

## A New Species of the Genus *Caminus* (Astroporida: Geodiidae) from Korea

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### ABSTRACT

*Caminus jejuensis* n. sp was collected from depth of 20 m at Geomeunyeo, Seogwipo, Jeju Island by a SCUBA diving from April 2004 to December 2008. This new species is similar to *C. chinensis* from China in the composition of spicules except for the spherasters and they differ in spicule size and growth form. This species has longer orthotriaenes and spherules, smaller sterrasters and oxyasters than those of *C. chinensis*. This species also has many spherasters in choanosome, but *C. chinensis* lacks. Moreover, the new species is a massive shape with wrinkles, whereas *C. chinensis* is a club shape with smooth surface. Description and figures of the new species are provided.

**Keywords:** Geodiidae, *Caminus*, new species, Jeju Island, Korea

### INTRODUCTION

The genus *Caminus* within family Geodiidae has a single article oscule at the top of the sponge body, and sievelike inhalant pores. The megascleres are consisted of oxeas, strongyles and orthotriaenes. And also, the microscleres composed of subspherical sterrasters and spherules in cortex and oxyasters in choanosome (Hooper and van Soest, 2002). Up to now, 5 species have been reported in the world (Schmidt, 1862; Sollas, 1886; Lindgren, 1897; Tanita, 1969; Pulitzer-Finali, 1996). Among them, only one species has been reported from the Korean waters (Sim and Byeon, 1991).

Specimens were collected from depth of 20 m at Jeju Island by a SCUBA diving from April 2004 to December 2008. They were preserved in 95% ethanol and then deposited in the Natural History Museum of Hannam University (HUNHM). 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 (SEM). Length and width of 20 spi-

cles were measured for each spicule type. Procedure of dissociated spicules followed Rützler (1978).

### SYSTEMATIC ACCOUNTS

Order Astrophorida Sollas, 1888

Family Geodiidae Gray, 1867

Genus *Caminus* Schmidt, 1862

<sup>1</sup>\**Caminus jejuensis* n. sp (Table 1, Figs. 1, 2)

**Type specimen.** Korea: Holotype (Por. 108), Geomeunyeo, Seogwipo, Jeju Island, 16 Apr 2004, Lee KJ, by SCUBA diving at 20 m deep, HUNHN. Paratype (Por. 108-1, 108-2), Geomeunyeo, Seogwipo, Jeju Island, 19 Dec 2008, Kim BI, by SCUBA diving at 20 m deep, HUNHM.

**Description.** Massive shape with thick wrinkles, sized up to 5 × 4 × 3.5 cm. Oscule 1-3 mm diameters, rarely scattered. Surface wrinkles. Texture very hard, due to a layer of sterrasters and spherules. Colour khaki in life, gradually changed

