



<http://dx.doi.org/10.11646/zootaxa.3866.1.2>

<http://zoobank.org/urn:lsid:zoobank.org:pub:FA4664F2-7F01-4979-ADE8-3F7FA4BB07D5>

Review of the millipede genus *Sibiriulus* Gulička, 1972, with descriptions of three new species from Altai, Siberia, Russia (Diplopoda, Julida, Julidae)

ELENA V. MIKHALJOVA¹, PAVEL S. NEFEDIEV², JULIA S. NEFEDIEVA³,
MIROSLAVA B. SAKHNEVICH⁴ & YURI V. DYACHKOV⁵

¹Institute of Biology and Soil Science, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok 690022, Russia.
E-mail: Mikhaljova@biosoil.ru

²Altai State University, Barnaul 656049, Russia. E-mail: p.nefediev@mail.ru

³Barnaul branch of OJSC "GIPRODORNII", Barnaul 656000, Russia. E-mail: j.nefedieva@mail.ru

⁴Altai State Nature Biosphere Reserve, Gorno-Altai 649000, Russia. E-mail: msaxnevich@mail.ru

⁵Altai State University, Barnaul 656049, Russia. E-mail: dyachkov793@mail.ru

Abstract

The genus *Sibiriulus* Gulička, 1963, which has hitherto been known to comprise only four species, is rediagnosed and shown to include seven species from Siberia, Russia. Three species are described here as new to science: *S. latisupremus* sp. nov., *S. baigazanensis* sp. nov., *S. aktashensis* sp. nov. The species *Sibiriulus profugus* (Stuxberg, 1876) is recorded in the fauna of the Altai Province and the Republic of Altai for the first time. All currently known species of *Sibiriulus* are keyed and mapped, including the new species.

Key words: millipede, julids, *Sibiriulus*, taxonomy, new species, key, distribution, Siberia

Introduction

The genus *Sibiriulus* Gulička, 1963, which has hitherto been known to comprise only four species, is recorded in West and Southwest Siberia (Russia) and East Kazakhstan. This genus was first erected as a subgenus of the genus *Cylindroiulus* Verhoeff, 1894, based on the single species *Cylindroiulus (Sibiriulus) dentiger* Gulička, 1963, taken from near Prokopievsk, Kemerovo Area, Siberia, Russia but already with the assumption of a generic status of this form (Gulička 1963). Nine years later, Gulička (1972) described another new species of this subgenus, *C. (S.) altaicus* Gulička, 1972 from near the Ayukol Lake, environs of the Teletskoye Lake, Republic of Altai, Siberia, Russia. Later *Sibiriulus* was raised to full genus status (Lokšina & Golovatch 1979). However, the original descriptions of these two species are too incomplete and schematic. Therefore they were redescribed based on topotypes and near topotypes (Mikhaljova 1993; Mikhaljova *et al.* 2007). In addition, the type species *C. (S.) dentiger* appears to be a junior subjective synonym of *Julus profugus* Stuxberg, 1876, a form described from between Tomsk and Kansk, Siberia, Russia (Mikhaljova 2002). Mikhaljova described two further new species (*S. multinicus* Mikhaljova, 2001 and *S. rectangulus* Mikhaljova, 2009) from the Republic of Altai and the Altai Province, Siberia, Russia (Mikhaljova & Golovatch 2001; Mikhaljova 2009). The summarized information on three species (*S. profugus*, *S. altaicus* and *S. multinicus*) can be obtained from a review covering the diplopods of the Asian part of Russia (Mikhaljova 2004).

The present study is a revision of the genus *Sibiriulus*, based not only on new material, but also on a few old specimens. As a result, one previously described species could be re-assessed and three new species added.

Material and methods

Material treated here has been shared between the collections of the Institute of Biology and Soil Science, Far

