

# A New Species of Genus *Cinachyrella* (Spirophorida: Tetillidae) from Korea

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## ABSTRACT

A new marine sponge *Cinachyrella unjinensis* n. sp. has been collected from Jeju Island in 2009. This new species is similar to *C. kuekenthali* (Uliczka, 1929) in the shape and composition of the spicules except for style. However, it differs from the latter by size of anatriaenes, protriaenes and microxeas.

**Keywords:** new species, *Cinachyrella*, sponge, Korea

## INTRODUCTION

The family Tetillidae contains eight valid genera: *Acanthotetilla*, *Amphitethya*, *Cinachyra*, *Cinachyrella*, *Craniella*, *Fangophilina*, *Paratetilla* and *Tetilla* (Hooper and van Soest, 2002). In previous studies, only five species of *Craniella* and *Tetilla* have been reported from Korean waters (Rho and Sim, 1972; Rho and Sim, 1979, 1981; Sim and Kim, 1995). The genus *Cinachyrella* is hardly distinguished from the other sponges belonging to Tetillidae, because they have similar spicules. It is characterized by morphologically undifferentiated porocalices and no cortical specialization. This genus containing approximately forty three species worldwide, but it is newly reported from Korea in this study.

The specimens examined in this work were collected at 20-25 m depth in front of Moseulpo, Jeju Island in Korea by SCUBA diving. All procedures were followed the methods of Rützler (1978), and Kim and Sim (2005). Type specimens are deposited in the Natural History Museum, Hannam University (HUNHM).

## SYSTEMATIC ACCOUNTS

Phylum Porifera Grant, 1836  
Class Demospongiae Sollas, 1885  
Subclass Tetractinomorpha Levi, 1953  
Order Spirophorida Berquist and Hogg, 1969  
Family Tetillidae Sollas, 1886

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<sup>1</sup>\*Genus *Cinachyrella* Wilson, 1925

<sup>2</sup>\**Cinachyrella unjinensis* n. sp. (Figs. 1, 2)

**Material examined.** Holotype (Por. 101), Paratype (Por. 101-1), Unjin-harbor, Mosulpo, Daejeong-eup, Seogwipo-si, Jeju-do Island, 2. Apr. 2009 (S.E. Mun), by SCUBA diving at 20-25 m depth, deposited in HUNHM, Korea.

