



New edaphic mites of the genus *Veigaia* from Slovakia and Bulgaria, with a key to the European species (Acari, Mesostigmata, Veigaiidae)

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Abstract

Five new European mite species (Acari: Veigaiidae) are described from the Carpathian Mountains in Slovakia and the Stara Planina Mountains in Bulgaria: *Veigaia carpathica* Mašán & Fend'a, **sp. nov.**, *V. incisilobata* Mašán, **sp. nov.**, *V. pentachaeta* Mašán, **sp. nov.**, *V. slovacica* Mašán, **sp. nov.**, and *V. vermiculifera* Mašán, **sp. nov.** Ecological information is provided for the most common and abundant species, *V. carpathica* and *V. slovacica*. A new key to the females of the European species of *Veigaia* is provided.

Key words: Acari, Veigaiidae, *Veigaia*, description, new species, identification key, Slovakia, Bulgaria

Introduction

The family Veigaiidae is well defined, morphologically homogeneous, and has a stable and generally accepted genus-level classification. All three of the known genera have been recorded in Europe, namely *Cyrrhydrobia* Berlese, 1905, *Gamasolaelaps* Berlese, 1904 and *Veigaia* Oudemans, 1905.

The first review of knowledge of the genus *Veigaia* was by Willmann (1936), who illustrated or re-illustrated most of the known European species. The most comprehensive review was by Farrier (1957), who surveyed the whole world fauna of the family Veigaiidae. The genus *Veigaia* is predominantly distributed in the Holarctic region and currently includes about 60 known species from North America (Farrier, 1957; Hurlbutt, 1965, 1984; Pike & Jarrol, 1977), Europe (see below), Siberia (Trägårdh, 1901; Bregetova, 1961; Davydova, 1965, 1971, 1978, 1979), Caucasus (Petrova & Makarova, 1989), China (Ma & Piao, 1981; Ma, 1996; Ma & Wang, 1998; Ma & Yin, 1999; Ma & Lin, 2004), Taiwan (Tseng, 1994), Japan (Ishikawa, 1978, 1982), India (Bhattacharyya, 1968, 2006), Africa (Hurlbutt, 1983) and Australia (Womersley, 1956).

When compared with other families of Mesostigmata, the European Veigaiidae are comparatively poorly known. The most extensive study of members of the genus *Veigaia* has been in Germany (Willmann, 1936, 1951; Hirschmann, 1962; Karg 1971), Great Britain (Evans, 1955; Till, 1988), Switzerland (Schweizer, 1961), former Soviet Union (Bregetova, 1961, 1977) and Spain (Athias-Henriot, 1961). These works form the basis for the taxonomic investigations continued by more recent authors.

Although numerous descriptive papers have been published on European *Veigaia*, they often contain only scattered fragmentary data, often barely enough to allow precise species identification (Berlese, 1916b; Willmann, 1935, 1938; Mihelčič, 1958; Cooreman, 1959; Schweizer, 1961; Schmölzer, 1992, 1995). There are no recent studies on European representatives of *Veigaia* based on new systematic collections, only a few papers