

Measurements of spicules (μ): Megascleres

- a) Large oxeas.....2000-2500×20-45
 b) Small oxeas.....200×4
 c) Dichotriaenesrabdome 2500-3000×50
 clad 200-300
 d) Orthotriaenes.....rabdome 2500-3000×50
 clad 200-300
 e) Plagiotriaenes.....rabdome 2500-3000
 clad 200
 f) Large anatriaenesrabdome 6000×12
 clad 70
 g) Small anatriaenesrabdome 3000×8
 clad 3

Microscleres

- a) Sterrasters.....80-100×50-30
 b) Large oxyaster.....120
 c) Small oxyaster.....30-50
 d) Sphaerasters.....30
 e) Strongylaster6-8

Distribution: Korea(Korea Strait, Jeju Isl.), Japan(Yogashima), North Pacific Ocean.

2. *Geodia japonica* (Sollas, 1888) 왜조디아해면 (Pl. 2, figs. 1-4)

Cydonium japonicum Sollas, 1888, p. 256.

Geodia japonica: Thiele, 1898, p. 7, pl. 2, fig. 1, pl. 6, fig. 3; Lendenfeld, 1903, pp. 111-112.

Material examined: Seogwipo, Nov. 30, 1978.

Description: This sponge is like cup shape, which has many round protuberance. Measures 17×15cm in dimension. The colour in life is light yellow, texture is hard. The surface has pores and oscules. Many spicules look like hair. The cortex has a hard layer of sterrasters, 1mm thick.

Measurements of spicules (μ): Megascleres

- a) Large oxeas.....2000-2500×45
 b) Small oxeas.....200
 c) Orthotriaenesrabdome 2500-2700×75-85
 clad 200-300
 d) Anatriaenes.....rabdome 2500
 clad 80

Microscleres

- a) Sterrasters75-90

- b) Oxyasters.....14-30
 c) Sphaerasters.....4-5

Distribution: Korea(Jeju Isl.), Japan(Sagami Bay, Enoshima).

3. *Geodia reniformis* Thiele, 1898 일조디아해면 (Pl. 3, figs. 1-6)

Geodia reniformis Thiele, 1898, p. 9, pl. 1, fig. 3, pl. 6, fig. 5.

Geodia reniformis: Lendenfeld, 1903, p. 108

Material examined: Seogwipo, Feb. 7, 1971.

Description: This sponge is a massive, subspherical to reniform in shape. The convex surface has many pores. Measures 13×10×5cm in dimension. The colour in alcohol is pale yellow, texture is hard and incompressible. The surface of the sponge looks smooth but rough to the touch owing to the projecting pile of cortical oxea. The cortex has a thick layer of sterrasters, 1.5mm in extent.

Measurements of spicules (μ): Megascleres

- a) Large oxeas.....4000×56
 b) Small oxeas.....250-280×5
 c) Orthotriaenes4000-5000×80
 d) Protriaenes3000-4000
 e) Anatriaenes6000
- Microscleres
- a) Sterrasters120×90
 b) Large oxyasters.....40-60
 c) Small oxyasters.....16-25
 d) Sphaerasters14
 e) Pycnasters5

Distribution: Korea(Jeju Isl.), Japan(Sagami Bay, Enoshima).

4. *Geodinella cylindrica* (Thiele, 1898) 기둥조디아해면 (Pl. 4, figs. 1-3)

Geodia cylindrica Thiele, 1898, p. 12, pl. 1, fig. 2, pl. 6, fig. 9.

Geodinella cylindrica: Lendenfeld, 1903, p. 117; Tanita, 1978, p. 236, pl. 1, fig. 4, text-fig. 2.

Material examined: Ulreung I., July 23, 1976.

Description: This sponge is irregularly long tuberos in shape and measures 70×5 mm in dimension. The lower part of the long tube is bulkier than the upper part. The colour of the surface is light brown or paly yellow, texture is hard and incompressible. The surface of the sponge is smooth, without hispidation. The cortex is about 0.5 mm thick and occupied by a layer of sterrasters.

