Korean J. Syst. Zool. Vol. 24, No. 2: 179-183, July 2008

New Records of Three Hydroids (Cnidaria: Hydrozoa) in Korea

Jung Hee Park*

Department of Life Science, College of Natural Sciences,
The University of Suwon, Gyeonggi-do 445-743, Korea

ABSTRACT

Some hydroid specimens were collected by SCUBA diving from 10-25 m deep at Uljin (Nagok) and Jejudo Island (Munseom, Beomseom, Supseom). Among the identified species, three species *Eudendrium racemosum* (Gmelin, 1791), *Sertularella diaphana* (Allman, 1886) and *Schizotricha divergens* Naumov, 1960 are new to the Korean fauna.

Key words: taxonomy, hydroids, Hydrozoa, Korea

INTRODUCTION

As results of previous taxonomic studies on hydroids in Korea up to date, 146 species/subspecies of 19 families in three orders have been reported.

Some hydroid specimens were collected by SCUBA diving from 10-25 m deep at Uljin (Nagok)and Jejudo Island (Munseom, Beomseom, Supseom) during Aug. 2007 to Jan. 2008. Among the identified species, three species *Eudendrium racemosum* (Gmelin, 1791) of the family Eudendriidae, *Sertularella diaphana* (Allman, 1886) of the family sertulariidae and *Schizotricha divergens* Naumov, 1960 of the family Plumulariidae were turned out to be new to the Korean fauna.

The pictures of parts of colony were taken under the light microscope (Nikon ECLIPSE 80i). The whole colonies were taken with camera (Canon EOS 300D).

As a result of this taxonomic study, 149 hydroid species/subspecies of 19 families in three orders have been known in Korea waters.

SYSTEMATIC ACCOUNTS

Phylum Cnidaria
Class Hydrozoa
Order Athecatae
Family Eudendriidae

[1]***Eudendrium racemosum* (Gmelin, 1791) (Fig. 1A-D)**

Eudendrium racemosum: Stechow, 1913, p. 63; 1923, p. 83; Yamada, 1954, p. 5, fig. 4a-c; Millard and Bouillon, 1973, p. 33; Hirohito, 1988, p. 84, fig. 29a-e.

Material examined. Uljin (Nagok-kkotdongsan), 10 Jan. 2008 (S.H. Kim), by SCUBA diving from 20-25 m deep.

Description. Colony large, reaching about 9 cm high, branching in one plane and formed into fan shape. Main stem and branches polysiphonic and hydranth pedicel only monosiphonic. Hydranth pedicel arising from all directions and with some annulations on its proximals and on other places in irregular intervals. Hydranth large, on around hypostome with a whorl of filiform tentacles, 18-25 in number. Gonophores have not been observed.

Remarks. The polysiphonic stem and branches, large colony and branching in one plane of this species are distinct characteristics among the species of the genus *Eudendrium*. Any gonophores have not been observed in specimens from Korean waters. According to Hirohito (1988) male gonophores one- to three-chambered, borned on completed reduced hydranth. Female gonophores borned reduced or sometimes completely unreduced hydranth. Hydranth with female gonophores completely atrophied when the development proceeded.

Distribution. Korea, Japan, Australia, Seychelles. Mediterranean.

Order Thecatae
Family Sertulariidae

[2]***Sertularella diaphana* (Allman, 1886) (Fig. 2A-E)**

Sertularella diaphana: Yamada, 1959, p. 63; Millard, 1975, p. 285, fig. 93A-D; Hirohito, 1995, p. 192, fig. 62b-d, pl. 12, fig. A.

*To whom correspondence should be addressed
Tel: 82-31-220-2480, Fax: 82-31-220-2484
E-mail: jhpark5@suwon.ac.kr

[1]*송이꽃히드라(신칭), [2]*투명테히드라(신칭)

