

A Systematic Study on Octocorallia in Korea  
6. Holaxonia (Gorgonacea)

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韓國産 八放珊瑚類의 系統分類學的 研究  
6. 全軸類 (海楊目)

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摘 要

著者は 한국산 八放珊瑚類의 계통분류학적 연구를 하기 위하여 1965년부터 1978년까지 동해의 울릉도 (孬洞, 道洞, 沙洞)와 남해의 尾浦, 海金剛, 鴻島, 橫干島, 濟州, 爲美里, 林島, 地歸島, 西歸浦, 鳥島, 門島, 虎島 등 15개 지역 으로부터 채집된 標本들을 同定分類한 결과 다음과 같은 全軸類에 속하는 3科 7屬 15種을 얻었다. 이들은 모두 韓國 未記錄種이었으며 다음과 같다.

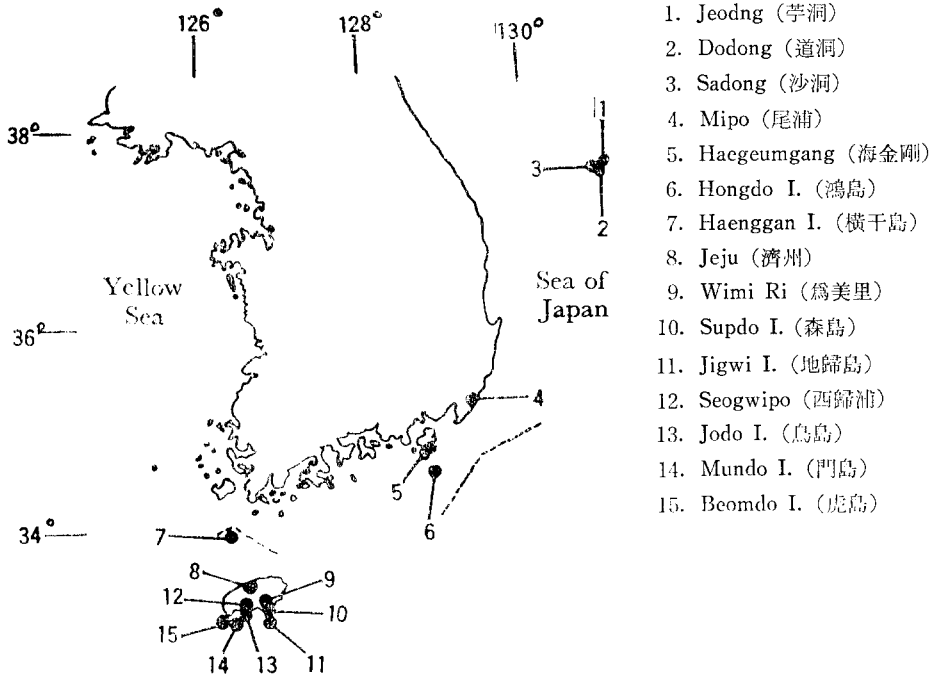
*Anthoplexaura dimorpha*, *Euplexaura anastomosans*, *E. abietina*, *E. crassa*, *E. recta*, *Ellisella maculata*, *E. rubra*, *E. limbaughi*, *Verrucella umbraculum*, *V. stellata*, *Primnoa reseda pacifica*, *Callogorgia pseudoflabellum*, *Plumarella spinosa*, *P. rigida* 및 *P. adharens*.

INTRODUCTION

The present investigation is the extensive work for faunistic and ecological accounts of the Korean Octocorallia. On the study of Korean gorgonarians 35 species in all were recorded in three papers by the present author (Rho & Song, 1976; Rho, Song & Lee, 1980; Song, 1980).

The material consist of the specimens which have been collected from 15 localities in the coastal waters of the South Korea for the period of 1965 through 1978 (text-fig. 1).

The holaxonians identified in the present study turned out to be 15 species representing seven genera in three families. They were all new to the Korean gorgonarian fauna and



**Text-fig 1.** A map showing the localities where the materials were collected from 1965 to 1978.

thereby the author has briefly described each species with the plate figures. A scale in the plate figures indicates one centimeter.

### SYSTEMATIC ACCOUNTS

**Order Gorgonacea Lamouroux, 1816** 해양 목

**Suborder Holaxonia Studer, 1887** 전축 아목

**Family 1. Plexauridae Gray, 1859** 총산호 과

**Genus 1. *Anthoplexaura* Kükenthal, 1908** 꽃총산호 속

**1. *Anthoplexaura dimorpha* Kükenthal, 1908** 꽃총산호

(Pl. 3, figs. 18-22)

*Anthoplexaura dimorpha* Kükenthal, 1908, pp.502-503; 1909, pp.22-26, text-figs. 20-21, pl. 3, figs. 13-14, pl. 7, figs. 36-39; Kinoshita, 1910, p.279; 1913, p.16; Utinomi, 1954, p.103; Bayer, 1956, p. F 210.

