Korean J. Syst. Zool. Vol. 25, No. 2: 179-181, July 2009

A New Species of the Family Halichondriidae (Demospongiae: Halichondrida) from Jeju-do Island, Korea

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ABSTRACT

A new species of the genus *Halichondria* (*Eumastia*) *maraensis* n. sp. (Demospongiae: Halichondrida: Halichondriidae) was collected from West Marado Island, Daejeong-eup, Seogwipo-si, Jeju-do Island, Korea during the period of Dec. 2006 to Feb. 2007 by a fishing net (60-80 m in depth). *Halichondria* (*E.*) *maraensis* n. sp. is similar to *H.* (*E.*) *sitiens* (Schmidt, 1870) in the type of the spicules. However they differ in spicules size and conical fistules at the surface. Oxeas of the new species are smaller and thicker than those of *H.* (*E.*) *sitiens*. Surface conules of the new species is not transparent, and has no oscules at the terminal short conules but *H.* (*E.*) *sitiens* has hollow papillae and terminal oscules.

Key words: *Halichondria* (*Eumastia*), new species, sponge, Korea

INTRODUCTION

The family Halichondriidae are widely distributed and live mainly in shallow coastal waters but a few species have also reported from depth 500 m. The major morphological characters distinguishing this group from related sponges are the thoroughly confused arrangement of the choanosomal megascleres (oxeas, styles) usually coupled with differentiated ectosomal skeleton. It consists of 11 genera, *Axinyssa*, *Amorphinopsis*, *Ciocalapata*, *Ciocalypta*, *Epipolasis*, *Hymeniacidoan*, *Halichondria*, *Laminospongia*, *Spongosorites*, *Topsentia* and *Vosmaeria*. Among them, the genus *Halichondria* has a tangential ectosomal skeleton carried by subectosomal spicule tracts, separated by subdermal spaces. Megascleres are exclusively oxeas or derivates in a wide size range (Hooper and van Soest, 2002). About 110 species are distributed worldwide (Hooper and van Soest, 2002). Nine species of *Halichondria* have been reported from Korea waters (Kim et al., 1968; Rho and Lee, 1976; Kang and Sim, 2008a, b; Jeon and Sim, 2009). The genus *Halichondria* has two subgenera. The subgenus *Eumastia* with the short papillae is newly added in the Korean sponge fauna.

The materials used in this study were collected from West Marado Island, Daejeong-eup, Seogwipo-si, Jeju-do Island, Korea on 15 Dec. 2006 and 6 Feb. 2007, by a fishing net (60-80 m depth). The specimens collected followed the methods of Kang and Sim (2008b) and Rützler (1978). The specimens examined were deposited in the National History Museum, Hannam University (HUNHM), Daejeon, Korea.

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SYSTEMATIC ACCOUNTS

Phylum Porifera Grant, 1836
Class Demospongiae Sollas, 1885
Order Halichondrida Gray, 1867
Family Halichondriidae Gray, 1867
Genus *Halichondria* Fleming, 1828
Subgenus *Eumastia* Schmidt, 1870
[1]***Halichondria* (*Eumastia*) *maraensis* n. sp. (Fig. 1)**

Table 1. The comparison of characters between *H.* (*E.*) *maraensis* n. sp. and *H.* (*E.*) *sitiens*

Characters \ Species		*H.* (*E.*) *maraensis* n. sp.	*H.* (*E.*) *sitiens* (Schmidt, 1879)
Growth form		Massive-upright	Semi-globular cushion
Colour		Yellow	Yellow
Surface		Papillae solid, no terminal oscules	Papillae hollow, terminal oscules
Spicules (μm)	Oxea	140-260 × 5-9 630-1,075 × 8-35	360-1,020 × 7-20

[1]*마라해변해면 (신칭)

