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New records of centipedes and millipedes from Khakassia, central Siberia, Russia (Myriapoda: Chilopoda, Diplopoda)

Новые находки губоногих и двупарноногих многоножек из Хакасии (Центральная Сибирь, Россия) (Myriapoda: Chilopoda, Diplopoda)

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КЛЮЧЕВЫЕ СЛОВА: Lithobiomorpha, Geophilomorpha, Scutigeromorpha, Julida, Chordeumatida, Polydesmida, фаунистика, карта, Республика Хакасия.

ABSTRACT. Based on new and deposited material from the Republic of Khakassia, central Siberia, Russia, the distributions of 12 centiped species and 4 milliped species have been refined. One more geophilomorph centipede, *Escaryus kusnetzowi* Lignau, 1929, is recorded from Russia for the first time. Both the genus *Thereuonema* Verhoeff, 1904 and the species *T. tuberculata* (Wood, 1862), as well as the subfamily Thereuoneminae they belong to, are recorded from Siberia for the first time. Both the genus *Strigamia* Gray, 1843 and the species *S. pusilla* (Sseliwanoff, 1884), as well as the family Linotaeniidae they belong to, are new to the geophilomorph fauna of the Republic of Khakassia. Three more lithobiid species, *Lithobius vagabundus* Stuxberg, 1876, *L.* (*Monotarsobius*) *franciscorum* Dányi et Tuf, 2012, and *L.* (*M.*) *insolens* Dányi et Tuf, 2012, are also new to the Republic of Khakassia. The distributions of all species encountered are mapped within the study area.

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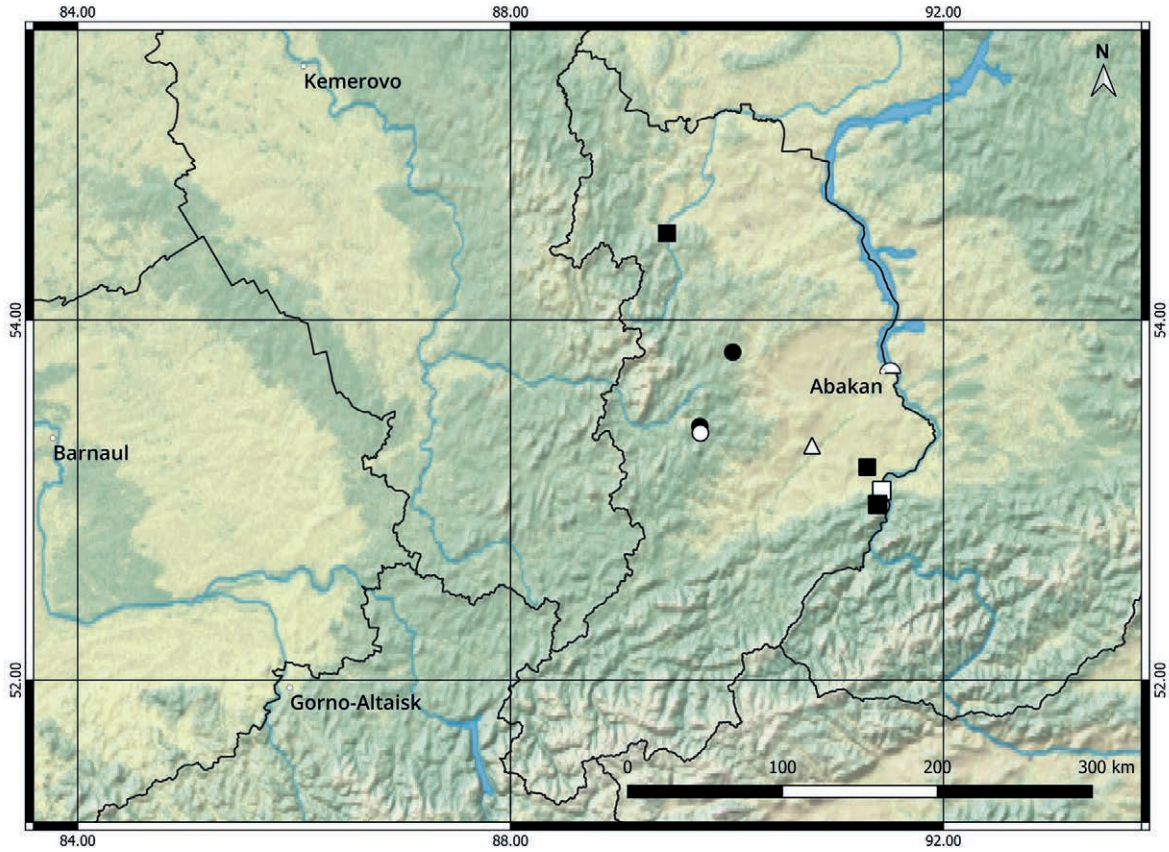
РЕЗЮМЕ. По результатам обработки нового и коллекционного материала из Республики Хакасия центральная Сибири, Россия, уточнено распространение 12 видов губоногих и 4 видов двупарноногих многоножек. Еще один вид многоножек-землянок, *Escaryus kusnetzowi* Lignau, 1929, впервые отмечен в России. Род *Thereuonema* Verhoeff, 1904 и вид *T. tuberculata* (Wood, 1862), а также подсемейство Thereuoneminae, к которому они относятся, впервые указываются для Сибири. Род *Strigamia* Gray, 1843 и вид *S. pusilla* (Sseliwanoff, 1884), а также семейство Linotaeniidae, к которому они относятся, оказываются новыми для фауны геофиломорфных многоножек Республики Хакасия. Еще три вида многоножек-костянок, *Lithobius vagabundus* Stuxberg, 1876, *L.* (*Monotarsobius*) *franciscorum* Dányi et Tuf, 2012 и *L.* (*M.*) *insolens* Dányi et Tuf, 2012, являются также новыми для Республики Хакасия. Для всех видов выполнено картирование ареалов в пределах исследуемого региона.

Introduction

The first data on the myriapod fauna of the Republic of Khakassia (= Khakassia / Khakassian Republic) appeared at the turn of XX–XXI centuries. At first, Shear [1990] recorded a diplomaragnid millipede, *Altajosoma deplanata* (Stuxberg, 1876) (recte: *Altajosoma deplanatum*). After that, Mikhaljova reported three further species of millipedes: a julid, *Sibiriulus dentiger* Gulička, 1963 (= *Sibiriulus profugus* (Stuxberg, 1876)) [Mikhaljova, 1993], a new species of diplomaragnid, *Shearia khakassica* Mikhaljova, 2000 [Mikhaljova, 2000], and a chordeumatidan, *Ghilarovia cylindrica* (Stuxberg, 1876) [Mikhaljova, 2002]. Finally, six more millipede species have been recorded from Khakassia [Mikhaljova, Nefediev, 2003]: *Julus ghilarovi* Gulička, 1963,



Map 1. Distributions of *Thereuonema tuberculata* (semicircle), *Escaryus koreanus* (circle), *E. kusnetzowi* (isosceles triangle) and *Lithobius* (*Ezembius*) *ostiacorum* (square) in Khakassia. Previously known localities marked in black, new records given in white.