Measurements of spicules(μ): Megascleres

- a) Oxeas.....1200-1400 \times 25-30
 b) Reduced triaenes.....rabdome 1200-1400
 clad small

Microscleres

- a) Sterrasters120-140
 b) Strongylasters5-7

Distribution: Korea(East Sea), Japan(Sagami Bay, Enoshima).

5. *Geodinella hyotania* Tanita, 1965 효란조디넨라해면 (Pl. 4, figs. 4-7)

Geodinella hyotania Tanita, 1965, p.53, pl.3, fig. 13, text-fig. 7.

Material examined: Chugsan, April 25, 1976.

Description: This sponge is an irregularly, elongated broken mass and measures 6 \times 6 \times 2 cm in dimension. The colour is nearly white with brownish spots but that of the inner is dirty brown. The texture is very hard owing to the thick cortex of sterrasters. The surface is smooth.

Measurements of spicules(μ): Megascleres

- a) Oxea1300-3500 \times 35-45
 b) Style1400-2000 \times 56

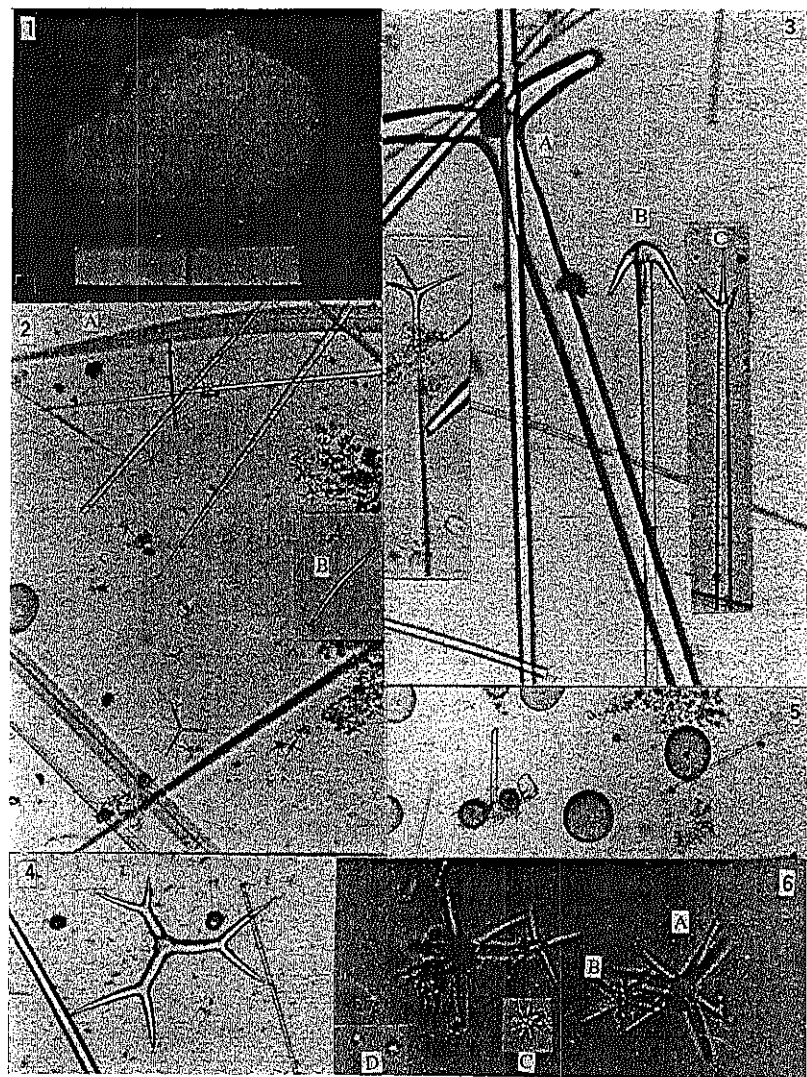
Microscleres

- a) Sterrasters.....130
 b) Sphaerasters.....13-26

Distribution: Korea(East Sea), Japan(Sado Isl.).

