

# New Records of Two Hydroids (Cnidaria: Hydrozoa) from Korean Waters

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## ABSTRACT

Hydroid specimens were collected from the coasts of Isl. Jeongjokdo (Taeon) and Gampo Harbour, Korea, on 10 May and 19 October 2010. Two of the species identified as *Sertularia tenera* G.O. Sars 1874 and *Plumularia haleciooides* Alder 1859 are new to Korean fauna. They are described with illustrations.

**Keywords:** taxonomy, new record, hydroids, Hydrozoa, Korea

## INTRODUCTION

The sertularian and plumularian hydroids are the largest taxa of the hydroid fauna found in the world's oceans. Currently, 49 sertulariid (32%) and 36 plumulariid (24%) species have been recorded in Korean waters by the author and others. These species have no medusa stage, and their planula larvae are delivered from mature polyps for dispersal. The diverse structures of gonothecae, which protect gonophores, develop from their polyps (Brusca and Brusca, 2003).

Materials were collected from the coasts of Isl. Jeongjokdo (Taeon) and Gampo Harbour, Korea, by Mr. B.S. Min on 10 May and 19 October 2010, and were deposited at the Department of Life Science of the University of Suwon, Hwaseong, Korea. Permanent specimens were prepared for light microscopy examination. Photographs of individual specimens and colonies were taken using a microscope (E-80i; Nikon, Tokyo, Japan) and a digital camera (EOS 300D; Canon, Tokyo, Japan).

## SYSTEMATIC ACCOUNTS

Phylum Cnidaria Hatschek, 1888  
Class Hydrozoa Huxley, 1856  
Order Thecatae Fleming, 1828  
Family Sertulariidae Hincks, 1868

<sup>1</sup>\**Sertularia tenera* G.O. Sars, 1874 (Fig. 1A-G)

*Sertularia tenera* G.O. Sars 1874: 108, Pl. 4, figs. 1-4; Mar-

ktanner-Turneretscher, 1895: 418, Pl. 11, fig. 14; Pl. 12, fig. 5; Pl. 13, figs. 3, 4; Jäderholm, 1919: 15, Pl. 6, fig. 1; Naumov, 1960: 353, fig. 244; Calder, 1970: 1536, Pl. 18, fig. 1; Cornelius, 1979: 299, fig. 27; 1995: 91, fig. 22.

*Thuiaria tenera*: Ritchie, 1911: 218, figs. 2-5; Fraser, 1921: 42, fig. 100.

**Material examined.** Korea: Chungcheongnam-do, Taeon-gun, Isl. Jeongjokdo, 28 May 2010, Min BS, attached on rock in coast.

**Description.** Colonies erect, pinnate, up to about 50 mm long. Two types of colonies present: one straight, without hydrothecae on stem; others sinuous with hydrothecae on stem. In some other types of colonies, lower portion of stem without hydrothecae and straight and upper portion of stem with hydrothecae sinuous. Some of branches redivided into dichotomously. Hydrothecae arranged in subopposite or in alternate, tubular, tapering distally, widest in center, abcauline wall slightly concave, with two round marginal teeth equal or outer longer, operculum with two flaps. Gonothecae not observed.

**Remarks.** Arrangement and inclinations of hydrothecae are variable. In the lower portion of the branches, hydrothecae show an alternate arrangement; however, in the upper portion, hydrothecae show a subopposite arrangement. Hydrothecae incline outward at a 30-60° angle, and the adcauline wall is adnated about one-third to one-half on the lower portion, with the remainder freely protruding outward.

