Two Marine Sponges of the Family Ancorinidae (Demospongiae: Astrophorida) from Korea

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ABSTRACT

Two sponges, Stelletta subtilis (Sollas, 1886) and Stryphnus sollasi n. sp., were collected from depth of 24–30 m at Jeju-do Island and Chuja-do Island by SCUBA diving from July 2003 to June 2010. The new species Stryphnus sollasi n. sp is similar with Stryphnus niger Sollas, 1886 in the composition of spicules, however they differ in colour and spicule size. This new species has smaller oxeas and larger oxyasters than those of S. niger. This new species has two size categories of oxyaster but S. niger has one size category of oxyaster. The colour of S. sollasi n. sp is white, but the latter puce black. Stelletta subtilis (Sollas, 1886) is first recorded in Korean fauna.

Keywords: Stelletta, Stryphnus, Ancorinidae, new species, Korea

INTRODUCTION

The genera Stelletta Schmidt, 1862 and Stryphnus Sollas, 1886 are contained in the family Ancorinidae. This family is characterized by the long-rhabdome triaenes and oxeas as megascleres and euasters, sanidasters or microrhabds as microscleres. The genus Stelletta is characterized by presence of long-shafted triaenes as megascleres and euasters without marked centrum as microscleres. Twelve Stelletta species have been reported in Korean waters so far (Shim and Sim, 2009). The genus Stryphnus, which was first recorded in Korea is characterized by the presence of large oxeas and orthotriaenes, plagiotriaenes or dichotriaenes as megascleres, and euasters and amphiators or sandiators as microscleres (Hooper and van Soest, 2002). According to the World Porifera Database (WPD, http://www.marinespecies.org/porifera/), fifteen species of the genus Stryphnus are reported from the world.

MATERIALS AND METHODS

Specimens were collected from a depth of 24–30 m at Jeju-do and Chuja-do by SCUBA diving from July 2003 to June 2010. A holotype has been deposited in the National Institute of Biological Resources (NIBR), Incheon, Korea, and para- types have been deposited in the Natural History Museum of Hannam University (HUNHN). The colour and texture were described before preservation. Identification was based on the morphological characteristics, skeletal structure, shape and size of spicules. Skeletal structure and spicules were examined by using microscopy and scanning electron microscopy. The length and width of 20 spicules were measured for each spicules type. The procedure of dissociating spicules followed Rützler (1978).

SYSTEMATIC ACCOUNTS

Phylum Porifera Grant, 1836
Class Demospongiae Sollas, 1885
Subclass Tetractinomorpha Levi, 1953
Order Astrophorida Sollas, 1888
Family Ancorinidae Schmidt, 1870
Genus Stelletta Schmidt, 1862
Fig. 1. Stelletta subtilis. A, Entire animal; B, Skeleton; C, Cortex; D, Megasclere (a, oxea; b, anatriaene; c, dichotriaene); E, Head of dichotriaene; F, Head of anatriaene; G, H, Tylasters. Scale bars: A=5 mm, B=1 mm, C=500 μm, E=300 μm, F=50 μm, G=5 μm, H=10 μm.
Stelletta subtilis (Sollas, 1886) (Fig. 1)  


Description. Small round shape, 1.5 cm in diameters. Oscule only one, 1 mm in diameter, opened at center of sponge. Surface covered with pores like sieves. Texture hard and incompressible. Colour pale pink in life, beige in alcohol. Skeleton hard to distinguish between cortex and choanosome. Radially arranged with bundles of oxeas, dichotriaenes and anatriaenes. Clads of dichotriaenes and anatriaenes run toward surface. Tylasters scattered in sponge.

Spicules. Megasclere oxeas sharply pointed ends, 1,490–2,360 by 12–40 μm. Anatriaenes rhabds sharply pointed clads, rhabds 1,580–2,260 by 10–14 μm, clads 50–80 by 8–12 μm. Dichotriaenes sharply pointed clads, rhabds 960–2,100 by 28–60 μm, clads 140–340 μm. Microscleres tylasters, 12–24 spined rays, spines at the ends, 7–10 μm dia-

Fig. 2. Stryphnus sollasi n. sp. A, Entire animals (arrow); B, Skeleton (S. chujaensis n. sp. is showing under arrow) C, Magnification showing the amphirasters; D, Oxea. Scale bars: A=2 cm, B=1 mm, C=100 μm, D=500 μm.
**Genus Stryphnus** Sollas, 1886

**Stryphnus sollasi** n. sp. (Figs. 2, 3)

**Type specimen.** Holotype (NIBRIV0000260248), Jeolmyeonggyeo, Chuja-do, 23 May 2005, Lee KJ, by SCUBA 30 m depth, deposited in the NIBR. Paratype (NIBRIV0000260248-1, NIBRIV0000260248-2), collected with holotype, deposited in the HUNHN.

**Description.** Massive shape, size up to 8 × 6.5 × 4.5 cm. Surface completely covered with *Poecillastra* sp. Oscule not apparent due to other sponge, *Poecillastra* sp. Texture compressible. Colour externally unknown due to *Poecillastra* sp. at surface, internally white. Cortex 2 mm in thick, clads of dichotriaenes and amphirasters arranged. Choanosome oxeas, rhabds of dichotriaenes and oxyasters scattered. Several cavities, 1–3 mm in diameters scattered in sponge.


**Etymology.** This species is named after Professor W. J. Sollas who erected the genus *stryphnus*.

**Remarks.** This new species is similar to *Stryphnus niger* Sollas, 1886 in the composition of spicules, however they differ in colour and spicule size. This new species has smaller oxeas and larger oxyasters than those of *S. niger*. This new species has two size categories of oxyasters but *S. niger* has one size category of oxyasters. The colour of *S. sollasi* n. sp. is white, but the latter puce black.

**Fig. 3. Stryphnus sollasi** n. sp. A, Dichotriaene, B, Oxyaster; C, D, Amphirasters. Scale bars: A=500 μm, B=50 μm, C, D=10 μm.

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Korean name: 1*수렴해면속 (신칭), 2*솔라스수렴해면 (신칭)
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REFERENCES


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