

Article

***Eutarsopolipus jacobi* sp. nov. (Acari: Podapolipidae), subelytral parasite of *Diplocheila impressicollis* (Coleoptera: Carabidae) from Michigan, U.S.A.**ROBERT W. HUSBAND¹ & DAVID O. HUSBAND²¹ Biology Department, Adrian College, Adrian, Michigan 49221, U.S.A. e-mail: husbandadrian@aol.com² 346 Jamacha, Apartment 61, El Cajon, CA 92019, U.S.A.**Abstract**

Eutarsopolipus jacobi sp. nov. (Acari: Podapolipidae), subelytral parasite of *Diplocheila impressicollis* Dejean (Coleoptera: Carabidae), is described from Washtenaw and Huron Counties, Michigan, U.S.A. Relationships with 13 previously described species in the *myzus* group of *Eutarsopolipus* are discussed and keys are provided to six species in the *myzus* group in the Western Hemisphere. This is the first record of a species in the *myzus* group parasitizing the carabid genus *Diplocheila* in the Western Hemisphere.

Key words: Taxonomy, Acari, Podapolipidae, new species, Michigan, *Diplocheila*, parasite

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*, parasites of the beetle family Carabidae, in seven groups based on apomorphic and other characters. Keys to 14 groups of *Eutarsopolipus* currently existing were presented by Husband and Husband (2009). Regenfuss (1968) placed the following five species of *Eutarsopolipus* in the *myzus* group: *E. myzus* Regenfuss 1968, *E. abdominis* Regenfuss 1968, *E. squamorum* Regenfuss 1968, *E. thoracis* Regenfuss 1968 and *E. poecili* Regenfuss 1968. Species added to the *myzus* group since 1968 are: *E. caudatus* Regenfuss 1974, *E. latus* Regenfuss 1974, *E. regenfussi* Husband & Swihart 1986, *E. quebecensis* Husband 1998, *E. tomentosus* Husband & Dastych 1999, *E. mirifici* Husband 2000, *E. davidsoni* Husband 2001 and *E. steveni* Khaustov 2010. Undescribed species in the *myzus* group collected in Iran and Japan are currently under study by Hajiqanbar (personal communication) and Kurosa (personal communication). Carabid host genera for *Eutarsopolipus* in the *myzus* group are *Chlaenius*, *Pterostichus* and the host *Diplocheila* described herein. The purpose of this paper is to describe *Eutarsopolipus jacobi* sp. nov., compare the species with 13 previously described species in the *myzus* group and present a key to adult females of six species in the *myzus* group in the Western Hemisphere.

Materials and methods

Twenty specimens of *Diplocheila impressicollis* Dejean (Coleoptera: Carabidae) in the University of Michigan Museum of Zoology were placed in hot water for relaxation and examined for mites.