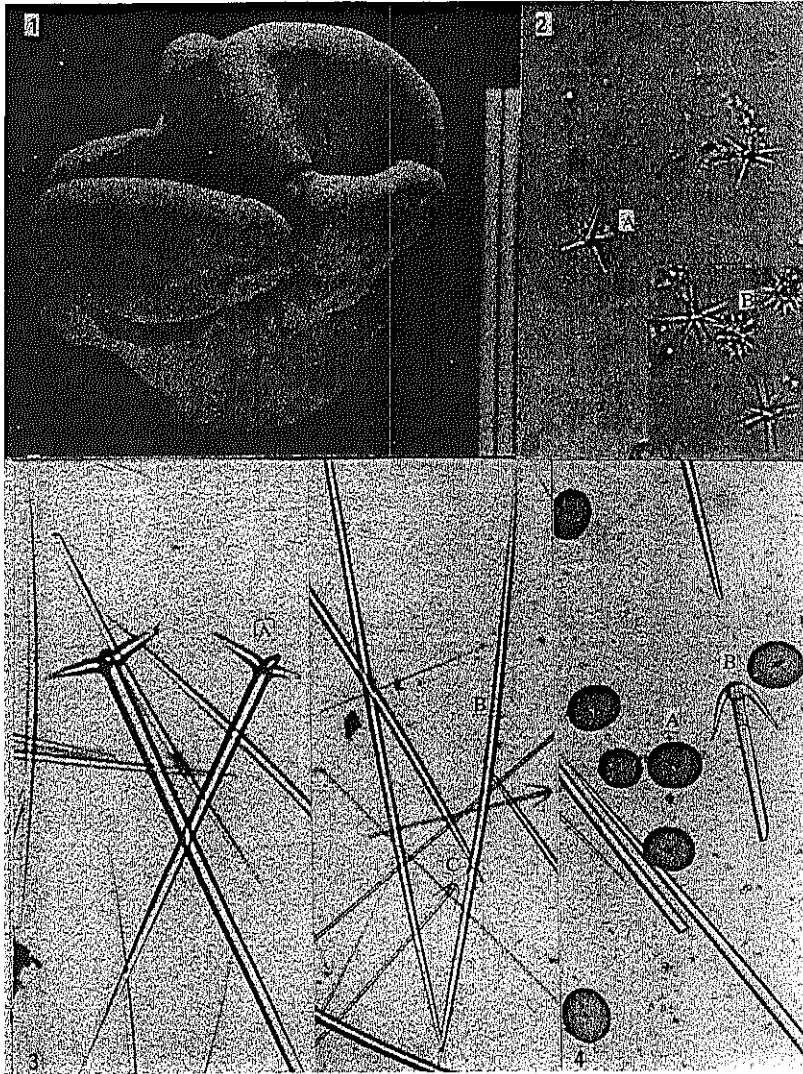
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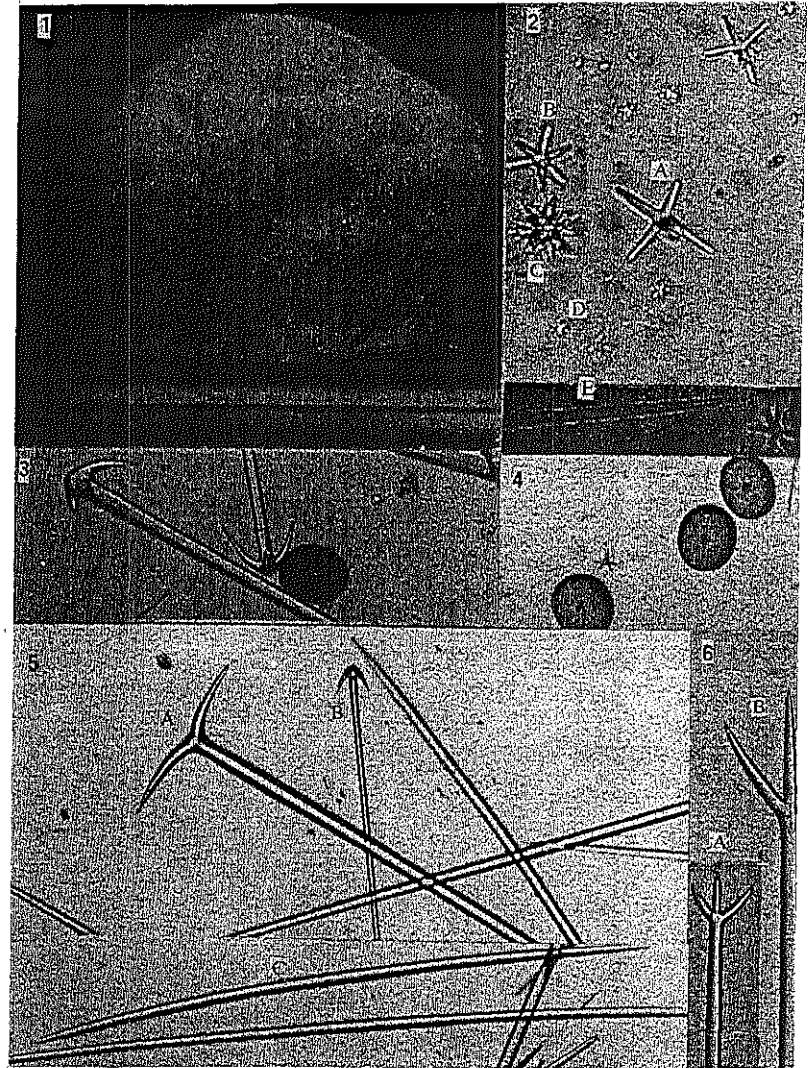