Карта 1. Распространение *Thereuonema tuberculata* (полукруг), *Escaryus koreanus* (круг), *E. kusnetzowi* (равнобедренный треугольник) и *Lithobius* (*Ezembius*) *ostiacorum* (квадрат) в Хакасии. Черным отмечены ранее известные места находок, новые находки отмечены белым.

Pacifiiulus amurensis (Gerstfeldt, 1859), *Orinisobates sibiricus* (Gulička, 1963), *Altajosoma kemerovo* (Shear, 1990), *Schizoturanius clavatipes* (Stuxberg, 1876), and *S. tabescens* (Stuxberg, 1876).

A new surge in the faunistic research of Myriapoda in Khakassia started when Nefediev reported two millipedes: a still undescribed julid species, *Julus* sp. 2 [Nefediev, 2018a] and a diplomaragnid, *Altajosoma bakurovi* (Shear, 1990) [Nefediev, 2019a]. At the same time, the first records of four geophilomorph centipede species, viz. *Geophilus proximus* C.L. Koch, 1847, *Arctogeophilus macrocephalus* Folkmanová et Dobroruka, 1960, *Escaryus koreanus* Takakuwa, 1937, and *E. japonicus* Attems, 1927 [Nefediev, 2019b], as well as five lithobiomorph centipedes, viz. *Lithobius* (*Chinobius*) *opinatus* (Zalesskaja, 1978), *L.* (*Ezembius*) *princeps* Stuxberg, 1876, *L.* (*Monotarsobius*) *curtipes* C.L. Koch, 1847, *L.* (*M.*) *fugax* Stuxberg, 1876, and *L.* (*M.*) *worogowensis* Eason, 1976, were reported [Nefediev, Farzalieva, 2020]. Finally, three further lithobiomorph centipede species were discovered in the Khakassian Republic: *L.* (*L.*) *lucifugus* L. Koch, 1862, *L.* (*E.*) *ostiacorum* Stuxberg, 1876, and *L.* (*M.*) *nordenskioeldii* Stuxberg, 1876 [Nefediev *et al*., 2020], as well as a kirkayakid millipede, *Teleckophoron montanum* Gulička, 1972 [Nefediev *et al*., 2021]. Thus, altogether 25 species of Diplopoda and Chilopoda have hitherto been known to occur in Khakassia. The present paper is focused on new faunistic records of Myriapoda from the study area, increasing the species list by six more species.

The distribution maps were composed using QGIS 3.32.1-Lima.

The material treated herein has been deposited in the collections of the Perm State University (PSU), and the Altai State University, Barnaul, Russia (ASU). Literature references to the species concern the Republic of Khakassia only.

Taxonomic part

CLASS CHILOPODA

ORDER SCUTIGEROMORPHA

Family SCUTIGERIDAE

Thereuonema tuberculata (Wood, 1862)
Map 1.

MATERIAL EXAMINED. 1 ♀ (ASU.NPS.C-001), Russia, south of Central Siberia, Republic of Khakassia, **Abakan City**, [Verkhnyaya Sogra], 53.699370°N, 91.498461°E, residential area, household plot, VII.2006; 1 ♀ (ASU NPS.C-002), same locality, 11.V.2008; 3 ♀♀, 1 juv.

(ASU NPS.C-003), same locality, 31.VII.2012; 1 juv. (ASU.NPS.C-004), same city, 53.712306°N, 91.508583°E, residential area, 15–16.IX.2021, UV lamp; 1 ♀ (ASU.NPS.C-005), same locality, 17–18.IX.2021, UV lamp, all S.V. Dragan leg.

DISTRIBUTION. Originally described as *Cermatia tuberculata* by Wood [1862] from Hong Kong, China, *Thereuonema tuberculata* appears to be highly widespread in East Asia, viz. China including Taiwan, mainland South Korea including Jeju Island, and Japan [Würmli, 1975; Stoev, Geoffroy, 2004; Edgecombe, Giribet, 2006; Edgecombe, 2011; Dunlop *et al*., 2017]; also introduced to the United Kingdom and both Ohio and Nebraska, USA [Barber, 2011; Reeves, 2017; Reeves, Miller, 2022]. In Russia, this species has recently been recorded from the Primorskii Krai [Dyachkov, 2022].

REMARKS. All specimens examined show typical (sensu Würmli [1975]) characters of *T. tuberculata*: blue-green body coloration, pattern on head and tergite 15, 50–80 bristles associated with a spine on tergite 6, parallel-sided spiculae. However, the bodies of our specimens are more vaguely pigmented, wedge-shaped spots on tergite 15 being poorly expressed. Both the genus *Thereuonema* Verhoeff, 1904 and the species *T. tuberculata*, as well as the subfamily Thereuoneminae they belong to, are reported from Siberia for the first time. The family Scutigeridae and the order Scutigeromorpha are formally new to the Republic of Khakassia. As all scutigeromorph specimens recorded from Siberia [Nefediev *et al*., 2016b] have so far been referred to *Scutigera coleoptrata* (Linnaeus, 1758), it seems important to recheck their identity in the future.

ORDER GEOPHILOMORPHA

Family GEOPHILIDAE

Geophilus proximus C.L. Koch, 1847
Map 2.

Geophilus proximus C.L. Koch, 1847 — Nefediev, 2019b: 24.

MATERIAL EXAMINED. 1 ♀ (ASU.NPS.C-006), Russia, south of central Siberia, Republic of Khakassia, **Ust-Abakan District**, Rastsvet Settlement, 53.787833°N, 91.347333°E, cultivated area, in soil, 26.VIII.2021, S.V. Dragan leg.

DISTRIBUTION. Being a trans-Palaearctic species, *G. proximus* is known to range from northeastern Europe to Japan. In Siberia, this species has previously been known from the Tyumen, Omsk, Novosibirsk and Tomsk oblasts, as well as from the Altai Krai and the Republic of Khakassia [Nefediev *et al*., 2017b; Nefediev, 2019b].

REMARKS. As all specimens found in Siberia are females, apparently only parthenogenetic populations of this species occur there, and only in outdoor habitats such as city parks and cultivated areas.