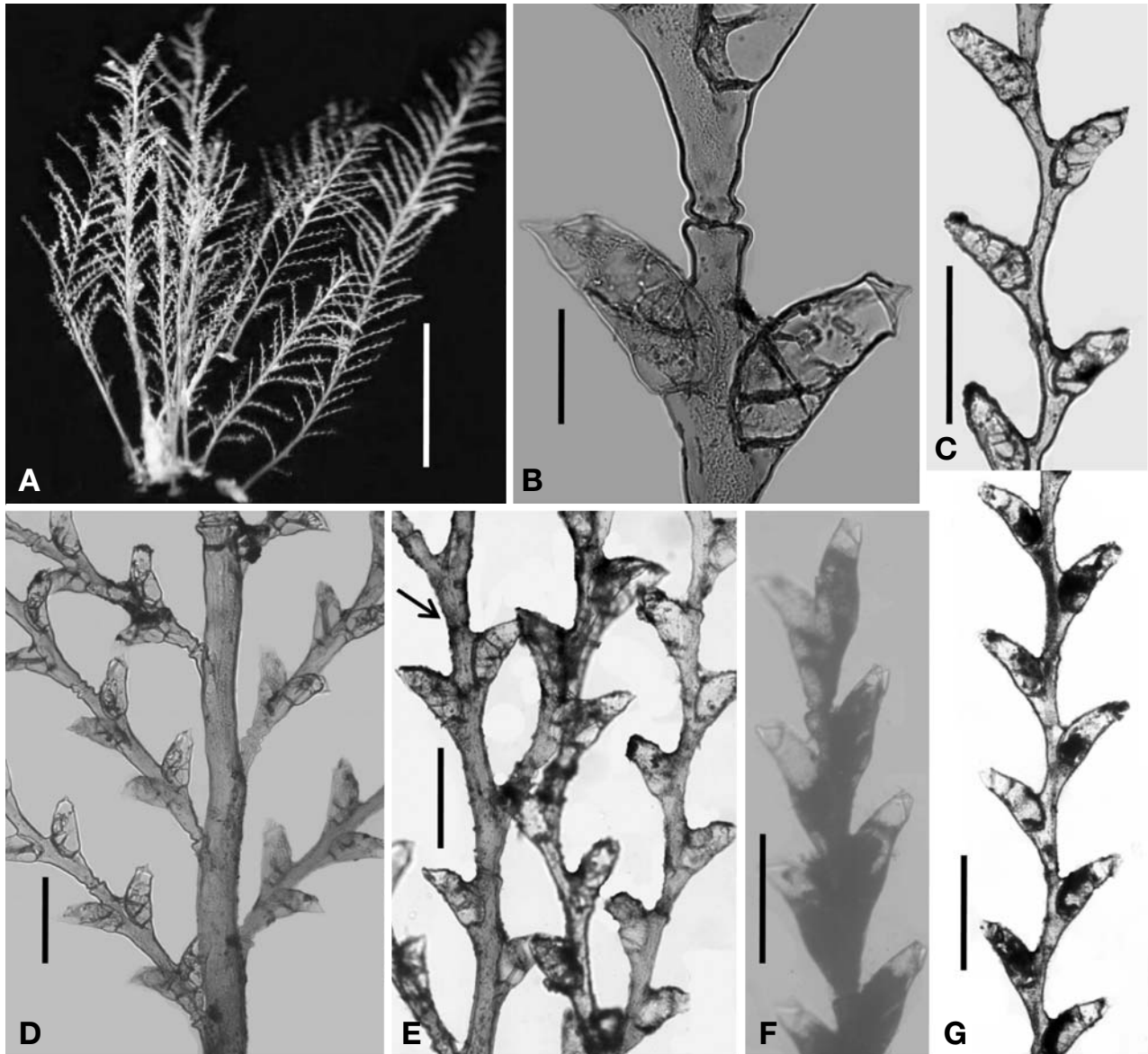
**Distribution.** Korea, Japan, North Pacific, North Atlantic, and Arctic Oceans.

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**Fig. 1.** *Sertularia tenera*. A, Colonies detached on rock; B, Subopposite hydrothecae; C, E-G, Arrangement of hydrothecae on a monosiphonic stem (→) and hydrocladia; D, Single internode of stem with six hydrocladia. Scale bars: A=5 mm, B=200 μm, C-G=500 μm.

Family Plumulariidae L. Agassiz, 1862

<sup>1</sup>\**Plumularia halecioides* Alder, 1859 (Fig. 2A-E)

*Plumularia halecioides* Alder, 1859: 353, Pl. 12, figs. 1-5;  
Hincks, 1868: 306, Pl. 67, fig. 2.

