions, figures and distributions on these species are given in this paper.

The author would like to express her hearty thanks to the graduate students of Animal Taxonomic

Laboratory, Department of Biology, College of Natural Sciences, Ewha Womans University for their helps in collecting the materials dealt with in this work.

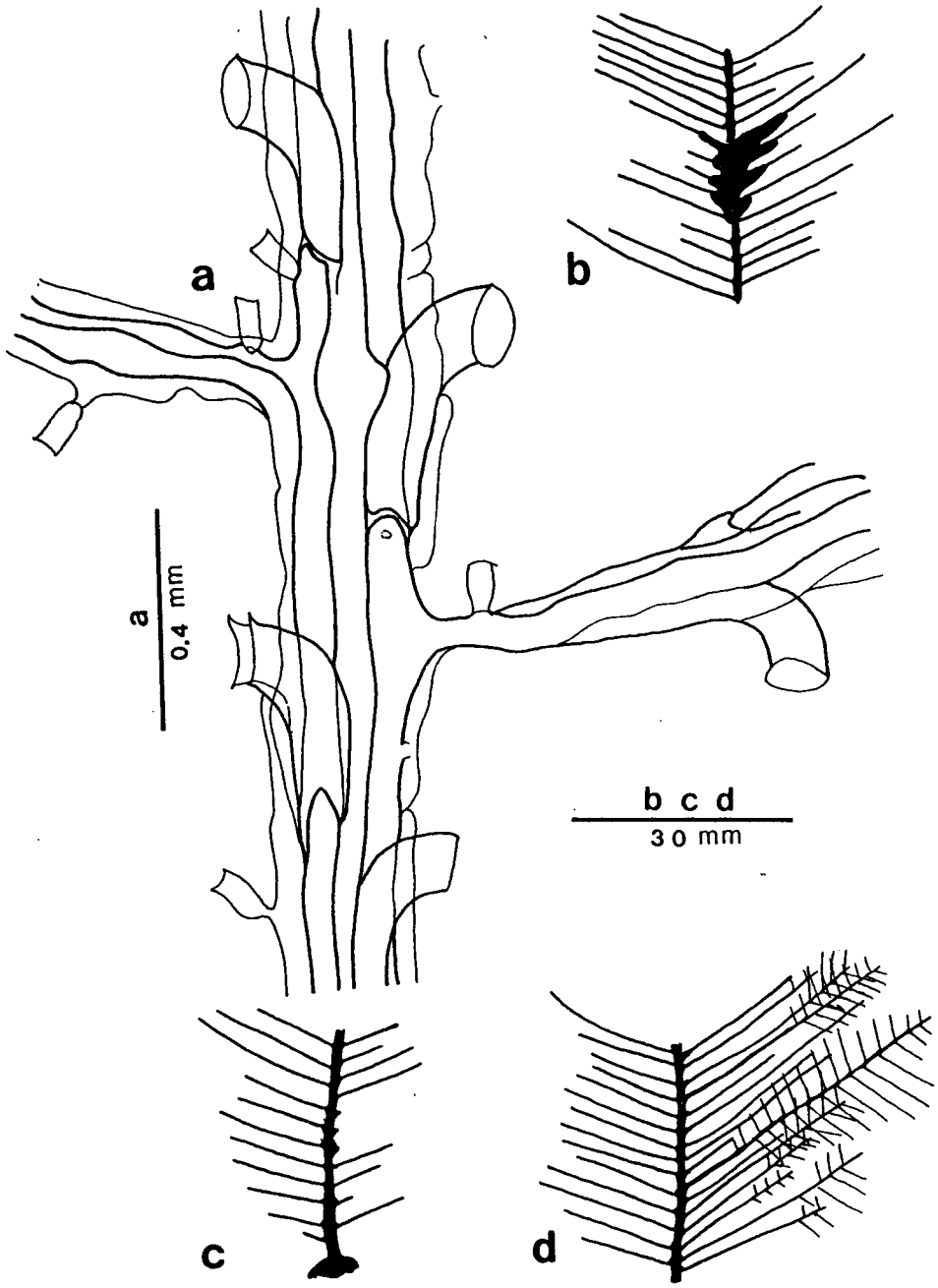

Fig. 1. *Cryptolaria pectinata*. a, enlarged polysiphonic stem with hydrothecae and branches; b, middle portion of colony with coppinia; c, basal portion of colony; d, middle portion of colony with secondary branches.

