



Four new species of free-living marine nematodes of the family Desmodoridae (Nematoda: Desmodorida) and a redescription of *Desmodora nini* (Inglis, 1963) from the continental shelf off northeastern Brazil

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Abstract

Four new species of marine nematodes were collected from the continental shelf of the Potiguar Basin in northeastern Brazil. *Zalonema vicentei* sp. n. and *Zalonema mariae* sp. n. are characterized by having multispiral *fovea amphidialis*, lateral alae and ventral ala. These features also are found in *Pseudochromadora*, *Desmodorella* and *Psammonema*. They differ in the cephalic arrangement, and shape of the cephalic capsule and the *fovea amphidialis*. *Croconema fortis* sp. n. resembles *Desmodora* in the shape of the *fovea amphidialis* and cephalic capsule, but differs in the number of subcephalic setae and ornamentation on the cuticule. *Desmodora paraconica* sp. n. is characterized by the loop-shaped *fovea amphidialis* and the long conical-cylindrical tail. This species is similar to the genus *Bolbonema*, but differs in having the cephalic setae anterior to the *fovea amphidialis*. *Desmodora nini* is redescribed, to record details lacking in the original description.

Key words: Nematoda, *Zalonema*, *Croconema*, *Desmodora*, new species, taxonomy, Potiguar Basin

Introduction

The order Desmodorida De Coninck, 1965 is characterized by having a cuticle with transverse striations, usually lacking punctuation and ornamentation (Decraemer & Smol 2006). This order has six families, among them the family Desmodoridae which consists almost exclusively of marine nematodes, except for *Prodesmodora* Micoletzky, 1923 and *Sibayinema* Swart & Heyns, 1991, which include freshwater species (Decraemer & Smol 2006).

The family Desmodoridae has 6 subfamilies, of which Desmodorinae contains 16 valid genera. *Desmodora* De Man, 1889 is characterized by a cryptospiral or spiral *fovea amphidialis* and with subcephalic setae present or absent (Tchesunov 2014). This genus, most recently revised by Verschelde *et al.* (1998), contains 34 valid species (Moura *et al.* 2014). Most species are recorded from the North Sea. The genus *Zalonema* Cobb, 1920 has 5 valid species; the last species described was by Verschelde & Vincx (1996). The most recent species description and revision of the genus *Croconema* Cobb, 1920 were contributed by Verschelde *et al.* (2006). Tchesunov (2014) listed 18 valid species for this genus.

Here, we re-describe *Desmodora nini* (Inglis 1963) and describe four new species of the family Desmodoridae: *Zalonema vicentei* sp. n., *Zalonema mariae* sp. n., *Croconema fortis* sp. n. and *Desmodora paraconica* sp. n., from samples collected from the continental shelf in the Potiguar Basin, northeastern Brazil. This is the first report from Brazil of *D. nini*, originally described from the South African coast.

Materials and methods

Study area. The Potiguar Basin (35°30'S and 035°37'W), located in the states of Ceará and Rio Grande do Norte, Brazil (Figure 1), covers an area of 48,000 km² of which 55% is submerged (Costa *et al.* 2006). The continental