

New Records of Three Marine Hydromedusae (Cnidaria, Hydrozoa) in Korea

Jung Hee Park

(Division of Life Science, College of Natural Sciences,
The University of Suwon, Kyonggi-do 445-743, Korea)

ABSTRACT

Some marine hydromedusae were collected from the coasts of Geojedo Island and Changho harbour in Korea during the period from January 1997 to March 1999. They were identified into *Rathkea octopunctata* (M. Sars, 1835), *Spirocodon saltatrix* (Tilesius, 1818) in Anthomedusae and *Dipleurosoma typicum* Boeck, 1866 in Leptomedusae. They are new to the Korean fauna.

Key words: new records, marine hydromedusae, Korea

INTRODUCTION

A taxonomic study on the marine hydromedusae in Korea preliminary has been done by Park (1996). Results from this four species in four families (Clavidae, Cladonematidae, Eirenidae and Olindiidae) of three orders (Anthomedusae, Leptomedusae and Limnomedusae) were known in Korean waters.

Some hydromedusae were collected from the coasts of Geojedo Island and Changho harbour in Korea during the periods from January 1997 to March 1999. They were identified into three species, *Rathkea octopunctata*, *Spirocodon saltatrix* and *Dipleurosoma typicum* which are new to the Korean fauna. The marine hydromedusa fauna so far consists of seven species in seven families of three orders.

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SYSTEMATIC ACCOUNTS

Order Anthomedusae 꽃해파리목

Family Rathkeidae 라드케해파리과(신칭)

1. *Rathkea octopunctata* (M. Sars, 1835) 팔방라드케해파리 (신칭) (Fig. 1A-F)

Cytaeis (?) *octopunctata* M. Sars, 1835, p. 28, Pl. 6, fig. 14a-g.

Rathkea octopunctata: Mayer, 1910, p. 177, fig. 11; Uchida, 1933, p. 130; Kramp, 1961, p. 72; Kramp, 1968, p. 29, Pl. V, fig. 24.

Material examined. Geojedo Island (Changmok-ri), 25 Mar. 1999, W.J. Lee.

Description. Bell pyriform, with solid apical projection, 2-3 mm wide and 2-3 mm high in large forms. Gelatinous substance thick at apex and gradually thinner toward bell margin. Marginal tentacles milky white in preserve, with large tentacular bulbs containing orange and dark brown pigment granules inside of them and developed in 8 clusters, 4 in perradials, 4 in interradians, each perradial with 5 tentacles and each interradian 3-4 tentacles. With 4 narrow radial canals and without centripetal ones. Velum narrow but well developed. Manubrium short, with 4 oral lobes. Each oral lobe with 1-2 pairs short oral tentacles having terminal nematocyst knobs. Without eye spots and statocysts. Medusa buds developed upon outside of stomach wall. Young medusae also with medusa buds.

Remarks. Even before the developed medusa buds are free from the mother they begin to develop the medusa buds (Mayer, 1910). In our young medusae the medusa buds were found on the stomach wall of them.

Distribution. Korea, Japan, China (Chefoo), Aleutian Islands, Kamchatka, Bering Sea, Alaska, north coast of U.S.S.R., Mediterranean Sea, north-western Europe, Iceland, Greenland, Newfoundland, New England, Bermuda Islands.

Family Spirocodonidae 나선꼬리해파리과(신칭)

2. *Spirocodon saltatrix* (Tilesius, 1818) 무회나선꼬리해파리 (신칭) (Fig. 2A-H)

Medusa saltatrix Tilesius, 1818, p. 554, taf. 18.

Spirocodon saltatrix: Mayer, 1910, p. 220, figs. 112-113; Uchida, 1927, p. 230, figs. 16-19; Uchida, 1938, p. 50, fig. 2; Kramp, 1961, p. 127.

Spirocodon saltator: Kramp, 1961, p. 127; Kramp, 1968, p. 60, fig. 158.

Material examined. Geojedo Island, 29 Jan. 1997, S.H. Kim and W.J. Lee.

