



Two new species of *Seira* Lubbock (Collembola, Entomobryidae, Seirini) from South Brazil

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Abstract

Two new species of *Seira*, *Seira tinguira* **sp. nov.** and *Seira paulae* **sp. nov.** from Atlantic Rainforest Phytogeographic Domain in Paraná State, southern Brazil, are described and illustrated, with dorsal chaetotaxy labeled in detail. The general morphology of *S. tinguira* **sp. nov.** resembles *S. frater* (Bonet) and *S. oceanica* Yosii, however differs by chaeta **Pa4** present in head, three extra macrochaetae (**m1i2**, **p1i2** and **one extranumerary**) in mesothorax; four (**a3**, **p2e**, **p2ea** and **a4**) in metathorax; one (**m3ep**) in the second abdominal segment, among other morphological features. *Seira paulae* **sp. nov.** is similar to *S. atrolutea* (Arlé) in body colour, however dorsal chaetotaxy resembles *S. mendoncea* Bellini & Zeppelini and *S. ritae* Bellini & Zeppelini. On the other hand, the new species clearly differs from other similar taxa by the presence of cephalic macrochaeta **M2**; three macrochaetae (**M2**, **M1** and **M2i**) in mesothorax and **p2p** as microchaeta; one extra macrochaeta (**p1i**) in metathorax and two (**a1** and **p2ea**) as macro or microchaetae; macrochaeta **m3ep** missing in the second abdominal segment; macrochaeta **am6** present in the third abdominal segment among other features. *Seira tinguira* **sp. nov.** was found in different habitats of Paraná State while *S. paulae* **sp. nov.** was recorded only in its type locality. A distribution map is provided for both species. With the presented description there are now four recorded species of *Seira* from south Brazil.

Key words: Chaetotaxy, Entomobryinae, Neotropical Region, soil fauna, taxonomy

Introduction

Entomobryidae is the most diverse family of Collembola (Hopkin 1997) and currently holds more than 1678 species in 56 genera (Janssens & Christiansen 2011). Entomobryids are recognized by the presence of crenulate dens, small mucro with one or two curved apical teeth, trochanteral organ present and usually bearing several spine-like setae arranged in lines, body with or without scales, postantennal organ generally absent and at least some feathered setae (Christiansen & Bellinger 2000, Soto-Adames *et al.* 2008).

Seirini is one of the ten tribes of Entomobryidae (Soto-Adames *et al.* 2008). Among the Seirini, the largest genus is *Seira* Lubbock, with almost 200 described species, mostly in the tropics (Barra 2004, Bellini & Zeppelini 2008ab, Soto-Adames *et al.* 2008, Bellinger *et al.* 1996–2013). *Seira* species can be distinguished from other entomobryids by the presence of apically rounded scales with coarse ribs or denticles covering most of dorsal body, falcate mucro, 8+8 eye lenses (rarely 7+7, as seen in *S. americana* Jacquemart) and a large fourth abdominal segment, when compared to the third (Christiansen & Bellinger 2000, Barra 2004, Soto-Adames *et al.* 2008). *Seira* is predominantly tropical (Barra 2004, Bellini & Zeppelini 2008a) with approximately 73 of species register in the Africa, 49 in Asia, 35 in Europa and 57 for the Americas (Christiansen & Bellinger 2000; Bellinger *et al.* 1996–2013). Twenty eight species of *Seira* were recorded in Brazil (Abrantes *et al.* 2012, Godeiro & Bellini 2013, 2014), but only *S. reichenspergeri* (Handschin, 1924) and *S. paranensis* Stach (1935) have been reported from southern Brazil.

The study of dorsal chaetotaxy of *Seira tinguira* **sp. nov.** and *S. paulae* **sp. nov.** indicates large variation on number and type of setae among specimens of the same species, especially in meso, metathorax and fourth abdominal segment. The same observation was also made by Barra (2004 and 2010). *Seira tinguira* **sp. nov.** show up to 10 setae present as macro, meso or microchaetae, four (**p1i2**, **p1i**, **p2p**, **?**) in mesothorax, three (**a3**, **p2e** and **p2ea**) in metathorax and three (**E4p2**, **F3p** and **Fe6**) in fourth abdominal segment. *Seira paulae* **sp. nov.** up to 12 setae also may be different in these forms, six (**?**, **m4i**, **p1i2**, **p1i**, **p1p**, **p2ea**) in mesothorax, two (**a1**, **p2ea**) in metathorax, and four (**T2**, **E3**, **F3p** and **Fe6**) in fourth abdominal segment. This kind of variation should always be reported in new descriptions for a better understanding of the phylogenetic relationships in the genus.

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