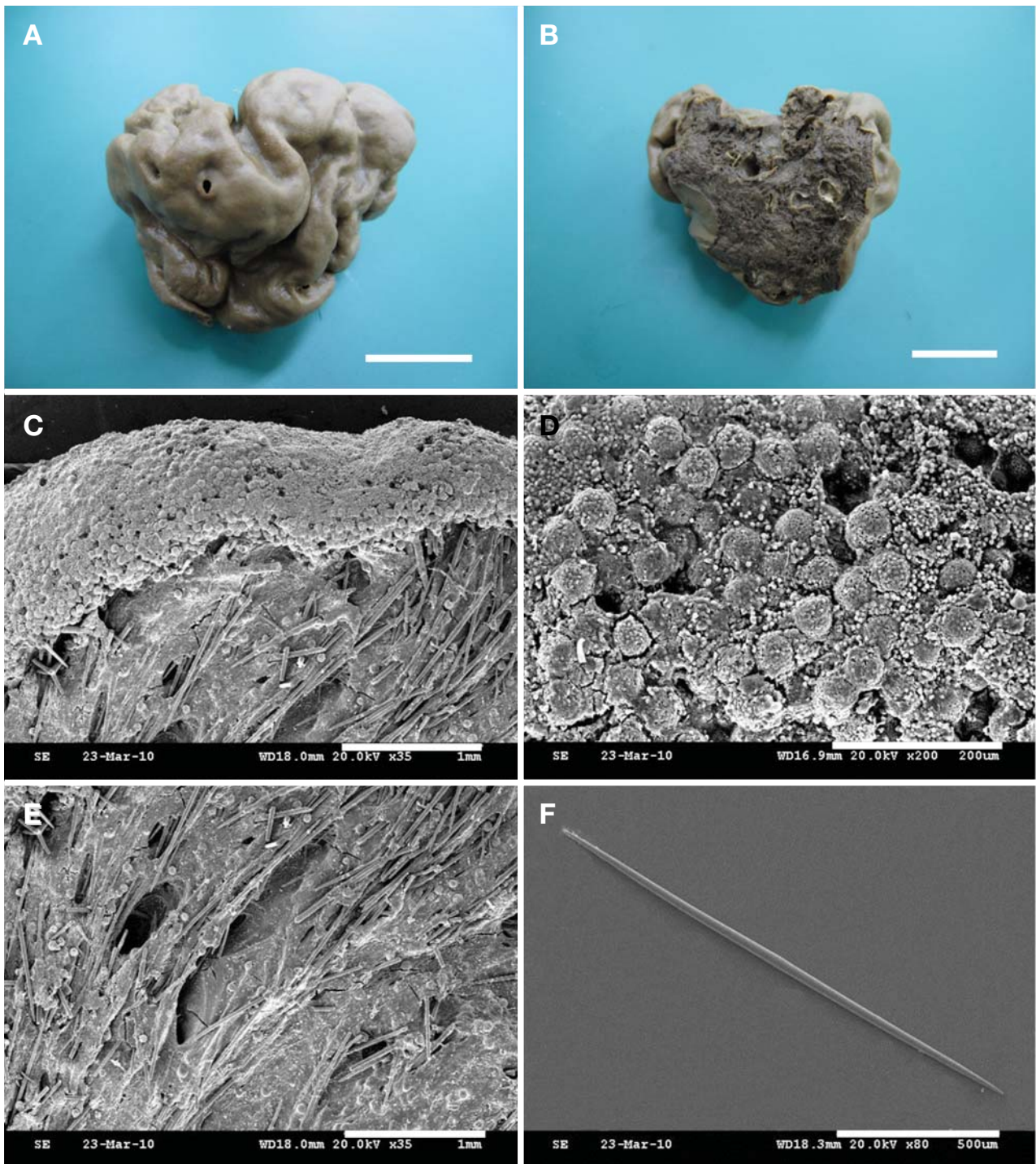
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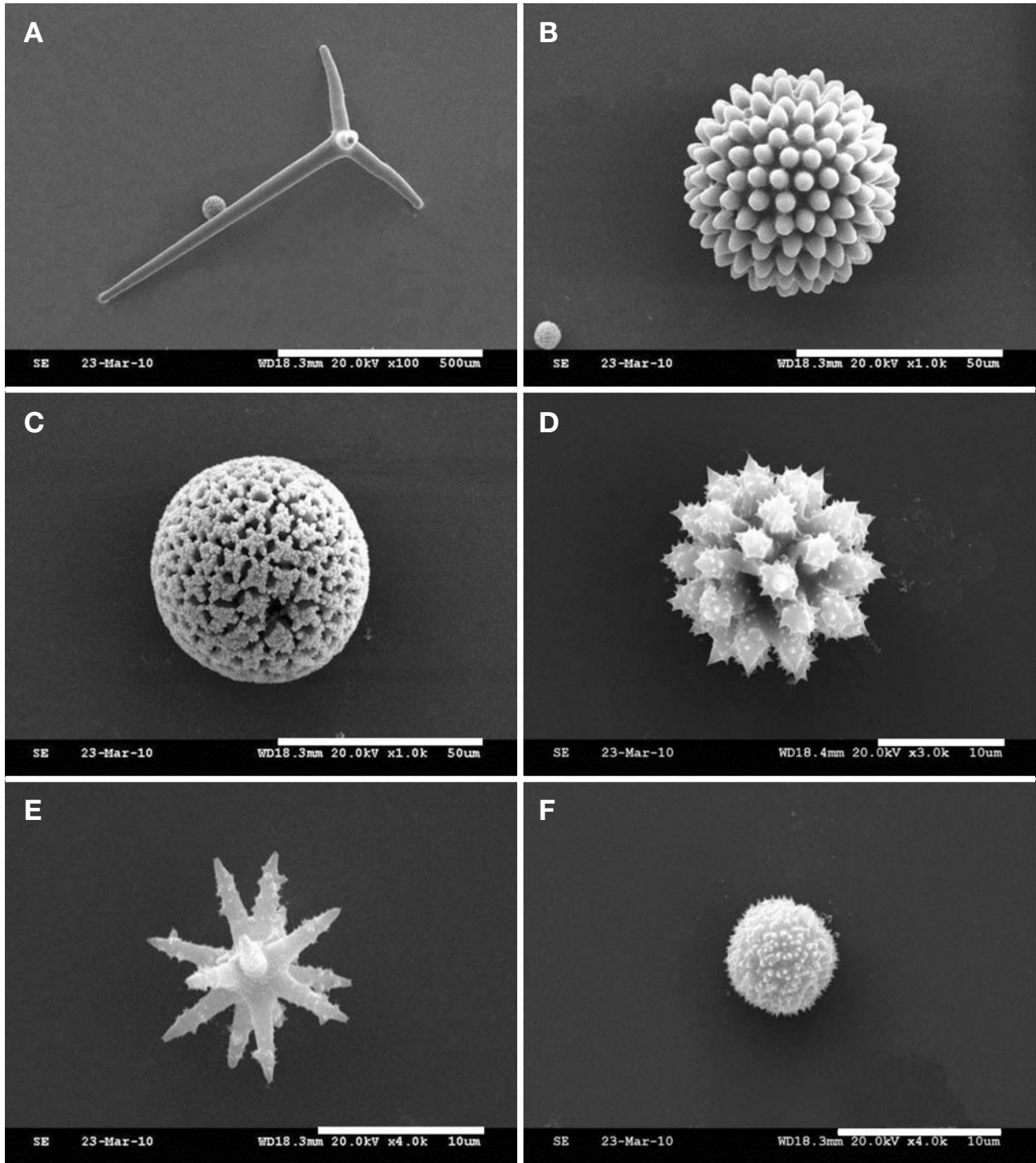


