



***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 &