Family SCHENDYLIDAE

Escaryus koreanus Takakuwa, 1937
Map 1.

Escaryus koreanus Takakuwa, 1937 — Nefediev, 2019b: 26.

MATERIAL EXAMINED. 1 ♀, 1 ♂ sad., 2 juv. (ASU.NPS.C-007), Russia, south of central Siberia, Republic of Khakassia, **Askiz District**, Askiz River valley, 53.382417°N, 89.754139°E, mixed *Betula pendula*, *Pinus sylvestris*, *Abies sibirica* and *Picea obovata* forest, in litter, 22.VI.2021, S.V. Dragan leg.

DISTRIBUTION. This species was originally described by Takakuwa [1937] from Husenzan (North Korea), and it has hitherto been recorded from Siberia (viz. Kemerovo, Novosibirsk, Tomsk and Irkutsk oblasts, Altai and Krasnoyarsk krais, Altai and Khakassian republics), and in the Russian Far East (viz. Primorskii and Khabarovsk krais, Amur and Jewish Autonomous oblasts); also known from eastern Kazakhstan and Japan [Nefediev *et al*., 2017c; Nefediev, 2019b; Dyachkov, 2023].

Escaryus kusnetzowi Lignau, 1929
Map 1.

MATERIAL EXAMINED. 2 ♀♀ (ASU.NPS.C-008), Russia, south of central Siberia, Republic of Khakassia, **Askiz District**, 53.313472°N, 90.785806°E, stony steppe, under stones, 28.IX.2020, S.V. Dragan leg.

DISTRIBUTION. Originally described by Lignau [1929] based on two specimens from two localities: (1) Telety, Djety-Oguz River, near Lake Issyk-Kul (now Kyrgyzstan) and (2) Tumartscha-Brunnen, 108 km SE of Lake Balkhash (now Kazakhstan). According to Titova [1972], who examined Lignau's type material, only one specimen with 57 leg-bearing segments actually belongs to *Escaryus kusnetzowi*, while the other one, with 53 leg-bearing segments, belongs to *E. retusidens* Attems, 1904. It is necessary to recheck the labels of the type specimens to clarify the *terra typica* of *E. kusnetzowi*. This species has so far been reliably known from the Almaty and South Kazakhstan regions, both in Kazakhstan [Dyachkov, Tuf, 2018].

REMARKS. Both females examined show typical characters of *E. kusnetzowi*: trapezoidal ultimate sternite, 22 labral denticles, 59 and 63 leg-bearing segments, respectively. The above record of this species is formally new to Russia.

Family LINOTAENIIDAE

Strigamia pusilla (Sseliwanoff, 1884)
Map 2.

MATERIAL EXAMINED. 1 ♂ (ASU.NPS.C-009), Russia, south of central Siberia, Republic of Khakassia, **Askiz District**, Askiz River valley, 53.382417°N, 89.754139°E, mixed *Betula pendula*, *Pinus sylvestris*, *Abies sibirica* and *Picea obovata* forest, in litter, 22.VI.2021, S.V. Dragan leg.

DISTRIBUTION. Originally described by Sseliwanoff [1884] from Zaraisk, Ryazan Gubernia, Russian Empire (now Zaraisk, Moscow Oblast, Russia), *S. pusilla* is highly widespread, ranging from Eastern Europe (the Sudetes, Carpathians and the Caucasus), through the Urals, to southwestern and eastern Siberia (Altai Krai, Altai and Sakha (= Yakutia) republics) and northern Mongolia [Nefediev *et al*., 2017a; Nefediev, 2019b].

REMARKS. Both the genus *Strigamia* Gray, 1843 and the species *S. pusilla* (Sseliwanoff, 1884), as well as the family Linotaeniidae they belong to, are new to the geophilomorph fauna of Khakassia. It seems very likely that this species also occurs in the Tyva Republic.

ORDER LITHOBIOMORPHA

Family LITHOBIIDAE

Lithobius (*Ezembius*) *ostiacorum* Stuxberg, 1876
Map 1.

Lithobius (*Ezembius*) *ostiacorum* Stuxberg, 1876 — Nefediev *et al*., 2021: 38, 39: map.

MATERIAL EXAMINED (all Russia, south of central Siberia, Republic of Khakassia). 1 ♀ sad. (PSU-1709), **Minusinsk District**, Sayanogorsk City, Malyi Karak River valley, near its mouth, 53.063278°N, 91.430417°E, *Pinus sylvestris* forest with *Larix sibirica* and *Betula*

Map 2. Distributions of *Geophilus proximus* (pentagon), *Strigamia pusilla* (asterisk) and *Lithobius* (*Ezembius*) *princeps* (trapezoid) in Khakassia. Previously known localities marked in black, new records given in white.

Карта 2. Распространение *Geophilus proximus* (пятиугольник), *Strigamia pusilla* (звездочка) and *Lithobius* (*Ezembius*) *princeps* (трапеция) в Хакасии. Черным отмечены ранее известные места находок, новые находки отмечены белым.

pendula, 7.VIII.2020; 1 ♀ (PSU-1717), same District, Sayanogorsk City, Yenisei River valley, 53.064500°N, 91.430028°E, *Pinus sylvestris* forest, 30.VIII.2020, all A.A. Kalinnikova leg.; 3 juv. cf. *ostiacorum* (PSU-1711, PSU-1739, PSU-1747), **Beya District**, Ui River valley, 52.987139°N, 91.391917°E, *Pinus sylvestris* forest with *Larix sibirica* and *Betula pendula*, ca. 400 m a.s.l., 30.VII.2021, S.V. Dragan leg.

DISTRIBUTION. Being originally described by Stuxberg [1876a, b] from the Yenisei River region (now Krasnoyarsk Krai, central Siberia, Russia), and later redescribed by Eason [1976] using Stuxberg's type material, this species was later recorded from the Irkutsk [Zalesskaja, 1978] and Kemerovo oblasts, the Altai Krai, the Altai and Khakassian republics, as well as from northern Mongolia [Nefediev *et al*., 2021].

REMARKS. According to the presently known distribution area of this species, its discovery can well be expected in the Republic of Tyva as well, an area that lies between the currently known localities.

Lithobius (*Ezembius*) *princeps* Stuxberg, 1876
Map 2.

Lithobius (*Ezembius*) *princeps* Stuxberg, 1876 — Nefediev, Farzalieva, 2020: 188, 186: map; Nefediev *et al*., 2021: 39, map.