**Material examined:** One specimen from Jeju, July 8, 1965; one specimen from Seogwipo, July 10, 1965; one specimen from Seogwipo, Aug. 11, 1965; one specimen from Seogwipo, Dec. 14, 1969; one specimen from Seogwipo, Aug. 5, 1970; one specimen Seogwipo, Aug. 7, 1970; one specimen from Beomdo I., Feb. 7, 1971; two specimens from Jigwi I., Feb. 9, 1971; two specimens from Seogwipo, Dec. 24, 1971; two specimens from Wimi Ri, July 8, 1972; one specimen from Seogwipo, July 13, 1973; two specimens from Supdo I., Apr. 13, 1975; two specimens from Seogwipo, Apr. 14, 1975; one

specimen from Supdo I., Apr. 15, 1975; two specimens from Supdo I., Apr. 19, 1975; one specimen from Supdo I., Feb. 15, 1976; one specimen from Jodo I., Nov. 30, 1978; two specimens from Mundo I., Dec. 3, 1978.

**Description:** The largest colony attains 440 mm in height, 230 mm in width. The small colonies stand erect, but the high colonies bend downwards at tips of branches. Branches arise from stem at angles of  $50\sim 60^\circ$  on all sides. They are cylindrical, no anastomosis, swelling at the tip. Calyxes are elliptical, 1 mm in height,  $1.5\times 2$  mm in diameter. Polyps are two types, the larger autozooids with some spicules and the smaller siphonozooids with no spicule. At a living state, they are extended up to 5 mm in length, 1.5 mm in diameter. Tentacles are 2.2 mm long, bear 10~11 pinnules on each side. In colour, colonies are bright red, polyps colourless and transparent, and the axis is dark brown at lower part, yellowish brown at upper part. The specimens retain gonads in July, and immature gonads in April. Colonies are attached to *Hydrichthella epigorgia* Stechow. The colour of spicules and their measurements (mm) are as follows:

tentacles.....colourless, red..... $0.03\times 0.01\sim 0.01\times 0.03$   
 anthocodia.....red .....  $0.13\times 0.01\sim 0.26\times 0.06$   
 calyxes..... red .....  $0.09\times 0.06\sim 0.15\times 0.09$ ,  $0.16\times 0.10\sim 0.40\times 0.16$   
 coenchyme of stem.....red..... $0.07\times 0.06\sim 0.16\times 0.09$ ,  $0.16\times 0.12\sim 0.25\times 0.20$

**Distribution:** Korea (South Sea), Japan (Sagami Bay to Kyusyu).

## Genus 2. *Euplexaura* Verrill, 1865 진총산호 속

### 2. *Euplexaura anastomosans* Brundin, 1896 유착진총산호

(Pl. 1, figs. 17-22)

*Euplexaura anastomosans* Brundin, 1896, pp.20-21, pl. 1, fig. 7, pl. 2, fig. 7; Kükenthal, 1909, pp.16-17, pl. 2, fig. 6; Stiasny, 1935a, pp.12-13.

**Material examined:** Two specimens from Jeju, July 8, 1965; one specimen from Seogwipo, Aug. 8, 1970; one specimen from Supdo I., Apr. 14, 1975; one specimen from Seogwipo, Apr. 14, 1975; one specimen from Supdo I., Apr. 15, 1975; one specimen from Mundo I., Feb. 15, 1976; one specimen from Hongdo I., July 20, 1978.

**Description:** The incomplete colony attains 380 mm in height, 355 mm in width. Stem and branches are flat, and they are many anastomosis, pile up each other. The axis is calcified, and then easily get broken. Calyxes are low, 1 mm in diameter, scattered at 3 mm interval on the stem, at 1.2~2 mm interval on the branches. Spicules of anthocodia consist of 2~3 rows of collaret and 4~5 pairs of points. In colour, colonies are grayish brown or yellowish brown, polyps brown, axis metallic brown. The colour of spicules are all colourless and their measurements (mm) are as follows:

tentacles ..... $0.05\times 0.03\sim 0.12\times 0.04$   
 anthocodia ..... $0.15\times 0.03\sim 0.27\times 0.07$   
 calyxes ..... $0.16\times 0.06\sim 0.18\times 0.06$   
 outer rind of branch ..... $0.15\times 0.10\sim 0.18\times 0.14$ ,  $0.02\times 0.12\sim 0.26\times 0.13$

inner rind of branch .....0.08×0.05~0.15×0.09

**Distribution:** Korea (South Sea), Japan (Sagami Bay)

3. *Euplexaura abietina* Kükenthal, 1908 불나무진총산호

(Pl. 1, figs. 1-6)

*Euplexaura abietina* Kükenthal, 1908, pp. 496-497; 1909, pp. 9-10 text-figs. 2-4, pl. 1, fig. 2.

**Material examined:** One specimen from Mipo, July 13, 1974; one specimen from Doding, July 25, 1976; one specimen from Mipo, Apr. 28, 1978.

**Description:** The colonies are fan-shape, 132~190 mm in height, 53~130 mm in width. Branches arise from stem at angles of 70~90°, and then they are bented upwards, parallel each other. Stem and branches are slightly flat, no anastomosis. The axis is elastic, not calcified. Calyxes are very low, scattered at 1.5~2.0 mm interval on stem and branches. Spicules of anthocodia consist of 2 rows of collaret and 2 pairs of points. In colour, colonies are white, polyps pale brown, and the axis is brown at lower part, yellowish white at upper part. The colour of spicules are all colourless and their measurements (mm) are as follows:

tentacles .....0.07×0.02~0.13×0.03  
 anthocodia .....0.18×0.03~0.27×0.04  
 calyxes .....0.18×0.05~0.22×0.08  
 outer rind of branch .....0.12×0.09~0.14×0.11, 0.15×0.09~0.22×0.13  
 inner rind of branch .....0.09×0.05~0.13×0.06, 0.13×0.08~0.19×0.09

**Distribution:** Korea (Sea of Japan, South Sea), Japan (Misaki)

4. *Euplexaura crassa* Kükenthal, 1908 둔한진총산호

(Pl. 1, figs. 7-11)

*Euplexaura crassa* Kükenthal, 1908, p.496; 1909, pp.7-9, pl. 1, fig. 1.

