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ERYLUS TOXIFORMIS (PORIFERA, GEODIIDAE), A NEW SPECIES FROM THE SOUTHWESTERN ATLANTIC.

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ABSTRACT

A new species of *Erylus* (Porifera, Geodiidae) from the southwestern Atlantic, *Erylus toxiformis* n. sp. is described off Rio Grande do Sul coast, Brazil.

INTRODUCTION

Erylus Gray, 1867 is a genus with Tethyan distribution restricted to tropical and subtropical areas (Van Soest, 1994). A brief history of the genus is provided in Mothes et al. (1999).

Erylus is represented on the Brazilian coast by the following species (Mothes et al., 1999): *E. formosus* Sollas, 1886 (3-72 m), *E. corneus* Boury-Esnault, 1973 (45 m), *E. alleni* De Laubenfels,

1934 (43-165 m), *E. diminutus* Mothes et al., 1999 (183 m), and *Erylus* sp. (Mothes & Umpierre, in prep.). In the course of dredging operations off the coast of Rio Grande do Sul, a new species of *Erylus* was identified from the slope ($31^{\circ}05'S$ $49^{\circ}31'W$), at a depth of 300 m (Fig. 1). In addition to its description below, a key to the species of *Erylus* from the Brazilian coast is given. Three of those species are "endemics" (*E. corneus*, *E. diminutus* and the new spe-

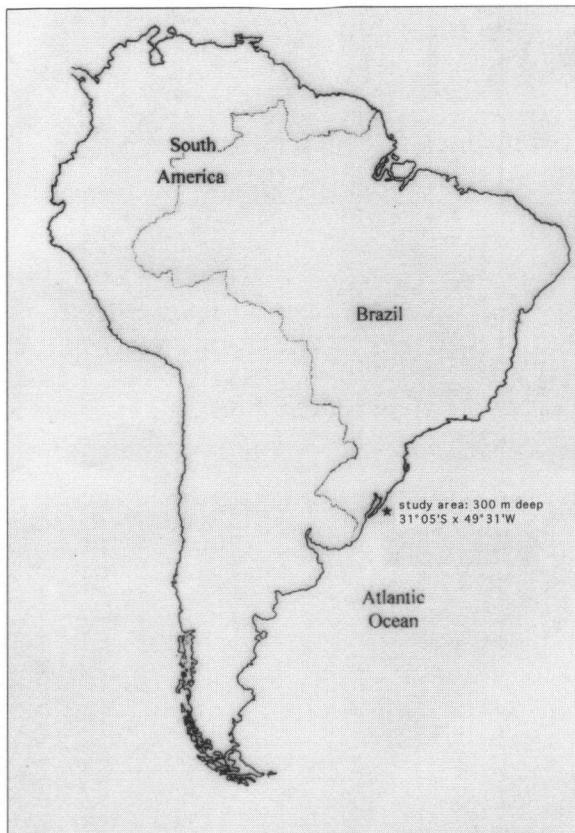


Fig. 1. Map of the study area location where the sample was collected.

cies) and two are known also from the West Indies (*E. formosus* and *E. alleni*).

MATERIALS AND METHODS

The studied sample was dredged by the R/V Atlântico Sul during the years 1986 to 1988 by “Projeto Talude” of the Fundação Universidade de Rio Grande (FURG). It is deposited in the Porifera collection of the Museu de Ciências Naturais of Fundação Zoobotânica do Rio Grande do Sul, Brazil.

Skeletal slides and dissociated spicule mounts were made following Mothes (1996). The SEM study was made using a Jeol JSM-5200 Scanning Microscope. Scales for SEM pictures are indicated with each spicule. Measurements of spicule refer to minimum-mean-maximum in μm .

Preliminary results of this material were published in the “Book of Abstracts” of “VI Congreso Latinoamericano de Ciencias del Mar (COLACMAR), Mar del Plata, Argentina”.