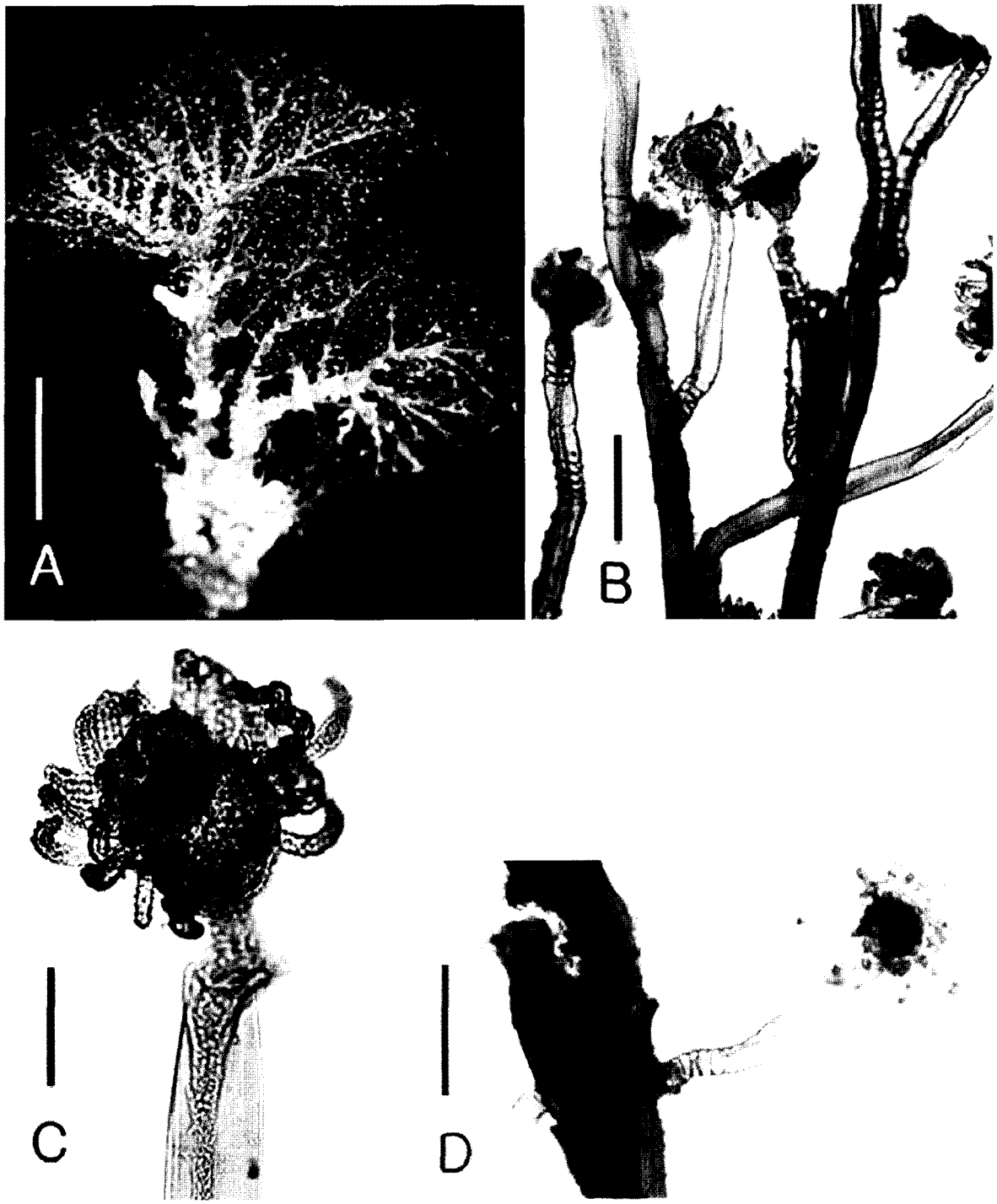

Fig. 1. *Eudendrium racemosum*. A, whole colony; B, monosiphonic portions with hydranths; C, hydranth; D, polysiphonic portion. Scale bars=2 cm (A), 500 μm (B, D), 200 μm (C).

Material examined. Beomseom, Munseom (Jejudo), 28 Aug. 2007 (S.H. Kim); Supseom, 9 Sep. 2007 (S.H. Kim) by SCUBA diving from 10-22 m deep.