MATERIAL EXAMINED. 2 ♀♀ (PSU-1467), Russia, south of central Siberia, Republic of Khakassia, **Beya District**, Ui River valley, 52.962222°N, 91.206111°E, mixed forest with *Pinus sylvestris*, *Picea obovata*, *Abies sibirica* and *Betula pendula*, ca. 600 m a.s.l., in litter, 22.VII.2019, E.Yu. Shuryshev leg.

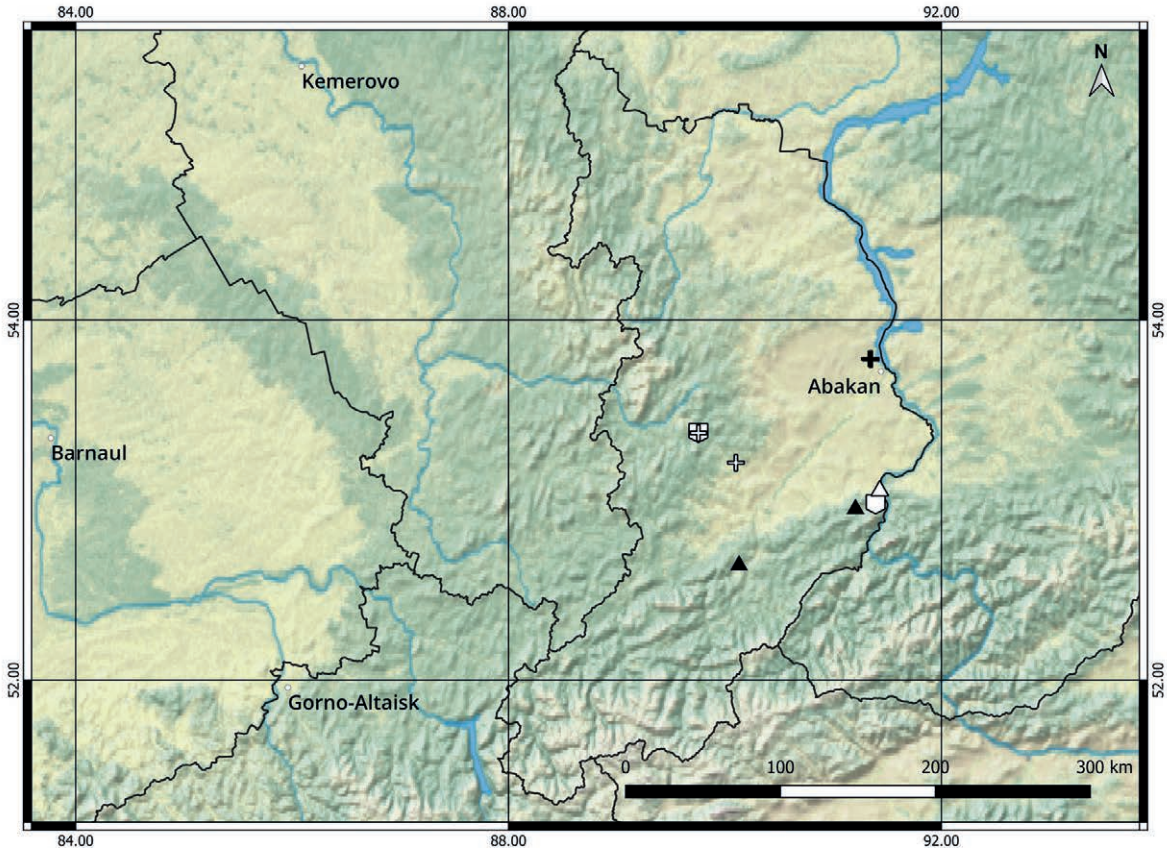
DISTRIBUTION. This species was originally described by Stuxberg [1876a, b] from near the Podkamennaya Tunguska River in the Yenisei River region (now Krasnoyarsk Krai, central Siberia, Russia), and redescribed a century later by Eason [1976] from type material, with lectotype designation. All subsequent records have expanded its distribution area in Asian Russia to the Tyumen and Omsk oblasts, and the Republic of Khakassia, southwestern and central Siberia, respectively, as well as to eastern Kazakhstan [Nefediev *et al*., 2021]. This species has very recently been recorded from Mongolia as well [Dyachkov, Farzalieva, 2023].

REMARKS. Above is the first record of this species from the Beya District of the Khakassian Republic. It seems very likely that this species also occurs in the Republic of Tyva, an area lying between the currently known localities.

Lithobius vagabundus Stuxberg, 1876
Map 3.

MATERIAL EXAMINED (all Russia, south of central Siberia, Republic of Khakassia). 1 ♂ (PSU-1714), **Askiz District**, Askiz River valley, 53.382417°N, 89.754139°E, mixed *Betula pendula*, *Pinus sylvestris*, *Abies sibirica* and *Picea obovata* forest, in litter, 22.VI.2021; 1 ♀ (PSU-1737), same locality, in litter, 13.VIII.2021; 1 juv. cf. *vagabundus* (PSU-1752), same District, Askiz River valley, 53.218250°N, 90.100833°E, *Betula pendula* forest with *Salix* and *Padus avium*, in litter, 13.VIII.2021; 1 juv. cf. *vagabundus* (PSU-1744), **Beya District**, Ui River valley, 52.987139°N, 91.391917°E, *Pinus sylvestris* forest with *Larix sibirica* and *Betula pendula*, ca. 400 m a.s.l., 30.VII.2021, all S.V. Dragan leg.

DISTRIBUTION. Being originally described by Stuxberg [1876a, b] from the Yenisei River region (now Krasnoyarsk



Map 3. Distribution of *Lithobius vagabundus* (shield), *L.* (*L.*) *lucifugus* (cross) and *Sibiriulus profugus* (equilateral triangle) in Khakassia. Previously known localities marked in black, new records given in white.

Карта 3. Распространение *Lithobius vagabundus* (щит), *L.* (*L.*) *lucifugus* (крест) and *Sibiriulus profugus* (равносторонний треугольник) в Хакасии. Черным отмечены ранее известные места находок, новые находки отмечены белым.

Krai, central Siberia, Russia), *L. vagabundus* was redescribed a century later from type material with lectotype designation [Eason, 1976]. It was later recorded from the Altai Krai and the Republic of Altai, both southwestern Siberia [Nefediev, Farzalieva, 2020].

REMARKS. According to Eason [1976] and, a little later, Zalesskaja [1978], this species was mistakenly recorded from the Kanin Peninsula (see Muralewitsch [1906]). This species is herewith reported from the Republic of Khakassia for the first time.

Lithobius (*Monotarsobius*) *franciscorum* Dányi et Tuf, 2012
Map 4.