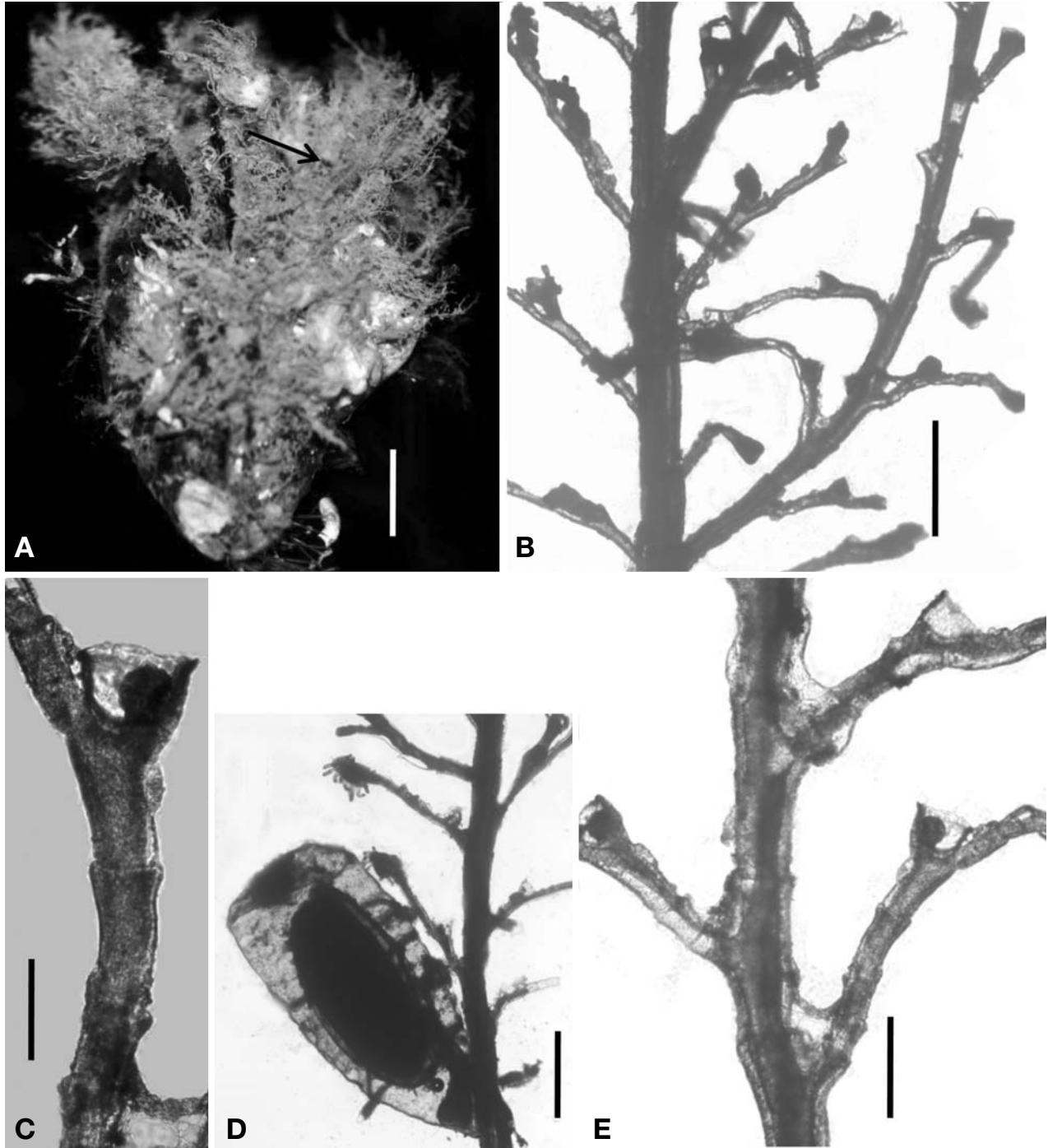
*Ventromma halecioides*: Stechow, 1923: 220; Hirohito,  
1974: 45, fig. 20a-d.

**Material examined.** Korea: Gyeongsangbuk-do, Gampo  
Harbor, 19 Oct 2010, Min BS, attached on the shell of biva-

Ives (*Mytilus* sp.).

**Description.** Colonies small, less than 30 mm high, branched  
irregularly. Stem polysiphonic throughout, but gradually  
becomes monosiphonic upward. Branches monosiphonic or  
polysiphonic and divided into regular internodes; each inter-  
node has one hydrocladium arranged in alternate. Hydrocladia  
arise from stem and branch, which arranged in opposite  
or in alternate. Hydrocladia divided into thecate internodes  
with hydrotheca and atecate internodes without hydrotheca.  
Thecate internode long, with one hydrotheca at one-third its

Korean name: <sup>1</sup>\*부늬깃히드라 (신칭)



**Fig. 2.** *Plumularia halecioides*. A, Colonies (→) on the shell surface of *Mytilus* sp.; B, Polysiphonic stem and branches with hydrocladia; C, Hydrothecal internode with a hydrotheca and nematothecae; D, Gonotheca on the basal portion of the stem; E, Monosiphonic stem with hydrocladia. Scale bars: A=10 mm, B, D=500  $\mu$ m, C=100  $\mu$ m, E=200  $\mu$ m.

upper side, one inferior nematotheca, one upper mesial nematotheca. Hydrotheca shallow, present on upper side, and directed obliquely upward; adcauline wall largely adhering and has a short free part. Nematotheca nonthalamical and im-

movable. Gonotheca large compared with hydrotheca, arise from basal portion of stem or stolon, cylindrical, and taper gradually below with many transverse rings over almost its surface; pedicel short, slender and located above truncate

with orifice.

**Remarks.** This species is similar to *Plumularia inermis* (see Fraser, 1944) in terms of the shape and position of the hydrotheca, nematotheca, and gonotheca; however, it also differs from the latter, having a monosiphonic and unbranched stem.

**Distribution.** Korea, Japan, Britain, and Venezuela.

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