

# A New Species of the Genus *Narrabeena* (Demospongiae: Dictyoceratida: Thorectidae) from Korea

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## ABSTRACT

A new species of the family Thorectidae, *Narrabeena nigra* n. sp. is described. This species was collected from the front of Songaksan, Daejeong-eup, Seogwipo-si, Jeju Island, Korea. *Narrabeena nigra* n. sp. is similar to *Narrabeena lamellate* (Bergquist, 1980) with uncored primary and secondary fibres and an unarmoured surface. They differ in growth form, colour, and fibres.

**Keywords:** *Narrabeena*, new species, Thorectidae, Korea

## INTRODUCTION

The family Thorectidae includes 23 valid genera. Among them the genus *Narrabeena* was erected by Cook and Bergquist, 2002. This genus was characterized by a well-developed reticulum of uncured fibres, and no clear distinction between primary and secondary fibres. Skeletal fibres are concentrically laminated (Bergquist, 1980; Cook and Bergquist, 2002; Hooper and van Soest, 2002). Only one species of the genus *Narrabeena* has been reported worldwide (Hooper and van Soest, 2002). In the present study, we discovered this genus for the first time in Korea.

The material examined in this study was collected from the front of Songaksan, Daejeong-eup, Seogwipo-si, Jeju Island, Korea on 6 Dec. 2004, by SCUBA diving, 5 m in depth. This procedure followed the methods of Lee and Sim (2007). The specimen examined in this study was deposited in the Natural History Museum, Hannam University (HUNHM), Daejeon, Korea.

## SYSTEMATIC ACCOUNTS

Phylum Porifera Grant, 1836  
Class Demospongiae Sollas, 1885  
Order Dictyoceratida Minchin, 1900  
Family Thorectidae Bergquist, 1978

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Subfamily Thorectinae Bergquist, 1978

<sup>1</sup>\*Genus *Narrabeena* Cook and Bergquist, 2002

<sup>2</sup>\**Narrabeena nigra* n. sp. (Figs. 1-2)

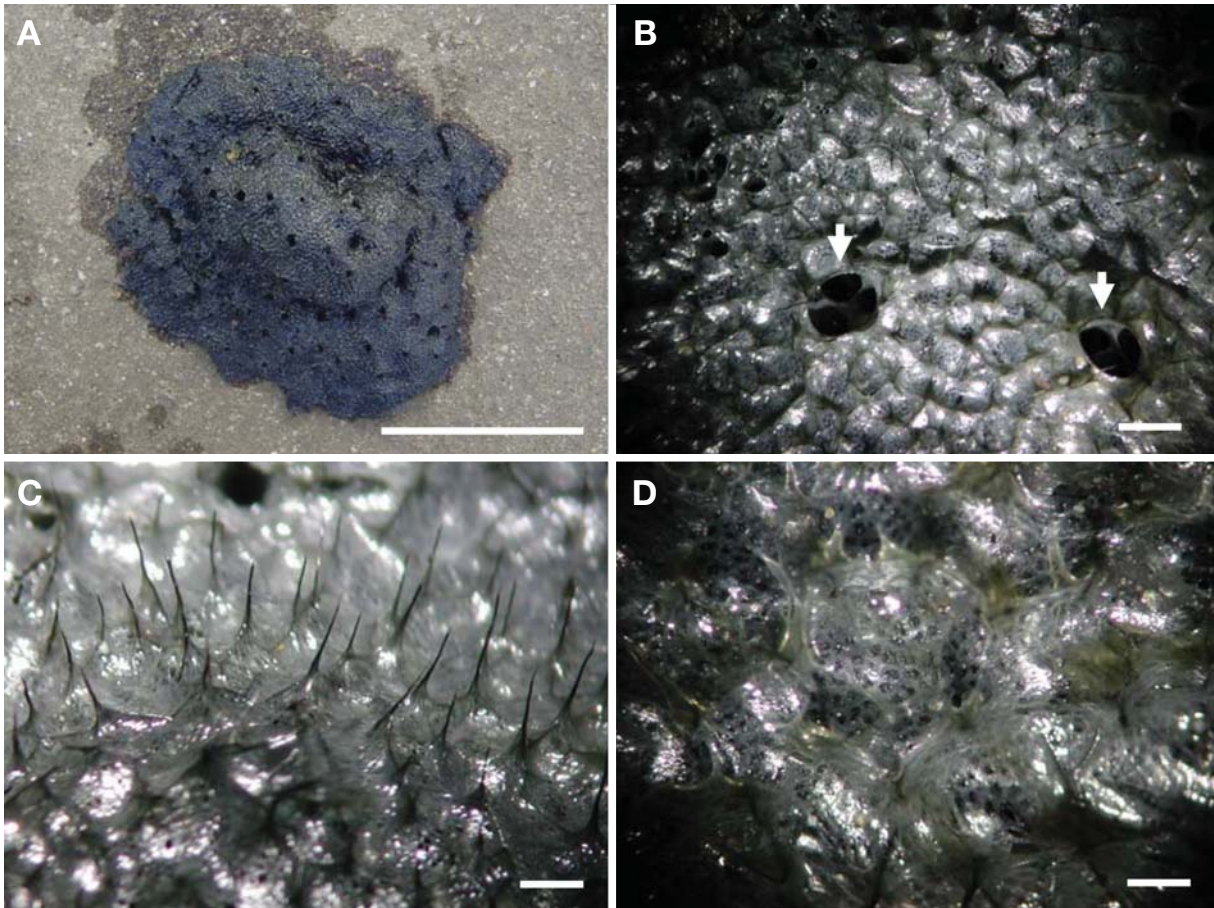
*Material examined.* Holotype (Por. 103), the front of Songaksan, Daejeong-eup, Seogwipo-si, Jeju Island, 6 Dec. 2004, by SCUBA diving 5 m in depth, C.J. Sim. Deposited in the HUNHM, Daejeon, Korea.