**Material examined:** One specimen from Mipo, July 15, 1974.

**Description:** The incomplete colony is hard, fan-shape, 115 mm in height, 62 mm in width. Main branches dichotomously arise at 10 mm interval, and twigs are plump, 4.5 mm in diameter. Calyxes are deficient and polyps completely retreat into the coenenchyme, 1.5 mm in thickness. Spicules of anthocodia consist of 3~4 pairs of points. In colour, the colony is pale brown, polyps yellowish brown, axis brown. The specimen retains gonads in July. The colour of spicules are all colorless and their measurements (mm) are as follows:

tentacles .....0.05×0.02~0.13×0.03  
 anthocodia .....0.18×0.13~0.26×0.05  
 outer rind of branch .....0.12×0.12~0.20×0.12  
 inner rind of branch .....0.04×0.02~0.13×0.07, 0.16×0.06

**Distribution:** Korea (South Sea), Japan (Sagami Bay)

5. *Euplexaura recta* (Nutting, 1910) 끝은진홍산호

(Pl. 1, figs. 12-16)

*Plexaura recta* Nutting, 1910a, p. 6, pl. 2, figs. 3, 3a, pl. 4, fig. 3.*Euplexaura recta*: Moser, 1921, p. 112; Stiasny, 1935a, pp. 18-20, text-fig. E, pl. 1; 1935b, p. 237.**Material examined:** One specimen from Seogwipo, Dec. 26, 1971; one specimen from Mipo, Apr. 29, 1978; one specimen from Mipo, Oct. 2, 1978.**Description:** The largest colony attains 380 mm in height 140 mm in width, and the smallest colony is 245 mm in height, 125 mm in width. Main branches arise at 15 mm interval at lower part, and then they are bented upwards, parallel. The axis elastic, flexible. Branches are cylindrical, no anastomosis, and lateral branches attain 80 mm long, slightly bent. Calyxes are deficient, scattered at 1~1.5 mm interval. Spicules of anthecodia consist of 4 pairs of point. In colour, colonies are grayish white, polyps dark brown, and the axis is dark brown at lower part, yellowish brown at upper part. The specimens are attached to Bryozoa and *Polyzoa pacifica* Tokioka. The colour of spicules are all colourless and their measurements (mm) are as follows:

tentacles .....	0.05 × 0.01~0.09 × 0.02
anthecodia .....	0.15 × 0.03~0.24 × 0.05
outer rind of branch .....	0.10 × 0.10~0.15 × 0.12, 0.12 × 0.05~0.18 × 0.10
inner rind of branch.....	0.06 × 0.02~0.17 × 0.09

**Distribution:** Korea (South Sea), Indo Pacific Ocean (Aru I., Rotti Is., Flores)**Family 2. Ellisellidae Gray, 1859** 회초리산호 과**Genus 3. Ellisella Gray, 1858** 민회초리산호 속6. *Ellisella maculata* Studer, 1878 점회초리산호

(Pl. 1, figs. 25-26)

*Ellisella maculata*: Wright & Studer, 1889, pp. 160-161, pl. 34, fig. 9; Studer, 1889, pp. 21, 22.**Material examined:** One specimen from Haenggan I., Aug. 9, 1969.**Description:** The whip-shape colony is 185 mm in height, 3.3~3.5 mm in diameter. The calcified axis is cylindrical, surrounded with the longitudinal solenia. Four to six calyxes are arranged on each side of colony, except two median grooves. They are hemispherical, 1 mm in height, 2 mm in diameter. In colour, the colony is pinkish orange, polyps white, axis yellowish white. The colour of spicules are pale pink and their measurements (mm) are as follows:

tentacles .....	0.04 × 0.01~0.05 × 0.02
polyps .....	0.06 × 0.02~0.08 × 0.04, 0.09 × 0.03
outer rind of coenenchyme...	0.06 × 0.03~0.09 × 0.06, 0.08 × 0.04~0.10 × 0.04
inner rind of coenenchyme...	0.06 × 0.03~0.09 × 0.06, 0.07 × 0.03~0.08 × 0.03

**Distribution:** Korea (South Sea), Indo Pacific Ocean (Torres Strait, Banda Is.)

7. *Ellisella rubra* (Wright & Studer, 1889) 붉은회초리산호

(Pl. 1, figs. 23-24)

*Scirpearrella rubra* Wright & Studer, 1889, pp.157-158, pl.34, fig.5; Studer, 1889, p.24; Nutting, 1910b, pp.24-25, pl.6, figs.1-5; 1912, p.98.

*Ellisella rubra*: Utinomi, 1958, pp.105-106.