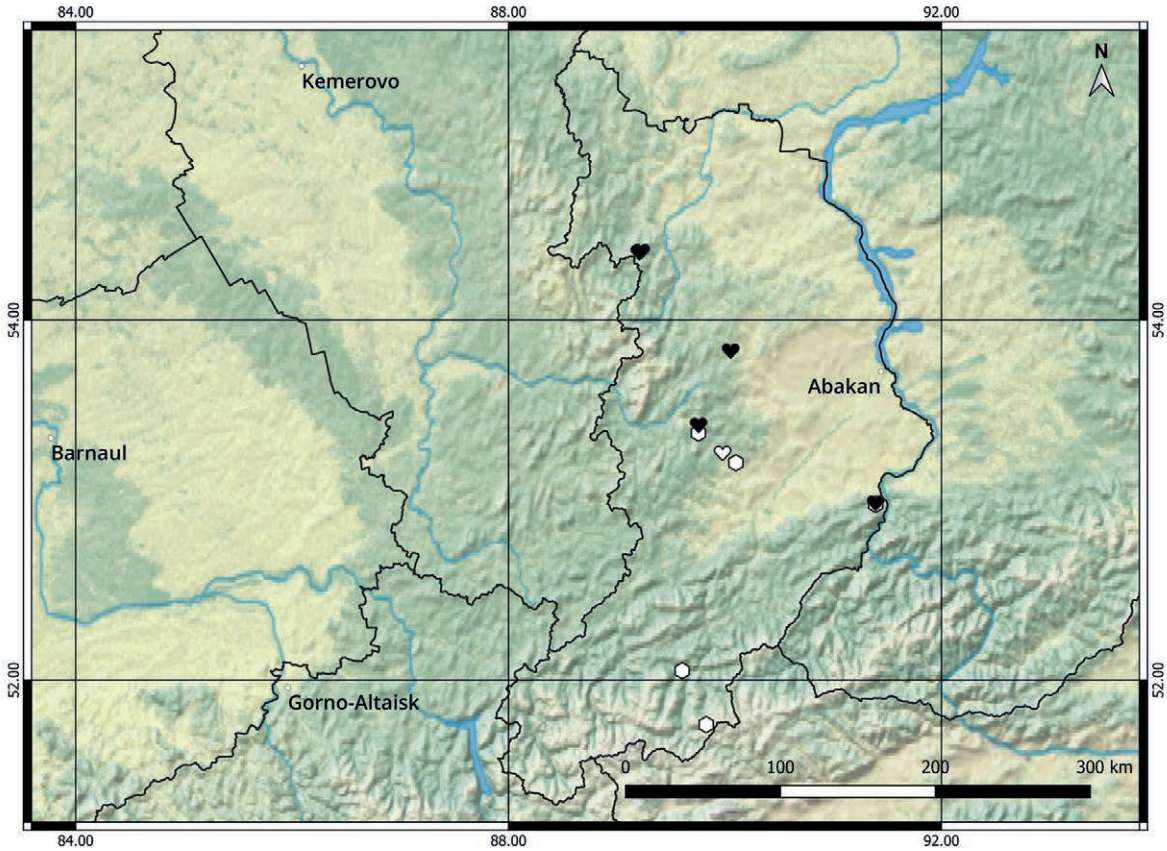
MATERIAL EXAMINED (all Russia, south of central Siberia, Republic of Khakassia). 1 ♀ (PSU-1616), **Tashtyp District**, upper reaches of Bolshoi On River, Pozarym [Nature Reserve], slope of Ploskaya Mt., 51.746467°N, 89.826650°E, high mountain patch, ca. 1825 m a.s.l., line 8, tall grasses, 1–5.VII.2021; 1 ♂ (PSU-1618), same District, middle flow of Karasum River, 52.053983°N, 89.604017°E, *Pinus sibirica* forest, ca. 860 m a.s.l., line 3, 7–11.VII.2021, all S.G. Meshcheryagina leg.; 1 juv. cf. *franciscorum* (PSU-1749), **Askiz District**, Askiz River valley, 53.382417°N, 89.754139°E, mixed *Betula pendula*, *Pinus sylvestris*, *Abies sibirica* and *Picea obovata* forest, in litter, 22.VI.2021; 1 juv. cf. *franciscorum* (PSU-1713), same District, Askiz River valley, 53.218250°N, 90.100833°E, *Betula pendula* forest with *Salix* and *Padus avium*, in litter, 13.VIII.2021; 1 juv. cf. *franciscorum* (PSU-1738), **Beya District**, Ui River valley, 52.987139°N, 91.391917°E, *Pinus sylvestris* forest with *Larix sibirica* and *Betula pendula*, ca. 400 m a.s.l., 30.VII.2021, all S.V. Dragan leg.

DISTRIBUTION. *Lithobius* (*Monotarsobius*) *franciscorum* was originally described by Dányi & Tuf [2012] from eastern Kazakhstan. It has recently been found in the Republic of Altai [Nefediev, Farzalieva, 2020] and at some new localities from eastern Kazakhstan [Dyachkov, 2019].

REMARKS. The above records of this species are new to the Republic of Khakassia. According to the present distribution area of this species, it is very likely to also inhabit the Kemerovo Oblast, the southern part of the Krasnoyarsk Krai, and the Republic of Tyva.

Lithobius (*Monotarsobius*) *insolens* Dányi et Tuf, 2012
Map 5.

MATERIAL EXAMINED (all Russia, south of central Siberia, Republic of Khakassia). 1 ♀ (PSU-1638), **Askiz District**, Askiz River valley, 53.419056°N, 89.756056°E, edge of mixed *Abies sibirica*, *Larix sibirica* and *Betula pendula*, 21.VI.2020; 1 juv. cf. *insolens* (PSU-1740), same District, Askiz River valley, 53.382417°N, 89.754139°E, mixed *Betula pendula*, *Pinus sylvestris*, *Abies sibirica* and *Picea obovata* forest, 22.VI.2021; 4 juv. cf. *insolens* (PSU-1741, PSU-1742, PSU-1743, PSU-1746), same District, Askiz River valley, 53.218250°N, 90.100833°E, *Betula pendula* forest with *Salix* and *Padus avium*, in litter, 13.VIII.2021; 1 ♀ (PSU-1716), 1 ♂ sad. (PSU-1715), **Beya District**, Ui River valley, 52.987139°N, 91.391917°E, *Pinus sylvestris* forest with *Larix sibirica* and *Betula pendula*, ca. 400 m a.s.l., 30.VII.2021;



Map 4. Distribution of *Lithobius* (*Monotarsobius*) *franciscorum* (hexagon) and *Orinisobates sibiricus* (heart) in Khakassia. Previously known localities marked in black, new records given in white.

