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Short communication

New Record of a Aglaophenian Species (Hydrozoa: Thecatae: Plumulariidae) from Korea

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ABSTRACT

The hydroid specimens for this study were collected by SCUBA diving from about 15 m deep at the Isl. Marado, Jeju-do, Korea. Among the identified species *Aglaophenia latecarinata* Allman, 1877 was shown to be new to the Korean fauna. This species belongs to the family Plumulariidae which is the second large hydroid taxon in Korea. The distinct morphological characteristic of this species is the nine marginal teeth of hydrotheca, one median abcauline and four pairs laterals. Median abcauline tooth is bifid, with a broad keel extending along the front of the hydrotheca from its margin to the mesial inferior nematotheca, from which the species name was originated. Up to date four aglaophenian species of 35 plumularians have been reported from Korea.

Keywords: taxonomy, hydroids, *Aglaophenia*, Plumulariidae, Korea

INTRODUCTION

The genus *Aglaophenia* is included in the family Plumulariidae, order Thecatae, class Hydrozoa, phylum Cnidaria. To date, only three aglaophenian species, *A. pluma*, *A. suensonii*, and *A. whiteleggei* (see Park, 2010), have been reported from Korea. However, there are 103 known *aglaophenian* species in the ocean worldwide (Appeltans et al., 2011).

The materials for this study were collected by a SCUBA diver, BS Min from about 15 m deep at the Isl. Marado (Korea, Jeju-do, Seogwipo-si, Daejeong-eup, Mara-ri) on 14 Nov 2010. They were preserved in 80% ethanol and deposited in the Department of Life Science, The University of Suwon in Hwaseong-si, Korea.

Species were identified based on morphological characters: the branching pattern, the arrangement of hydrocladia, the shape, the number of marginal teeth, the position of intrathecal septum of hydrotheca, the shape and the position of nematotheca and the type of corbula.

Permanent specimens were prepared for light microscopy examination and photographs. Photographs 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 Plumulariidae L. Agassiz, 1862
Genus *Aglaophenia* Lamouroux, 1812

Stem branched or unbranched, giving rise to hydrocladia alternately. Hydrocladia unbranched. Hydrothecae sac-shaped, always with toothed margin, intrathecal septum developed inward hydrotheca from adcauline wall. Median inferior nematotheca partly adnate to hydrotheca and variable length. Gonothecae protected by corbula which modified hydrocladia. Corbula ribs bearing nematothecae but no hydrothecae.

Key to the species of the genus *Aglaophenia* from Korea

1. Stem fascicled, with branches and hydrocladia white-colored ····· *A. whiteleggei*
− Stem unfascicled, without branches and hydrocladia white or dark brown-colored ····· 2
2. Colonies arising in aggregate ····· *A. suensonii*
− Colonies arising in separate ····· 3
3. Colonies large, up to 140 mm long and dark brown-colored

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……*A. pluma*

− Colonies small, up to about 12 mm long and white-colored ……***A. latecarinata***

[1]***Aglaophenia latecarinata* Allman, 1877 (Fig. 1A-F)**

Aglaophenia latecarinata Allman, 1877: 56; 1885: 151, Pl. 23, figs. 5, 6; Vervoort, 1968: 72, fig. 33; Millard, 1975: 409, fig. 128D, E; Hirohito, 1983: 72, fig. 37a-d; 1995: 283, fig. 98a-d.

Aglaophenia perpusilla Allman, 1877: 48, Pl. 29, figs. 5-7.

Material examined. Korea: Jeju-do, Seogwipo-si, Daejeong-eup, Mara-ri, Isl. Marado, 14 Nov 2010, Min BS, collected by SCUBA diving from about 15 m deep.

Description. Colonies attached on the stem of the sea plant, small, up about 12 mm long, pinnate, white colored (Fig. 1A).

