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Mites of the superfamily Pygmephoroidea (Acari: Heterostigmata: Neopygmephoridae, Pygmephoridae) associated with *Trox cadaverinus* (Coleoptera: Trogidae) from the Far East of Russia, with description of a new genus and two new species

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Abstract

Three species of the superfamily Pygmephoroidea (Neopygmephoridae: Pygmephoridae), phoretic on *Trox cadaverinus* Illiger (Coleoptera: Trogidae) are recorded from the Far East of Russia. A new genus, *Troxodania* Khaustov and Trach gen. nov. (Neopygmephoridae), and 2 new species, *Troxodania magnifica* Khaustov and Trach **sp. nov.** and *Pseudopygmephorellus troxi* Khaustov and Trach **sp. nov.** (Pygmephoridae), are described. *Bakerdania sinanii* Sevastianov and Zahida Al Douri, 1989 (Neopygmephoridae) is considered as a junior synonym of *Troxodania decumanus* (Krczal, 1959) comb. nov. The key to genera of neopygmephorid females which have median genital sclerites is provided. The taxonomic significance of the median genital sclerite in females of the family Neopygmephoridae is discussed.

Key words: Acari, Heterostigmatina, phoresy, trogid beetles, systematic, morphology

Introduction

Recently Philips (2009) reviewed the mite fauna associated with various trogid beetles of the world. He recorded 26 families of parasitiform and acariform mites associated with 68 species of trogid beetles. Mites of the superfamily Pygmephoroidea (Acari: Heterostigmatina) were represented by 10 species, only two of which were identified (Philips 2009). The most numerous and widely distributed was *Sicilipes troxi* Mahunka and Philips, 1978, which was originally described from USA phoretic on *Trox variolatus* Melsheimer (Mahunka & Philips 1978). Mašan (1993) recorded *Bakerdania decumanus* (Krczal, 1959) from *Trox sabulosus* Linnaeus and *Pseudopygmephorellus szekessyi* (Mahunka, 1970) from *Trox scaber* (Linnaeus) from Slovakia.

In this study we obtained mites associated with trogid beetle *Trox cadaverinus* Illiger from the Far East of Russia and recorded three phoretic species from two families of pygmephoroid mites: *Pseudopygmephorellus troxi* Khaustov and Trach **sp. nov.** (Pygmephoridae), and two species of a new genus *Troxodania* Khaustov and Trach gen. nov. (Neopygmephoridae), *T. decumanus* (Krczal, 1959) comb. nov. and *T. magnifica* Khaustov and Trach **sp. nov.** The purpose of this paper is to describe the new genus and two new species from the Far East of Russia, and to discuss the taxonomic significance of the median genital sclerite in females of neopygmephorid mites.

Material and methods

Mites were collected from trogid beetles *Trox cadaverinus* Illiger and mounted in Hoyer's medium. In the description, the terminology of idiosoma and legs follows Lindquist (1986). The nomenclature of subcapitular and cheliceral setae follows Grandjean (1944, 1947), respectively. The systematics of Pygmephoroidea follows Khaustov (2004, 2008a). All measurements are given in micrometers (μm) for the holotype and 5 paratypes (in

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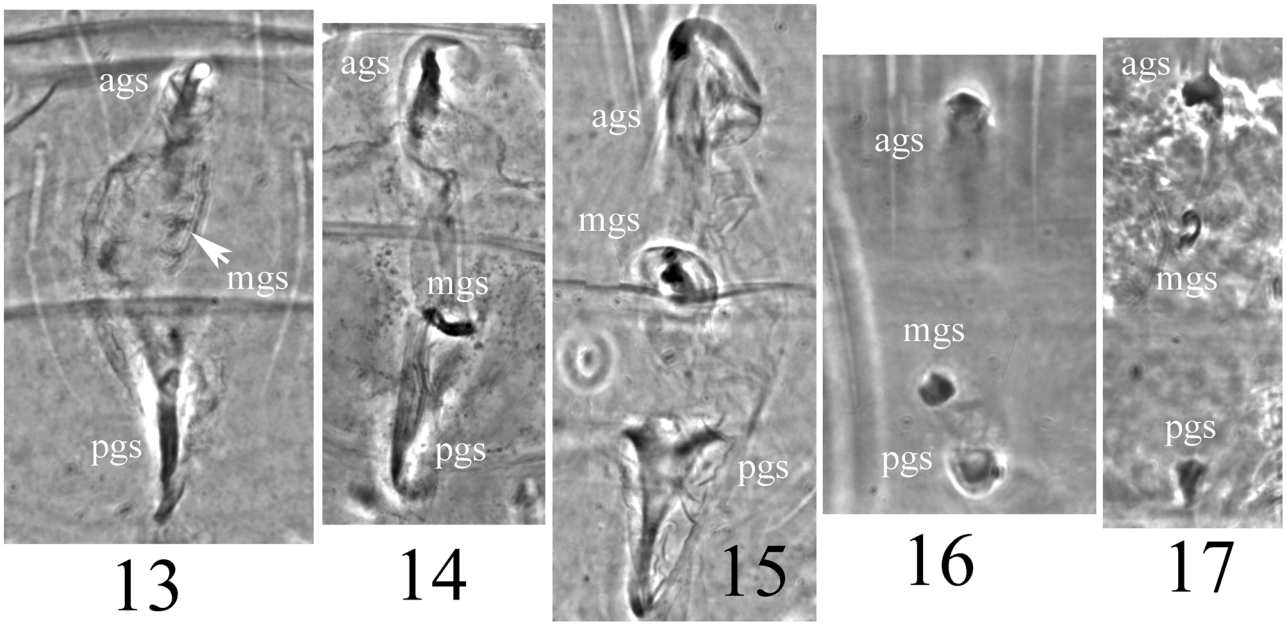
. . . . . *Pseudopygmephorus* Cross, 1965. In various habitats, phoretic on scarab beetles (Khaustov 2010).

- Solenidion ω_1 prominent, tibiotarsus I greatly enlarged, posterior genital sclerite small, oval (Figs. 16–17) . . . . . *Troxodania* Khaustov and Trach gen. nov. Associated with trogid beetles.



FIGURES 13–17. Genital sclerites of different females of pygmephoroid mites: 13—*Pseudopygmephorus aphodii* Khaustov, 2010, 14—*Pseudopygmephorus* sp., 15—*Petalomium tauricum* Khaustov, 2005, 16—*Troxodania decumanus* (Krczal, 1959) comb. nov., 17—*Troxodania troxi* (Mahunka and Philips, 1977) comb. nov.; ags—anterior genital sclerite, mgs—median genital sclerite, pgs—posterior genital sclerite.

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