



Three new genera of the mite family Eviphididae (Acari: Mesostigmata)

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Abstract

Three new genera of the mite family Eviphididae Berlese are described, based on non-phoretic species that occur in soil. The new genera are *Alloseius* **gen. nov.**, with type species *Iphidosoma pratensis* Karg, *Pseudoalliphis* **gen. nov.**, with type species *Alliphis sculpturatus* Karg, and *Halolaspis* **gen. nov.**, with type species *Halolaspis hypedon* **sp. nov.** *Iphidosoma insolentis* Ma, 1997 is transferred to *Alloseius* **gen. nov.** A key to the world genera of the family Eviphididae is provided.

Key words: Acari, Eviphididae, new genus, *Alloseius*, *Alliphis*, *Halolaspis*, *Iphidosoma*, *Pseudoalliphis*

Introduction

The family Eviphididae includes about 120 species of small to medium-sized predatory mites that are found in soil and decomposing organic matter. Many of these species are phoretic on insects that also occur in these habitats. The family is well defined, although morphologically heterogeneous, and has had a relatively stable and generally accepted genus-level classification. The family is presently divided into two subfamilies, namely Thinoiseiinae Evans, 1954, which includes only the genus *Thinoiseius* Halbert, 1920, and Eviphidinae Berlese, 1913, which includes all the other genera: *Alliphis* Halbert, 1923, *Canestriniphis* Potter & Johnston, 1976, *Copriphis* Berlese, 1910, *Crassicheles* Karg, 1963, *Cryptoseius* Makarova, 1998, *Evimirus* Karg, 1963, *Eviphis* Berlese, 1903, *Metacryptoseius* Kazemi & Moraza, 2008 (in Kazemi *et al.* 2008), *Pelethiphis* Berlese, 1911, *Rafaphis* Skorupski & Błaszak, 1997, *Scamaphis* Karg, 1976, *Scarabacariphis* Mašán, 1994 and *Scarabaspis* Womersley, 1956. *Copriphis* and *Alliphis* are the largest of these genera while *Canestriniphis*, *Rafaphis*, *Scamaphis* and *Scarabacariphis* are presently monotypic.

The most recent general summary of knowledge of the family was that of Shoemake (1970), who illustrated or re-illustrated most of the known species and provided keys for their identification. This attempt at a world-wide revision of the family was in an unpublished thesis, so the new names in that work are not available for nomenclatural purposes, but it does contain a very useful review of the family and a key to the taxa known to that time. Other partial keys to genera of Eviphididae may be found in Karg (1963, 1971, 1976, 1993), Evans (1969), Bregetova (1977), Evans & Till (1979), Krantz & Ainscough (1990), and Mašán (1994b), and these works form the basis for the taxonomic study of the family that is being undertaken by the present authors.

The cosmopolitan genus *Alliphis* includes about 30 described species worldwide. Its representatives are usually found in association with scarabaeid beetles and in agricultural and grassland soils, in dung, carrion, and in the nests of mammals and birds. The genus needs a revision because some of its species appear to be synonyms, and others may be better placed in other genera. Some species are known only from the immature stages, and the descriptions of others are not sufficiently detailed. In this paper we attempt to clarify the concept of the genus *Alliphis* by removing some species that obviously belong in other genera. *Alliphis*