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To systematics of the mite genus *Hoplocheylus* (Acariformes: Tarsocheylidae)

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Abstract

A new species of the genus *Hoplocheylus* Atyeo and Baker, 1964 (Acariformes: Heterostigmatina: Tarsocheylidae), *H. magnificus* **sp. nov**. is described from the nest of the ant *Formica rufa* Linnaeus (Hymenoptera: Formicidae) from Kurgan Province, Western Siberia, Russia. A poorly-known species *Hoplocheylus sogdianicus* Barilo and Sharipov, 1987 is redescribed from the holotype. A key to species of the genus *Hoplocheylus* is provided.

Key words: acari, Heterostigmatina, key, systematics, Tarsocheylina

Introduction

The family Tarsocheylidae (Acari: Tarsocheyloidea) represents the earliest-derivative lineage of Heterostigmata and includes two genera, monobasic *Tarsocheylus* Berlese, 1904 and *Hoplocheylus* Atyeo and Baker, 1964 with nine described species (Cooreman 1951; Atyeo & Baker 1964; Lindquist 1976, 1987; Amin *et al*. 2014). Tarsocheylid mites inhabit rotting woods, sandy substrates, forest litter, soil, etc. Some species are associates of passalid beetles (Lindquist 1976; Walter *et al*. 2009). These mites are known from southern Europe (Berlese 1904, 1913), Central Africa (Cooreman 1951), North America (Atyeo & Baker 1964; Marshall 1966; Smiley & Moser 1968; Delfinado & Baker 1974; Lindquist 1976, 1987), Central Asia (Barilo & Sharipov 1987; Amin *et al*. 2014) and Australia (Lindquist 1976). One species, *Hoplocheylus arnoldii* Livshits and Mitrofanov, 1973 was described from Russia (Crimean peninsula) (Livshits & Mitrofanov 1973). The generic diagnoses, morphology and setal homologies of all active stages of Tarsocheylidae were provided by Lindquist (1976, 1987). Their life-cycle consists of four active stages: larva, protonymph, deutonymph and adults (female and male) (Lindquist 1987). The larval stage is described only for *Tarsocheylus paradoxus* Berlese, 1904 and recorded for several species of *Hoplocheylus* (Lindquist 1987). To date, all active stages of any species of *Hoplocheylus* were not described.

A research on myrmecophilous acariform mites of Western Siberia has resulted in finding all active stages of a new species *Hoplocheylus magnificus* Khaustov **sp. nov**. in the nest of the red wood ant *Formica rufa* L. (Hymenoptera: Formicidae). In this paper, all immature stages of *Hoplocheylus* species are described in details for the first time. Because of finding of some morphological structures on gnathosoma, which were not mentioned in the papers of Lindquist (1976, 1987) some modifications to diagnosis of the genus *Hoplocheylus* are proposed. I also redescribed a little-known species, *Hoplocheylus sogdianicus* Barilo and Sharipov, 1987 based on examination of the holotype and provide a key to species of the genus.

Material and methods

Mites were collected from nest of *Formica rufa* L. using Berlese funnels and mounted in Hoyer's medium. In the descriptions, nomenclature for idiosomal and leg setae follows Grandjean (1939, 1940, 1941) as adopted for Heterostigmata by Lindquist (1986, 1987) with some modifications on tarsal non-funfdamental proximal setae proposed by Atyeo (1963); nomenclature of subcapitular setae follows Grandjean (1944); nomenclature of palpal setae follows Grandjean (1946); nomenclature of cheliceral setae follows Grandjean (1947). All measurements are given in micrometers (μm). For leg setae the number of solenidia is given in parentheses. DIC photos were taken

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