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A new genus and a new species of Sminthuridae (Collembola: Symphypleona) from Atlantic Forest of Brazil

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Abstract

Sminthuridae comprises approximately 240 species distributed worldwide. In Brazil it is represented only by 11 species and four genera. Herein we describe a new genus and species of subfamily Sminthurinae from Atlantic Forest of Rio Grande do Norte State, Northeastern Brazil. The new described genus is similar to *Gisinurus*, *Songhaica*, *Dietersminthurus* and *Soqotrasmithurus*, especially in its unguis shape, with open cavity; but differs from all other genera of Sminthuridae by the presence of a single pretarsal chaeta in anterior side, smooth mucronal edges and a unique head chaetotaxy.

Key words: Chaetotaxy, Neotropical fauna, Sminthurinae, taxonomy, *Varelasminthurus potiguarus* **gen. nov. sp. nov.**

Introduction

Sminthuridae comprises two subfamilies (Sminthurinae and Sphyrotecinae), 29 genera and approximately 240 species distributed worldwide (Bellinger *et al.* 1996–2014). In Brazil this family is represented only by 11 species and four different genera (*Pararrhopalites* Bonet & Tellez, 1947; *Sphyrotheca* Börner, 1906; *Temeritas* Richards, 1963; and *Sminthurus* Latreille, 1802) (Bretfeld 2002, Abrantes *et al.* 2012). Among Sminthuridae there is a particular group of genera, not formally recognized, bearing unguis with externally open cavity, which gives a unique shape for the structure when compared to other Symphypleona (Bretfeld 2005). The current genera which show this distinct morphology are: *Gisinurus* Dalai, 1970; *Songhaica* Lasebikan, Betsch & Dallai, 1980; *Dietersminthurus* Palacios-Vargas, Cuéllar & Vázquez, 1998; and *Soqotrasmithurus* Bretfeld, 2005, all of them included in Sminthurinae. The unguis shape and overall morphology suggest phylogenetical proximity of these taxa, which was never properly evaluated.

Herein we describe a new genus and species of Sminthuridae from the Atlantic Forest of Northeastern Brazil. When compared to other Sminthuridae, the new genus is similar to the other four taxa bearing unguis with cavity.

Material and methods

The specimens were collected with pitfall traps from leaf litter; preserved in 70% ethanol; cleared in hydrochloric acid and potassium dichromate; mounted in Hoyer's solution; and drawn under microscope bearing a drawing tube. Raw figures were treated on CorelDRAW X6 software. For Scanning Electronic Microscope (SEM) study, specimens were dehydrated by ethanol graduate series; were dried up in a critical point dryer Baltec CPD030; and