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Two new species of the oribatid mite genus *Phyllochthonius* Travé, 1967 (Acari: Oribatida: Phyllochthoniidae) from Thailand

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Abstract

The enarthronote oribatid mite genus *Phyllochthonius* Travé, 1967 (Acari: Oribatida: Phyllochthoniidae) is recorded from Thailand for the first time. Two new species, *Phyllochthonius ovatosetosus* **n. sp.** collected from sandy soil in a riparian habitat and *Phyllochthonius peniculus* **n. sp.** collected from leaf-litter on the forest floor, are described based on adults and all immature instars, and on only the adult specimen respectively. The genus is rediagnosed and a key to the three currently known species is provided.

Key words: Oribatida, Enarthronota, *Phyllochthonius*, new species, taxonomy

Introduction

When it was first described, the enarthronote oribatid mite *Phyllochthonius aoutii* Travé, 1967 from the Ivory Coast represented the monogeneric family Phyllochthoniidae and the monotypic genus *Phyllochthonius*, both proposed in the same publication (Travé 1967). Representatives of the genus, from undescribed species, were subsequently reported from Mexico (Vásquez González 2000), Brazil (Oliveira *et al*. 2001), and the Gulf Coast of North America (Norton & Behan-Pelletier 2009). Together with two other monogeneric families, Atopochthoniidae and Pterochthoniidae, they comprise the superfamily Atopochthonioidea (Phyllochthonioidea of Travé, 1967), a recent diagnosis of which was given by Norton and Behan-Pelletier (2009). However, the monophyly of this grouping has been questioned (Norton 2001). In the course of taxonomic study of oribatid mites in Thailand, two undescribed *Phyllochthonius* species were found and are described herein as new: *Phyllochthonius ovatosetosus* **n. sp.** and *Phyllochthonius peniculus* **n. sp.** Their taxonomic placements are discussed. Their characters require a modification of the generic diagnosis, which is provided along with an identification key to species of *Phyllochthonius*.

Material and methods

Mites were extracted from sandy soil using the flotation method (Kethley 1991; water phase only), and from forest-litter samples using Tullgren funnels (Krantz 1978) (see *Material examined* for collection data). Specimens were preserved in 70% (v/v) ethanol and sorted under a dissecting microscope, then transferred to lactic acid for clearing. Intact individuals were observed in temporary slides using lactic acid as a medium. Some specimens were dissected and mounted in Hoyer's solution on microscopic slides (Krantz 1978). The body length was measured in dorsal view from the rostral tip to the posterior end of the notogaster, while the body width was measured at widest point of the notogaster. Measurements are in micrometers. Drawings were made with the aid of a drawing tube attached to a compound microscope. Terminology follows the system of F. Grandjean, as recently summarized by Norton and Behan-Pelletier (2009).

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