SYSTEMATIC DESCRIPTIONS

Class Hydrozoa 히드라충 강
Order Hydroida 히드라충 목
Suborder Thecata 컵히드라충 아목
Family Lafoeidae 바위붙이히드라 과

1. *Cryptolaria pectinata* (Allman, 1888) 숨은빗살히드라(신칭) (Figs. 1-4)

Perisiphonia pectinata Allman, 1888 (p. 45, pl. 21, fig. 2).

Cryptolaria pectinata: Stechow, 1925 (p. 448, figs. 20-21); Ralph, 1958 (p. 320-322, figs. 5g-j, 6g-j); Millard, 1975 (pp. 174-175, figs. 58A-F).

Material examined: Ullŭngdo, July 23, 1973.

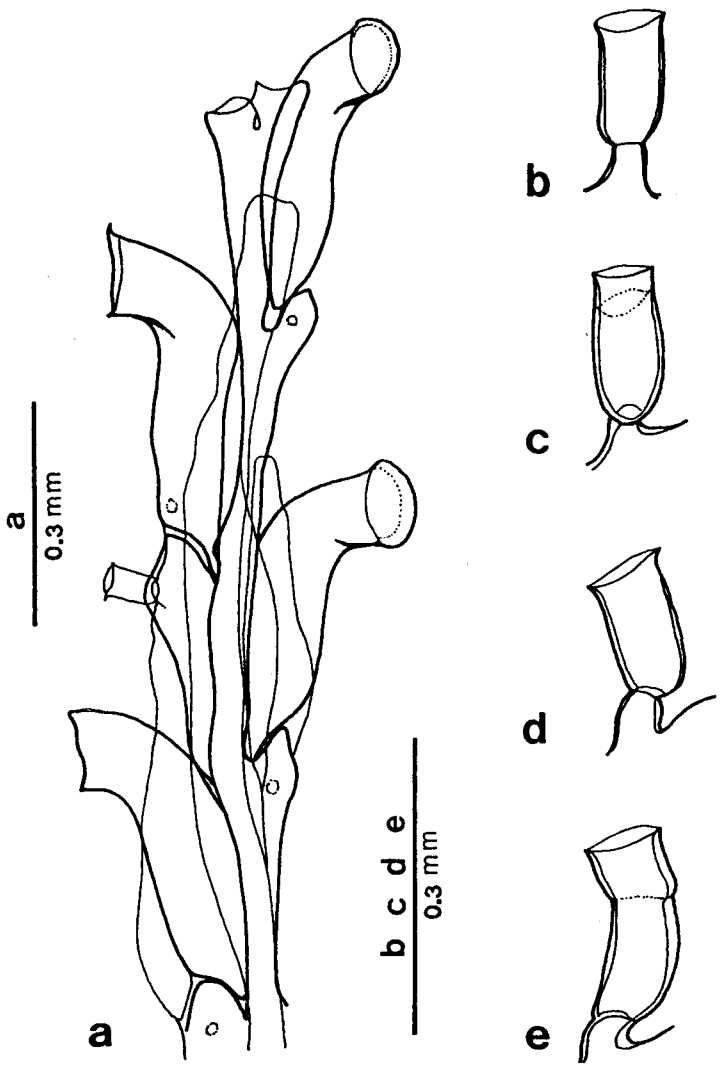

Fig. 2. *Cryptolaria pectinata*. a, enlarged distal portion of branch with hydrothecae and nematotheca; b-e, nematothecae.

