



First record of Tardigrada from São Tomé (Gulf of Guinea, Western Equatorial Africa) and description of *Pseudechiniscus santomensis* sp. nov. (Heterotardigrada: Echiniscidae)

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Abstract

The first six species of tardigrades from São Tomé Island (Democratic Republic of São Tomé and Príncipe) were recorded: the heterotardigrade *Pseudechiniscus santomensis* sp. nov., and five eutardigrades: *Macrobiotus* sp., *Paramacrobiotus gerlachae* (Pilato, Binda & Lisi, 2004), *Minibiotus intermedius* (Plate, 1889), *Doryphoribius* sp., *Diphascon* (*Diphascon*) sp.. *Pseudechiniscus santomensis* sp. nov. belongs to the group of species that lack all trunk cirri except filament A; have a pseudosegmental plate with triangular projections on the posterior margin, and dorsal plates ornamented by small dots joined by very delicate striae. The ventral surface of the body has small dots, without striae, forming patches and a reticular design. The new species differs from *Pseudechiniscus spinerectus* Pilato, Binda, Napolitano & Moncada, 2001, the most similar species, in lacking longitudinal folds on scapular and paired plates; the pseudosegmental plate undivided and with shorter triangular, backward oriented projections that are never erect; only one intersegmental platelet lateral to the median plates 1 and 2; slightly shorter buccal cirri, filament A and papilla of the hind legs; and in having slightly different the ornamentation of the ventral body surface.

Key words: Tardigrada, African meiofauna, *Pseudechiniscus*, *Macrobiotus*, *Paramacrobiotus*, *Minibiotus*, *Doryphoribius*, *Diphascon*

Introduction

The importance of faunistic studies has been renewed at the beginning of the 21st century as a consequence of the current biodiversity crisis. Actually, despite all the efforts done by conservation biologists, the number of species extinctions resulting from climate changes and habitats loss is still constantly increasing worldwide, justifying the urgent need of species inventories with special emphasis on neglected regions (Dubois, 2003). The study of the geographic distribution of the limno-terrestrial tardigrades is not an exception to that paradigm. In the last three decades the number of known tardigrade species has almost doubled, reaching c. 1000 species, but this knowledge is still centred mostly in the Palearctic and Nearctic regions. By comparison, some other geographic regions are barely explored. This is the case for Africa with one of the lowest rates of tardigrade paper publications in the last few years, probably because tardigradologists do not live there (Guill & Cabrero-Sañudo, 2007; McInnes & Pugh, 2007). In Africa only about 200 species are known from 24 countries (Jørgensen, 2001; Pilato & Binda, 2001; McInnes & Pugh, 2007; Garey *et al.* 2008; Kaczmarek *et al.* 2008). In reality, the knowledge of the African tardigrade fauna is scattered and sparse with most records located along the coastline and in the vicinity of touristic destinations (Jørgensen, 2001). As an exception we may record the Seychelles, where 34 species have been recorded, 19 of which are currently endemic for that archipelago (Biserov, 1994; Binda & Pilato 1995a; b; Pilato *et al.* 2002, 2004, 2006; Pilato & Lisi 2009a, b). It is evident that other African regions and enclaves require further investigation. This is the