Карта 4. Распространение *Lithobius* (*Monotarsobius*) *franciscorum* (шестиугольник) и *Orinisobates sibiricus* (сердце) в Хакасии. Черным отмечены ранее известные места находок, новые находки отмечены белым.

2 juv. cf. *insolens* (PSU-1748, PSU-1751), same locality, 30.VII.2021, all S.V. Dragan leg.

DISTRIBUTION. Being originally described as *L.* (*M.*) *insolitus* by Farzalieva [2006] from eastern Kazakhstan, this species was later renamed to avoid homonymy [Dányi, Tuf, 2012]. It has hitherto been recorded from the Omsk Oblast, the Altai Krai, and the Republic of Altai [Nefediev, Farzalieva, 2020], as well as from some new localities in eastern Kazakhstan [Dyachkov, 2019].

REMARKS. This species is herewith recorded from the Republic of Khakassia for the first time.

Lithobius (*Monotarsobius*) *nordenskioeldii* Stuxberg, 1876
Map 5.

Lithobius (*Monotarsobius*) *nordenskioeldii* Stuxberg, 1876 — Nefediev *et al*., 2021: 41, 40: map.

MATERIAL EXAMINED. 1 ♂ sad. (PSU-1721), Russia, south of central Siberia, Republic of Khakassia, **Askiz District**, 53.314472°N, 90.800694°E, meadow steppe, under stones, 250 m a.s.l., 25.IV.2021; 1 ♂ (PSU-1723), same District, Askiz River valley, 53.382417°N, 89.754139°E, mixed *Betula pendula*, *Pinus sylvestris*, *Abies sibirica* and *Picea obovata* forest, in litter, 8.VI.2021; 2 ♂♂ (PSU-1719, PSU-1720), 2 ♀♀ (PSU-1724, PSU-1725), 1 ♂ sad. (PSU-1708), 2 ♀♀ sad. (PSU-1710, PSU-1722), same locality, in litter, 22.VI.2021; 1 ♀ (PSU-1718), same locality, in litter, 13.VIII.2021; 1 juv. (PSU-1712), same District, Askiz River valley, 53.218250°N, 90.100833°E, *Betula pendula* forest with *Salix* and *Padus avium*, 13.VIII.2021, all S.V. Dragan leg.

DISTRIBUTION. This species was originally described by Stuxberg [1876a, b] from the Yenisei River region (now Krasnoyarsk Krai, central Siberia, Russia). A century later, *L.* (*M.*) *nordenskioeldii* was redescribed by Eason [1976] based on Stuxberg's type material, with lectotype designation. This species was later recorded from the Altai Krai, the Altai and Khakassian republics, and the Irkutsk Oblast, all southwestern, central and eastern Siberia [Nefediev *et al*., 2020, 2021].

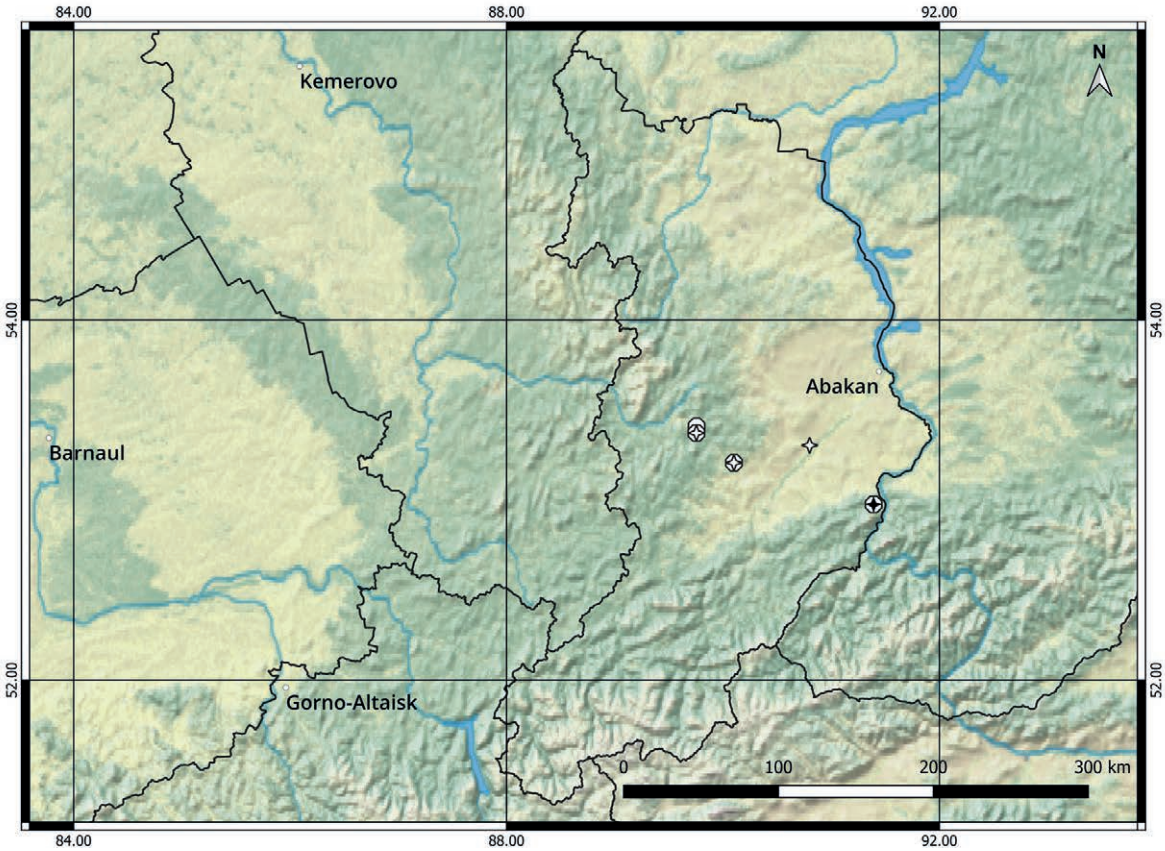
REMARK. Tibiae 15 in ♂ (PSU-1721) are without pronounced distodorsal projection.

Lithobius (*Lithobius*) *lucifugus* L. Koch, 1862
Map 3.

Lithobius (*Lithobius*) *lucifugus* L. Koch, 1862 — Nefediev *et al*., 2020: 12.