*Description.* Thickly encrusting, tightly attached to rocky substrate. Size up to 14.5 × 12 cm wide, 4 cm thick. Oscules 0.1-0.5 cm in diameter, irregularly scattered on surface. Surface smooth, with many single hair-like primary fibres 0.1-0.2 cm length, extending out of conules. Texture compressible. Colour dark black inside and outside in life. Colour in alcohol remains black. Skeleton structure uncured primary fibres 50-100 µm in diameter with small central pith at each end, laminated (Fig. 2B). Uncured secondary fibres 15-60 µm in diameter.

*Etymology.* The species name is named after the dark black colour of whole specimen.

*Remarks.* This new species is distinguished from *Narrabeena lamellate* (Bergquist, 1980) in growth form, colour, skeletal structure and thickness of fibres. Growth form of *N. lamellate* is lamellate and is upright shape, but the new species is thickly encrusting. *N. lamellate* is different in colour outside and inside. In contrast, the new species has a dark black colour throughout the body, which does not change in alcohol. The primary and secondary fibres in *N. lamellate* are similar in thickness, so these and they are difficult to distinguish. But the new species has primary and secondary fibres

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**Fig. 1.** *Narrabeena nigra* n. sp. A, entire animal; B, oscules on surface (arrow); C, primary fibres extend out of conules; D, dermal membrane. Scale bars=3.5 cm (A), 0.3 cm (B), 2 mm (C), 1 mm (D).