Description. Bell deep, octagonal and about 20-30 mm high. Gelatinous substance thick. Bell margin consists of eight semicircular lappets. Cleft of lappet pass obliquely upward and outward from below forming triangles. Fourty or more tentacles arising in single row from each triangle cleft and lappet, then total number of tentacles 320 or more, resemble to long hair, tapering toward distally and covered with numerous beadlike battery cells containing nematocysts. Four radial canals arising from proximal portions of manubrium, first upward outside on sides of stomach, then downwards free from stomach, and again upward, and finally descending to a marginal ring canal. Each radial canal giving off 20 or more side branches nearly at right angle on either side and branched again second, third or so on blind side branchlets. Four centripetal canals arising upward

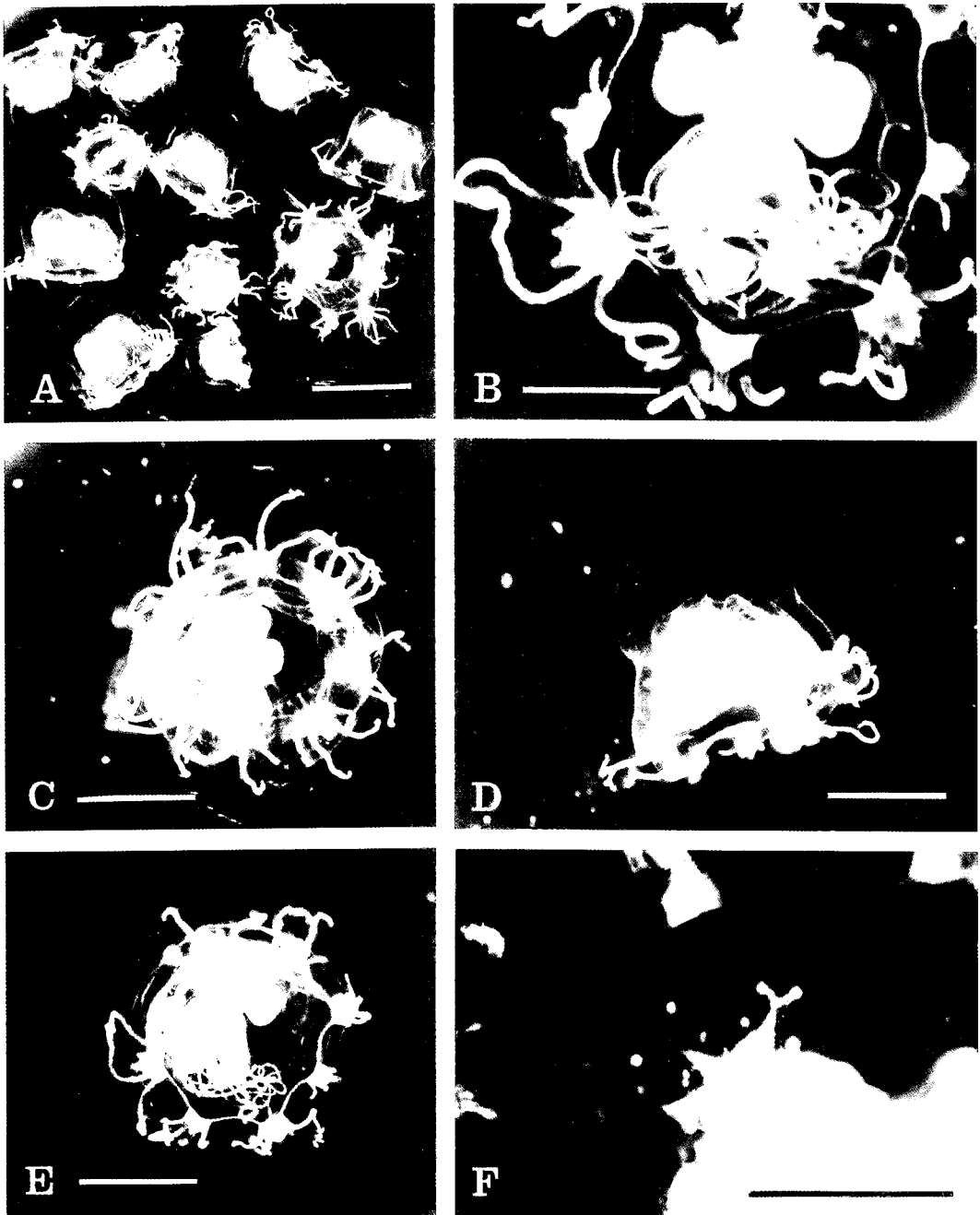


Fig. 1. *Rathkea octopunctata*. A, mudusae in different size; B, Developing medusa bud on stomach; C, aboral view; D, lateral view; E, oral view; F, oral tentacles with terminal nematocyst knobs. Scale bars = 0.5 mm (B, F), 1 mm (C, D, E), 2 mm (A).