MATERIAL EXAMINED (all Russia, south of central Siberia, Republic of Khakassia). 2 ♂♂ (PSU-1730, PSU-1736), 5 ♀♀ (PSU-1726, PSU-1728, PSU-1729, PSU-1731, PSU-1735), 1 ♂ sad. (PSU-1734), 1 juv. (PSU-1733), **Ust-Abakan District**, Rastsvet Settlement, 53.787833°N, 91.347333°E, private plot, cultivated area, in soil, 29.VIII.2021; 1 juv. (PSU-1727), **Askiz District**, Askiz River valley, 53.382417°N, 89.754139°E, mixed *Betula pendula*, *Pinus sylvestris*, *Abies sibirica* and *Picea obovata* forest, 22.VI.2021; 1 juv. (PSU-1732), same District, Askiz River valley, 53.218250°N, 90.100833°E, *Betula pendula* forest with *Salix* and *Padus avium*, in litter, 13.VIII.2021, all S.V. Dragan leg.

DISTRIBUTION. Being originally described by Koch [1862] from Bozen, southern Tyrol, Austrian Empire (now



Map 5. Distributions of *Lithobius* (*Monotarsobius*) *insolens* (octagon) and *L.* (*M.*) *nordenskioeldii* (diamond star) in Khakassia. Previously known localities marked in black, new records given in white.

Карта 5. Распространение *Lithobius* (*Monotarsobius*) *insolens* (восьмиугольник) и *L.* (*M.*) *nordenskioeldii* (четырехлучевая звезда) в Хакасии. Черным отмечены ранее известные места находок, новые находки отмечены белым.

Bolzano, northern Italy), this species is presently known to be widespread in the Palaearctic in most of European countries and the Near East; also very recently found in Central Asia (Kazakhstan) [Bragina *et al*., 2020]. In Russia, it has hitherto been recorded from the European part [Zalesskaja, 1978], through the Urals [Farzalieva, Esyunin, 2008], to southwestern and central Siberia, viz. the Tomsk Oblast, the Krasnoyarsk Krai and the Republic of Khakassia [Nefediev *et al*., 2016a, 2020].

REMARKS. The above records of *L.* (*L.*) *lucifugus* in the Republic of Khakassia are confined both to anthropogenic and natural habitats.

CLASS DIPLOPODA

ORDER JULIDA

Family JULIDAE

Julus ghilarovi Gulička, 1963
Map 6.

Julus ghilarovi Gulička, 1963 — Mikhaljova, Nefediev, 2003: 84, 82: map; Nefediev, 2018a: 287, 290: map.

Julus ghilarovi ghilarovi Gulička, 1963 — Mikhaljova, Golovatch, 2001: 104.

non *Julus ghilarovi ghilarovi* — Mikhaljova, 1993: 10.

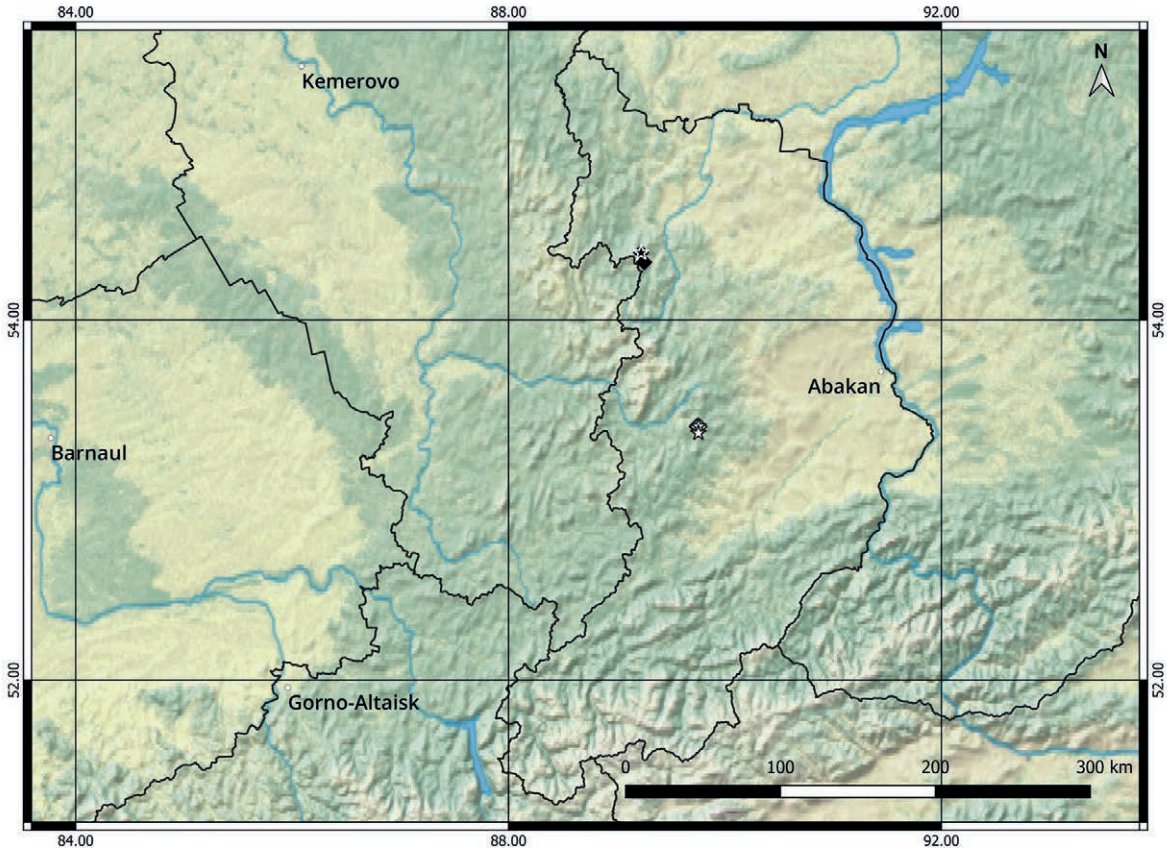
dubio *Julus ghilarovi* — Mikhaljova, 2002: 206.

pro parte non *Julus ghilarovi* — Mikhaljova, Nefediev, 2003: 84, 82: map (misidentification).

