Zootaxa 1781: 20–30 (2008)
www.mapress.com/zootaxa/

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

Hieracium-associated aphid parasitoid guilds (Hymenoptera: Braconidae: Aphidiinae) in Europe

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Abstract

Eleven aphidiine braconid species are associated with 10 aphid species to form over 50 tritrophic associations in Europe. The host aphids belong to five genera, *Aphis* L., *Brachycaudus* Van der Goot, *Hyperomyzus* Börner, *Nasonovia* Mordvilko, and *Uroleucon* Mordvilko, and feed on 11 *Hieracium* species. Five new host plant records are reported. The associated aphidiine guilds are linked with the taxonomic position of the host aphids. Host aphids such as *Brachycaudus helichrysi* (Kaltenbach) and *Uroleucon* spp. are broadly oligophagous, but *Nasonovia* spp., *Aphis hieracii* Schrank, and *Hyperomyzus hieracii* (Börner) are specific mainly to *Hieracium* and related plants. A key for the identification of aphidiine species associated with aphids on *Hieracium* plants in Europe is provided.

Key words: *Hieracium*, aphidiines, associations, *Nasonovia*

Introduction

Aphidiine braconids are solitary koinobiont endoparasitoids of aphids (Van Achterberg 1997). Many species are known to contribute to the control of aphid pests in various communities (Starý 1970, 1988). Accordingly, researchers have shown great interest in this group of parasitoids worldwide (Hagvar & Hofsvang 1991). There has been an increase in the number of extensive studies on the aphidiine fauna in several parts of the world. These studies were based primarily on reared material and knowledge of tritrophic associations (i.e., parasitoid-aphid-plant). Such approaches have increased our knowledge of aphidiines endemic to a particular region by focusing on species composition, diversity, and host range and provide background information for applied activities such as the selection of potential biocontrol agents and landscape management. Knowledge of tritrophic associations for species with minimal economic importance may be important for understanding biodiversity in agricultural landscapes. Host aphids from such associations could serve as an alternative prey for different aphidophagous predators (Starý 1986, 1991; Völkl & Starý 1988; Kavallieratos *et al*. 2002).

Little information is available for aphidiines and their hosts in montane areas worldwide. Relevant contributions are scattered in taxonomic papers (Starý *et al*. 1998; Tomanović & Starý 2001; Tomanović *et al*.

 Accepted by L. Buffington: 6 May 2008; published: 3 Jun. 2008