**Material examined:** One specimen from Seogwipo, Aug. 11, 1970.

**Description:** The colony is 120 mm in height, 1.2~2.3 mm in diameter. The calcified axis has 8 longitudinal grooves at lower part. Calyxes are 0.2~0.3 mm in height, 1.5mm in diameter, and scattered at 2~3 mm interval at lower part, 1.2~2.0 mm interval at upper part. In colour, the colony is orange, tip of calyxes reddish orange, tentacles and axis are white. The colour of spicules are all yellow and their measurements (mm) are as follows:

tentacles .....0.03×0.01~0.06×0.02  
 polyps .....0.06×0.03~0.10×0.03  
 outer rind of coenenchyme...0.05×0.03~0.07×0.03, 0.08×0.04~0.09×0.05,  
 0.10×0.04~0.11×0.04  
 inner rind of coenenchyme...0.05×0.02~0.07×0.03, 0.07×0.04~0.08×0.04,  
 0.05×0.05~0.06×0.05

**Distribution:** Korea (South Sea), Japan (Sagami Bay, Kii Peninsula), Indo Pacific Ocean (Timor, Borneo, Banda Is., Kei Is.)

8. *Ellisella limbaughi* Bayer & Deichman, 1960 회초리산호

(Pl. 2, figs. 1-2)

*Ellisella limbaughi* Bayer & Deichman, 1960, pp.177-181, text-figs.1-2.

**Material examined:** Two specimens from Seogwipo, July 25, 1969; two specimens from Seogwipo, Dec. 25, 1971.

**Description:** Colonies are all incomplete, the largest colony attain 183 mm in height, 3.5 mm in diameter. They are slightly flat, whip shape. Calyxes are 0.5~0.7 mm in height, 1.2~1.5 mm in diameter, and scale-like at a contractile state. Three to four polyps are slantly arranged on each side of colony, except two median grooves. In colour, colonies are dark orange, tentacles and axis white. The colour of spicules are yellow and their measurements (mm) are as follows:

tentacles .....0.03×0.01~0.05×0.03  
 polyps .....0.06×0.03~0.08~0.03, 0.07×0.02~0.09×0.03  
 outer rind of coenenchyme...0.05×0.03~0.08×0.05, 0.08×0.03~0.12×0.04,  
 0.10×0.06  
 inner rind of coenenchyme...0.06×0.02~0.07×0.02, 0.05×0.05~0.06×0.06,  
 0.08×0.05~0.10×0.06

**Distribution:** Korea (South Sea), Baja California

**Genus 4. *Verrucella* Milne Edwards & Haime, 1857** 흑산호 속**9. *Verrucella umbraculum* (Ellis & Solander, 1787)** 흑가시산호

(Pl. 2, figs. 3-4)

*Gorgonella umbraculum*: Nutting, 1910b, pp. 8-9.**Material examined:** One specimen from Seogwipo, Dec. 15, 1969; two specimens from Mundo I., Dec. 3, 1978.**Description:** The largest colony attains 530 mm in height, 360 mm in width, branched in one plane. Branches are compact, many anastomosis, consist of reticulate form. In diameter, main branches are 4.5 mm, lateral branches 2.5 mm, twigs 2 mm. The axis is strongly calcified, and the coenenchyme is thin. The truncated calyxes are 0.8 mm in height, 0.8~1.0 mm in diameter. They are scattered rarely at lower part, densely at branches, and at lateral sides of twigs. In colour, colonies are blood red, tentacles white, and the axis is glossy olive at lower part, yellowish white at upper part. The colour of spicules and their measurements (mm) are as follows:

tentacles.....	colourless.....	0.04×0.01~0.05×0.02
polyps .....	red .....	0.06×0.02~0.07×0.03
calyxes.....	red .....	0.04×0.03~0.07×0.04
outer rind of branch .....	red .....	0.04×0.02~0.08×0.05
inner rind of branch .....	red .....	0.04×0.03~0.06×0.05

**Distribution:** Korea (South Sea), Japan (Tanabe, Kyusyu), East Indies, Indian Ocean, Mediterranean Sea**10. *Verrucella stellata* Nutting, 1910** 별흑산호

(Pl. 2, figs. 5-6)

*Verrucella stellata* Nutting, 1910b, pp. 13-14, pl. 2, text-figs. 1, 1a, pl. 10, fig. 3.**Material examined:** One specimen from Seogwipo, Dec. 14, 1969.**Description:** The colony is 115 mm in height, 30 mm in width, dichotomously branched in one plane. Branches arise at 2.3~3 mm interval, and lateral branches attain 70 mm long, cylindrical. The axis is cylindrical, strongly calcified, and the coenenchyme is thin. The wart-like calyxes are low, 0.5~0.7 mm in height, 1.0~1.5 mm in diameter, and scattered at 2.5~3.0 mm interval on the main branches. In colour, the colony is bright red, tentacles and axis white. The colour of spicules and their measurements (mm) are as follows:

tentacles.....	colourless.....	0.04×0.01~0.05×0.02
polyps.....	red .....	0.05×0.02~0.07×0.02
outer rind of branch.....	red .....	0.08×0.05~0.10×0.06,
		0.08×0.04~0.09×0.04
inner rind of branch.....	red .....	0.05×0.03~0.07×0.03,
		0.04×0.04~0.05×0.04

**Distribution:** Korea (South Sea), Indo Pacific Ocean (East Indies)

**Family 3. Primnoidae Gray, 1857** 폴립산호 과**Subfamily 1. Primnoinae Gray, 1857** 폴립산호 아과**Genus 5. Primnoa Lamouroux, 1812** 폴립산호 속**11. Primnoa reseda pacifica (Kinoshita, 1907)** 태양폴립산호

(Pl. 3, figs. 1-5)

*Primnoa pacifica* Kinoshita, 1907, p.232; 1908b, pp.42-45, text-figs.8-9, pl.3, figs.19-20, pl.6, fig.49; 1909, pp.2-3, pl.18, fig.3.

