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## New species of Didemnidae (Tunicata: Ascidiacea) from the tropical coast of Brazil

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### Abstract

The family Didemnidae includes 20% of all known ascidians with six genera in the Atlantic. Here, we describe five new species in the Didemnidae from central coastal Brazil. Four species are in the genus *Didemnum* and were found in Bahia (*D. aurantium*, *D. flammacolor*, *D. lambertae*, *D. longigaster*), while one *Diplosoma* (*D. citrinum*) was found both in Bahia and Espírito Santo.

**Key words:** Brazil, South Atlantic, taxonomy, biodiversity, *Didemnum*, *Diplosoma*

### Introduction

The family Didemnidae, the most species-rich in the Ascidiacea (Shenkar & Swalla 2011), currently comprises almost 600 species (20% of the total species of ascidians) and the most speciose genus, *Didemnum*, has approximately 230 valid species (Shenkar et al. 2014). The Didemnidae includes nine genera of colonial species whose zooids are less than 3 mm in length and the body is divided into thorax and abdomen. Zooids eliminate water, feces and gametes through an extensive system of cloacal channels that converge and discharge through a few openings on the colony surface. Tunic consistency varies due to the calcareous spicules that may or may not be present and when present, may vary in density (Monniot et al. 1991).

Didemnid genera are recognized primarily by the number of rows of pharyngeal slits in adult zooids and larvae, number of testis follicles in adult zooids, shape of the spermiduct (straight or spiral), shape of the atrial opening (wide, small or tubular) and the presence of calcareous spicules in the colony (Kott 2001). Genera found in the Atlantic are *Didemnum*, *Trididemnum*, *Polysyncraton*, *Leptoclinides*, *Lissoclinum* and *Diplosoma* (Rocha et al. 2012).

Eleven species are currently known from Bahia: *Didemnum ahu* Monniot & Monniot, 1987, *D. apersum* Tokioka, 1953, *D. candidum* Savigny, 1816 (probable mis-identification), *D. granulatum* Tokioka, 1954, *D. ligulum* Monniot, 1983, *D. perlucidum* Monniot, 1983, *D. psammatodes* (Sluiter, 1895), *D. speciosum* Herdman, 1886, *D. vanderhorsti* Van Name, 1924, *Diplosoma listerianum* (Milne-Edwards, 1841) (registered as *Diplosoma macdonaldi* Herdman, 1886) and *Trididemnum orbiculatum* Van Name, 1902 (Van Name 1945; Lotufo 2002). Eleven species are also known from Espírito Santo: *Didemnum galacteum* Lotufo & Dias, 2007, *D. granulatum*, *D. ligulum*, *D. perlucidum*, *D. psammatodes*, *D. rodriguesi* Rocha & Monniot, 1993, *D. vanderhorsti*, *Diplosoma glandulosum* Monniot, 1983, *Leptoclinides brasiliensis* Michaelsen, 1923, *Leptoclinides latus* Monniot, 1983, and *Trididemnum orbiculatum* (Lotufo 2002; Lotufo & Dias 2007).

Here, we describe five new didemnid species from Bahia, one of which was also found in Espírito Santo.

isolated within a pouch and *D. redika* Monniot, 1994 has uncolored colonies and larvae with four pairs of ectodermal ampullae and three embryos (Monniot & Monniot 2001).

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