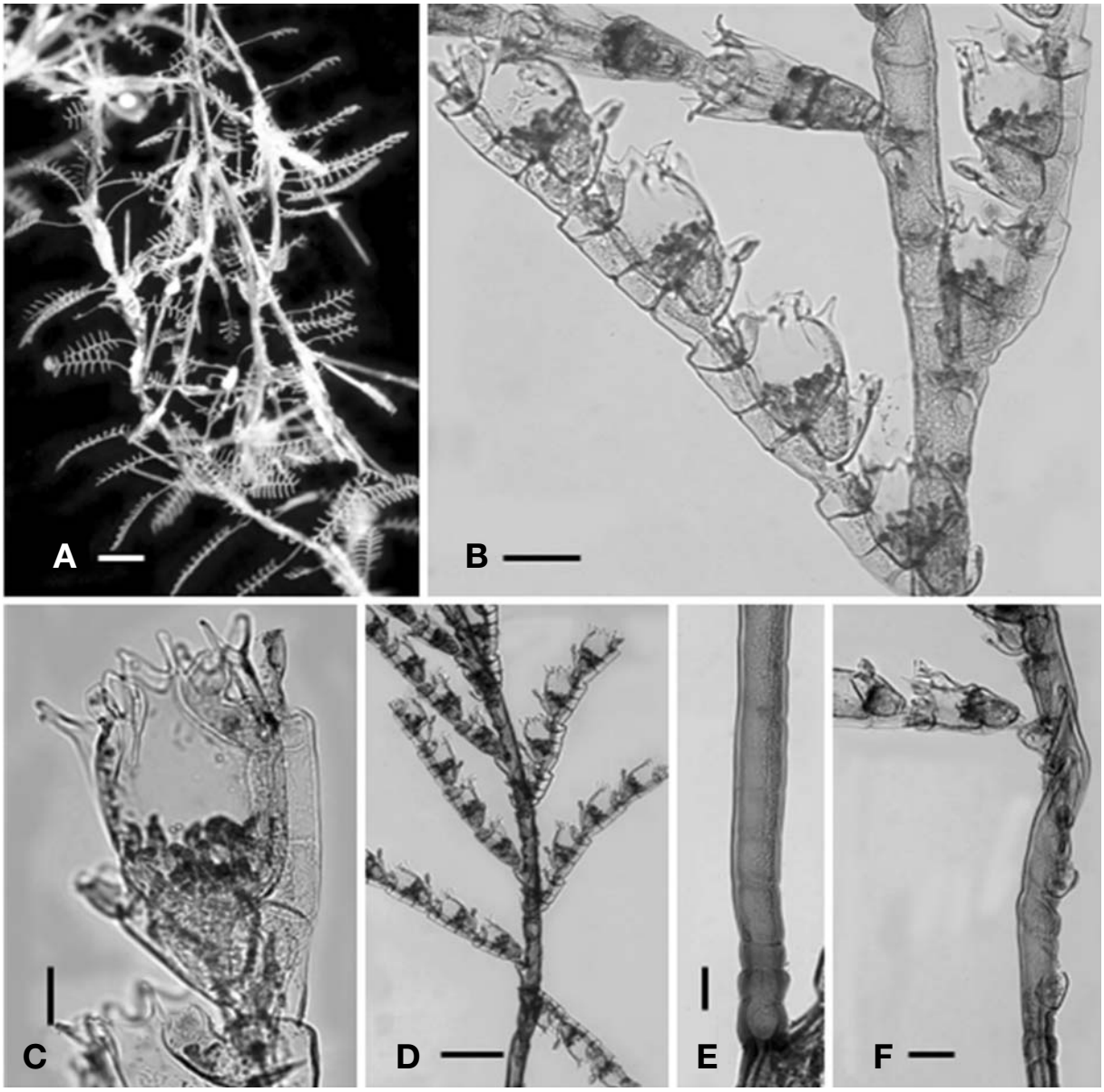

Fig. 1. *Aglaophenia latecarinata*. A, Colonies on the stems of sea plant; B, Stem with hydrocladia; C, Lateral view of enlarged hydrotheca; D, Part of colony; E, Basal portion of stem; F, First node of stem and hydrocladium. Scale bars: A=5 mm, B, E, F=100 μm, C=50 μm, D=250 μm.

Korean name: [1]*능선깃히드라 (신칭)

Stem monosiphonic, unbranched, arising at intervals from a delicate creeping stolon, with two hinge joints separating a short basal part from a distal part bearing alternate hydrocladia. Basal part bearing a row of large median nematothecae only (Fig. 1E, F). Distal part divided into regular internodes, each internode with one hydrocladium, two or three nematothecae to each hydrocladial apophysis. Hydrocladia arranged in alternate, not in one plane, shifted onto the anterior surface (Fig. 1D). Hydrocladium divided into regular internodes, each internode with one hydrotheca and two distinct septa (Fig. 1B). Hydrothecae on the anterior surface of hydrocladium, sac-shaped, margin with nine marginal teeth: one median abcauline and four pairs laterals. Median abcauline tooth was bifid, with a broad keel extending along the front of the hydrotheca from its margin to the mesial inferior nematotheca (Fig. 1C). Three kinds of nematothecae present: median inferior nematotheca at inferior of hydrotheca, adnate to abcauline wall up to level of intrathecal septum, remainders free; a pair of laterals at superior both sides of hydrotheca, curved, not reaching thecal margin (Fig. 1C) and cauline nematotheca on stem. All nematothecae sac-shaped. Corbula have not been observed.

Remarks. This species was demonstrated to be *A. perpusilla* Allman, 1877 (Appeltant et al., 2011). According to Millard (1975) the corbula transformed hydrocladium is up to 3 mm long, has a pedicel of one hydrotheca-bearing segment, and up to 10 pairs of alternate ribs. Each rib bears a series of nematothecae along outer edge, the first one is placed on a spinous process, has inner edge fused to the rib behind but leaving a series of openings into the interior.

Distribution. Korea, Japan, Caribbian Sea, North Atlantic, and South Africa.

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