Abbreviations for institutions used in the text are:

BMNH:	Natural History Museum, London.
FURG:	Fundação Universidade do Rio Grande, Rio Grande, Brazil.
FZB:	Fundação Zoobotânica do Rio Grande do Sul, Porto Alegre, Brazil.
MCN:	Museu de Ciências Naturais, Porto Alegre, Brazil.
MCN-POR:	MCN, Porifera collection.
ZBM:	Museum für Naturkunde der Humboldt-Universität zu Berlin, Berlin.

SYSTEMATICS

Order Astrophorida Lévi, 1973

Family Geodiidae Gray, 1867

Genus *Erylus* Gray, 1867

Type species *Stellella mamillaris* Schmidt, 1862:48, Pl. V, Fig. 1, by original designation and monotypy.

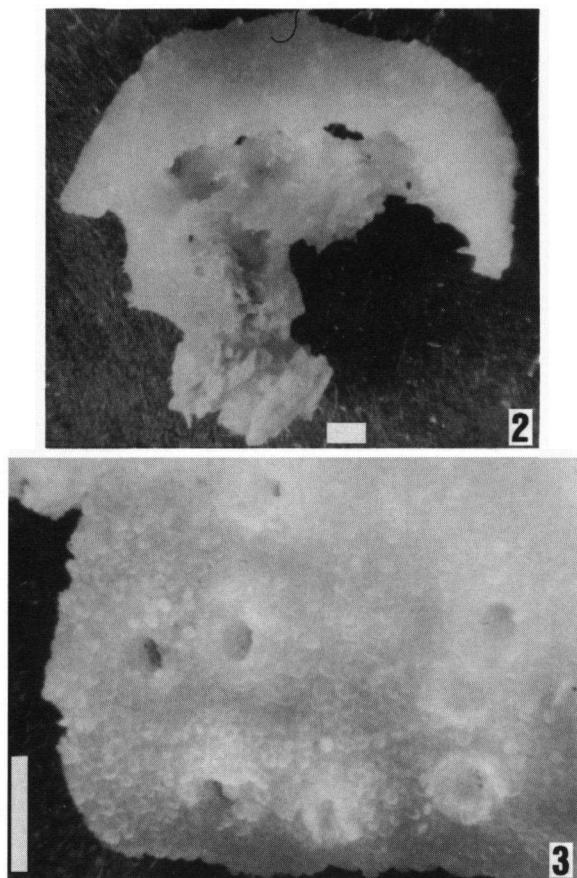
Diagnosis: Geodiidae with ectosomal microrhabds and aspidasters or sterrasters with the following forms: elliptical to disc-shaped, flattened to globose, irregular (with lobes) or regular outline and microspined to smooth surface. Incurrent channels are uniporal; oscules are large openings (Mothes et al., 1999).

***Erylus toxiformis* n. sp.**

(Figs. 2-11)

Type material: HOLOTYPE - Museu de Ciências Naturais, MCN-POR 1599, off Rio Grande do Sul coast, 31°05'S 49°31'W, Brazil, slope, 300 m, November 1988, R/V Atlântico Sul (FURG) coll.

Description (Figs. 2-3): Amorphous fragment (2 x 1 x 0.5 cm). Surface smooth, slightly microhispid because of protruding spicules; with narrow ectochones which seem to traverse the cortex; one oscule observed, circular, 1 mm in diameter; ostia 0.5 mm in diameter with distance between them from 1 to 4 mm, distributed on the surface, except around the oscule. Colour of preserved material: externally white and internally grey; consistency is externally hard and internally compressible.



Figs. 2-3. *Erylus toxiformis* n.sp., holotype MCN-POR 1599, preserved material, off Rio Grande do Sul State coast ($31^{\circ}05'S$ $49^{\circ}31'W$), Brazil, 2. general view, 3. surface detail. Scale=0.2 cm.

Skeleton (Fig. 4): Ectosome: the usual detachable cortex, 0.5 mm thick, a layer packed with tangentially placed sterrasters 0.4 mm and a thin discontinuous ectochroite packed with microstrongyles. Choanosome: radial architecture comprised of orthotriaenes whose cladomes touch the lower layers of the sterrasters. Sometimes oxeas cross the cortex and protrude at the sponge surface; oxyasters, a reduced number of sterrasters and rare microstrongyles are randomly distributed.