Description. Colony large, reaching about 12 cm and branched irregularly. Stem and branches divided into regular internodes, each internode bearing 3 hydrothecae and 1 hydrocladium. Hydrocaldium arising from just below hydrotheca. Branches and hydrocladia not placed in one plane, but shifted anterior surface. All adcauline wall of hydrotheca adnated, surface smooth, with 4 teeth and operculum of 4 valves. No intrathecal teeth. Gonothecae born on anterior surface of hydrocladia, tubular- shaped, truncated above, tapering to-

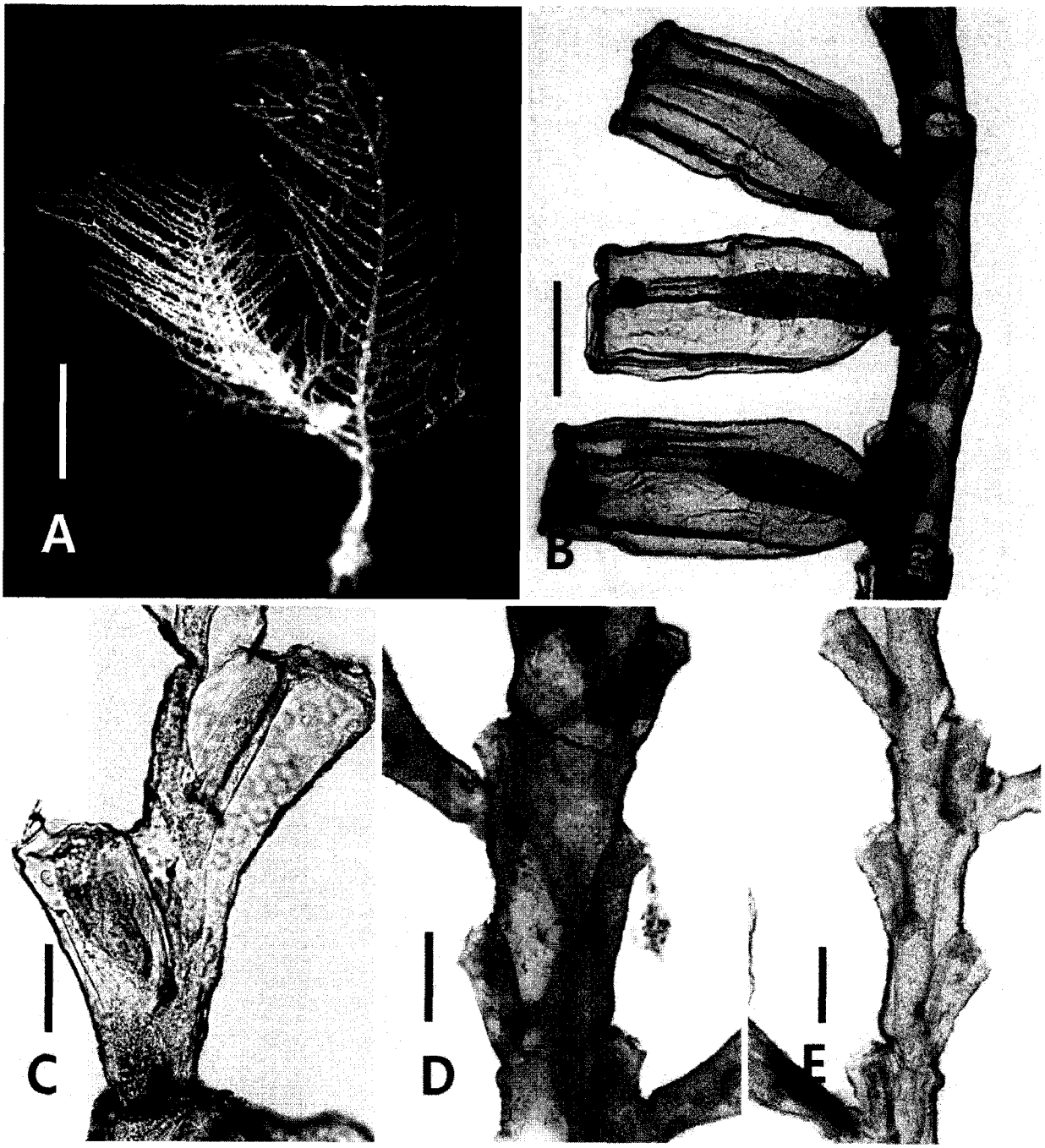

Fig. 2. *Sertularella diaphana*. A, whole colony; B, gonothecae; C, hydrothecae; D, basal portion of stem; E, apical portion of stem. Scale bars=2 cm (A), 500 μm (B, D, E). 200 μm (C).

ward below and with distinct several longitudinal ridges on surface.

