First Survey of Collembola (Hexapoda: Entognatha) Fauna in Soil of Archipelago Fernando de Noronha, Brazil

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Collembola (Hexapoda: Entognatha) is one of the most abundant and widely distributed taxa among terrestrial Hexapoda (Hopkin 1997). Collembola specimens are found in almost all habitats, excluding aquatic environments below the surface firm where their occurrence is rare or accidental. The greatest diversity and abundance of these species occurs in soil and in adjacent microhabitats, especially where there is much organic matter (Zeppelini et al. 2008). The potential value of Collembola as biological indicators of soil health and ecosystem quality is increasingly recognized and therefore knowledge of the diversity of Collembola becomes useful in the development of conservation strategies and environmental monitoring (Stork & Eggleton 1992; Zeppelini et al. 2008).

The growing human impact on biodiversity requires large efforts in developing conservation strategies (Myers et al. 2000). In island environments these efforts should be a priority, as these environments have major barriers to dispersal and colonization, especially for terrestrial fauna, which usually shows very particular diversity in islands. Analyses of the distribution of terrestrial species may be useful as a means to evaluate environmental quality (Rusek 1998; Kumssa et al. 2004).

In this work we present the first survey of Collembola fauna in the soil of the Brazilian archipelago Fernando de Noronha, which expands knowledge of the distribution of these animals. The collections were made in Jul and Aug 2012 on the 2 largest islands of the archipelago, Fernando de Noronha island and Rata island. The archipelago (5°3'50" W 32°24') is approximately 345 km away from the nearest point of the Brazilian coast. Collecting was done by soil sample on 7 different beaches on Fernando de Noronha. At each site we collected on the sand beach, on the cliff slope and in the forest at the hill top, with 4 samples in each collection site. Collembola were captured with Berlese-Tullgren funnels. Preparation and mounting followed Christiansen & Bellinger (1998). World distribution of species and nomenclature in Table 1 were based on Bellinger et al. (1996–2014), Culik & Zeppelini (1998). World distribution was summarized for Collembola recorded on the Fernando de Noronha archipelago, Brazil. Collection localities were: a sandy beach (SB), soil on the slope of a cliff (SC) and the Soil in the forest at the hilltop (SF). World distribution was summarized for each species as follows: Boreal (Bor) include regions 1–8, Neotropical (Neo) regions 24–30, South African (Saf) region 31, Paleotropical (Pal) regions 9–23, Australian (Aus) regions 32–34, and Antarctic (Ant) regions 35–37. Species distributed in at least, in 4 of the major regions (Neo, Pal, etc.) are considered to be cosmopolitan (Cos). Species distribution restricted to Northeast and Central Brazil (NCB), restricted to Fernando de Noronha (RFN) and doubtful distribution Record (?).
localities and 14 have questionable distribution record (Table 1). The only previous records of Collembola distributed in at least, in 4 of the major regions (Neo, Pal, etc.) are considered to be cosmopolitan (Cos). Species distribution restricted to Northeast and Central Brazil (NCB), restricted to Fernando de Noronha (RFN) and doubtful distribution record (?).

### Summary

We provide the first survey of collembolan fauna of the archipelago Fernando de Noronha (Brazil) with 36 new records of species for the archipelago and a genus *Calvatolina* Yosii, 1966) and a subgenus (*Setogaster* Salmon, 1951) new for Brazil. Moreover the following is proposed replacement name: *Collophora terrabrasilis nom. nov.* for *Collophora brazilis* Zeppelini & Brito (2013).

Key Words: distribution, microarthropods, springtails, oceanic island, replacement name

### References Cited