Figs. 1-6. *Geodia variospiculosa* Thiele, 1898

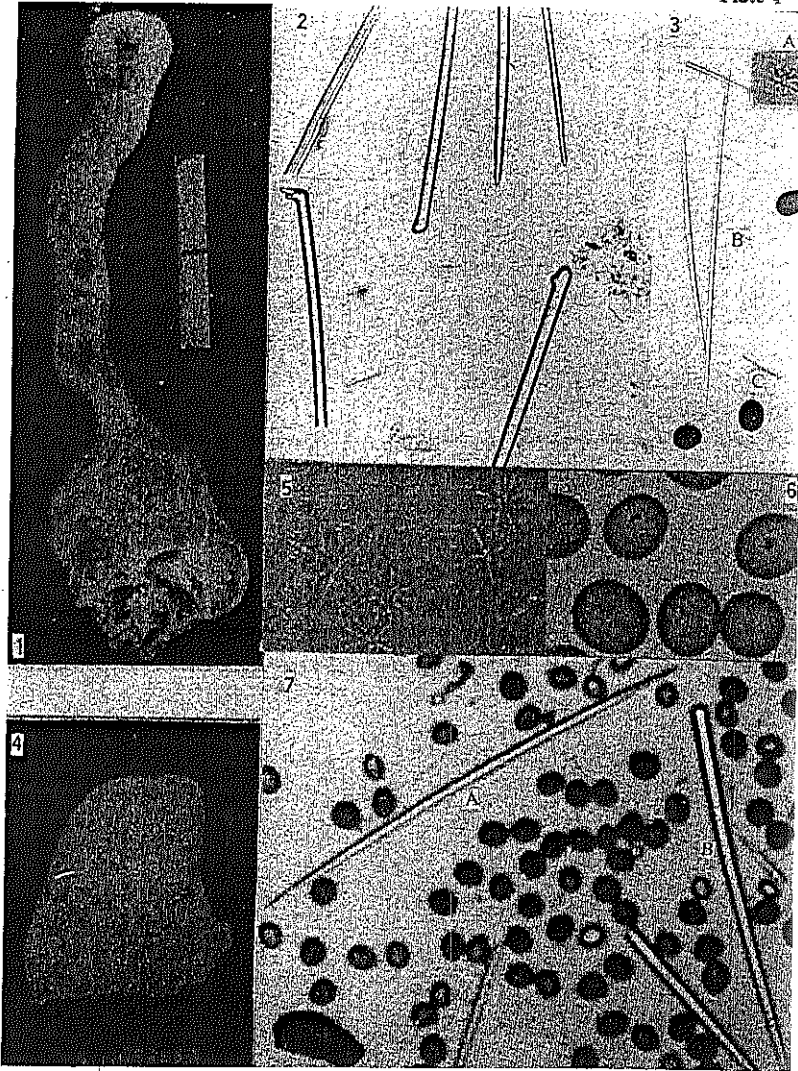
1. Entire animal 2. A. Large oxea, B. Small oxea, \times 100 3. A. Plagiotriaene, B. Anatriaene, C. Protriaene, \times 40 4. Dichotriaene, \times 40 5. Sterrasters, \times 100 6. A. Large oxyaster; B. Small oxyaster, C. Sphaeraster, D. Pycnaster, \times 450.

