



## New species of oribatid mites in the families Synichotritiidae and Phthiracaridae from Thailand, with a checklist of Thai Euptyctima (Acari: Oribatida: Euphthiracaroidea, Phthiracaroidea)

MARUT FUANGARWORN<sup>1</sup> & CHARIYA LEKPRAYOON<sup>2,3</sup>

<sup>1</sup>Zoology Program, Department of Biology, Faculty of Science, Chulalongkorn University, Bangkok, 10330, Thailand.

E-mail: marut.f@chula.ac.th

<sup>2</sup>Center of Excellence in Biodiversity, and Department of Biology, Faculty of Science, Chulalongkorn University, Bangkok, 10330, Thailand. E-mail: lchariya@hotmail.com

<sup>3</sup>Corresponding author

### Abstract

Two new species of oribatid mites, *Temburongia similanensis* **sp. nov.** (Synichotritiidae) and *Austrophthiracarus trapezoides* **sp. nov.** (Phthiracaridae), are described based on adult specimens from leaf litter on Similan Islands, Thailand. *Temburongia similanensis* **sp. nov.** differs from *T. patoi* Mahunka, 1990 in having simple prodorsal and notogastral setae, one pair of median prodorsal cristae, two pairs of exobothridial setae, two longitudinal rows of ano-adanal setae, coxal setation of 3-1-2-3, tridactylous legs, and, more unusually, clusters of bothridial brachytrachea which are unknown in other synichotritiid mites. *Austrophthiracarus trapezoides* **sp. nov.** can be distinguished from the similar species *A. pseudotuberculatus* Mahunka, 2008 by the presence of a large trapezoid prodorsal tubercle and longer notogastral setae (seta *c*, reaching *d*<sub>1</sub>). A checklist of Thai Euptyctima, including 19 species in four families (Oribotritiidae, Euphthiracaridae, Synichotritiidae, and Phthiracaridae), their synonyms and distributional data are presented. *Plonaphacarus semiaciculatus* (Mahunka, 2008) **comb. nov.** is proposed as a new combination for *Rhacaplacarus semiaciculatus* Mahunka, 2008.

**Key words:** Soil mites, Euptyctima, *Temburongia*, *Austrophthiracarus*, taxonomy

### Introduction

Euphthiracaroid and phthiracaroid mites, together known as Euptyctima, are ptychoid-mixonomatan oribatid mites (Norton & Behan-Pelletier 2009). As macrophytophages, they are one of the ecologically important groups of soil invertebrates that feed on decaying parts of higher plants, accelerating decomposition and promoting nutrient cycling in soil (Coleman & Crossley 1996). More than 1000 species of Euptyctima have been described to date (Subías 2011) and about 150 species were reported from Oriental region (Niedbala 2000, 2004b). However, the euptyctimous fauna of Thailand is poorly known. To our knowledge, only 19 species are recognized from the country (see checklist below). During the inventory of soil and litter dwelling mites on the Similan Archipelago in the Andaman sea, about 70 km west of peninsular Thailand, two undescribed species of Euptyctima were found and are described herein as new species: *Temburongia similanensis* **sp. nov.** and *Austrophthiracarus trapezoides* **sp. nov.**

*Temburongia similanensis* **sp. nov.** is a member of the euphthiracaroid family Synichotritiidae (sensu Norton & Lions 1992). When first described, the genus *Temburongia* was monotypic, with *T. patoi* Mahunka, 1990 as type species, and was assigned to its own monogeneric family, Temburongiidae (Mahunka 1990). Subsequently, based on cladistic analysis, Norton and Lions (1992) transferred *Temburongia* to Synichotritiidae and lowered Temburongiidae to subfamilial rank, accommodating both *Temburongia* and their newly proposed genus *Apotritia*. They also listed the apomorphies shared by the taxa included and proposed diagnoses of family-group categories. Mahunka (1995) later provided a supplement diagnosis and description of *Temburongia* but retained it in the family Temburongiidae. The classification of *Temburongia* and its related genera (*Apotritia*, *Sabatritia*, and *Synichotritia*)