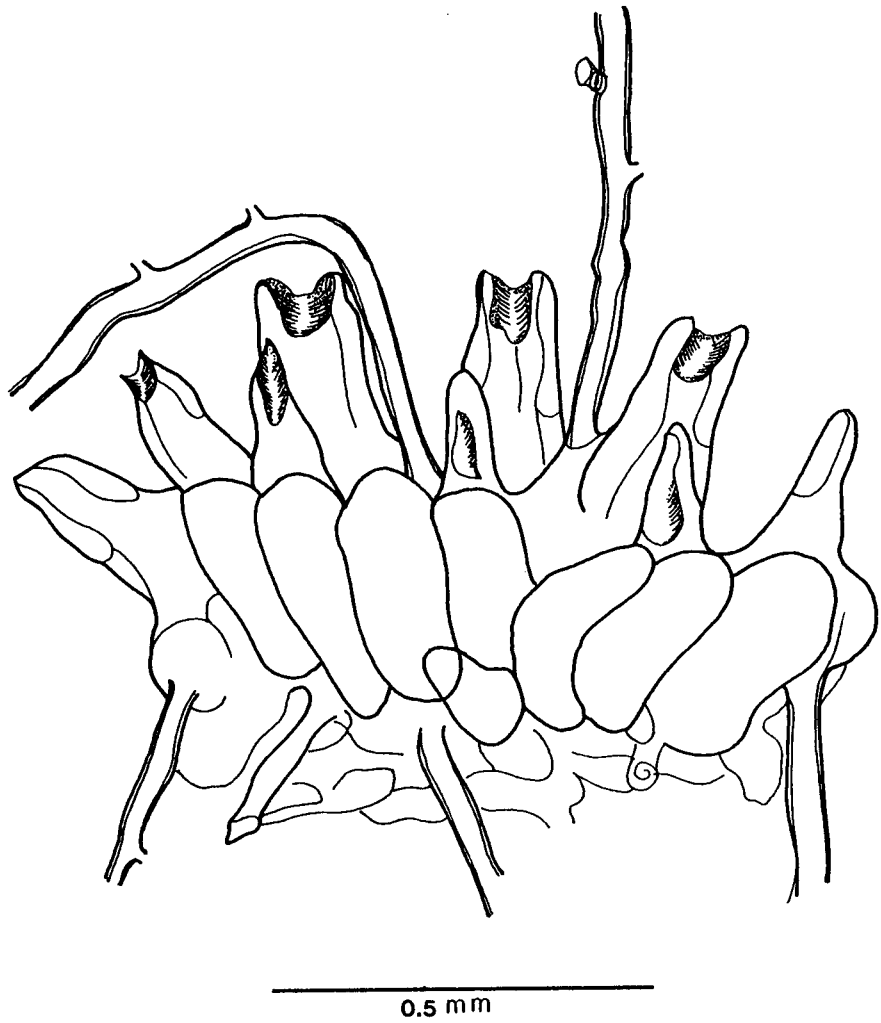

Fig. 3. *Cryptolaria pectinata.* Part of coppinia with gonothecae and slender tubes.

Description: Stem fasicled, giving rise to branches arranged in sub-opposite. Branches also fascicled, similar to stem and unsegmented. Hydrothecae arising from axial tube of stem and branch, erect and adherent type, alternate, tube-shaped, adnate for two-third of adcauline wall, the remaining bending away from the axial tube, so that the aperture parallel to axial tube, margin round and frequently renovated. Nematothecae arising irregularly from peripheral and axial tube and usually one on each hydrothecal apophysis, very small, tubuliform, often the margin renovated. Gonothecae aggregated into a coppinia, each gonotheca polygonal-shaped, with one or two curved distal horns and one or two lateral openings, slender tubes with nematothecae, arising from the surface of coppinia.

Measurements (in mm)	Ullŭngdo, 1973
Hydrotheca, length of adcauline wall	0.17-0.23
idem, length of free adcauline wall	0.12-0.15
idem, diameter at margin	0.12
idem, diameter at base	0.06-0.08
Nematotheca, total length	0.06-0.07

Fig. 4. Distribution of *Cryptolaria pectinata* (※) and *Tecocarpus myriophyllum orientalis* (▲).

idem, diameter at margin 0.02-0.03
idem, diameter at base 0.01-0.02
Length of colony 50-70

Distribution: Korea (Ullŭngdo), off East Cape (type locality), Mayer Is., Galapagos Is., Azores, Bay of Biscay, Madeira, west coast of Gibraltar, West Indies, Testigos Is., South Africa (from London to Natal).

