

Article

***Eutarsopolipus asiaticus* sp. nov. (Acari: Podapolipidae), subelytral parasite of *Chlaenius costiger* Chaudoir (Coleoptera: Carabidae) from Japan**

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Abstract

Eutarsopolipus asiaticus sp. nov. (Acari: Podapolipidae), subelytral parasite of *Chlaenius costiger* Chaudoir (Coleoptera: Carabidae), is described from Japan. Relationships with 18 previously described species in the *myzus* group of *Eutarsopolipus* are discussed and keys are provided to species in the *myzus* group. This is the first record of *Eutarsopolipus* in the *myzus* group in Japan and represents a subgroup of species in the *myzus* group with cheliceral stylets 90 micrometers or longer.

Key words: Taxonomy, new species, *Chlaenius costiger*, parasite, *myzus* group

Introduction

Mites in the family Podapolipidae (Acari: Tarsonemina) are all specialized parasites of five orders of insects: Blattodea, Heteroptera, Hymenoptera, Orthoptera and especially Coleoptera. Regenfuss (1968) placed 18 species in the genus *Eutarsopolipus*, all parasites of the beetle family Carabidae, in seven groups based on apomorphic and other characters. Of the 64 species of *Eutarsopolipus*, including the species described herein, 18 are in the *myzus* group.

Species in the *myzus* group are divided into three subgroups based on lengths of cheliceral stylets: (1) 90 micrometers or longer, (2) 45–65 and (3) less than 45. Previous studies of *Eutarsopolipus* species in the *myzus* group are: Regenfuss (1968, 1974), Husband and Swihart (1986), Husband (1998, 2000, 2001), Husband and Dastych (1999), Khaustov (2010), Husband and Husband (2012, 2013) and Hajiqanbar and Mortazavi (2012). Species in the *myzus* group of *Eutarsopolipus* with stylets 45–65 from *Chlaenius praesinus* Dejean in the eastern United States are being studied by R. W. Husband and D. O. Husband. Similar species from *Chlaenius costiger* from Japan are under study by Husband and Kurosa. The new species described herein is the first species in the *myzus* group parasitizing the carabid genus *Chlaenius* in Asia and one of the first species from the subgroup with females with stylets exceeding 90 micrometers. We also present a key to the 18 species in the *myzus* group.

Materials and methods

Podapolipid mites were found on ten specimens of *Chlaenius costiger* Chaudoir (Coleoptera: Carabidae) from Nagasaki, Shimane, Okinawa and Yamanashi Prefectures. Mites were cleared with Nesbitt's solution and mounted in Hoyer's medium.