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Oribatid mite fossils from pre-Quaternary sediments in Slovenian caves II. *Amiracarus pliocennatus* n.gen., n.sp. (Microzetidae) from Pliocene, with comments on the other species of the genus

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Abstract

Amiracarus pliocennatus n. gen., n. sp. is described based on fossils found in Pliocene and Pleistocene clastic sediments in caves of the Slovenian Classical Karst (Kras). Diagnosis and relationships of the new genus are given and relationships within the extant species of the genus are discussed as well as variability and reliability of some characters, used for species differentiation. *Amiracarus senensis* (Bernini 1975) n. comb. is proposed as a type species of the new genus, and other four extant species are newly placed in *Amiracarus* n. gen.: *A. abeloosi* (Lions 1978) n. comb., *A. discrepans* (Mahunka 1966) n. comb., *A. grootaerti* (Wauthy & Ducarme 2011) n. comb. and *A. similis* (Subias & Iturrondobeitia 1978) n. comb. Finding of a fossil individual of *M. senensis* Bernini 1975 in Poncova Cave of South-West Carpathians in Romania is reported and a description of this individual is given. Relationships with the genus *Miracarus* Kunst 1959 are discussed and a new diagnosis of this genus is also given, along with the redescription of its type species, *M. hurkai* Kunst 1959.

Key words: fossil oribatid mites, new species, Pliocene sediments, Pleistocene sediments, South-West Carpathians, Poncova Cave, Trhlovca Cave, Račiška pečina Cave, determination key

Introduction

In the first part of this series (Miko *et al.* 2012) we shortly outlined existing information about the fossil record of oribatid mites. The presence of oribatid fossils in Pleistocene and early Pliocene cave sediments of Slovenian Classical Karst reported by Miko *et al.* (2012) represents until now a rather unique record of oribatid fauna of these periods. The first paper dealt with two new species and genera of Ophiozoa.

The present work brings the description of a new genus and new species of Microzetidae found in several fossil profiles (Moldovan *et al.* 2011). The new species is related to extant species described within the genus *Miracarus* Kunst 1959, and was reported as *Miracarus* sp. Neither the genus or any other representatives of the family Microzetidae have been recorded in tertiary or older periods until now (see Krivolutsky *et al.* 1990 and Labandeira *et al.* 1997 for overviews). The genus *Miracarus* was proposed by Kunst (1959) for an extant species *M. hurkai*¹ Kunst 1959 of which a single individual was found in lawn soil near the seashore in Burgas, Bulgaria. Later described species were found in terrestrial habitats (*M. discrepans* Mahunka 1966 in meadow soil, *M. similis* Subias & Iturrondobeitia 1977 in forest mosses, *M. abeloosi* Lions 1978 in beech forest soil) or in caves and their close vicinity (*M. senensis* (Bernini 1975), *M. abeloosi* Lions 1978 and *M. grootaerti* Wauthy & Ducarme 2011). A detailed analysis of the type species of *Miracarus* (see the redescription below, based on the holotype, together with a new definition of the genus) and comparison with all other species described within this genus, as well as

1. The species is referred to as “hurkai”. It was dedicated to Prof. Karel Hůrka, outstanding Czech entomologist, but the name, using Czech letter “ů” (“hůrkai”) is not allowed by International code of zoological nomenclature.