Remarks: Colonies are variable in size. Colonies with large size (40-130 mm) have been reported from South Africa. However, the colonies from Korea are 50-70 mm. The coppinia in this species are dioecious. Stechow (1925) stated that the one horned gonothecae are male and two horned ones (containing 2-5 planulae) are female. However Ralph (1958) found eggs in one horned gonothecae from New Zealand, which Millard (1975) was able to confirm after examination. Millard (1975) found the bodies which resemble planulae in two horned gonothecae from South Africa. But the author found the bodies in one horned gonothecae from Korea. Thus the confirmation of sex needs further examination.

Family Campanuliniidae 작은종히드라 과

2. Modeeria rotunda (Quoy & Gaimard, 1827) 둥근작은종히드라(신칭) (Figs. 5, 6)

Dianaea rotunda Quoy & Gaimard, 1827 (p. 181, pl. 6A, figs. 1-2).

Stegopoma fastigiatum: Stechow, 1914 (pp. 135-136, fig. 9); Totton, 1930 (p. 155, fig. 11); Fraser, 1944 (p. 178, pl. 32, fig. 153a-c); Ralph, 1957 (p. 850, text-fig. 8n-o).

Modeeria rotunda: Millard, 1975 (pp. 137-138, fig. 45A).

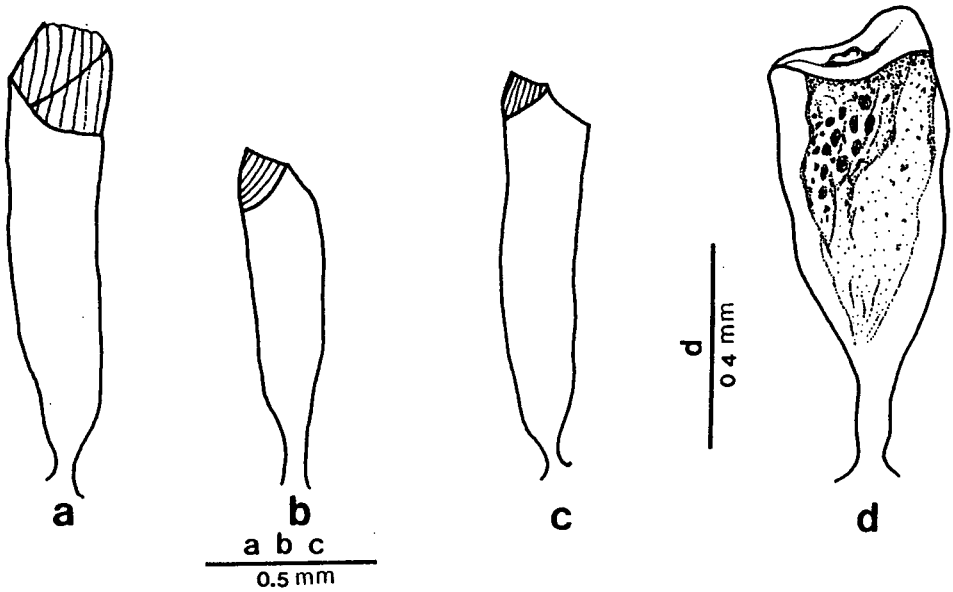

Fig. 5. *Modeeria rotunda.* a-c, hydrothecae; d, gonotheca.

Material examined: Ullŭngdo (Todong), July 25, 1976.

Description: Colony epizootic on other hydroids (*Corhiza* sp.). Hydrorhiza stolonial, giving rise to solitary, pedicellate hydrothecae and gonothecae. Hydrothecae with smooth pedicel, variable in size, tube-shaped, operculum consisted of two plicated membranes, like a roof of gable. Gonothecae arising from stolon, resemble hydrotheca, with short and smooth pedicel.

Measurements (in mm)	Ullŭngdo, 1976
Hydrotheca, total length	0.46-1.06
idem, diameter at margin	0.25-0.33
idem, length of pedicel	0.24-0.39
idem, diameter of pedicel	0.09-0.18

Distribution: Korea (Ullŭngdo), Straits of Gibraltar (type locality), Shetland Is., Chatham, Trondheim, off North Carolina, Dry Tortugas, Marthas Vinyard, George Bay, Three Kind Is., Cook Strait, South Africa (from Natal to Moçambique), Japan.

Remarks: The size of the hydrothecae and length of its pedicel are variable in this species.