*Primnoa resedaeformis* var. *pacifica*: Aurivillius, 1931, pp.295-296.

**Material examined:** Three specimens from Sadong (Ulreung I.), July 25, 1978; one specimen from Jeodong (Ulreung I.), July 26, 1978.

**Description:** The tree-like colonies attain more than 2 m in height, dichotomously branched. The axis is strongly calcified, and branches anastomose each other. Polyps are curved downward, irregularly distributed all around twigs and branches. They are large, 5~7 mm in length, 2.5~3.5 mm in diameter, consist of 8 marginal and 8 opercular scales. The abaxial surface of polyp is arranged overlapping 5 scales each other in 2 rows and the adaxial surface is devoid of spicules. In colour, colonies are white, axis glossy metallic yellow. The specimens retain gonads in July. The colour of spicules are all colourless and their measurements (mm) are as follows:

tentacles.....	0.11×0.05~0.32×0.11
opercular .....	1.89×0.06~2.37×1.27
marginal.....	1.27×1.27~1.13×2.02, 1.62×1.87
polypal body .....	0.47×0.23~0.72×0.41
rind of branch .....	0.46×0.11~1.11×0.35, 0.77×0.53~0.88×0.54

**Distribution:** Korea (Sea of Japan), Japan (Sagami Bay, Misaki, Okino), Sea of Okhotsk

**Genus 6. Callogorgia Gray, 1858** 예쁜이산호 속**12. Callogorgia pseudoflabellum Bayer, 1949** 부채부치예쁜이산호

(Pl. 2, figs. 7-10)

*Callogorgia flabellum*: Nutting, 1912, pp.60-61.

*Callogorgia pseudoflabellum* Bayer, 1949, p.207, text-figs.2a-c, 4f, pl.4, fig.2.

**Material examined:** One specimen from Jodo I., Nov. 30, 1978.

**Description:** The incomplete colony is pinnate, 58 mm in height, 11 mm in width, and dichotomously branched in one plane. Branches are slender, 1.5 mm in diameter. The axis is horny with calcium, flexible, longitudinally striated. Polyps are 1 mm in length, bented inward, arranged in regular whorls. They are composed of 7~8 adaxial, 4~5 lateral, 1~2 adaxial scales. In colour, the colony is creamy white, axis metallic white. The specimen is covered with Demospongiae at lower part. The colour of spicules are all colourless and their measurements (mm) are as follows:

tentacles .....	0.07×0.03~0.07×0.04
opercular.....	0.22×0.15~0.26×0.20, 0.23×0.14~0.28×0.15



polypal body .....0.11×0.13~0.18×0.22, 0.12×0.18~0.15×0.25  
 rind of branch.....0.08×0.07~0.32×0.27, 0.31×0.12~0.34×0.15

**Distribution:** Korea (South Sea), Japan (Sagami Bay), Bikini Atoll, Indian Ocean

**Genus 7. *Plumarella* Gray, 1870 깃산호 속**

**13. *Plumarella spinosa* Kinoshita, 1907 깃산호**

(Pl. 2, figs. 11-16)

*Plumarella spinosa* Kinoshita, 1907, pp.229-230; 1908a, pp.521-523, text-fig.5, pl.17, fig.3; 1908b, pp.11-13, pl.1, figs.3-4, pl.5, fig.38.

**Material examined:** One specimen from Jeju, Dec. 4, 1978.

**Description:** The incomplete colony is 150 mm in height, 88 mm in width, pinnate, branched in one plane. Branches are 45~85 mm long, arise at angles of 50°. The axis is flat, calcified, longitudinally glossy striates. Twigs are 20~25 mm long at stem, 16~20 mm long at branches, branching alternately 14~15 in 50 mm. Polyps are 0.6~0.9 mm in height, 0.3~0.5 mm in diameter, consist of 6 abaxial and 3 adaxial scales. There are alternately arranged 10~14 polyps in 10 mm. The margin of marginal scales are teeth-like, with 0.35 mm long median spine. In colour, the colony is white, and the axis is yellowish brown at lower part, yellowish white at upper part. The colour of spicules are all colourless and their measurements (mm) are as follows:

opercular.....0.20×0.17~0.35×0.19  
 marginal.....0.29 (0.12)×0.20~0.59 (0.35)×0.26 [a(b)×c]\*  
 polypal body.....0.17×0.12~0.29×0.21  
 rind of branch.....0.11×0.09~0.47×0.15  
 rind of stem .....0.07×0.06~0.13×0.09, 0.15×0.08~0.18×0.08

**Distribution:** Korea (South Sea), Japan (Sagami Bay), Bering Sea

**14. *Plumarella rigida* Kükenthal & Gorzawsky, 1908 곧은깃산호**

(Pl. 3, figs. 6-11)

*Plumarella rigida* Kükenthal & Gorzawsky, 1908a, pp.622-623; 1908b, pp.11-13, text-figs. 8-10, pl. 1, fig.3.

