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Article

Phthiracarus species from China with descriptions of three new species (Acari: Oribatida: Phthiracaridae)

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Abstract

The genus *Phthiracarus* (Acari: Oribatida: Phthiracaridae) was represented by nine species in China prior to this work. In this paper, eight species of *Phthiracarus* are identified, including three new species (*Phthiracarus fujianensis* Liu **sp. nov.**, *Phthiracarus sichuanensis* Liu **sp. nov.** and *Phthiracarus yunnanensis* Liu **sp. nov.**), and two newly recorded species from China. Some remarks on known and newly recorded species from China are presented. A key to Chinese known species of *Phthiracarus* is also provided.

Key words: Soil mites, Oribatida, Phthiracaridae, *Phthiracarus*, new species, new record, key, China

Introduction

Perty proposed the genus *Phthiracarus* in 1839 and two years later designed *Phthiracarus contractilis* Perty, 1841 (= *Hoplophora laevigata* C. L. Koch, 1841) as the type species. The species of this genus are characterized by integument mostly smooth or punctuate; dorsal and lateral sigillar fields of prodorsum mostly not fused; lateral carinae of prodorsum either long, extending beyond or reaching sinus, or shorter; posterior furrows of prodorsum mostly absent; sensilli most often smooth, short, fusiform or rounded distally, or long and filiform, without a distinct head; setae of prodorsum and notogaster smooth, fine, long and attenuate; median crista of notogaster absent; 15 pairs of notogastral setae, rarely more setae present; genital setae arranged in two rows, setae g_6–g_9 remote from paraxial margin, setae g_6 usually near or anterior to g_5; adanal setae always remote from the paraxial margin of plate, setae ad_1 and ad_2 well developed, minute or vestigial, neotrichy involving adanal setae can occur; setae *d* of tibiae IV short, coupled with solenidia; setae *v'* (when present) on femora I long; setae *ft"* of tarsi I normal.

Phthiracarus comprises free-living ptyctimous mites mainly occurring in the upper layers of highly organic forest soils (Parry 1979). It is the largest genus of the family Phthiracaridae, with more than 160 species of nearly cosmopolitan distribution (Niedbała 2011, Subías 2013). As one of the earth's megadiverse countries, this group of mites remained poorly known in China. Prior to our work, only nine species were recorded in China (Chen *et al*. 2010, Niedbała 2012): *P. japonicus* Aoki, 1958, *P. clemens* Aoki, 1963, *P. crispus* Hammer, 1972, *P. abstemius* Niedbała, 1989, *P. setosus* (Banks, 1895), *P. bryobius* Jacot, 1930, *P. lentulus* (C. L. Koch, 1841), *P. boresetosus* Jacot, 1930, and *P. longulus* (C. L. Koch, 1841).

During taxonomic study on Chinese ptyctimous mites, we identified eight species of *Phthiracarus*, including three new species and two newly recorded species from China. In this paper,