References

- Babenko, A.S., Nefediev, P.S., Nefedieva, J.S. (2009) Fauna and population dynamics of the millipedes (Diplopoda) of the chern dark coniferous taiga of Salair. *Bulletin of Tomsk State University*, 319, 182–185.
- Gulička, J. (1963) New millipedes (Diplopoda) from the USSR. Part 1. *Zoologicheskyy Zhurnal*, 42 (4), 518–524.
- Gulička, J. (1972) New millipedes (Diplopoda) from the USSR. Part 2. *Zoologicheskyy Zhurnal*, 51 (1), 36–45.
- Hoffman, R.L. (1980) (for 1979) *Classification of the Diplopoda*. Muséum d'Histoire Naturelle, Genève, 237 pp.
- Lokšina, I.E. & Golovatch, S.I. (1979) Diplopoda of the USSR fauna. *Pedobiologia*, 19 (6), 381–389.
- Mikhailjova, E.V. (1993) The millipedes (Diplopoda) of Siberia and the Far East of Russia. *Arthropoda Selecta*, 2 (2), 3–36.
- Mikhailjova, E.V. (2002) (for 2001) On some poorly-known millipedes from Siberia (Diplopoda). *Arthropoda Selecta*, 10 (3), 201–207.
- Mikhailjova, E.V. (2004) *The millipedes (Diplopoda) of the Asian part of Russia*. Pensoft Publishing House, Sofia-Moscow, 292 pp.
- Mikhailjova, E.V. (2009) New species of the family Julidae Leach, 1814 from Altai, Russia (Diplopoda, Julida). *Zootaxa*, 2235, 59–68.
- Mikhailjova, E.V. & Golovatch, S.I. (2001) (for 2000) A review of the millipede fauna of Siberia (Diplopoda). *Arthropoda Selecta*, 9 (2), 103–118.
- Mikhailjova, E.V. & Nefediev, P.S. (2003) (for 2002) A contribution to the millipede fauna of Siberia (Diplopoda). *Arthropoda Selecta*, 11 (1), 81–87.
- Mikhailjova, E.V., Nefediev, P.S. & Nefedieva, J.S. (2007) New data on millipedes of the family Julidae (Diplopoda, Julida) from Altai, Siberia. *Zootaxa*, 1541, 57–63.
- Mikhailjova, E.V., Ulykpan, K., Burkitbaeva, U.D. (2013) New data on the millipedes (Diplopoda) from East Kazakhstan (Altai). *Far Eastern Entomologist*, 260, 1–11.
- Nefediev, P.S. (2001) On the fauna and ecology of myriapods (Myriapoda) in the environs of the village of Smolenskoye, Altai Province. In: *Lecture abstracts of the 7 International Conference "Day of the Earth. Landscapes of Western Siberia. Investigation problems, ecology and regional use"*, Publishing House of Biysk State Pedagogical University, Biysk, pp. 84–86.
- Nefediev, P.S. (2002) Eco-faunistic investigations of myriapods in the Teguldet District, Tomsk Area. In: *Lecture abstracts of the International Conference of Students and Young Researchers "Lomonosov-2002"*. Vol. 7. Moscow, pp. 40–41.
- Nefediev, P.S., Nefedieva, J.S. (2007) Biogeographical characteristic of the millipede fauna in the southeastern part of Western Siberia. In: *Biodiversity of invertebrate animals. Collections of papers to II All-Russian Workshop*, Tomsk, pp. 159–164.
- Nefediev, P.S., Nefedieva, J.S. (2007a) Seasonal dynamics of the millipede locomotor activity in the forests of Western Siberia (Diplopoda). In: *Lecture abstracts of the All-Russian Conference "Ecological problems of unique natural and anthropogenic landscapes"*, Yaroslavl, pp. 98–103.
- Nefediev, P.S., Nefedieva, J.S. (2007b) A brief analysis of the biotopic distribution of millipedes (Diplopoda) in the southeastern part of Western Siberia. In: *Lecture abstracts of International scientific conference "Forest soils: research results, problems and future outlook"*, Syktyvkar, pp. 139–140.
- Nefediev, P.S., Nefedieva, J.S. (2011) Millipedes (Diplopoda) of the green plantations in Tomsk city and its suburbs. In: *Lecture abstracts of the III All-Russian Workshop*, Tomsk, pp. 100–101.
- Nefediev, P.S., Nefedieva, J.S. (2013) Biodiversity and ecology of millipedes in the environs of Lake Teletskoye (Diplopoda). *The news of Altai State University*, 3/1 (79), 86–87.
- Nefediev, P.S., Nefedieva, J.S. & Dyachkov, Yu.V. (2013) Review of the millipede genus *Cylindroiulus* Verhoeff, 1894 in the Asian part of Russia (Diplopoda: Julida: Julidae). *Arthropoda Selecta*, 22 (4), 339–342.
- Read, H.J. (1990) The generic composition and relationships of the Cylindroiulini—a cladistic analysis (Diplopoda, Julida: Julidae). *Entomologica Scandinavica*, 21, 97–112.
<http://dx.doi.org/10.1163/187631290X00085>
- Shelley, R.M. (2003) (for 2002) A revised, annotated, family-level classification of the Diplopoda. *Arthropoda Selecta*, 11 (3), 187–207.
- Shelley, R.M., Sierwald, P., Kiser, S.B. & Golovatch, S.I. (2000) *Nomenclator generum et familiarum Diplopodorum II. A list of the genus and family-group names in the class Diplopoda from 1958 through 1999*. Pensoft Publishing House, Sofia & Moscow, 167 pp.
- Stuxberg, A. (1876) Myriopoder från Sibirien och Waigatsch on samlade under Nordenskiöldska expeditionen 1875. *Öfversigt af Kongl. Vetenskaps-Akademiens Förhandlingar*, 33 (2), 11–38.
- Stuxberg, A. (1876a) On the Myriopoda, from Siberia and Waigatsch Island, collected during the expedition of Prof. Nordenskiöld, 1875. *Annals Magazine Natural History*, 4 (17), 306–318.
<http://dx.doi.org/10.1080/00222937608681955>