**Material examined:** One specimen from Haegeumgang (Geoje I.), July 22, 1972; one specimen from Jeju, Dec. 4, 1978.

**Description:** The incomplete colony is 203 mm in height, 115 mm in width. Twigs are 40~45 mm long, alternately branching 9~10 in 20 mm. Polyps are 0.7~0.8 mm in height, consist of 5~6 abaxial and 2~3 adxial scales. There are alternately arranged 12 polyps in 10 mm. The median spine of marginal scale is 0.15 mm long, shorter than *P. spinosa*. In colour, the colony is white, and the axis is dark brown at lower part, yellowish white at upper part. The colour of spicules are all colourless and their measurements (mm) are as follows:

\* a: total length of spicule    b: length of spine    c: width of spicule

opercular.....	0.20×0.12~0.35×0.16
marginal.....	0.28 (0.06)×0.20~0.40 (0.15)×0.26
polypal body.....	0.15×0.25~0.18×0.34, 0.25×0.09~0.35×0.32
rind of branch .....	0.05×0.05~0.12×0.10, 0.10×0.06~0.16×0.06
	0.22×0.10~0.39×0.10
rind of stem .....	0.10×0.08~0.22×0.09, 0.15×0.12~0.18×0.12

**Distribution:** Korea (South Sea), Japan (Sagami Bay, Misaki)

15. *Plumarella adhaerans* Nutting, 1912 착생깃산호

(Pl. 3, figs. 12-17)

*Plumarella adhaerans* Nutting, 1912, pp. 65-66, pl. 8, figs. 1, 1a, pl. 19, fig. 1; Aurivillius, 1931, pp. 239-241, text-fig. 46, pl. 5, fig. 4.

**Material examined:** Three specimens from Jeju, Dec. 4, 1978.

**Description:** The incomplete colonies are 155-160 mm in height, 105-200 mm in width, branched at angles of 50-70° in one plane. Twigs are 20-35 mm long, alternately branching 14-17 in 50 mm. Polyps are 0.8-1.0 mm in height, consist of 5~6 abaxial and 2~3 adaxial scales. There are alternately arranged 11~13 polyps in 10 mm. The median spine of marginal scale is 0.25 mm long, shorter than *P. spinosa* and longer than *P. rigida*. In colour, colonies are white, and the axis is brown at lower part, bright yellow at upper part. The colour of spicules are all colourless and their measurements (mm) are as follows:

opercular.....	0.23×0.13~0.37×0.19
marginal .....	0.28 (0.12)×0.18~0.47 (0.25)×0.25
polypal body.....	0.12×0.05~0.23×0.10, 0.16×0.17~0.31×0.25
rind of branch .....	0.10×0.17~0.13×0.09, 0.15×0.04~0.39×0.13,
	0.28×0.18, 0.42×0.15
rind of stem .....	0.06×0.04~0.12×0.09, 0.15×0.12~0.18×0.16,
	0.22×0.15~0.26×0.16

**Distribution:** Korea (South Sea), Japan (Sagami Bay, Misaki, Okino)

## SUMMARY

A systematic study of Korean holaxonians was done with specimens from 15 localities in the coastal seas of Korea for the period of 1965 through 1978.

The holaxonians identified in the present study turned out to be 15 species representing seven genera in three families. They were all new to the Korean gorgonarian fauna: *Anthoplexaura dimorpha*; *Euplexaura anastomosans*; *E. abietina*; *E. crassa*; *E. recta*; *Ellisella maculata*; *E. rubra*; *E. limbaughi*; *Verrucella umbraculum*; *V. stellata*; *Primnoa reseda pacifica*; *Callogorgia pseudoflabellum*; *Plumarella spinosa*; *P. rigida*; *P. adhaerens*.

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### EXPLANATION OF PLATES

#### Plate 1

**Figs. 1-6.** *Euplexaura abietina* Kükenthal, 1908 불나무진총산호

**Fig. 1.** colony; **Fig. 2.** spicules of tentacle,  $\times 100$ ; **Fig. 3.** of anthocodia,  $\times 100$ ; **Fig. 4.** of calyx,  $\times 100$ ; **Fig. 5.** of branch, inner,  $\times 100$ ; **Fig. 6.** of branch, outer,  $\times 100$ .

**Figs. 7-11.** *Euplexaura crassa* Kükenthal, 1908 둔한진총산호

**Fig. 7.** colony; **Fig. 8.** spicules of branch, inner,  $\times 100$ ; **Fig. 9.** of tentacle,  $\times 100$ ; **Fig. 10.** of anthocodia,  $\times 100$ ; **Fig. 11.** of branch, outer,  $\times 100$ .

**Figs. 12-16.** *Euplexaura recta* (Nutting, 1910) 곧은진총산호

**Fig. 12.** colony; **Fig. 13.** spicule of anthocodia,  $\times 100$ ; **Fig. 14.** spicules of tentacle,  $\times 100$ ; **Fig. 15.** of branch, outer,  $\times 100$ ; **Fig. 16.** of branch, inner,  $\times 100$ .

**Figs. 17-22.** *Euplexaura anastomosans* Brundin, 1896 유착진총산호

**Fig. 17.** colony; **Fig. 18.** spicule of tentacle,  $\times 100$ ; **Fig. 19.** of anthocodia,  $\times 100$ ; **Fig. 20.** spicules of branch, inner,  $\times 100$ ; **Fig. 21.** of branch, outer,  $\times 100$ ; **Fig. 22.** of calyx,  $\times 100$ .