**Fig. 1.** *Caminus jejuensis* n. sp. A, Entire animal (upper); B, Entire animal (back); C, Skeleton; D, Cortex; E, Choanosome; F, Oxea. Scale bars: A, B=1 cm, C, E=1 mm, D=200  $\mu$ m, F=500  $\mu$ m.

to brown in alcohol. Cortex 1 mm thick, easily separated from choanosome, densely packed with sterrasters and spherules. Choanosome arranged with oxeas and orthotriaenes. Clads

of orthotriaenes faced to cortex and rhabds faced inwards. Oxyasters and spherasters scattered in sponge body.

Spicules. Megascleres oxeas and orthotriaenes. Microscleres



**Fig. 2.** *Caminus jejuensis* n. sp. A, Orthotriaene; B, C, Sterrasters; D, Spheraster; E, Oxyaster; F, Spherule. Scale bars: A=500  $\mu$ m, B, C=50  $\mu$ m, D-F=10  $\mu$ m.

res sterrasters, spherasters, oxyasters and spherules. Sterrasters round shaped with flat asterose and horn shaped projections at surface. Oxyasters and oxyaster spines at ray. Spherules

rules spines on surface.

**Etymology.** This species is named after the type locality, Jeju Island, Korea.

**Table 1.** Comparison of spicules between *Caminus jejuensis* n. sp. and *C. chinensis*

Spicules ( $\mu\text{m}$ )	Species	
	<i>C. jejuensis</i> n. sp	<i>C. chinensis</i>
Oxeas	840-1,500 $\times$ 10-30	720 $\times$ 24
Orthotriaenes	Rhabds 350-1,060 $\times$ 20-50 Clads 150-300	Rhabds 460-600 $\times$ 36 Clads 325-540
Sterrasters	40-60	136
Spherasters	15-23	–
Oxyasters	7-15	24-32
Spherules	4-10	2-5

**Remarks.** This new species is similar to *Caminus chinensis* from China (Lindgren, 1897) in the composition of spicules except for the spherasters. They differ in the spicule size and growth form. This species has longer orthotriaenes and spherules, smaller sterrasters and oxyasters than those of *C. chinensis*. This species also has many spherasters in choanosome, but *C. chinensis* lacks (Table 1). Moreover, the new species is a massive shape with wrinkles, whereas *C. chinensis* is a club shape with smooth surface.

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