



New zerconid mites (Acari: Mesostigmata: Zerconidae) from Canada, with a review of the genus *Mixozercon* Halašková, 1963

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Abstract

Three new species of the genus *Mixozercon* Halašková, 1963 (Zerconidae) are described from boreal forest sites of the EMEND experimental site in northwestern Alberta, Canada – *M. albertaensis* **sp. nov.**, *M. jasoniana* **sp. nov.** and *M. borealis* **sp. nov.** The new genus *Boreozercon* **gen. nov.** is described, with type species *B. emendi* **sp. nov.** Short diagnoses and distributional records are given for *Mixozercon heterosetosus* (Balan 1995), *M. sellnicki* (Schweizer 1948) and *M. stellifer* (Aoki 1964). Keys are provided for identification of the known species of *Mixozercon* and the Nearctic genera of the family Zerconidae.

Key words: Zerconidae, *Mixozercon*, *Boreozercon*, Canada, EMEND project

Introduction

Zerconid mites are an important component of the soil fauna of the Northern Hemisphere. Most of the faunistic and taxonomic research on this family has been carried out in the Palaearctic Region, and most of the described species are known from Eurasia. However, based on recent studies, the species-richness of the family is expected to be high in the Nearctic region as well (Sikora & Skoracki 2008).

The first investigation of the North America fauna was by Sellnick (1958), who described four species of Zerconidae from Alaska and California, USA. Halašková (1969b) reported several new taxa of Zerconidae from South and North Carolina, USA. Later Błaszak (1976a) revised some of Sellnick's species, and described two new genera. Halašková (1977) enriched our knowledge of the Nearctic zerconid mite fauna by revising and describing nine new species and four new genera from Canada. During the 1980s the number species and genera of Zerconidae described from the USA grew following the prolific work of Błaszak (1980, 1981a, 1981b, 1982, 1984), including the description of a fossil genus from a cave in New Mexico (Błaszak *et al.* 1995). Sikora & Skoracki (2008) then described the genus *Błaszakiella* Sikora & Skoracki 2008. In spite of the relatively high number of taxonomic papers published, only a small proportion of North America's zerconid mites is known, with most of the genera represented by few records.

A total of 20 genera of Zerconidae is known from North America (Sikora & Skoracki 2008), and only five of them (*Caurozercon* Halašková 1977, *Echinozercon* Błaszak 1976a, *Mixozercon* Halašková 1963, *Parazercon* Trägårdh 1931 and *Zercon* C. L. Koch 1836) are known from both the Palaearctic and Nearctic regions. *Zercon* is the most species-rich genus of the family, having representatives in both regions (Evans 1955), but only very few species are common to the two regions. Most of the species of the genera *Caurozercon* and *Echinozercon* are distributed in the eastern part of Asia, with one species in each genus originally described from North America (Halašková 1977; Błaszak 1982). *Parazercon* appears to be widespread, with its species-richness lowest in the Holarctic region and highest in Southeast Asia. Only one