Megascleres: Calthrops-like orthotriaenes (Fig. 12) with clads and rhabd almost isoactine, cladome $361.0-636.5 \mu\text{m}$ and rhabdome $199.5-389.5 \times 11.5-23.0 \mu\text{m}$; oxeas (Fig. 13) straight, sometimes slightly curved, mucronate or blunt, rarely strongylote, $897.0-1370.6-1817.0 \times 9.2-17.3-25.3 \mu\text{m}$.

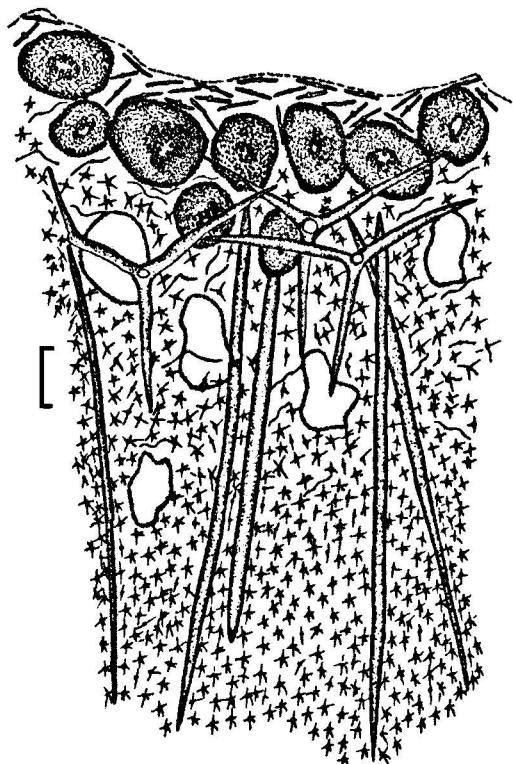


Fig. 4. *Erylus toxiformis* n.sp., holotype MCN-POR 1599, perpendicular section of skeleton. Scale= 100 μm