Remarks. This species is similar to *Sertularella distans* (see Park and Rho, 1986) in the shape of hydrotheca and colony. But this species is distinguished from *S. distans* by the tubular-shaped gonothecae.

Distribution. Korea, Japan, Philippine, Hawaii, Indonesia, Australia, West Indies.

Family Plumulariidae

[1]***Schizotricha divergens* Naumov, 1960 (Fig. 3A-E)**

Schizotricha divergens Naumov, 1960, p. 470, fig. 358.

[1]*갈래깃히드라(신칭)

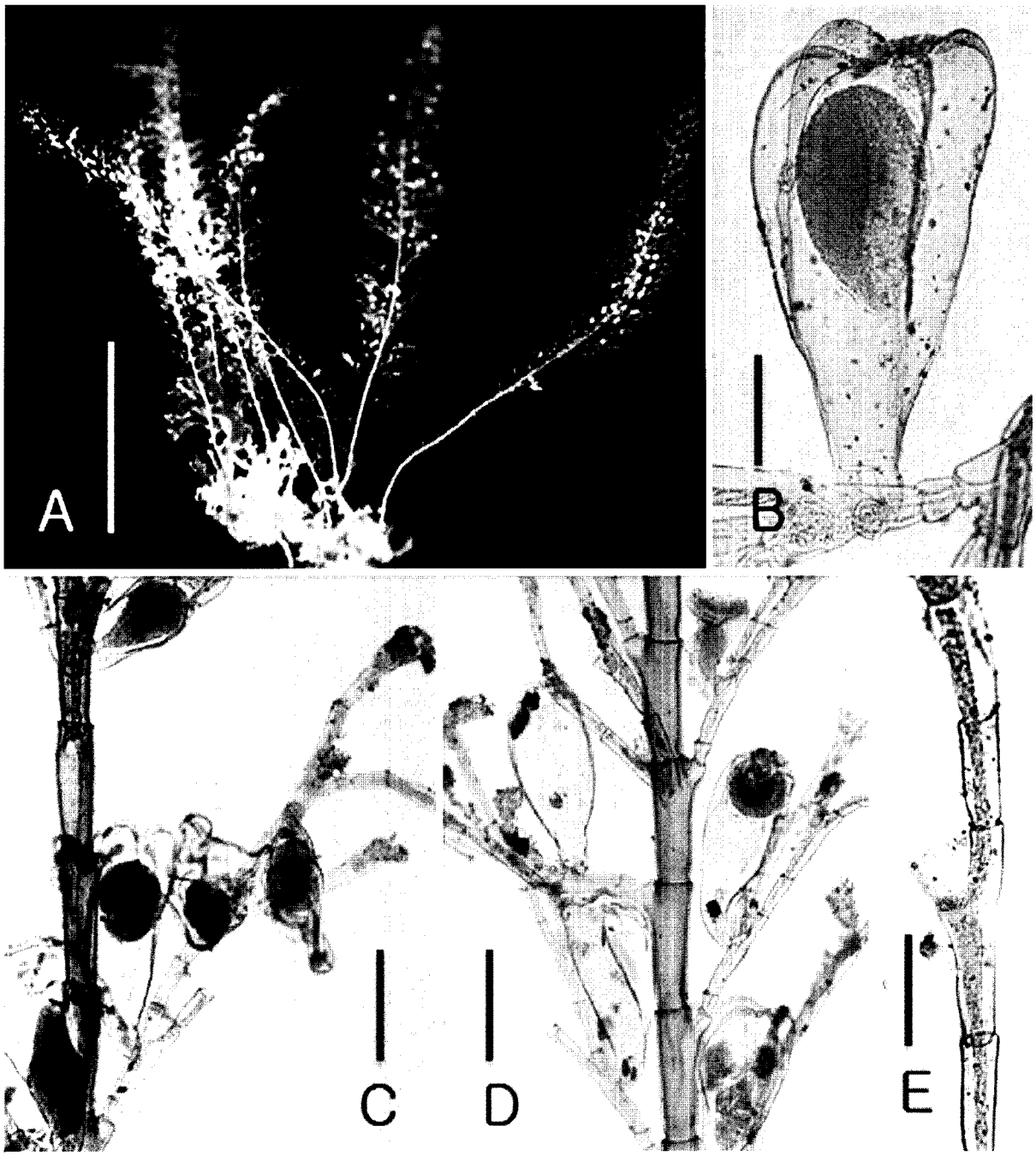

Fig. 3. *Schizotricha divergens*. A, whole colonies; B, gonotheca; C, D, branching patterns; E, hydrotheca. Scale bars=2 cm (A), 200 μm (B, E), 500 μm (C, D).

