

## A Taxonomic Study on the Marine Sponges in Korea

### 2. Hadromerida

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韓國產 海産海綿類의 分類學的 研究

2. 硬海綿類

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#### 摘 要

본인은 南韓의 東海와 南海 연안에서 採集된 四放海綿類의 標本들을 同定한 결과 다음과 같은 硬海綿類에 속하는 8種의 韓國未記錄種이 밝혀졌다.

*Suberites virgultosa* (Johnston), *Suberites caminatus* Ridley & Dendy, *Suberites japonicus* Thiele, *Rhyzaxinella clavata* Thiele, *Tethya seychellensis* (Wright), *Tethya aurantium* (Pallas), *Chondrilla australiensis* Carter, *Chondrilla mixta* Schulze.

The present paper deals with the Hadromerida (Tetractinomorpha, Demospongiae). Eleven species belonging to the Hadromerida were already reported by the author and others (Kim, et al, 1968; Rho, et al, 1969; Rho & Sim, 1972a, 1972b; Rho & Lee, 1976; Rho & Sim, 1979).

Specimens for the present study were collected from the coastal areas of the East Sea (Sea of Japan) and the South Sea of Korea during the period from 1969 to 1978.

The author has briefly described eight unrecorded species in Korea and prepared plates for them. A scale in the plates indicates one centimeter. I express my sincere thanks to Dr. Boon Jo Rho, Director of Natural History Museum, Ewha Womans University for her collection and guidance.

**Order Hadromerida** 경해면목

**Family Suberitidae** 코르크해면과

1. *Suberites virgultosa* (Johnston, 1842) 무우코르크해면

(Pl. 1, figs. 5-7)

*Halichondria virgultosa* Johnston, 1842, p.137, pl.15, figs. 1-3.

*Suberites ficus*: Hartman, 1958, p.3, pl. 1. fig. 5. text-fig. 1.

*Suberiten virgultosa*: Tanita, 1965, p.68, figs. 3-4

**Material examined:** Chugsan, April 25, 1976; Dec. 25, 1977.

**Description:** This sponge is represented by two shapes, one is bat-shape, the other is round. The colour in life is golden yellow, texture flexible.

Spicules: Megascleres

a) Tylostyles.....360~560  $\mu$

Microscleres

a) Microstrongles.....15  $\mu$

b) Microxeas.....45  $\mu$

**Distribution:** Korea (Chugsan), Japan (Kasumi, Hyogo)

## 2. *Suberites caminatus* Ridley & Dendy, 1887 조개 코르크 해면

(pl. 1, figs. 3-4)

*Suberites caminatus* Ridley & Dendy, 1887, p.198, pl. 41. fig. 2, p. 45, figs. 5a-d.

**Material examined:** Mipo, Nov. 5, 1976; *ibid.*, Dec. 6, 1978.

**Description:** *Suberites caminatus* is an encrusting upon the both valves of the Brachiopoda (Lingula).

Texture is soft and the colour in life is dirty brown.

Spicules: Megascleres

a) Tylostyles.....375~750 $\times$ 10~14  $\mu$ .

**Disribution:** Korea (Mipo), Brazil.

## 3. *Suberites japonicus* Thiele, 1898 왜 코르크 해면

(Pl. 3, figs. 5-6)

*Suberites japonicus* Thiele, 1898, p.39, pl. 1, figs. 13,14, pl. 8, figs. 9a, b.

*Suberites japonicus*: Tanita, 1963, p.125, pl. 4, fig.4; 1970, p.90, pl. 2, fig. 10;

Hoshino, 1971, 9.22. pl. 2, fig. 5; 1974, p.10, pl. 1, fig. 1; 1976, p.7.

**Material examined:** Geoje I., July 22, 1978

**Description:** This sponge is small hemispherical, 3.5 cm $\times$ 2 cm $\times$ 1.5~2 cm.

Texture is elastic and the colour in life is light red.

The surface of the sponge is nearly smooth, the oscula are circular shape with 0.4 mm diameter.

Spicules: Megascleres:

a) Large tylostyles.....450~970 $\times$ 10~17  $\mu$

b) Small tylostyles.....144~200 $\times$ 5  $\mu$

**Distribution:** Korea (Geoje I.), Japan (Seto Inland sea).

## 4. *Rhyzaxinella clavata* Thiele, 1898 얽힌 해면

(Pl. 1, figs. 1-2)

*Rhyzaxinella clavata* Thiele, 1898, p.34, pl. 1, fig. 19, Pl. 5, fig. 27, pl. 8, figs. la, b.

*Rhyzaxinella clavata*: Burton, 1932, p. 202, Pl. 8, fig. 14.

**Material examined**: Seogwipo, Dec. 25, 1971.

**Description**: The sponge is long and erect, 20 cm long, 8 mm in diameter. The surface is smooth and texture elastic.

The colour in alcohol is dark brown.