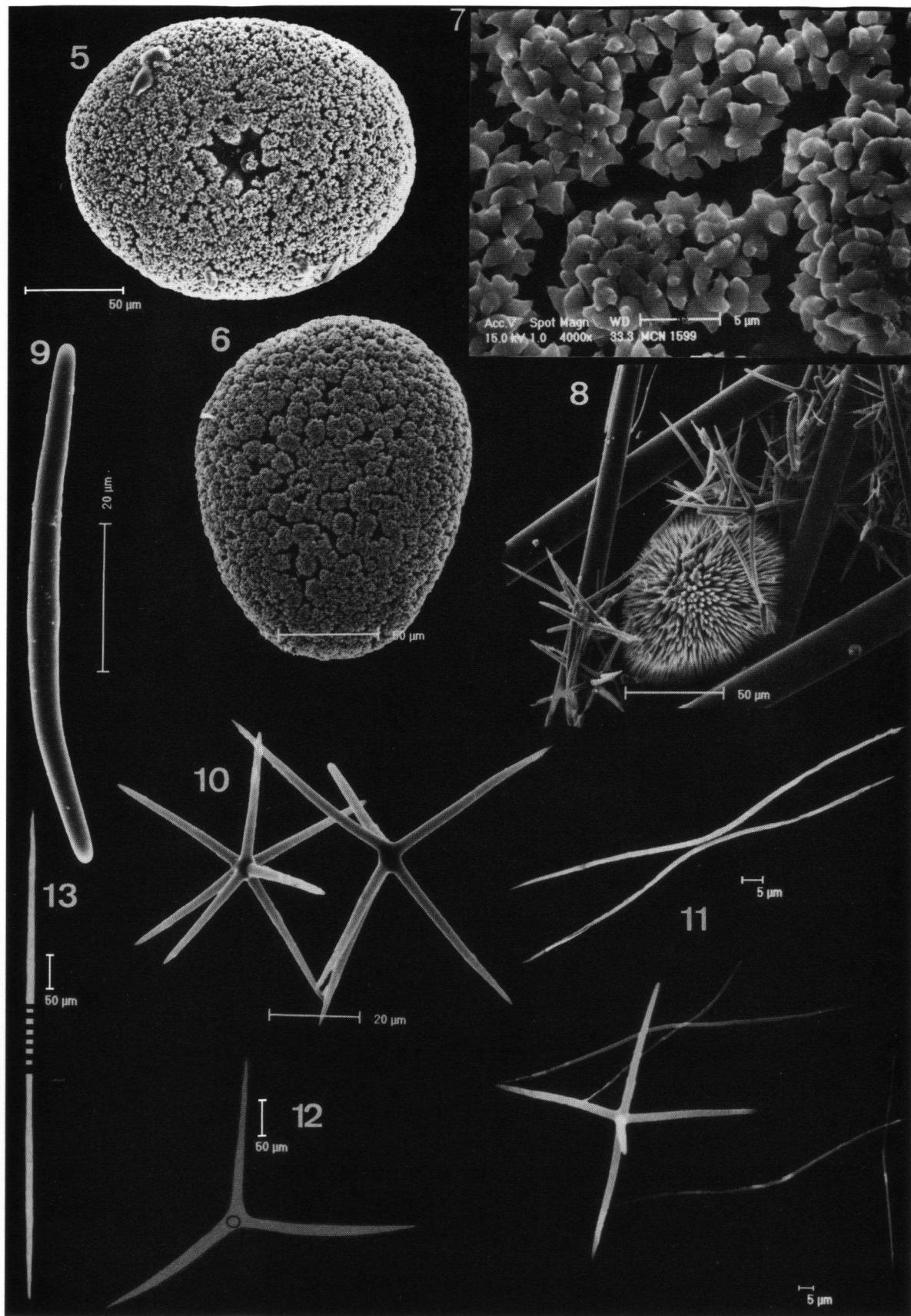
Microscleres: Sterraster-like aspidasters (Figs. 5-8) disc-shaped to slightly elliptical and not flattened, hilum situated on one side, surface made up of dense groups of polygonal, randomly distributed microspines, $207.0-377.5-506.0 \times 184.0-288.7-414.0 \mu\text{m}$; microstrongyles (Fig. 9) smooth, centrotylote, slightly curved, $50.6-71.4-96.6 \times 2.3-5.3-6.9 \mu\text{m}$; oxyasters (Figs. 10-11) with 3 to 8 smooth rays and with a diameter of $34.5-70.6-96.6 \mu\text{m}$; reduced forms diactines, resembling toxas, but are much longer than proper oxyasters; $73.6-89.5-103.5 \mu\text{m}$.

Substrate: mud and silt.

Etymology: the name refers to the morphology of reduced oxyasters that are similar to toxas.

REMARKS

The new species differs from other species of *Erylus* registered for the West Indies and Brazilian coast by the presence of reduced oxyasters similar to toxas and by sterraster-like aspidasters.



Figs. 5-13. *Erylus toxiformis* n.sp., holotype MCN-POR 1599, 5. aspidaster showing the hilum in the centre, 6. aspidaster, 7. aspidaster, surface detail, 8. young aspidaster, 9. smooth microstrongyle, 10. oxyasters with smooth rays, 11. toxalike reduced forms of oxyasters, 12. calthrops-like orthothriene, 13. oxea.

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KEY TO THE SPECIES OF *ERYLUS* FROM THE BRAZILIAN COAST

1. Orthotriaenes with oxeas 2
Dichotriaenes with short rhabd with strongyles varying to strongyloxeas, flattened aspidasters with slightly irregular outline *E. diminutus*
2. Atypical aspidasters, sterraster-like, disc-shaped and not flattened, reduced toxas-like oxyaster.....
..... *E. toxiformis* n.sp.
- Typical Aspidasters 3
3. Elliptical flattened aspidasters 4
Finger-shaped aspidasters *E. formosus*
4. One category of oxyasters *E. corneus*
Two categories of oxyasters *E. alleni*

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