



<http://dx.doi.org/10.11646/zootaxa.3722.4.4>

<http://zoobank.org/urn:lsid:zoobank.org:pub:AAE255D0-4182-46DF-82FF-8379496D7047>

The genus *Lepidozetes* Berlese, 1910 (Acari: Oribatida: Tegoribatidae) in Europe with description of a new species

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Abstract

The type species of the genus *Lepidozetes singularis* Berlese, 1910, is redescribed, using fresh material from Italy, Switzerland and Germany. Mounted specimens from museums were compared: microscope slides of the type series of Berlese (deposited in Florence) and of the Willmann-collection (deposited in Munich). The controversial question of the validity of *Lepidozetes conjunctus* Schweizer, 1922, is reconsidered using the single original material from Schweizer, a microscope slide with the type specimen. This study confirms that *L. conjunctus* should be considered a junior synonym of *L. singularis*. A new species of the genus, *Lepidozetes bavaricus* n. sp., is described. This second European species was collected in Southern Germany (Altmühltal, Bavaria) in a valley slope with extreme sun-exposure.

Key words: Acari, *Lepidozetes*, n. sp., Germany, taxonomy, Holarctic

Introduction

In 1910, Berlese established the monotypic genus *Lepidozetes* and the type species *L. singularis* from Italy. The second European species of the genus, *L. conjunctus* Schweizer, 1922, was described from an Alpine region of Switzerland. Today the genus is represented in the Holarctic with five valid species and two further taxa, synonymous to *L. singularis*, according Subías 2013. The validity of *L. conjunctus* is controversial, as will be discussed below in detail. The main argument of Schweizer (1922, 1956) for separating *L. conjunctus* from *L. singularis* was the size of the latter indicated by Berlese (1910) with 540 µm length and 300 µm width, compared to about 400 µm length in *conjunctus*. But Berlese's measurement was erroneous: Bernini (1971) measured specimens of the Berlese collection with a length of not exceeding 420 µm. Other convincing diagnostic characters of *L. conjunctus* have not been confirmed up to now in typical specimens from the Schweizer-collection. A redescription of *L. singularis* is presented below to give a basis for comparison to other *Lepidozetes* species. The family diagnosis for Tegoribatidae follows Norton and Behan-Pelletier (2009), the diagnosis for *Lepidozetes* follows Bayartogtokh and Aoki (1999).

Recently some *Lepidozetes* specimens were collected from South-Germany, which represent a species clearly different from *L. singularis*. This observation made necessary a restudy of typical material of *L. conjunctus*, firstly to compare it with *L. singularis*, secondly to confirm or to reject the conspecific status of the newly found species. Fortunately the collection of Schweizer was recently inspected by Barbara Fischer (Innsbruck) making available a slide with the type specimen and several original drafts in pencil and ink of Schweizer himself. Due to Dr. A. Hänggi (Basel) the slide could be loaned and studied as is detailed below in the *L. singularis* section.

Material and methods

The studied material is listed in the sections on the species. The morphological studies on unmounted specimens preserved in ethanol were carried out after maceration in lactic acid in open cavity slides covered partly by a cover