Spicules: Megascleres:

a) Large tylostyles.....1,000~1,700×20~40 μ

b) Small tylostyles.....400~700×5~10 μ

**Distribution**: Korea (Seogwipo), Japan (Enoshima)

### Family Tethyidae

#### 5. *Tethya seychellensis* (Wright, 1881)

(Pl. 2, figs. 5~7)

*Alema seychellensis* Wright, 1881, p. 13.

*Tethya seychellensis*: Sollas, 1888, p. 427, pl. 44, figs. 1~6; Hechtel, 1976, p. 242, Bergquist, 1969, p. 68.

*Donatia ingalli*: Hentschel, 1909, p. 371.

*Donatia seychellensis*: Dendy, 1916, 265, pl. 48, fig. 4.

**Material examined**: Jindo I., Aug. 3, 1974

**Description**: Many specimens have the usual subspherical form and attached to the rock with root like structure at base. The colour in alcohol is grey and texture elastic. The surface is hirsute with bundle of megascleres.

Spicules; Megascleres;

a) Large oxea.....1,200~1,320×14.4~20 μ

b) Small oxea.....630×4~7 μ

Microscleres;

a) Sphaerasters.....80~90 μ

b) Oxyasters.....60~70 μ

c) Strongylasters.....14 μ

**Distribution**: Korea (Jindo. I.), Seychelles, Red Sea, Gulf of Manaar, Southwest Australia, Indo-Pacific, Brazil.

#### 6. *Tethya aurantium* (Pallas, 1766) 오렌지 동글 해변

(pl. 2, figs. 1-4)

*Alcyonium aurantium* Pallas, 1766, p. 357.

*Tethya aurantium*: Sara, 1958, p. 226; Sara & Melone, 1965, p. 133, pl. 1, fig. 4; Bergquist, 1968, p. 35, pls. 5a, 13a-c.; Pulitzer-Finali, 1977, p. 20.

**Material examined**: Sasu I., Aug. 8, 1969, Chugsan, Aug. 8, 1971; Guryongpo, July 30, 1973; Seongsanpo, Dec. 2, 1978.

**Description**: This sponge is a globular shape with basal rooting processes and common

at low tide levels. Colour in life is externally bright golden orange; dull orange yellow internally. Texture is firm. The surface is mamillate. A distinct cortex is differentiated.

Spicules; Megascleres:

a) Strongyloxea.....146~330  $\mu$   $\times$  10~28  $\mu$

Microscleres:

a) Sphaerasters.....26~60  $\mu$

b) Tylasters.....8~16  $\mu$

**Distribution;** Korea (Sasu I., Chugsan, Guryongpo, Seongsanpo), North and South America, Africa, Mediterranean, New Zealand, Italy, Brazil.

#### Family Chondrosiidae 알해면과

#### 7. *Chondrilla australiensis* Carter, 1873 호주알 해면

(Pl. 3, figs. 1—2)

*Chondrilla australiensis* Carter, 1873, p. 23, Pl. 1, figs, 10—14.

*Chondrilla australiensis*: Hentschel, 1909, p. 377; Dendy, 1916, p. 267, pl. 48, fig, 6; Burton, 1959, p. 197; Levi, 1961, p. 130, text-fig. 2; Tendal, 1969, p. 36; Tanita, 1969, p. 78, text-fig. 3.

**Material examined;** Seogwipo, Feb. 15, 1976

**Description;** The sponge is flat, spreading crust, measuring 5 cm  $\times$  2 cm  $\times$  0.5 cm in dimension. The colour in life is dark brown or black on the surface. The inner part of the body is fleshy colour. The surface is smooth and texture elastic.

Spicules; Microscleres:

a) Sphaerasters.....29  $\mu$

b) Oxyasters.....14  $\mu$

**Distribution;** Korea (Cheju I.), Japan (Sado-Aikawa)

Indo-West Pacific, Red Sea, Indian Ocean, Indonesia, Australia, Malay, Coast of Cochin China.

#### 8. *Chondrilla mixta* Schulze, 1877 검정알 해면

(pl. 3, figs. 3—4)

*Chondrilla mixta* Schulze, 1877.

*Chondrilla mixta*: Dendy, 1916, p. 268, pl. 48, fig. 7.

**Material examined;** Seongsanpo, Dec. 2, 1978

**Description;** Thin encrusting sponge, 5 mm in thickness and attaching to honey sponge.

This sponge is like *Chondrilla australiensis* in shape and colour but different in spicule oxyaster.