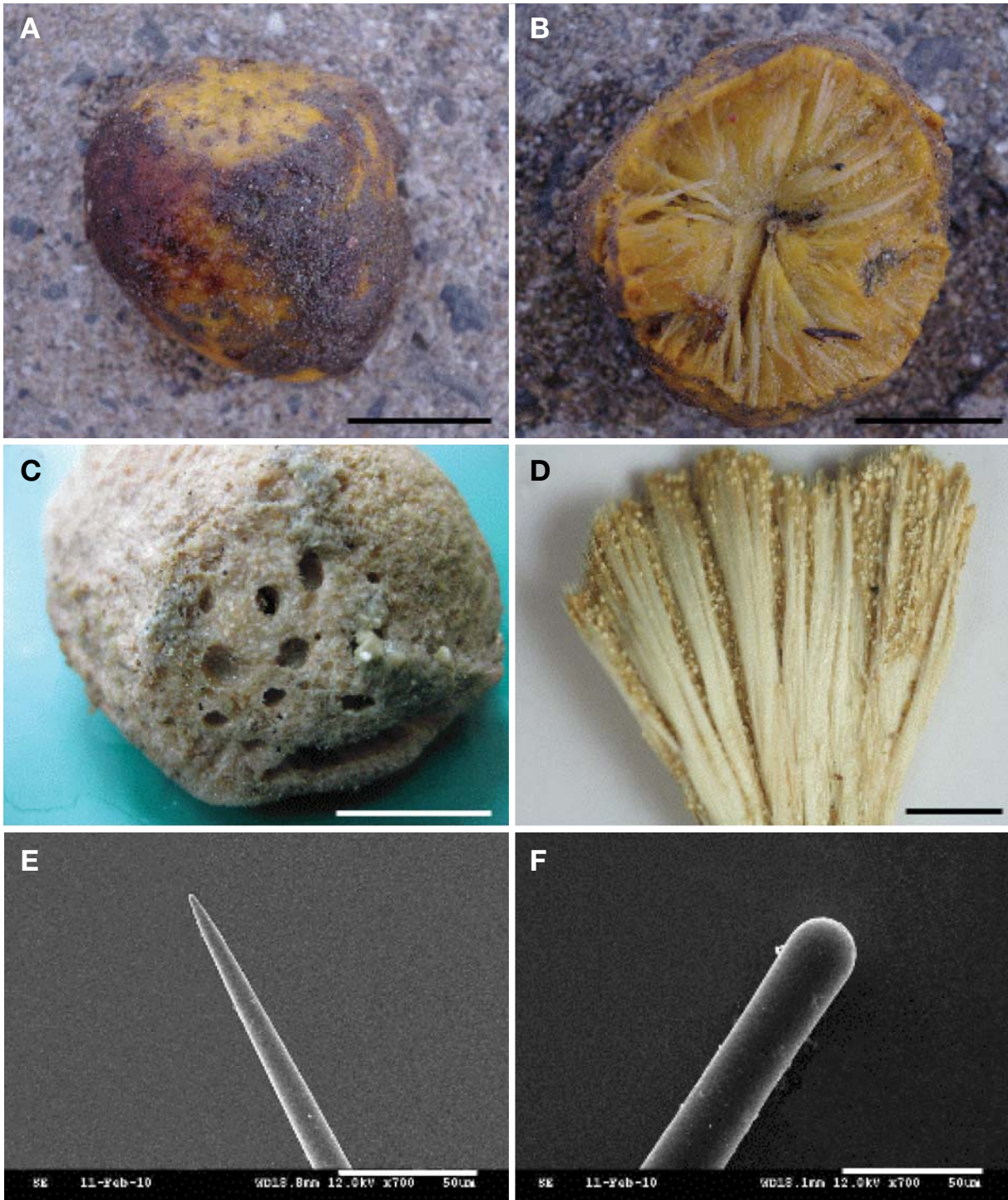
**Description.** Sponge subspherical or globular shape, size up to 6 × 5 × 2.3 cm. Surface hispid due to projecting megascleres, covered with mud and partially scattered porocalices 1-4 mm in diameter. Texture hard and incompressible. Colour yellow internally, partially purple in surface in life, gradually changed beige in alcohol. Skeleton arranged with radial tracts of oxeas, styles, protriaenes and anatriaenes, sigmaspires and microxeas attached spongin membrane. Bundles of megasclere covered with spongin membrane.

**Spicules.** Oxeas in two size categories, thin oxeas 1,160-2,400 by 8-12 μm and thick oxeas 1,940-3,600 by 28-50 μm. Styles less rare, 1,320-3,100 by 20-50 μm. Protriaenes rhabds 2,620-3,960 by 6-10 μm, clads 50-140 μm. Anatriaenes rhabds 2,020-4,000 by 8-10 μm, clads 30-70 μm. Microxeas almost straight and slightly curved with fine spines, 90-130 μm. Sigmaspires c- and s- shape with fine spines, 10-12 μm.

**Etymology.** The species is named after the type locality, Unjin harbor, Mosulpo, Seogwipo-si, Jeju-do Island.

**Remarks.** This new species is similar to *C. kuekenthali* in its shape and composition of spicules except for style. But it has larger protriaenes, anatriaenes and microxeas than those of *C. kuekenthali* collected from Caribbean. Especially, some clads of protriaenes and anatriaenes from this new species are approximately twice to three times as long as those of *C.*

<sup>1</sup>\*시나키렐라해면속 (신칭), <sup>2</sup>\*운진시나키렐라해면 (신칭)