Family Plumulariidae 깃히드라 과

3. ***Thecocarpus myrophyllum orientalis*** Billard, 1908 동양협깃히드라(신칭) (Figs. 4, 7, 8)

Thecocarpus myriophyllum orientalis: Jäderholm, 1919 (p. 25, pl. 6, fig. 5); Vervoort, 1972 (pp. 219-221, fig. 76a,b).

Material examined: Chejudo (Sŏgwipŏ), Oct. 19, 1973, April 15, 1974.

Description: Hydrocaulus polysiphonic, consisting of a axial tube and peripheral tubes. Hydrocladia arising from the axial tube alternately, divided into several internodes, each internode with one hydrotheca, two lateral nematothecae and one mesial nematotheca. Hydrotheca with marginal distinct anterior tooth, adcauline intrathecal ridge developed well. Median nematotheca tube-shaped, not surpass hydrothecal margin, adnate to the anterior of hydrotheca. A pair of laterial nematothecae smaller

Fig. 6. Distribution of *Modeeria rotunda*.

than median ones, surpass hydrothecal margin. Gonotheca closed corbula-shaped, modified phylactocarp, consisting of several broad leaves, each leaf with slightly reduced hydrotheca at base and with a series of marginal nematothecae. There are 3-7 hydrothecae between corbula and hydrocaulus.

Measurements (in mm)	Chejudo (Sŏgwipó), 1973
Hydrotheca, total length	0.24
idem, diameter at aperture	0.16
Median nematotheca, total length	0.19
idem, diameter at aperture	0.06
Lateral nematotheca, total length	0.13
idem, diameter at aperture	0.06

Distribution: Korea (Chejudo), Malay Archipelago (type locality), Goto Is., Kiushiu, Okinawa, coast of Chile.

Remarks: The corbula forming leaves are variable in number and the number of hydrothecae between corbula and hydrocaulus is also variable.

ABSTRACT

Some materials collected from Ullŭngdo and Chejudo, Korea during the years 1973-1987 were examined. As a result, *Cryptolaria pectinata* (Allman, 1888), *Modeeria rotunda* (Quoy & Gaimard, 1827) and *Thecocarpus myriophyllum orientalis* Billard, 1908 are found to be new to the Korean fauna.

