Zootaxa 3895 (2): 273–284
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3895.2.8
http://zoobank.org/urn:lsid:zoobank.org:pub:12702F5B-4E55-4CCA-8664-1F6269EF06EA

Three new species of *Eurypon* Gray, 1867 from Northeastern Brazil (Poecilosclerida; Demospongiae; Porifera)

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Abstract

Three new species of *Eurypon* from Northeastern Brazil are described: *Eurypon clavilectuarium* **sp. nov.**; *Eurypon suassunai* **sp. nov.** and *Eurypon distyli* **sp. nov.** Samples were collected from the continental shelf of Rio Grande do Norte, Bahia and Paraíba States. While the majority of Atlantic *Eurypon* species have been described from deep water, two of three new species described in this study were collected from shallow depths. The three new species from Brazil were compared with all other eighteen *Eurypon* species described from the Atlantic.

Key words: Porifera, sponge, *Eurypon*, new species, Rio Grande do Norte State, Paraíba State, Bahia State, taxonomy, Brazil

Introduction

Eurypon Gray, 1867 is essentially an encrusting sponge with hymedesmioid or microcionid skeletal arrangement (Hooper 2002), the difference between the two being related to the relative thickness of species. The most recent revision of the genus (Aguilar-Camacho & Carballo 2013) describes four new species from the Mexican Pacific Ocean, essentially summarized as follows. The morphology of echinating acanthostyles of *Eurypon* is similar to that found in species belonging to the subgenus *Microciona* (Genus *Clathria*; Family Microcionidae). The hymedesmioid skeleton of *Eurypon* is a homoplasious character that had been reported in several other genera (such as: *Clathria*, *Acarnus*, *Hymedesmia*, *Timea*, *Prosuberites* and others) (Boury-Esnault *et al*. 1994; Hooper 1996). Species of *Eurypon* have tylostyles (or subtylostyles) in one or two categories and acanthostyles as choanosomal spicules (both of which echinate and are erect on the hymedesmoid basal spongin skeleton), and one or more categories of oxeas or styles as subectosomal or ectosomal spicules (the former associated with the erect tylostyles and the latter tangential or forming brushes on the surface). Microscleres if present are raphides (Hooper 2002; Aguilar-Camacho & Carballo 2013). Topsent's (1894) description mentions dubious chelae and asters (in *E. toureti*), but these are indeed foreign as he suspected (Hooper 2002).

The genus currently has 45 valid species with 20 recorded in the Atlantic Ocean, and five of these also occurring in the Mediterranean Sea (Bertolino *et al*. 2013; van Soest *et al.* 2014). So far in Brazil the only records of the genus are from Amapá State (Collette & Rützler 1977) and Pernambuco State (Muricy & Moraes 1998), neither of which identified specimens to a species taxon.

In this study, three new species of *Eurypon* are described from Northeastern Brazil, increasing to 23 the number of known species in the Atlantic.

Material and methods

Specimens of *Eurypon* were collected from four localities in Northeastern Brazil (Figure 1). One specimen was

Accepted by J. Hooper: 13 Nov. 2014; published: 15 Dec. 2014

Many *Eurypon* species from the Atlantic have so far been described from deep water (40–2165 m), and Picton (1990) proposed this genus was indicative of deep water sponge communities. Although, exceptions have been recorded. Little (1963) described *E. clavatella* from Gulf of Mexico from 10 m depth, and Sarà & Siribelli (1960) recorded *E. major* from Western Europe from 14–40 m (van Soest *et al.* 2000), as well as two species described here from shallow water habitats.

With the description of *Eurypon clavilectuarium* **sp. nov.**, *Eurypon suassunai* **sp. nov.** and *Eurypon distyli* **sp. nov.**, there are now 23 species of the genus in the Atlantic Ocean, and 48 valid species worldwide.

Acknowledgements

The authors are grateful to PETROBRAS for donating the holotype (UFPEPOR 1534) specimen and providing collection data. George G.S. thanks CAPES for providing a doctoral scholarship. Authors are also thankful to Mauricio Paiva, Janaina Melo, Dyego Oliveira, Gaby Vasconcelos and Josineide Correia for SEM facilities at CETENE (Centro de Tecnologias Estratégicas do Nordeste), Dr. André Esteves (UFPE), Dr. Jesser Fidelis (UFPE), Dr. Carlos Pérez (UFPE), Thaynã Cavalcante, M.Sc. Lucas Lima (UESPI), Rudá Lucena, Diego Aquino, M.Sc. Luíz Aquino, Yuri Niella, and Adélia Alliz for technical support. We further thank CNPq (Edital PROTAX 2010 - 562320/2010-5), and FACEPE, for providing grants and/or fellowships, and to two anonymous reviewers for improving the manuscript.

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