Figs. 1-4. *Geodia japonica* (Sollas, 1888)

1. Entire animal 2. A. Oxyaster, B. Sphaeraster, $\times 450$ 3. A. Orthotriaene, B. Oxea, $\times 40$ 4. A. Sterraster, B. Anatriaen, $\times 100$.

Figs. 1-6. *Geodia reniformis* Thiele, 1898

1. Entire animal 2. A. Large oxyaster, B. Small oxyaster, C. Sphaeraster, D. Pyncaster, E. Small oxea, $\times 450$ 3. Anatriaen, $\times 100$ 4. Sterraster, $\times 100$ 5. A. Orthotriaene, B. Anatriaen, $\times 40$ 6. A. Protriaene, B. Abnormal triaen, $\times 100$.



Figs. 1-3. *Geodinella cylindrica* (Thiele, 1898)

1. Entire animal 2. Reduced triaene, $\times 100$ 3. A. Pycnaster, $\times 450$, B. Oxea, $\times 40$, C. Sterraster, $\times 40$.

Figs. 4-7. *Geodinella hyotania* Tanita, 1965

4. Entire animal 5. Sphaerasters, $\times 450$ 6. Sterrasters, $\times 100$ 7. A. Oxea, B. Style, $\times 40$.

發情週期에 따른 Guinea Pig의 子宮內膜 表層上皮細胞의
微細構造 및 細胞化學的 研究

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Ultrastructural and Cytochemical Studies on the Endometrial
Surface Epithelial Cells of Guinea Pig During Estrous Cycle

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SUMMARY

Cyclical changes in the fine structures of the surface epithelial, stroma and glandular cells of guinea pig endometrium during the estrous cycle were studied by transmission and scanning electron microscopy. Cytochemical studies were made in order to investigate the ultrastructural localization of the acid phosphatase, alkaline phosphatase and ATPase in these cells.

The results obtained are as follows:

1. The endometrial surface epithelium was pseudostratified columnar during estrus and metestrus, and simple columnar during proestrus and diestrus. The characteristic features observed in these cells include increased nucleocytoplasmic ratio at proestrus, elongated shapes of both the nucleus and the entire cell, increased volume of the cytoplasm and cytoplasmic bulging into the lumen during estrus, and smaller surface epithelial cells during metestrus.
2. In the cytoplasm of surface epithelial cells, the numbers of mitochondria and free ribosomes were increased, and rough endoplasmic reticulum and Golgi complex appeared during estrus, and the degenerated cells, lipid droplets, multilamellated bodies and lysosomes appeared during diestrus.
3. During estrus; scanning electron microscopic observations of endometrial

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