**Figs. 23-24.** *Ellisella rubra* (Wright & Studer, 1889) 붉은회포리산호

**Fig. 23.** colony; **Fig. 24.** spicules of polyp, calyx and coenenchyme,  $\times 100$ .

**Figs. 25-26.** *Ellisella maculata* Studer, 1878 점회포리산호

**Fig. 25.** colony; **Fig. 26.** spicules of polyp, calyx and coenenchyme,  $\times 100$ .

#### Plate 2

**Figs. 1-2.** *Ellisella limbaughi* Bayer & Deichman, 1960. 회포리산호

**Fig. 1.** colony; **Fig. 2.** spicules of polyp, calyx and coenenchyme,  $\times 100$ .

**Figs. 3-4.** *Verrucella umbraculum* (Ellis & Solander, 1787) 흑가시산호

**Fig. 3.** colony; **Fig. 4.** spicules of polyp, calyx and coenenchyme,  $\times 100$ .

**Figs. 5-6.** *Verrucella stellata* Nutting, 1910 별혹산호

**Fig. 5.** colony; **Fig. 6.** spicules of polyp, calyx, calyx and coenenchyme,  $\times 100$ .

**Figs. 7-10.** *Callogorgia pseudoflabellum* Bayer, 1949 부채부치예쁜이산호

**Fig. 7.** colony; **Fig. 8.** opercular scales,  $\times 100$ ; **Fig. 9.** scales of branch,  $\times 100$ ; **Fig. 10.** marginal scales,  $\times 100$ .

**Figs. 11-16.** *Plumarella spinosa* Kinoshita, 1907 깃산호

**Fig. 11.** colony; **Fig. 12.** spicules of branch,  $\times 100$ ; **Fig. 13.** opercular scale,  $\times 100$ ; **Fig. 14.** spicules of stem,  $\times 100$ ; **Fig. 15.** scales of polypal body,  $\times 100$ ; **Fig. 16.** marginal scale,  $\times 100$ .

### Plate 3

**Figs. 1-5.** *Primnoa reseda pacifica* (Kinoshita, 1907) 네양홀릴산호

**Fig. 1.** colony; **Fig. 2.** spicules of tentacle,  $\times 100$ ; **Fig. 3.** scales of branch,  $\times 40$ ; **Fig. 4.** marginal scales,  $\times 40$ ; **Fig. 5.** opercular scalar scales,  $\times 40$ .

**Figs. 6-11.** *Plumarella rigida* Kükenthal & Gorzawsky, 1908 끈은깃산호

**Fig. 6.** colony; **Fig. 7.** opercular scale,  $\times 100$ ; **Fig. 8.** marginal scales,  $\times 100$ ; **Fig. 9.** scales of polypal body,  $\times 100$ ; **Fig. 10.** spicules of stem,  $\times 10$ ; **Fig. 11.** of branch,  $\times 100$ .

**Figs. 12-17.** *Plumarella adharen* Nutting, 1912 콧쟁깃산호

**Fig. 12.** colony; **Fig. 13.** opercular scales,  $\times 100$ ; **Fig. 14.** scales of polypal body,  $\times 100$ ; **Fig. 15.** spicules of stem,  $\times 100$ ; **Fig. 16.** marginal scales,  $\times 100$ ; **Fig. 17.** spicules of branch,  $\times 100$ .

**Figs. 18-22.** *Anthoplexaura dimorpha* Kükenthal, 1908 꽃총산호

**Fig. 18.** colony; **Fig. 19.** spicules of tentacle,  $\times 100$ ; **Fig. 20.** of anthocodia,  $\times 100$ ; **Fig. 21.** of stem,  $\times 100$ ; **Fig. 22.** of calyx,  $\times 100$ .