Material examined. Uljin (Nagok-kkotdongsan), 10 Jan. 2008 (S.H. Kim), by SCUBA diving from 20-25 m deep.

Description. Colonies arising from filamentous hydrorhiza, attaining about 5-7 cm long. Stem monosiphonic, divided into regular internodes, each internode bearing a process for hydrocladium in common, but sometimes three hydrocladia in one internode. Hydrocladia arranged in alternate, ramified in 1-3 times, at distal end of hydrothecal internode diver-gensed, divided into regular internodes. First internode short, not bearing hydrotheca and nematotheca, following one long and bearing one hydrotheca on its distal end, one mesial nematotheca at below of hydrotheca and a pair of lateral nemaththeca at both sides of hydrotheca, and following internode short, without hydrotheca and nematotheca. They arranged in alternate. Hydrotheca bowl shaped, diameter of mouth and length of abcauline wall similar.

Nematotheca very small, mesial nematotheca not reached to hydrotheca, and lateral nematothecae reached to margin of hydrotheca. Gonotheca arising from below of hydrotheca of hydrocladium, elongate and large comparing to hydrotheca, widening towards to distal end, margin waved, with four longitudinal foldings and grooves from its margin to about 2/3 below.

Remarks. This species is similar to *S. unifurcata* (see Allman, 1883) in the shapes of colony and hydrotheca, but it is distinguished from the latter by monosiphonic stem and hydrocladium bifurcated in one to three times.

Distribution. Korea, Berring Sea, near Medny Island.

ACKNOWLEDGEMENTS

This work was supported by the Korea Research Foundation Grant funded by Korea government (MOEHRD, Basic Research Promotion Fund [KRF-2005-070-C00124]). The author heartly thanks to Dr. S.H. Kim in In the Sea Korea for his donation of the specimens for this work.

REFERENCES

Allman, G.J., 1883. Report on the hydroid dredged by H.M.S. Challengger, during the years 1873-1876. First part. Plumulariidae. Voyage H.M.S. Challenger, Zool., pp. 1-54, pls 1-XX.

Hirohito, 1988. The hydroids of Sagami Bay I. Athecata. Publs. Biol. Lab., Imp. Household, Tokoy, pp. 1-179.

Hirohito, 1995. The hydroids of Sagami Bay II. Thecata. Publs. Biol. Lab., Imp. Household, Tokoy, pp. 1-355.

Millard, N.A.H., 1975. Monograph on the Hydroida of Southern Africa. Ann. Afr. Mus., 68: 1-513.

Millard, N.A.H. and J. Bouillon, 1973. Hydroids from the Seychelles. Annls. Mus. R. Afr. Centrale, Serie in 8°, Sci. Zool., 206: 1-106.

Naumov, D.V., 1960. Hydroids and hydromedusae of the USSR. Opred. Faune SSSR, 70: 1-660. (Translated by Israel Program for Scientific Translation, Jerusalem, 1969)

Park, J.H. and B.J. Rho, 1986. A systematic study on the marine hydroids in Korea 9. The family Sertulariidae. Korean. J. Syst. Zool., Special Issue no., 1: 1-52.

Stechow, E., 1913. Neue Genera thecater Hydroiden aus der Familie der Lafoeiden und Neue Species won Thecaten aus Japan. Zool. Anzei., 43(3): 137-144.

Stechow, E., 1923. Zur Kenntrnis der Hydroidenfauna des Mittelmeeres, Amerikas und anderer Gebiete. Zool. Jahrb., 47: 29-270.

Yamada, M., 1954. Species of the genus *Eudendrium* from Japan. Publs. Akkeshi. Mar. Biol. Stn., 2: 1-19.

Yamada, M., 1959. Hydroid fauna of Japanese and its adjacent waters. Publs. Akkeshi. Mar. Biol. Stn., 9: 1-101.

Received May 23, 2008
Accepted July 9, 2008