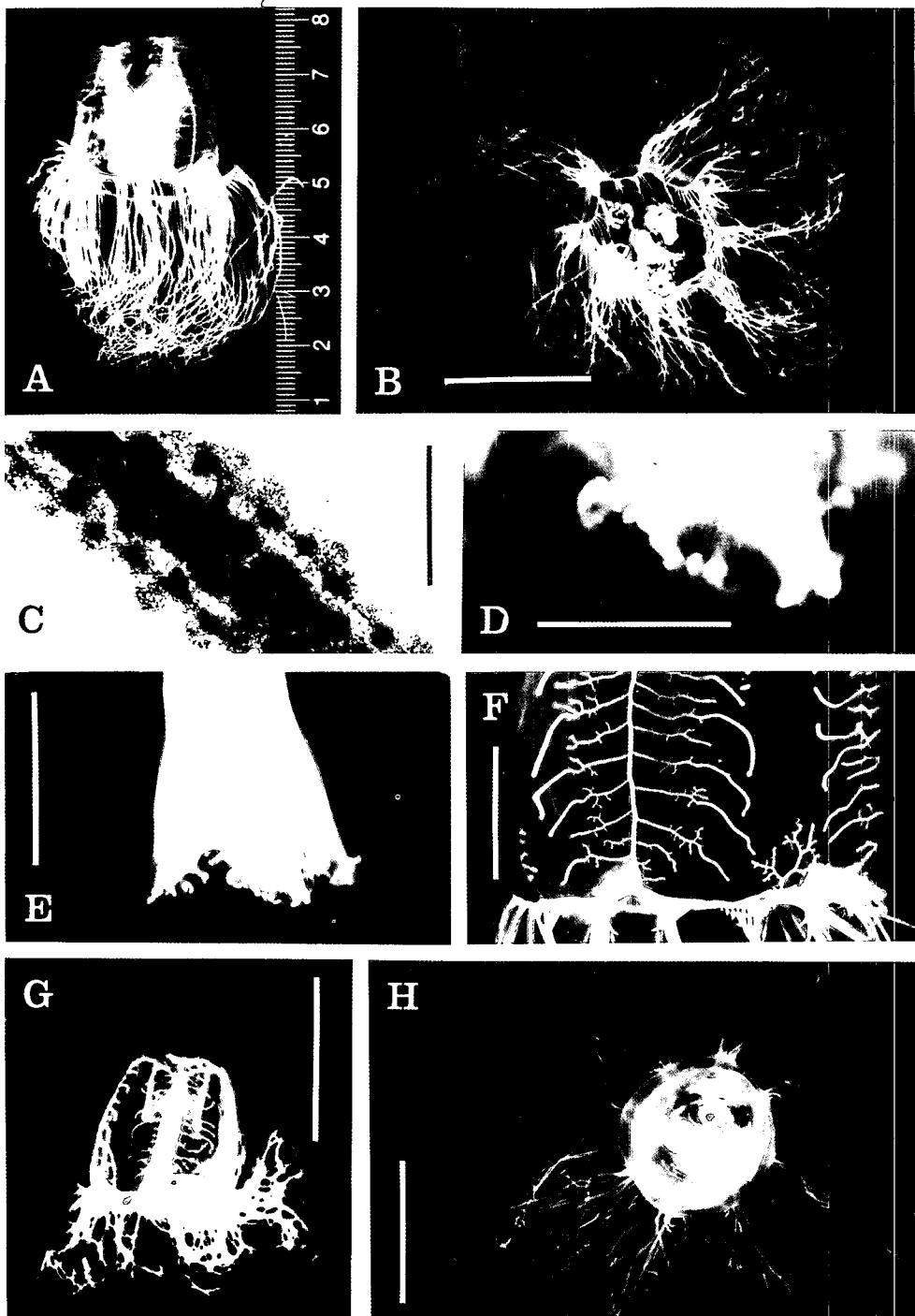


Fig. 2. *Spirocodon saltatrix*. A, adult medusa; B, oral view; C, battery cells on tentacle; D, frilled oral lobe armed with nematocysts; E, manubrium with frilled oral lobes; F, branched radial canal and centripetal canal; G, young medusa; H, aboral view. Unit of scale bar in A = cm. Scale bars = 0.3 mm (C), 1 mm (D), 3 mm (E), 5 mm (F), 20 mm (G), 30 mm (B, H).