Plate 1

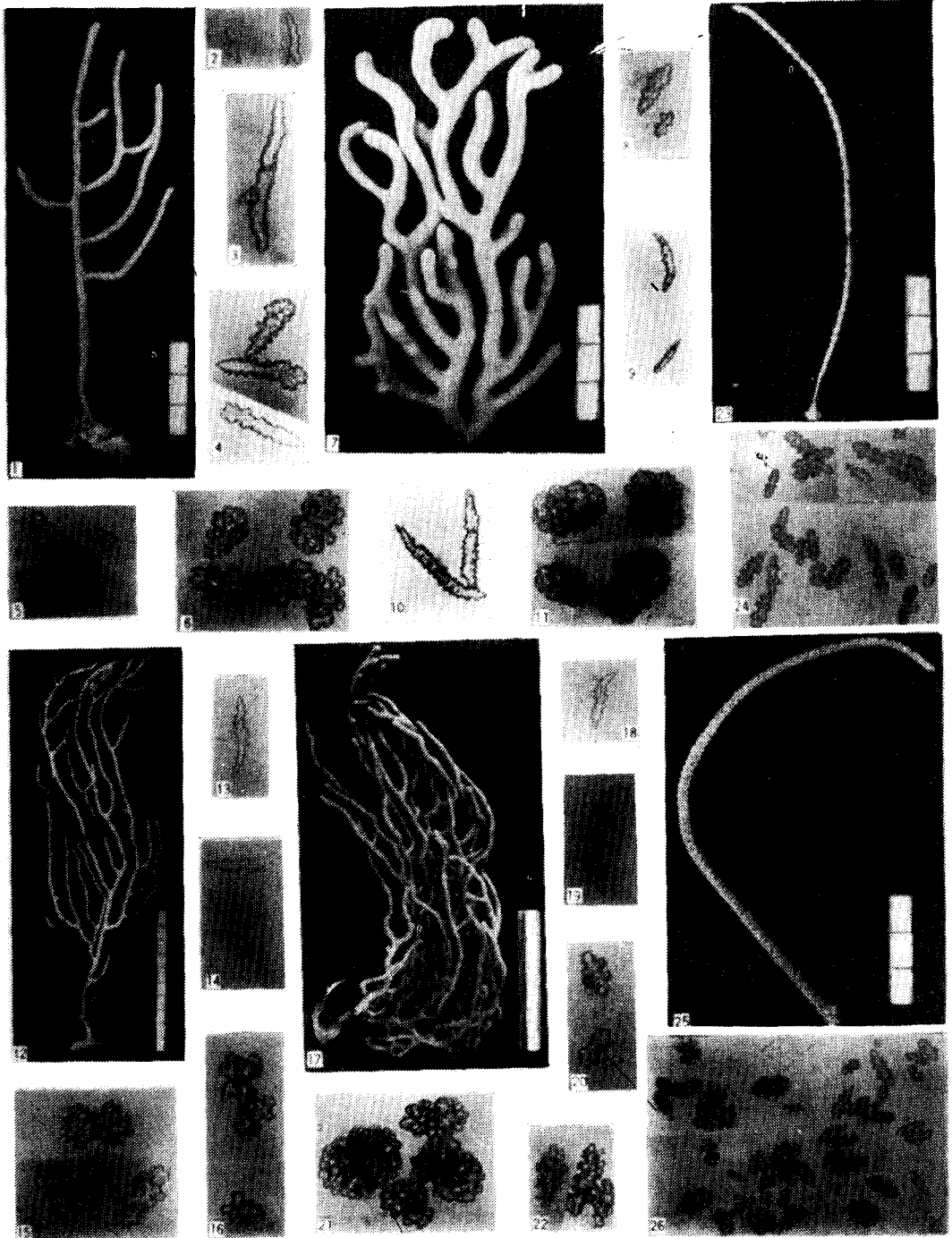


Plate 2

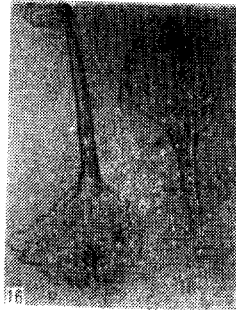
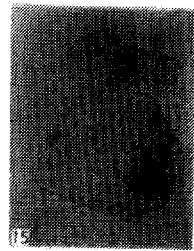
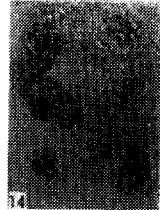
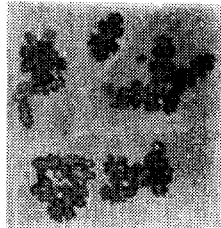
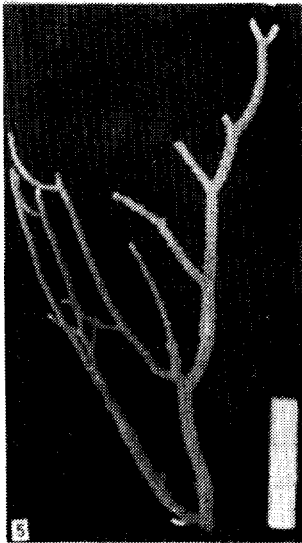
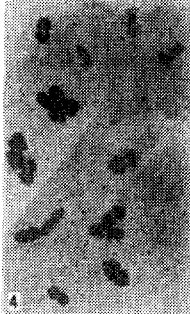
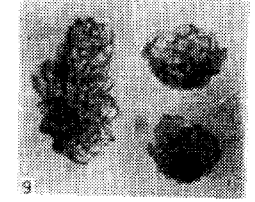
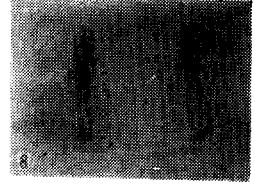
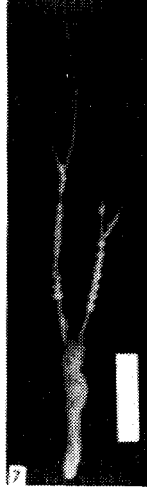
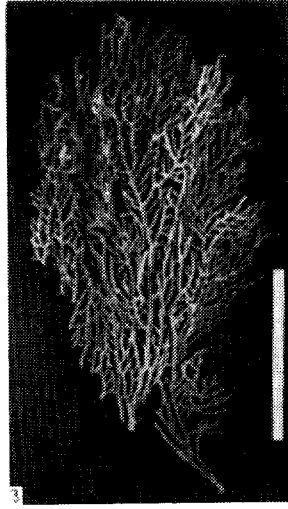
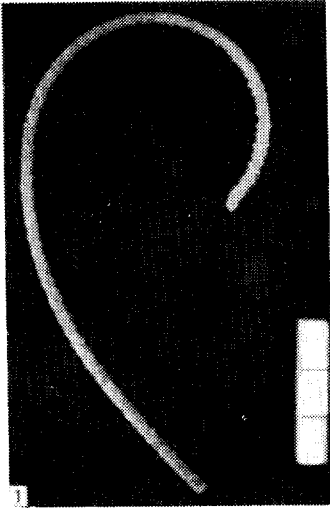




Plate 3

