



Redescription of two troglobiotic species of the genus *Pseudosinella* Schäffer, 1897 (Collembola, Entomobryidae) from the Western Carpathians

LUBOMÍR KOVÁČ¹ & JOSEF RUSEK²

¹Department of Zoology, Institute of Biology and Ecology, Faculty of Science, P. J. Šafárik University, Moyzesova 11, 040 01 Košice, Slovak Republic. E-mail: lubomir.kovac@upjs.sk

²Institute of Soil Biology BC AS CR, Na Sádkách 7, 370 05 České Budějovice, Czech Republic, E-mail: rusek@upb.cas.cz

Abstract

Two troglobiotic species of the genus *Pseudosinella* Schäffer, 1897 from the Western Carpathians are redescribed, *P. aggtelekiensis* (Stach, 1929) and *P. pacti* Rusek, 1961. *P. aggtelekiensis* has endemic distribution restricted to the Slovak-Aggtelek Karst region in Slovakia and Hungary. It shows higher level of troglomorphy (elongation of antennae, basal displacement of unguis teeth concurrent with their reduction) probably representing a descendant of the older phyletic *Lepidocyrtus-Pseudosinella* lineage. *P. pacti*, distributed in caves of several karstic regions in central Slovakia, is characteristic with medium level of troglomorphy.

Key words: cave fauna, troglomorphy, Slovak-Aggtelek Karst, Slovakia, Hungary

Introduction

According to recent biospeleological explorations karstic caves of the Western Carpathians (Slovakia) host several specialized subterranean forms within the genus *Pseudosinella* Schäffer, 1897. We redescribe in this contribution two troglobiotic *Pseudosinella* species since their original descriptions are incomplete and do not correspond with the modern taxonomy.

Pseudosinella aggtelekiensis (Stach, 1929) was entirely inadequately described and its position within the taxonomic framework of the genus remained unclear (Christiansen *et al.* 1983, 2009). The only additional specification of the species status was that of Loksa (1961) who provided the figure of the foot complex. We were kindly provided with material of *P. aggtelekiensis* from type locality (Baradla Cave, Hungary) by Prof. W. M. Weiner (Kraków) labelled as "Hungaria, Aggtelek Höhle, 19.XII.1929, leg. Dudich, *Lepidocyrtus (Pseudosinella) aggtelekiensis* (ex coll. Stach)" containing 5 individuals mounted on the same permanent slide. Unfortunately, the status of the material is inappropriate for a detailed study. Therefore we redescribe the species based on recently collected specimens from the Domica-Baradla Cave system. Type locality, Baradla Cave, is a part of the system that reaches its overall length over 25 km and involves several interconnected caves. The cave system is situated on the boundary between Slovakia and Hungary in the Slovak-Aggtelek Karst orographic region.

Similarly, the original description of *Pseudosinella pacti* Rusek, 1961 is incomplete, corresponding with the state of contemporary taxonomy. Paratypes of the species were later examined by Gisin and Gama (1970). Within the description of *P. subdobati* they also specified several characters of *P. pacti*, i.e. pattern of dorsal macrosetae of the body as well as pattern of supplementary microsetae situated in front of anterior trichobothrium on the fourth abdominal segment. The holotype and two paratypes from the Demänovská slobody Cave (Demänovská Valley) in Low Tatra Mountains, Slovakia, are mounted on a permanent slide deposited in the Department of Entomology, Moravian Museum, Brno (Czech Republic). However, important morphological details are not clearly seen on the slide. The redescription of *P. pacti* is therefore based on additional specimens from type locality collected recently.

It is generally accepted that genus *Pseudosinella* is polyphyletic, its different lineages having been derived from different species of *Lepidocyrtus* as the ancestral genus (Christiansen 1961, Gama 1984). Gisin (1964 a,b,