Two New Records of Siphonophora (Hydrozoa) and Semaeostomeae (Scyphozoa) in Korea

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ABSTRACT

Some siphonophores and scyphomedusae were collected from the coasts of Hoopó (Sea of Japan) and Geojedo Island, Changson (Korea Strait) in Korea respectively. They identified into Porpita umbella O. F. Muller, 1776 of the order Siphonophora in the Hydrozoa and Dactylometra quinquecirrha L. Agassiz, 1862 of the Semaeostomeae in the Scyphozoa. P. umbella looks like a blue button. It's chitinous float is light brown and the other body portions are turquoise blue. D. quinquecirrha has four long curtain-like oral lobes which are highly flexible and ornamented with numerous nematocyst warts, and 32 radiating reddish brown stripes upon exumbrella. The Siphonophora is reported for the first time and three scyphomedusae are reported in Korea so far.

Key words: Taxonomy, Siphonophora, Scyphozoa, Korea

INTRODUCTION

Siphonophores are floating hydroid colonies. At the top of the colony of some genera, there is a gas-filled float called the pneumatophore. Their gastrozooids and gonozooids are invariably present, while dactylozooids and nectophores are characteristic of certain genera (Kozloff, 1990).

The genus Porpita possesses a flat discoidal umbrella and circular float with numerous gas-filled chambers (Haeckel, 1888). In Scyphozoa the medusa is the dominant and conspicuous in the life

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cycle. The polypoid form is restricted to a small, sessile stage (Kozloff, 1990; Ruppert and Barnes, 1991). The genus *Dactylometra* is provided with 40 tentacles and 48 marginal lappets. It is closely related with *Pelagia*, *Chrysaora* and *Kuragea* of the family Pelagiidae bearing 8 sensory organs and being composed of 8 radial sectors. The genus *Pelagia* shows the structure of ephyra. After passing through the *Pelagia* stage, the medusa is transformed into *Chrysaora* which has 24 tentacles and 32 marginal lappets. And then as passing through the *Dactylometra*, the medusa changed into *Kuragea* which is equipped with 56 tentacles and 64 lappets (Mayer, 1910; Uchida, 1935, 1938).

Some siphonophores and scyphomedusae were collected in the coasts of Hoopo and Geojeo Island respectively. They were preserved in 5% formalin after narcotization with menthol powders. The specimens were identified into *Porpita umbella* in the Hydrozoa and *Dactylometra quinquecirrhra* in the Scyphozoa. The redescriptions and photographs of their characters are provided.

**RESULTS**

**Phylum Cnidaria** [자포동물문]

**Class Hydrozoa** [하드라충강]

**Order Siphonophora** [관예파리목]

**Family Porpitidae** [투른무산관예파리과(선점)]

**Porpita umbella O. F. Muller, 1776** [투른무산관예파리(선점) (Fig. 1A-D)]


**Description.** Chitinous float flat, circular like as coin, 18–21 mm in diameter, without any tubercles. Covered with thin umbrella which extended outward from float and forms narrow marginal limbis in about 1.5–2 mm wide. Float usually golden brown, with numerous radial ridges and ring ridges which form a central chamber and numerous radial chambers filled with gases. Stigmata on superior surface of disc in central region larger than ones in marginal region. Beneath float, with numerous marginal tentacles, a large central gastrozooid, and numerous smaller and slender gonozoids densely crowded in broad zone between marginal tentacles and a central gastrozooid. Marginal tentacles arranged in several circular rows, equally distributed along whole margin of umbrella, not branched, with three longitudinal rows of stalked nematocyst knobs. A large central gastrozooid conical shaped in contraction, composed of a mouth, manubrium and broad stomach. Gonozoid densely crowded in broad zone between marginal tentacles and central gastric siphon, smaller than gastrozooid, with stalked nematocyst knobs, a mouth and bearing many medusa buds in its proximal portion. Marginal limbis, marginal tentacles and zooids turquoise blue in live.

**Remarks.** This species quite resembles *Porpita pacifica* in the shapes of float, marginal tentacles and zooids. But it is readily distinguished from *P. pacifica* which has tubercles on the upper surface
of disc, many more numbers of nemetocyst knobs on the marginal tentacles and more branched complex canals of limbus. Bigelow (1911) noted that the smooth Atlantic *P. umbella* probably changed into the papillated Pacific *P. pacifica* in growth.

**Distribution.** Cosmopolitan in warmer waters.

Class Scyphozoa 해파리강  
Order Semaeostomeae 기구(管口) 해파리목  
Family Pelagiidae 완양해파리과(延長)

**Dactylometra quinquecirrha** L. Agassiz, 1862 키른형양해파리(천칭) (Fig. 2A-G)  
Fig. 2. Dactylometra quinquecirrhra. A, aboral view; B, oral view; C, aboral view (black and white); D, bell margin; E, gastric pouches; F, five tentacles per octant; G, a part of curtain-like oral lobe. Scale bars = 10 mm (D–G), 20 mm (A–C).

575, fig. 5.

Datylometra pacifica: Uchida, 1927, p. 229; 1935, p. 44; 1938, p. 44.
Material examined. Geojeo Island (Changson), 26 June 2000 (H. S. Ko).

Description. Bell light brown, about 90 mm wide, flatter than hemispherical, divided into 8 sectors. Mouth in center of subumbrella, with 4 long oral lobes. Oral lobes curtain-like, finely fringed margin and highly flexible, ornamented with numerous nematocyst warts, about 3-4 times as long as bell diameter. Large central stomach with 4 gastric pouches and gastric cirri, give rise to 16 simple radial canals. Marginal tentacles arising from shallow clefts, shorter than oral lobes, laterally compressed, 5 in number between each successive pair of sense organs (rhopalia) in common. Sense organs placed in deep clefts, contain a concretion but no ocelli, 8 in number. Lappets tongue-shaped, narrow at base, with numerous nematocyst warts upon its external surfaces, 48 in number. 32 radiating reddish brown stripes on surface of exumbrella. Gonads not developed.

Remarks. Dactylometra quinquecirrhia is similar to Chrysaora melanaster in having 8 sense organs and 8 radial sectors, but it is readily distinguished from latter by having 24 tentacles and 32 marginal lappets. Mayer (1910) noted that the genera Chrysaora, Dactylometra and Kuragea may be transitional stages in the growth of one and the same medusa.

Distribution. Korea, Japan, Kamchatka to California, southern coast of New England to the tropics, Florida (Tampa Bay), Bermuda, North Carolina (Beaufort).

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관해파리목(히드라층강)과 기구해파리목(해파리강)의 한국 미기록 2종

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요 약

후포의 연안에서 채집된 푸른우산관해파리(Porpita umbella)와 거제도의 연안에서 채집된 커튼원형해파리(Dactyliometra quinquecirrha)가 각각 한국 미기록종으로 판명되어 제기제하여 보고한다. 푸른우산관해파리의 부유기는 연한 갈색의 둥글고 납작한 단추 모양이고 흔적이, 개중 그리고 우산의 태두리는 푸른색을 띠며, 커튼원형해파리의 기 커튼과 같은 산추성 있는 4개의 구멍을 가지고 있다. 관해파리류는 우리나라에서 처음 보고되고 해파리류는 본 연구 결과 3종이 보고된다.