Spicules; Microscleres

a) Sphaerasters.....20~25  $\mu$

b) Oxyasters.....14~20  $\mu$

**Distribution;** Korea (Cheju I.) Java and Gaspar Straits, Red Sea.

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## EXPLANATION OF PLATES

### Plate 1

**Figs. 1 & 2.** *Rhyzaxinella clavata* Thiele, 1898. 1. Entire animal 2. A. Large tylostyle, B. Small tylostyle.  $\times 100$ . **Figs. 3 & 4.** *Suberites caminatus* Ridley & Dendy, 1887. 3. Entire animal. 4. A. Tylostyle.  $\times 100$ , B. Head of tylostyle.  $\times 450$  **Figs. 5 & 7** *Suberites virgultosa* (Johnston, 1842) 5. Entire animal. 9. Tylostyle.  $\times 100$  7. A. Microstrongyle, B. Microxea.  $\times 450$ .

### Plate 2

**Figs. 1-4.** *Tethya aurantium* (Pallas, 1766). 1 & 2. Entire animals 3. Style or Strongyloxea.  $\times 100$ . 4. A. Sphaeraster, B. Tylaster.  $\times 450$ . **Figs. 5-7.** *Tethya Seychellensis* (Wright, 1881) 5. Entire animal 6. Tylasters.  $\times 450$  7. A. Style or strongyloxea, B. Oxyaster, C. Sphaeraster.  $\times 100$

### Plate 3

**Figs. 1 & 2.** *Chandrilla australiensis* Carter, 1873 1. Entire animal 2. A. Sphaeraster, B. Oxyaster.  $\times 450$  **Figs. 3 & 4.** *Chandrilla mixta* Schulze, 1877 3. Entire animal 4. A. Oxyaster, B. Sphaeraster.  $\times 100$  **Figs. 5 & 6.** *Suberites japonica* Thiele, 1898 5. Entire animal 6. Tylostyle.  $\times 100$