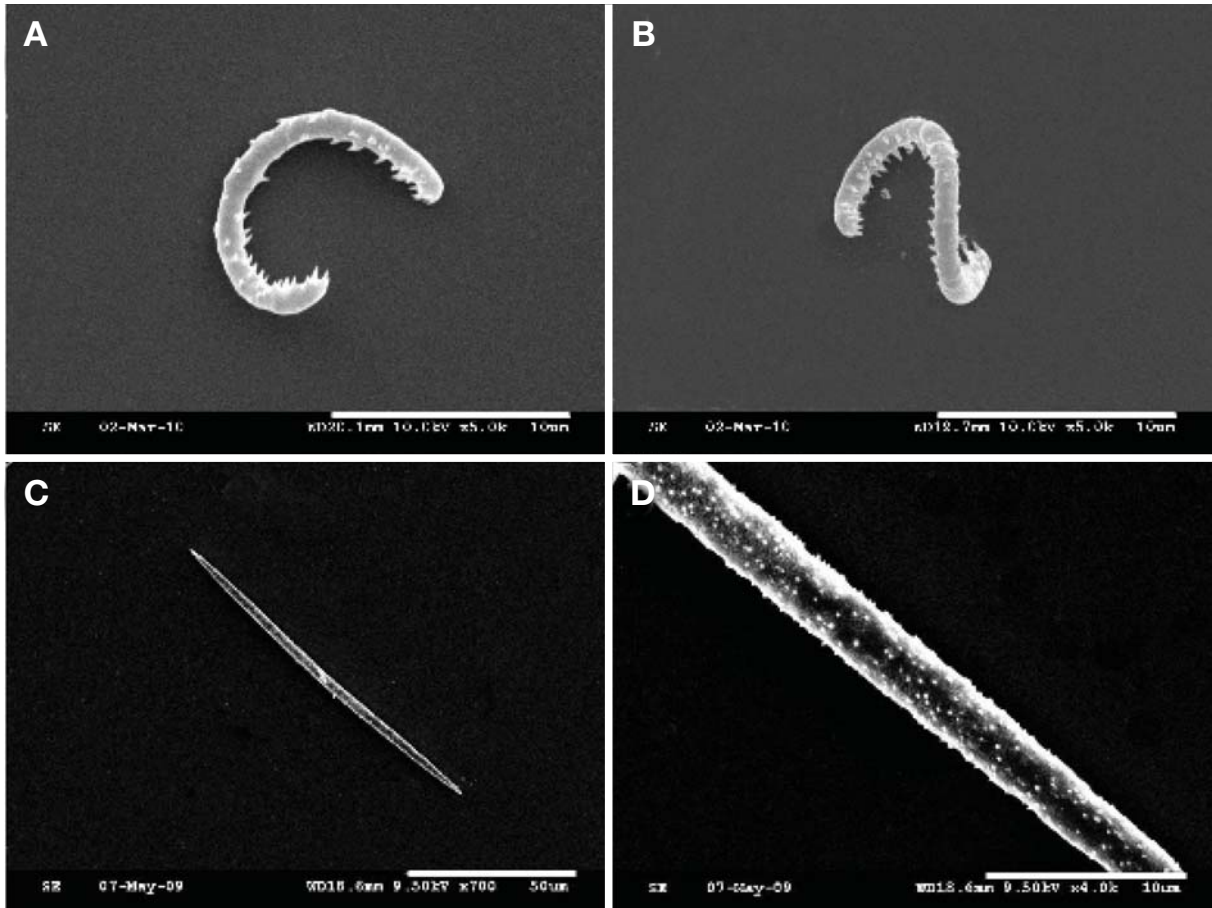


**Fig. 1.** *Cinachyrella unjinensis* n. sp. A, entire animal (upper); B, entire animal (lower); C, porocalices preserved in alcohol; D, radial tracts of megascleres; E, end of style; F, end of oxea. Scale bars=3 cm (A, B), 2 cm (C), 1 mm (F), 500  $\mu$ m (D), 50  $\mu$ m (E).

*kuekenthali* and thickness of clads in anatriaenes twice as thick as that. It has many separated bundles of megascleres including oxea and style.

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**Fig. 2.** *Cinachyrella unjinensis* n. sp. A, c-shape of sigma spire; B, s-shape of sigma spire; C, microxea; D, surface of microxea. Scale bars=50 µm (C), 10 µm (A, B, D).

**Table 1.** The comparison of spicules between *C. unjinensis* n. sp. and *C. kuekenthali*.

Spicules (µm)	Species	
	<i>C. unjinensis</i> n. sp.	<i>C. kuekenthali</i>
oxeas	thin: 1,160-2,400 × 8-12 thick: 1,940-3,600 × 28-50	2,000-3,000 × 8-40
styles	1,320-3,100 × 20-50	—
protriaenes	rhabds 2,620-3,960 × 6-10 clads 50-140	rhabds 1,700-2,600 × 5-7 clads 52
anatriaenes	rhabds 2,020-4,000 × 8-10 clads 30-70	rhabds 960-1,560 × 3-4 clads : 10-20
microxeas	90-130	55-65
sigmaspires	10-12	10-18

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