

Article

## A new edaphic mite of the genus *Pachyseius* (Acari, Mesostigmata, Pachylaelapidae) from Făgăraș Mountains (Romania), with a key to world species

PETER MAŠÁN<sup>1</sup> & PETER FENĎA<sup>2</sup>

<sup>1</sup>Institute of Zoology, Slovak Academy of Sciences, Dúbravská cesta 9, 845-06 Bratislava, Slovakia.

E-mail: [peter.masan@savba.sk](mailto:peter.masan@savba.sk); [uzaepema@savba.sk](mailto:uzaepema@savba.sk)

<sup>2</sup>Peter Fend'a, Department of Zoology, Faculty of Natural Sciences, Comenius University, Mlynská dolina B-1, 842 15

Bratislava, Slovakia. E-mail: [fenda@fns.uniba.sk](mailto:fenda@fns.uniba.sk)

### Abstract

*Pachyseius crymophilus* sp. nov. is described and illustrated based on specimens collected in an alpine meadow habitat in the Făgăraș Mountains, the Carpathians, Romania. It is closely related to *Pachyseius strandtmanni* Solomon, 1982 by the form and sculpture of idiosoma, the setae Jv3 placed on soft integument off the ventrianal shield, the fragmentation and arrangement of shields and sclerites of the peritrematal-podal-sternal complex, the hypertrophy of some poroids, and the setation of lateral and opisthogastric soft integument. A new identification key to world species of the genus *Pachyseius* is provided.

**Key words:** Acari; Mesostigmata; *Pachyseius*; new species; key; Carpathians; Romania

### Introduction

*Pachyseius* is a small genus of edaphic mites distributed exclusively throughout the Palaearctic region, except that *Pachyseius humeralis* may have been introduced into Australia by human activities (Halliday 2001), and an unidentified *Pachyseius* species has been provisionally reported from North America (Farrier & Hennessey 1993). The genus currently comprises 17 described species from Europe (Berlese 1910; Willmann 1935; Hyatt 1956; Solomon 1982; Afifi & Nasr 1984; Moraza 1993; Mašán & Mihál 2007; Mašán 2007, 2008), Asian part of Russia (Nikolsky 1982), China (Yin *et al.* 1986; Ma & Yin 2000; Chen *et al.* 2009) and Japan (Ishikawa 1989).

Some species have been incorrectly classified in the genus *Pachyseius* at some time, but are now placed in other genera (Mašán & Halliday 2014). The most recent example of such misidentification is *Pachyseius malimingi* Bei, Chen & Wu, 2010, described from China by Bei *et al.* (2010), which should be considered as a member of the genus *Mirabulbus* Liu & Ma, 2001.

In our study of the mites collected from the Carpathian Mountains in Romania, we found several conspecific *Pachyseius* specimens which could not be identified as any of the known species in the genus. Based on their specific morphological features, we here describe a new species in order to contribute to the knowledge of these mesostigmatic mites in Europe. In addition, also a new and complete identification key for the all world species of the genus *Pachyseius* is provided.

### Material and methods

Mites were extracted from soil using a modified Berlese-Tullgren funnel equipped with a 40 Watt bulb. The extraction lasted 48–72 hours. Specimens were slide-mounted in gum-chloral medium.