



Tardigrada from Santo Antão Island (Archipelago of Cape Verde, West Africa) with the description of a new species

PAULO FONTOURA^{1,3}, GIOVANNI PILATO² & OSCAR LISI²

¹*Eco-Ethology Research Unit (FCT-331/94) and Department of Biology, Faculty of Sciences, University of Porto. R. Campo Alegre s/n, FC4, 4169-007 Porto, Portugal. E-mail: pfontoura@fc.up.pt*

²*Dipartimento di Biologia Animale “Marcello La Greca”, Università di Catania, Via Androne 81, 95124 Catania, Italy. E-mail: pilato@unict.it*

³*Corresponding author*

Abstract

Three tardigrade species from Santo Antão Island, Archipelago of Cape Verde are firstly reported from Republic of Cape Verde: *Echiniscus scabrospinosus* Fontoura, 1982, *Echiniscus clavispinosus* **sp. nov.** and *Milnesium tardigradum* Doyère, 1840. *E. clavispinosus* **sp. nov.** belongs to the ‘*viridis* group’ of species characterized by the green colour and plate ornamentation comprised of tubercles, fine dots and light spots, by lacking dorsal and lateral trunk appendages (cirrus A excluded) and well developed claws. *E. clavispinosus* **sp. nov.** differs from all the known species of the ‘*viridis* group’ in having the area between the paired plate III and the terminal plate unsculptured, in details of the cuticular ornamentation, pointed clavae instead of papillate apices, and stronger spur on internal claws. A dichotomous key to the species of the *Echiniscus viridis* group and a list of Macaronesian species are also given.

Key words: Macaronesia, Tardigrada, first records, *Echiniscus clavispinosus* **sp. nov.**, *Echiniscus viridis* group, dichotomous key

Introduction

Cape Verde, an archipelago of ten islands and a few islets, is located in the Atlantic Ocean in the coast of West Africa, in the so called Macaronesia ecoregion consisting of five volcanic archipelagos (Azores, Madeira, Savage, Canaries and Cape Verde) with a common biogeography, but also each having a number of endemic species according to current knowledge. Unlike the other archipelagos of Macaronesia, which have a climate that ranges from tropical to subtropical, Cape Verde (and also the eastern Canaries) is part of the ‘Sahelian arid belt’, having a semi-desert climate, receiving only about 260 mm of annual rainfall.

Information about the tardigrade fauna of Macaronesia is scarce and very scattered. Recently, three of the nine Azorean islands were surveyed with 17 species recorded, five of which were endemic (Fontoura, 1985; Fontoura *et al.*, 2008^{a, b}); 13 species were recorded in the Canaries (Heinis, 1908; Guil & Guidetti, 2005). An earlier study was carried out on tardigrades from Madeira Island (Cunha & do Nascimento-Ribeiro, 1962) reporting 27 species (two of which were endemic). The tardigrade fauna is completely unknown for the small and largely uninhabited Savage islands and the archipelago of Cape Verde. The entire African continent is barely explored with only *c.* 200 known tardigrade species from 25 countries (Jørgensen, 2001; Pilato & Binda, 2001; Pilato *et al.*, 2003; Kaczmarek & Michalczyk, 2004; Kaczmarek *et al.*, 2006; 2008; McInnes & Pugh, 2007; Garey *et al.*, 2008; Fontoura *et al.*, 2010). This scenario justifies the urgent need for species inventories on this previously ignored region, aiming to contribute to a deeper knowledge of the African fauna and to understand the peculiarities of the tardigrade biogeography.

In this paper, the first record of tardigrades in Cape Verde, three species are reported, one of which, *Echiniscus clavispinosus* **sp. nov.**, is new to science.