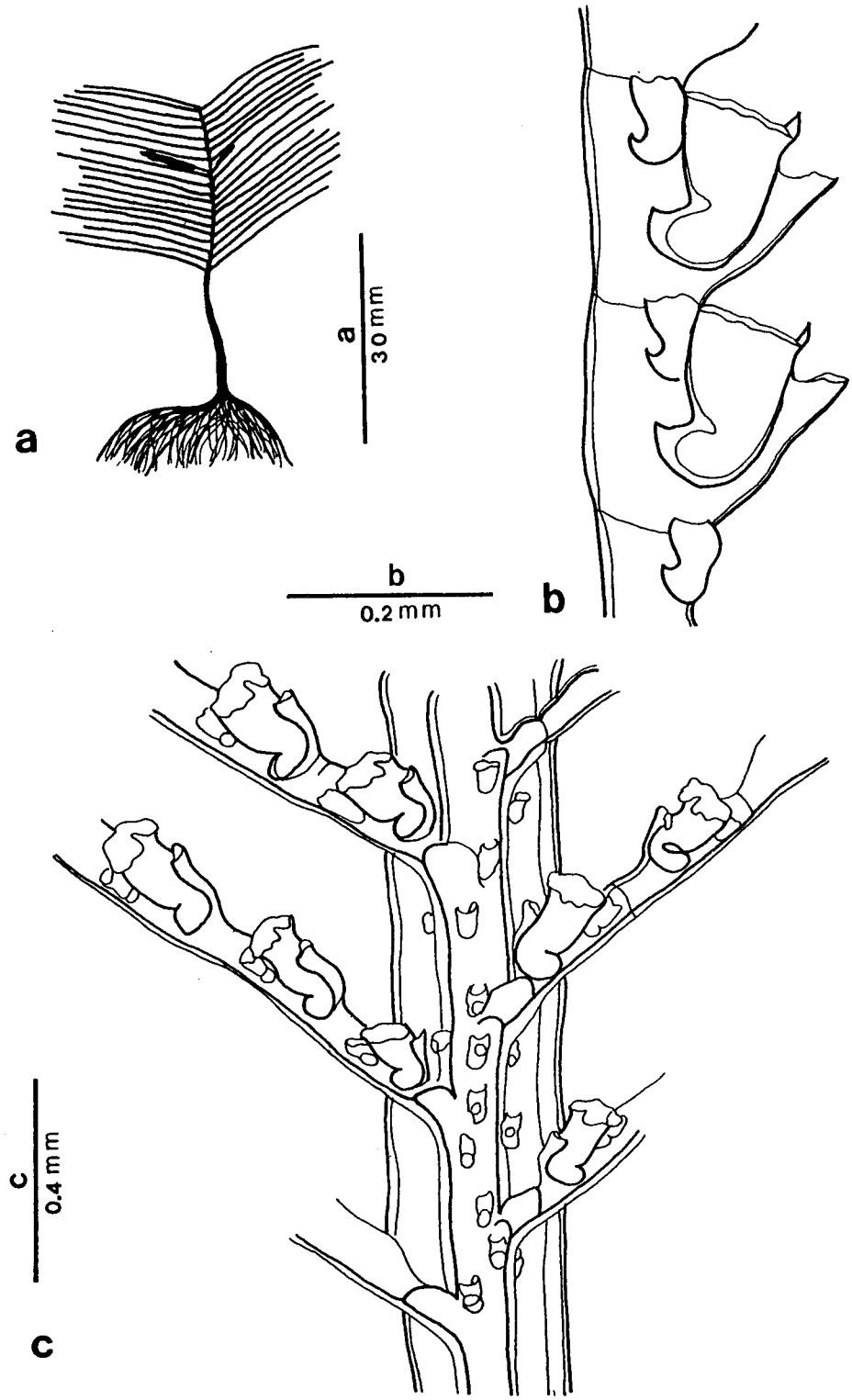

Fig. 7. *Thecocarpus myriophyllum orientalis.* a, fertile colony; b, hydrothecae and nematothecae; c, polysiphonic stem showing origin of hydrocladia.

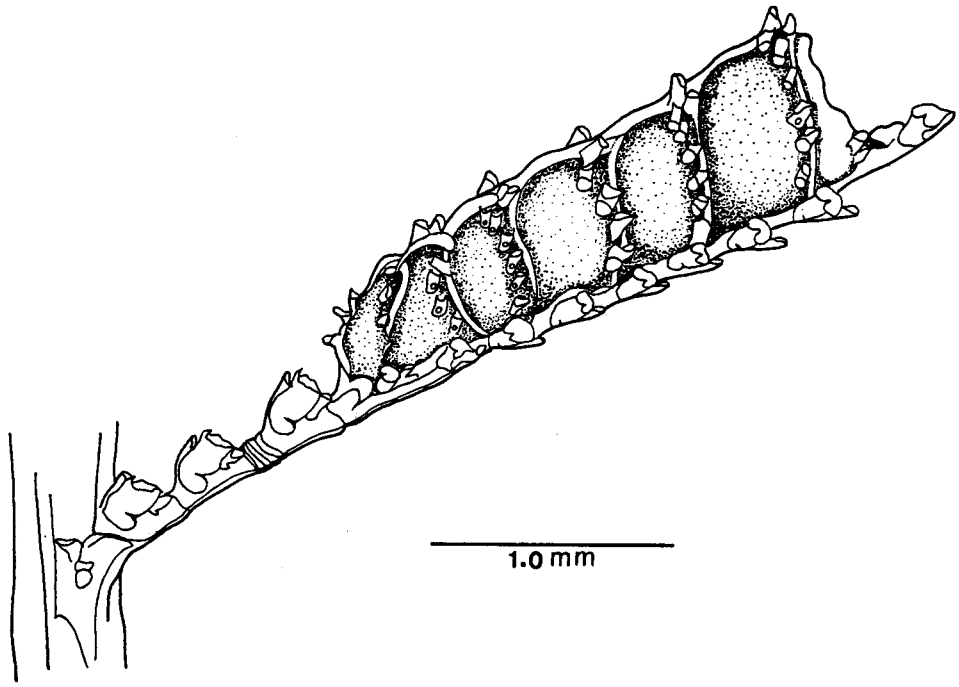

Fig. 8. *Thecocarpus myriophyllum orientalis.* corbula.

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