Adamystis thailandensis sp. nov. (Acari: Prostigmata: Adamystidae), a new species of soil mites from Thailand with a key to world species of Adamystidae

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Abstract

A new species of soil prostigmatic mites, Adamystis thailandensis sp. nov. (Acari: Adamystidae) is described based on adult and immature specimens collected from leaf litter and upper soil layer in a coastal forest in southern Thailand. It differs from its congeners by the presence of a densely striated idiosomal shield and the presence of lens-like structures on the lateral, posterior dorsomedial, and ventral sides of the idiosoma. A diagnostic key to the known species of Adamystidae is presented.

Key words: coastal forest, soil fauna, soil mites, Prostigmata, new species, taxonomy

Introduction

Members of the family Adamystidae (sensu Walter et al. 2009) are medium-sized, reddish and fast moving mites typically living on rocks, the surface of dry soil and in leaf litter (Ueckermann 1989; Walter et al. 2009). They are considered free-living predators (Walter et al. 2009) but some species may be microphages (Coineau et al. 2006). Collectively, the family seems to be cosmopolitan in distribution, with representatives being described from U.S.A. (Cunliffe 1975; Hunter & Crossley 1968; McDaniel & Bolen 1983), Mexico (Lopez-Campos 1996), Cuba (Palacios-Vargas & Prieto-Trueba 1995), France (Coineau 1974), South Africa (Coineau 1974; Ueckermann 1989; Coineau et al. 2006), Uzbekistan (Barilo 1987) and Pakistan (Rafalski 1982). Pogrebnyak (2007) recorded it from Ukraine. Undescribed species have also been reported from Australia (Walter & O’Dowd 1995), Japan (Shiba 1999), and Hawaii (Swift 2000). In his revision of the family Adamystidae, Ueckermann (1989) recognized 14 species in two genera—Adamystis (12 species) and Saxidromus (2 species). Adamystis sartorum Barilo, 1987, however, was overlooked, and four more species were subsequently described namely S. caribeus Palacios-Vargas and Prieto-Trueba, 1995, S. anahoffmannae Lopez-Campos, 1996, Bovidromus roussouwi Coineau et al., 2006, and Rhinodromus lootsi Coineau et al., 2006. The present paper describes a new species of the genus Adamystis, A. thailandensis sp. nov., based on adult and immature specimens collected from leaf litter and upper soil layer in the coastal Melaleuca forest, in southern Thailand. This paper brings the known species of adamystid mites to 20, which may be distinguished by the diagnostic key provided.

Material and methods

Samples of soil and leaf-litter were collected from the Melaleuca forest (see Type material for collection data), placed in plastic bags and brought back to the laboratory within 36–48 hrs. Mites were extracted into 70% (v/v) ethanol using Tullgren funnels for seven days. The specimens were sorted under a stereomicroscope and mounted directly on permanent slides using Hoyer’s solution as the medium (Walter &