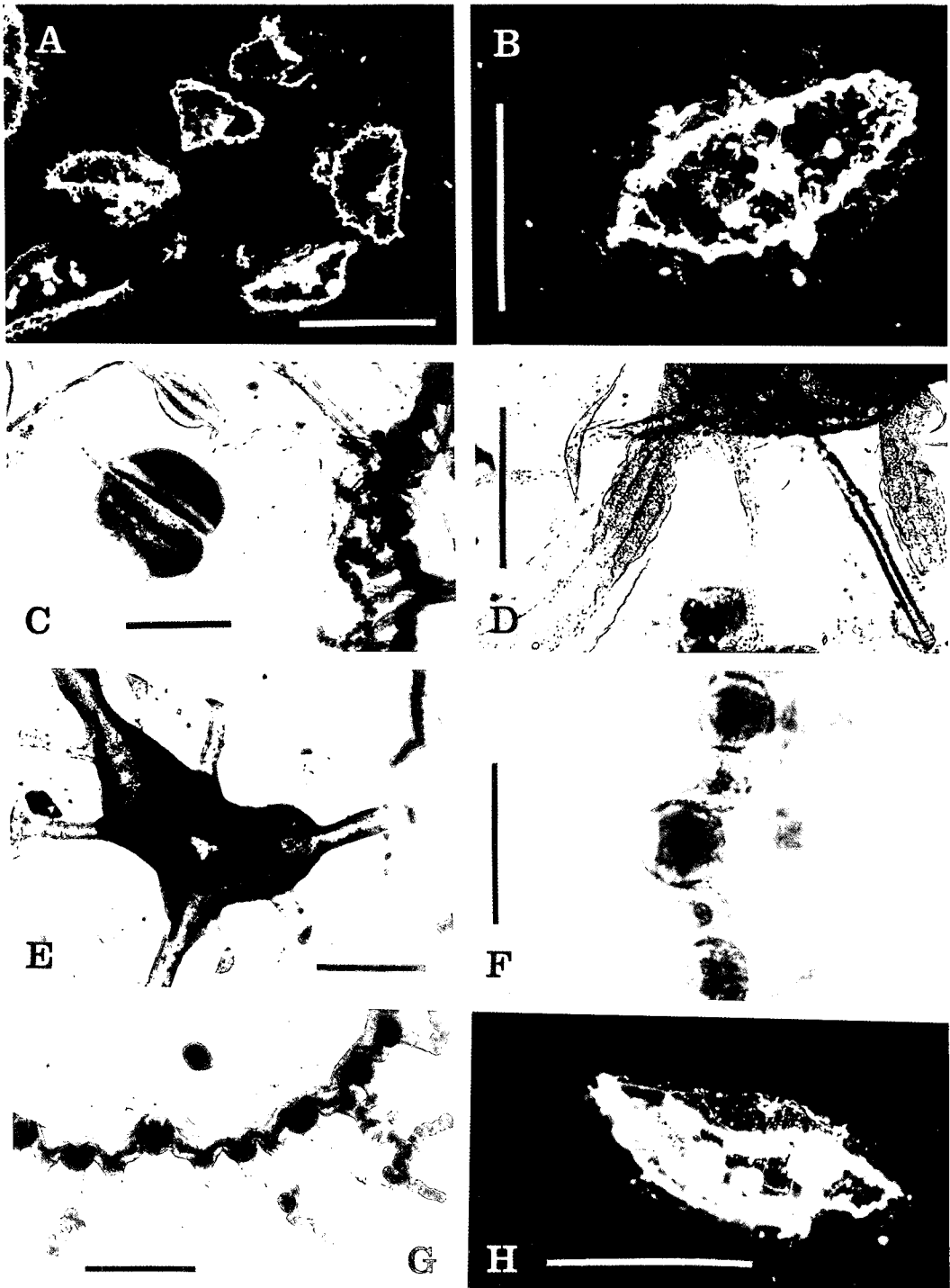


Fig. 3. *Dipleurosoma typicum*. A, medusae in different size; B, lateral view; C, male gonads; D, female gonads; E, radial canals; F, eye spots in the inner sides of tentacular bulbs; G, coiled tentacles with large tentacular bulbs; H, lateral view. Scale bars = 0.3 mm (B, D, F, H), 0.5 mm (C, E, G), 5 mm (A).

from in 4 clefts between lappets, branched again and not reached to above one seventh of bell height. Manubrium well developed, cylinder-shaped, reached nearly to velar opening, with 4 frilled oral lobes armed with nematocysts and short stomach on their proximal portions. Gonads developed on proximal portions of radial canals, placed near stomach, twisted spirally and hanging down, and then reached to oral lobes. Velum well developed, about 1 mm or more wide.

Remarks. This species is relatively large and thick hydromedusa, and has numerous long hairlike tentacles. Though in the order Anthomedusae its gonads develop on the radial canals.

Distribution. Korea, Japan, Sakhalin.

Order Leptomedusae 연 (軟) 해파리목

Family Dipleurosomatidae 양면체해파리과 (신칭)

3. *Dipleurosoma typicum* Boeck, 1866 양면체형해파리 (신칭) (Fig. 3A-H)

Dipleurosoma typicum: Mayer, 1910, p. 224; Kramp, 1961, p. 134; Yamada and Hirano, 1983, p. 9, fig. 2.

Material examined. Changho harbour, 21 Jul. 1997, J.H. Park.