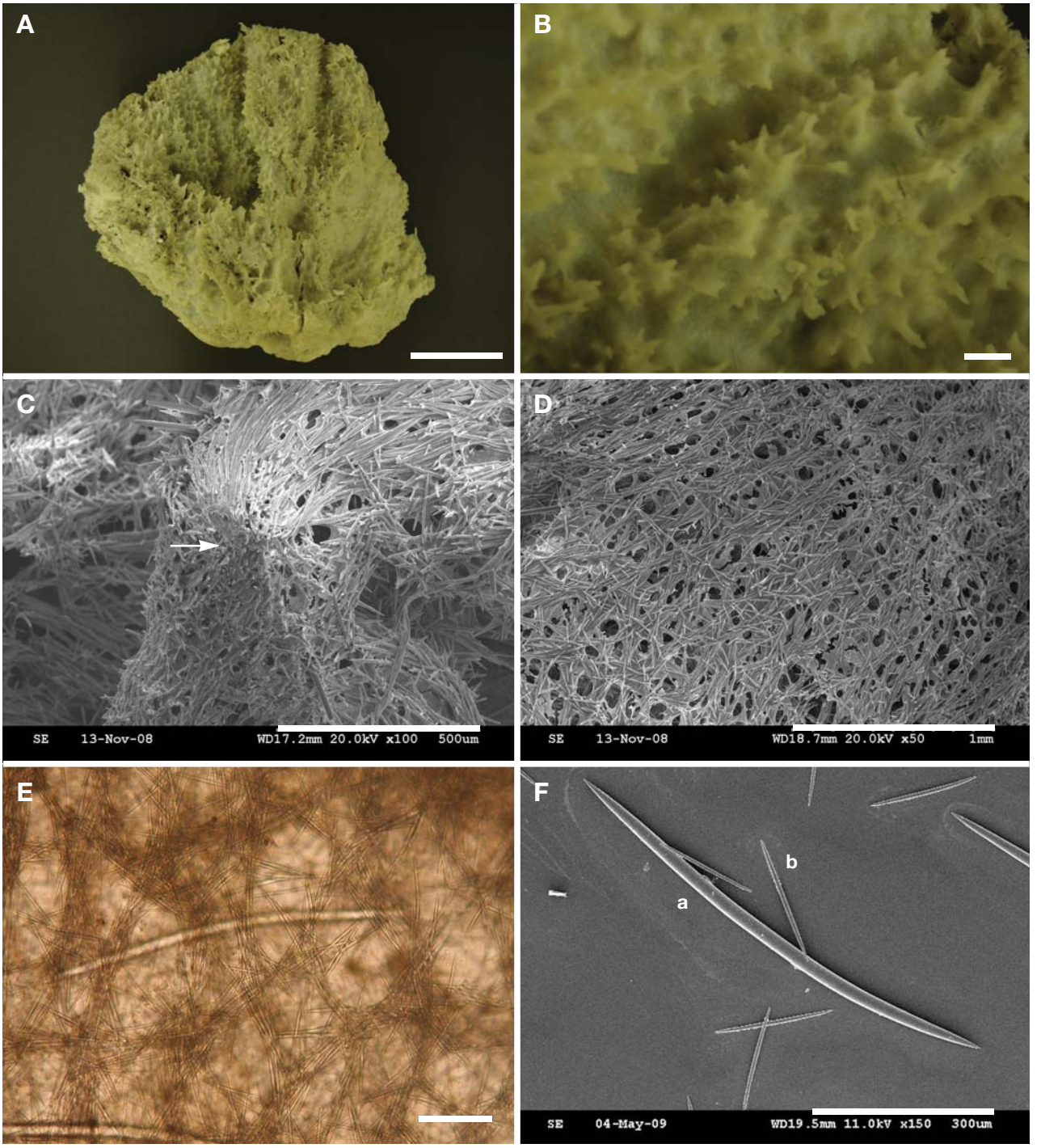

Fig. 1. *Halichondria* (*Eumastia*) *maraensis* n. sp. A, entire animal; B, conules; C, top of the conules (arrow); D-E, ectosomal skeleton; F, oxea (a, large oxea; b, small oxea). Scale bars=3 cm (A), 0.5 cm (B), 500 μm (C), 1 mm (D), 200 μm (E), 300 μm (F).

Material examined. Holotype (Por. 100), Paratyle (Por. 100-1), West Marado Island, Daejeong-eup, Seogwipo-si, Jeju-do Island, 15 Dec. 2006, by a fishing net (80 m depth). Paratype (100-2), West Marado Island, Daejeong-eup, Seogwipo-si, Jeju-do Island, 6 Feb. 2007, 60 m depth by a fishing net. Deposited in the HUNHM, Daejeon, Korea.

Description. This new sponge, massive-upright, size up to 14 cm wide, 15 cm high, 2-5 cm thick. Surface covered thin

membrane with short conical papillae reaching 0.1-0.6 cm high, solid and close to the end. Surface crust with papillae, easily detachable peeled off. Texture hard. Colour yellow in life which gradually changes to white in alcohol. Ectosomal skeleton, tangential arrangement and intercrossing of small oxeas. Choanosomal skeleton, confused in arrangement of large oxeas. Spicules large and small oxeas, no microsleres.

Spicules.

Large oxeas ····· 630-1,075 × 8-35 μm

Small oxeas ····· 140-260 × 5-9 μm

Etymology. The species is named after the type locality, Marado Island, Korea.

Remark. Halichondria (*Eumastia*) *maraensis* n. sp. is similar to *H.* (*E.*) *sitiens* (Schmidt, 1870) in the type of the spicules. But they differ in spicule size and conical fistules at surface. Oxea of the new species is smaller and thicker than *H.* (*E.*) *sitiens* . Surface conules of the new species is not transparent and no oscules at the terminal short conules but *H.* (*E.*) *sitiens* has hollow papillae and terminal oscules at the end (Table 1).

ACKNOWLEDGEMENTS

This research was supported by a grant from Marine Biotechnology Programme funded by Ministry of Land, Transport and Maritime Affairs of Korean Government.

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Received June 15, 2009
Accepted June 23, 2009