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## A review of the millipede genus *Typhloiulus* Latzel, 1884 (Diplopoda: Julida: Julidae), with a description of three new species from Bulgaria and Greece

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### Abstract

The mostly cavernicolous and endogean millipede genus *Typhloiulus* Latzel, 1884 (Julida: Julidae) is hitherto known to comprise 33–36 species distributed in the Balkan and Apennine peninsulas, as well as the adjacent parts of the Alps and the Carpathian Arch. Here we describe three new species, *T. bulgaricus* sp. n., *T. orpheus* sp. n. and *T. rhodopinus* sp. n., collected from caves and other subterranean habitats in Bulgaria and Greece. Furthermore, the taxonomic descriptions of some poorly known species are emended and/or new distribution data given. *T. staregai* Strasser, 1973, is synonymized with *T. strictus* (Latzel, 1882). A neotype of *T. kotelensis* Jawłowski, 1938, of which the original type material is thought to be lost, is designated, and a checklist of *Typhloiulus* species is provided.

**Key words:** taxonomy, distribution, caves, endogean environments, new synonym, neotype

### Introduction

The South European millipede genus *Typhloiulus* Latzel, 1884 (Julida: Julidae) is up to now considered to include 33–36 species distributed in the Balkan and Apennine peninsulas and the adjacent parts of the Alps and the Carpathian Arch. *Typhloiulus* was initially introduced by Latzel (1884) as a subgenus of *Julus* Linnaeus, 1758, to encompass the 2 blind julids known to occur in the Austro-Hungarian Empire at that time—*T. strictus* Latzel, 1882 and *T. psilonotus* Latzel, 1884. It was later elevated to a full genus by Verhoeff (1899). Many new species were described in subsequent years, the bulk of them coming from the works of Verhoeff (1898, 1899, 1926, 1929, 1930) and Strasser (1938, 1962, 1966, 1973, 1974). Some aberrant species have been assigned to generally poorly characterized, often monotypic subgenera and genera, such as *Haploprotopus* Verhoeff, 1899, *Mesoporoiulus* Verhoeff, 1929, *Spelaeoblaniulus* Ceuca, 1956, *Inversotyphlus* Strasser, 1962, *Attemsotyphlus* Strasser, 1962, etc., some of which were subsequently synonymized. Strasser (1962) revised *Typhloiulus* in his monograph on the controversial tribe Typhloiulini, and *Typhloiulus* is thus one of the very few large julid genera that have been subject of a comprehensive taxonomic study. Most of the more recent works dealing with the genus concern the Balkan-Carpathian region, including several single-species descriptions from Romania, Albania, FYR of Macedonia, Serbia, Croatia, see e.g. Tabacaru & Gava (1992), Mauriès et al. (1997), Čurčić et al. (2003), Makarov & Rađa (2006) and others. Today *Typhloiulus* stands as one of the well-characterized genera of Julidae, possessing a number of distinctive somatic and gonopodal characters. However, its position in the phylogeny of the family, let alone the internal structure of the genus, including its monophyly (or not) are far from being resolved.

Members of the genus are primarily known from caves and other subterranean environments, with only a handful of species recorded from forest leaf litter or other similar epigeal habitats. *Typhloiulus* species have been found in Bulgaria, Romania, mainland Greece, Serbia, Hungary, FYR of Macedonia, Bosnia and Herzegovina, Albania, Montenegro, Croatia, Slovenia and mainland Italy. The genus is unknown from all Greek islands,