Description. Bell usually flatter than hemisphere, very transparent and small, 4-6 mm deep. Gelatinous substance relatively thin and soft. Exumbrellar wall more or less sticky, so detritus readily attached on its surface. A few planula larvae found on subumbrellar wall. Marginal tentacles numerous, more than 100, slender, tapering toward distally and extremely coiled in preserve. Each tentacle with a large tentacular bulb and a distinct black ocellus upon on its inner side. Manubrium very short, with about 4-5 simple oral lips armed with nematocysts. Radial canals arising from stomach, very various in number, from 6 to 11 and some ones never connecting with marginal ring canal. Gonads developed upon on radial canals, not upon all, usually 5-6 radial canals, placed in its proximal in female and more distally in male.

Remarks. The radial canals of this species are variable in number and in branching mode. So it is impossible to define a normal type.

Distribution. Korea, northern Japan, north-eastern Pacific, northern Europe, off Newfoundland.

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박 정 희

(수원대학교 자연과학대학 생명과학부)

요 약

거제도와 장호항 (동해)에서 1997년 1월부터 1999년 3월까지 채집한 히드라해파리류 가운데 꽃해파리목 (Anthomedusae)에 속하는 팔방라드케해파리 [*Rathkea octopunctata* (M. Sars, 1835)]와 무희나선꼬리해파리 [*Spirocodon saltatrix* (Tilesius, 1818)] 그리고 연 (軟)해파리목 (Leptomedusae)의 양면체형해파리 (*Dipleurosoma typicum* Boeck, 1866)가 한국미기록종으로 밝혀져 재기재하고 보고한다. 따라서 지금까지 밝혀진 한국 해산 히드라해파리류는 3목 7과 7종이 된다.