PLATE 1

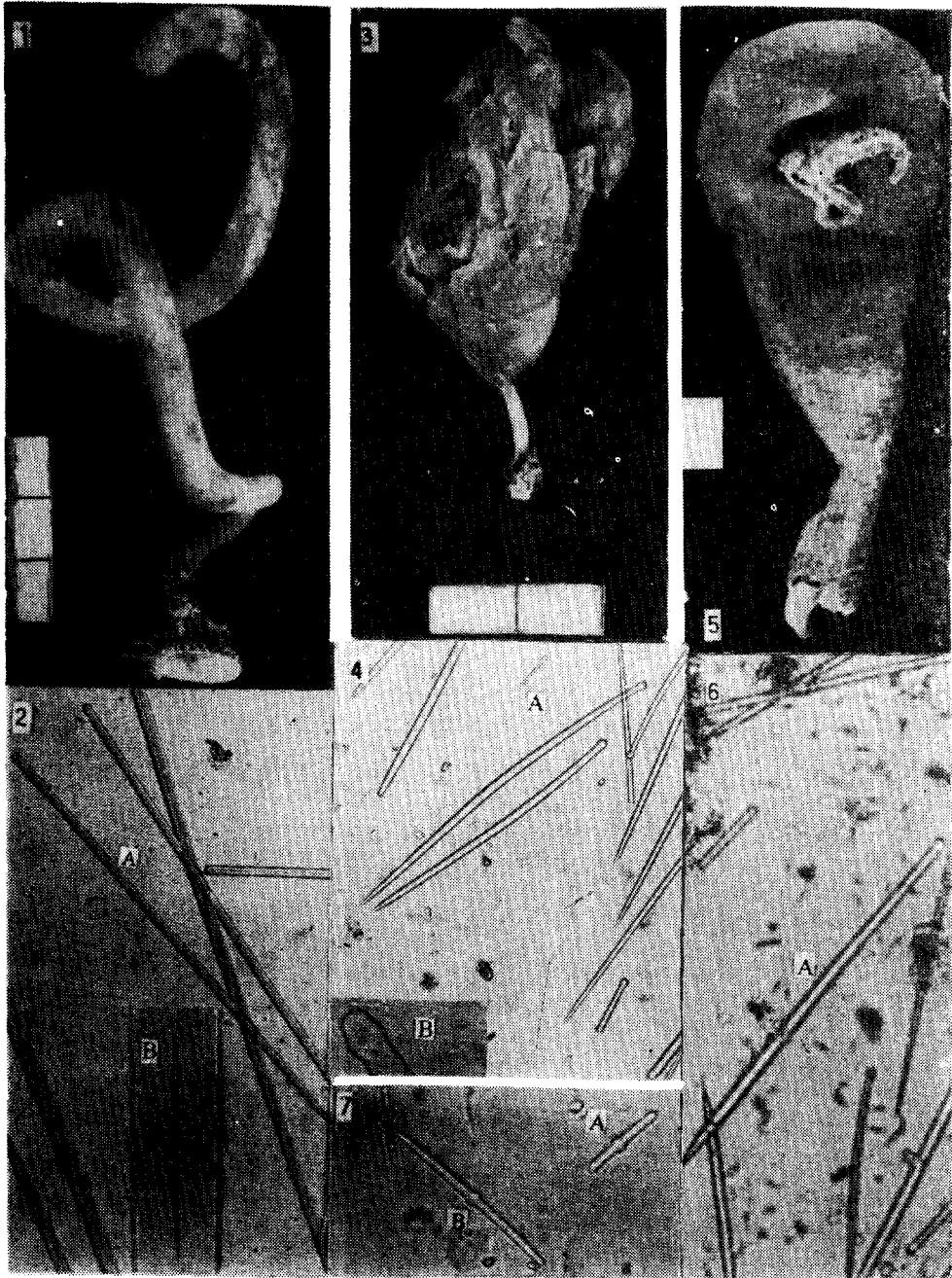


PLATE 2

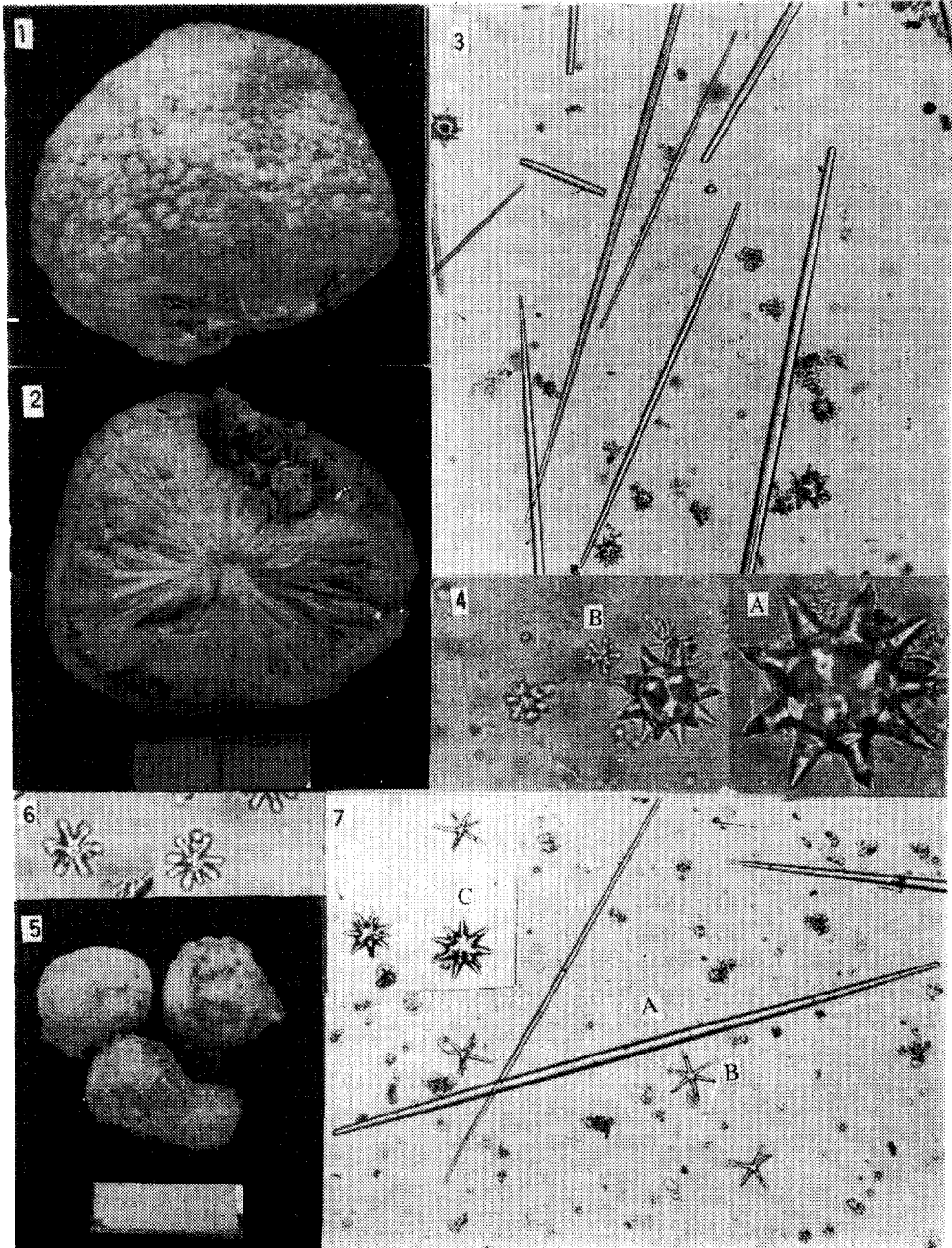




PLATE 3