**Table 1.** The comparison of characters between *Narrabeena nigra* n. sp. and *N. lamellata*.

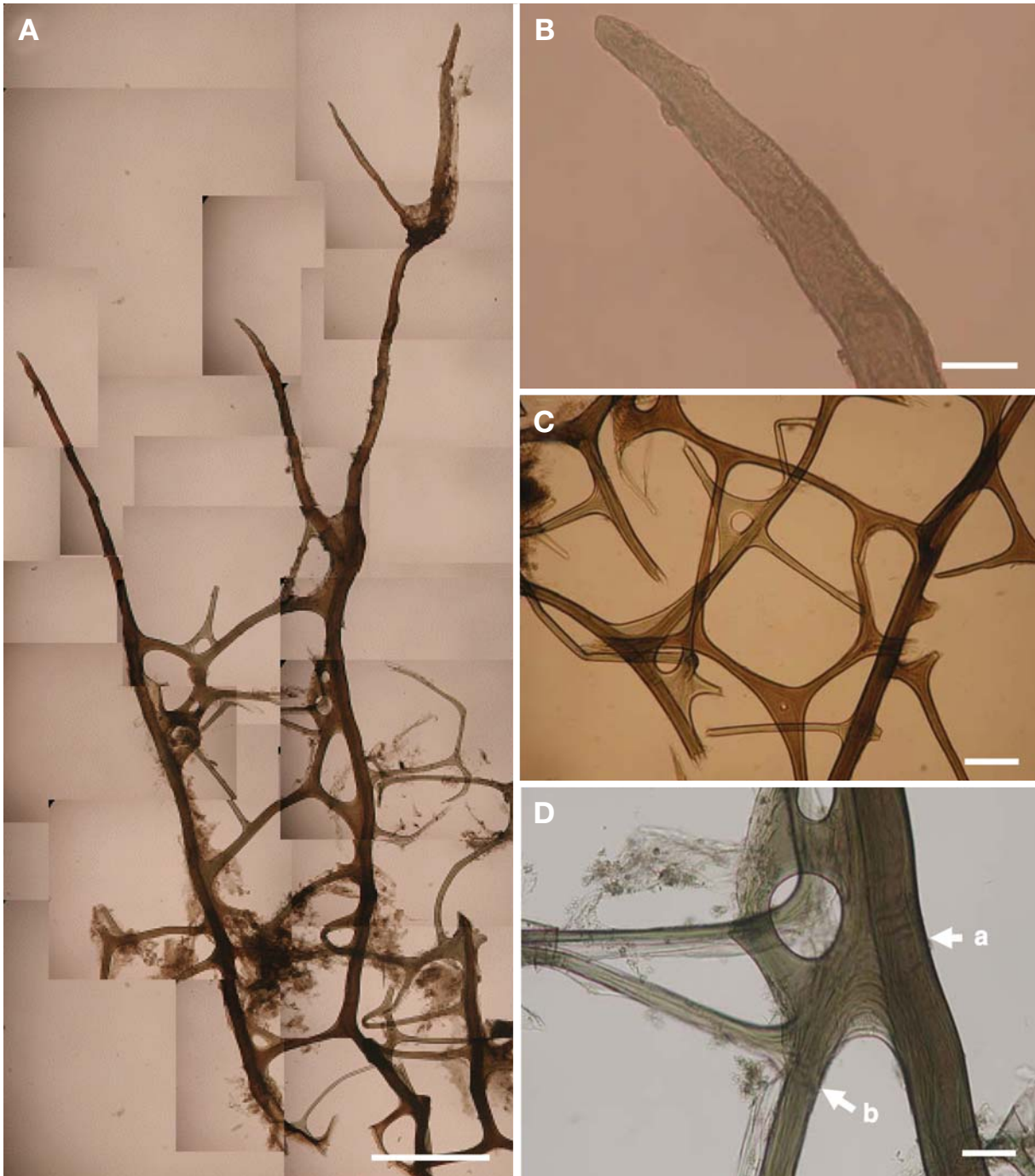
Characters		Species	
		<i>Narrabeena nigra</i> n. sp.	<i>N. lamellata</i>
Growth form		Thickly encrusting	Upright
Colour	Outside	Dark black (no change in alcohol)	Dark black-green to yellow green pale creamy yellow
	Inside		
Skeletal structure		Clear distinction between Primary and secondary fibres	Unclear distinction between primary and secondary fibres
Diameter (µm)	Primary fibres	50-100	15-70
	Secondary fibres	15-60	

showing different diameter (Fig. 2D, Table 1).

## ACKNOWLEDGEMENTS

This research was supported by the project on survey and

excavation of Korean indigenous species of the National Institute of Biological Resources (NIBR) under the Ministry of Environment, Korea. We thank Dr. G.J. Bakus (University of Southern California) for his advice and review of the manuscript.



**Fig. 2.** *Narrabeena nigra* n. sp. A, skeletal structure; B, end of fibre; C, endosom skeletal structure; D, connections between primary and secondary fibres (a, primary fibre; b, secondary fibre). Scale bars=3.5 cm (A), 200  $\mu$ m (C), 50  $\mu$ m (B, D).

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Received February 12, 2010  
Accepted March 11, 2010