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Two new species of Rhodacaridae (Acari: Mesostigmata) from Egypt and a key to the species of the family from the Mediterranean region

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Abstract

Two species of rhodacarid mites, *Multidentorhodacarus aegypticus* n. sp. and *Protogamasellopsis zaheri* n. sp., are described from adult females and males collected from soil and litter in Egypt. A key to identify the species of Rhodacaridae reported from the Mediterranean region is provided.

Key words: Soil mites, taxonomy

Introduction

Mites of the family Rhodacaridae Oudemans, 1902 (Mesostigmata: Rhodacaroidea) are widespread in soil and in accumulations of decaying organic matter (Lindquist *et al.*, 2009). Species of this family have been observed to prey on nematodes, small insects, mites and springtails (Walter *et al.*, 1988; Lindquist *et al.*, 2009; Castilho *et al.*, 2009). Rhodacarids are mainly characterised by usually having setae *st4* on the sternal shield, desclerotised bands of punctate integument along the anterior margin of the sternal shield, and by the presence of scleronodules on the podonotal shield (Lindquist *et al.*, 2009; Castilho *et al.*, 2012b). In total, 151 rhodacarid species and one subspecies arranged in 15 genera are known worldwide (Castilho *et al.*, 2012b). Four of the species were described from Egypt, *Rhodacarellus citri* Fouly, 1992, *Rhodacarellus tebeemus* Hafez & Nasr, 1979, *Rhodacarus solimani* Fouly & Nawar, 1990 and *Rhodacarus zaheri* Fouly & Nawar, 1990; in addition, *Rhodacarus roseus* Oudemans, 1902 was reported from that country by Zaher (1986). Eleven other species have been described from the Mediterranean region: six from Algeria, three from Italy, one from France and one from Spain. The objective of this paper is to describe two new species of Rhodacaridae from Egypt, as well as to provide a key to identify the rhodacarid species reported from the Mediterranean region.

Material and methods

Soil and litter samples were collected in different regions of Egypt and taken to a laboratory where mites were extracted using a modified Berlese funnel. Mesostigmatids were mounted in Hoyer's medium and later separated into families. Rhodacarids were separated into morphospecies and examined under phase and interference contrast microscopy.

The rhodacarid mites were identified by considering the world taxonomic literature, leading to the conclusion that two new species had been collected. Taxonomically relevant structures of these mites were illustrated with the use of a camera lucida and measured with the use of a graded ocular for description. In the following descriptions, idiosomal setal nomenclature is based on Lindquist & Evans (1965) and Lindquist (1994), as adapted by Castilho