

***Podapolipus kurosai* spec. nov. (Acari: Podapolipidae), parasite of *Phloeonotus humilis* Gerstaecker (Orthoptera: Tetrigidae) in Swaziland, Southern Africa**

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Abstract

Podapolipus kurosai spec. nov. (Acari: Podapolipidae) is described, illustrated and compared with related *Podapolipus* species from Orthoptera and Blattodea. *Podapolipus kurosai* is a subpronotal parasite of the pigmy grasshopper *Phloeonotus humilis* Gerstaecker collected in Swaziland, Southern Africa. This is the first record of a podapolipid mite from Tetrigidae.

Key words: Taxonomy, Podapolipidae, new species, Africa, Tetrigidae

Introduction

Mites in the family Podapolipidae (Acari: Heterostigmatina) are highly specialized endo- and ectoparasites of the insect orders Blattodea, Orthoptera, Heteroptera, Hymenoptera and especially Coleoptera. Sixteen species of *Podapolipus* are described from Orthoptera, 15 from Acrididae and the present species from Tetrigidae. Kurosa (personal communication) discovered parasitic mites on Tetrigidae in Japan, unpublished observation. An inspection of Tetrigidae in the collection of the University of Michigan Museum of Zoology yielded all instars of a new species of *Podapolipus* from an African tetrigid grasshopper. Husband (1989) discussed differences in groups of *Podapolipus* species from Coleoptera, Blattodea and Orthoptera. All share the characteristics; males with aedeagi terminating anterodorsally, females with one pair of legs, usually with femur I setae *l'* conspicuous, larval females with setae v_2 lateral to setae v_1 and v_2 often anterolateral to v_1 . Males of *Podapolipus* species from Blattodea resemble *Podapolipus* from Orthoptera in length of aedeagi beyond the anterior margin of the prodorsal plate (Husband 1986). Husband *et al.* (2008) discussed synhospitality, the occurrence of more than one genus and species of podapolipid mite parasitizing one species of Orthoptera. Multiple species of podapolipids parasitizing one host specimen of Tetrigidae has not been observed so far. The purpose of this paper is to describe *Podapolipus kurosai* spec. nov., the first record of a podapolipid mite of Tetrigidae and compare it with related *Podapolipus* from Orthoptera and Blattodea.

Materials and methods

Twenty Tetrigidae in the collection of the University of Michigan Museum of Zoology were examined for meso- and metanotal podapolipid mites. One of six *Phloeonotus humilis* from Kwalusemi, Swaziland, Southern Africa had all instars of *Podapolipus kurosai* spec. nov. The technique for removing mites from museum specimens is described in Husband and Dastych (1998). Mites were mounted in Hoyer's mounting medium, dried on a slide-warming tray for at least 24 hours and ringed with Glyptal electrical insulating paint.