MATERIAL EXAMINED. 1 juv. (ASU.NPS.D-001), Russia, south of central Siberia, Republic of Khakassia, **Askiz District**, Askiz River valley, 53.418866°N, 89.749147°E, edge of riverine *Abies sibirica*, *Picea obovata*, *Betula pendula* and *Salix* forest, under stones, 11.VII.2018; 2 ♀♀, 1 ♀ sad. (ASU.NPS.D-002), same District, Askiz River valley, 53.419057°N, 89.756044°E, edge of *Abies sibirica*, *Larix sibirica* and *Betula pendula* forest, under stones, 4.VIII.2018; 1 ♀, 1 juv. (ASU.NPS.D-003), same District, Portal River valley, right bank, 53.418431°N, 89.745357°E, *Pinus sylvestris* forest with *Abies sibirica*, *Picea obo*vata and *Betula pendula*, under stones, 5.VIII.2018; 1 ♀ (ASU.NPS.D-004), same District, Askiz River valley, near mouth of Portal River, 53.419056°N, 89.756056°E, edge of *Picea obovata*, *Larix sibirica* and *Betula pendula* forest, under stones, in litter, 21.VI.2019; 1 ♂, 2 ♀♀, 1 ♂ sad., 5 ♀♀ sad., 3 juv., 1 fragm. (ASU.NPS.D-005), same locality, under stones, in litter, 1.VIII.2020, all S.V. Dragan leg.

DISTRIBUTION. This species was originally described by Gulička [1963] from the Kemerovo Oblast, to become split later [Gulička, 1972] into two subspecies. However, both the subspecies *J. g. brachydactylus* Gulička, 1972 and the nominate subspecies *J. g. ghilarovi* Gulička, 1963 have since been shown to represent two independent species of full rank [Nefediev, 2018a]. Being one of the most widespread *Julus* species in Siberia, *J. ghilarovi* is known to range from the Kemerovo and Novosibirsk oblasts and the Altai Krai to the Altai and Khakassian republics [Nefediev, 2018a].

REMARKS. Correcting all previous misidentifications, it has hitherto been known only from a single verified *J. ghilarovi* locality in the Republic of Khakassia, viz. the environs of Kommunar, Shira District, dwelling there syntopically with an



Map 6. Distributions of *Julus ghilarovi* (diamond) and *Ghilarovia cylindrica* (star) in Khakassia. Previously known localities marked in black, new records given in white.

Карта 6. Распространение *Julus ghilarovi* (ромб) and *Ghilarovia cylindrica* (пятилучевая звезда) в Хакасии. Черным отмечены ранее известные места находок, новые находки отмечены белым.

undescribed *Julus* sp. 2 (see Nefediev [2018a]). Above is the southernmost record of this species from the study area.

Sibiriulus profugus (Stuxberg, 1876)
Map 3.

Sibiriulus dentiger Gulička, 1963 — Mikhaljova, 1993: 13.

pro parte non *Sibiriulus dentiger* — Mikhaljova, 1993: 13 (misidentification).

non *Sibiriulus profugus* (Stuxberg, 1876) — Mikhaljova, Nefediev, 2003: 84, 82: map (misidentification).

Sibiriulus profugus — Nefediev *et al*., 2021: 41, 40: map.

MATERIAL EXAMINED. 2 ♂♂ (ASU.NPS.D-006), Russia, south of central Siberia, Republic of Khakassia, **Minusinsk District**, Sayanogorsk City, Malyi Karak River valley, near its mouth, 53.063278°N, 91.430417°E, *Pinus sylvestris* forest with *Larix sibirica* and *Betula pendula*, 7.VIII.2020, A.A. Kalinnikova leg.

MATERIAL RE-EXAMINED (specimens previously misidentified as *Sibiriulus profugus* and published by Mikhaljova & Nefediev [2003]). 2 ♀♀ (ASU), Republic of Khakassia, [**Shira District**], near Kommunar, ca. 4 km upstream of Bolnichnyi Stream, *Lonicera* and *Ribes* thicket, 2.VIII.1999, P.S. Nefediev leg.

DISTRIBUTION. Being originally described as *Iulus profugus* by Stuxberg [1876a, b] from the area between Tomsk and Kansk (now Tomsk Oblast and Krasnoyarsk Krai, SW and central Siberia, Russia, respectively), this species was later transferred to *Sibiriulus* Gulička, 1963 [Lokšina, Golovatch, 1979], redescribed by Mikhaljova [1993], and finally treated as a senior subjective synonym of *Cylindroiulus* (*Sibiriulus*) *dentiger* Gulička, 1963 [Mikhaljova, 2002]. At present, *S. profugus* is widespread in southwestern and central Siberia, namely the Tomsk, Novosibirsk and Kemerovo oblasts, the Altai and Krasnoyarsk krais, and the republics of Altai and Khakassia [Nefediev *et al*., 2021].

REMARKS. An early restudy of 80 specimens from the Republic of Khakassia [Nefediev, 2018a, b], all previously identified by Mikhaljova as *Sibiriulus dentiger* Gulička, 1963 (see Mikhaljova [1993]), shows that all of them actually belong to two species: *Pacifiiulus amurensis* (Gerstfeldt, 1859) and a still undescribed species of *Julus* Linnaeus, 1758; identification of four specimens of *S. profugus* (3 ♂♂, 1 ♀) collected by A.B. Ryvkin from near Abaza on 16.VI.1990 (see Mikhaljova [1993]) was verified by E.V. Mikhaljova upon PN's request on September 2018.

An early [Nefediev, 2018b] and the present re-examinations of specimens from the Republic of Khakassia, previously identified by Mikhaljova as *S. profugus* (see Mikhaljova, Nefediev [2003]), show that they also belong to *P. amurensis*.

Family NEMASOMATIDAE

Orinisobates sibiricus (Gulička, 1963)
Map 4.

Orinisobates sibiricus (Gulička, 1963) — Mikhaljova, Nefediev, 2003: 83, 82: map; Nefediev, Nefedieva, 2017: 291, Nefediev *et al*., 2021: 41, 42: map.

MATERIAL EXAMINED. 1 ♀ (ASU.NPS.D-007), Russia, south of central Siberia, Republic of Khakassia, **Askiz District**, Yugachi Railway Station, Askiz River valley, 53.263557°N, 89.977783°E, 12.IX.2021, A.V. Yurkova leg.

DISTRIBUTION. Being originally described as *Isobates sibiricus* by Gulička [1963] from the Kemerovo Oblast, this species was later transferred first to the subgenus *Orinisobates* [Gulička, 1972] and finally to the genus *Orinisobates* [Lokšina, Golovatch, 1979]. To date, *O. sibiricus* has been abundantly recorded from Asian Russia (Kemerovo and Irkutsk oblasts, Khakassian, Altai and Tyva republics, Krasnoyarsk, Altai and Zabaikalskii krais), and also from eastern Kazakhstan, and Kyrgyzstan [Nefediev *et al*., 2021].

ORDER CHORDEUMATIDA

Ghilarovia cylindrica (Stuxberg, 1876)
Map 6.

Ghilarovia cylindrica (Stuxberg, 1876) — Mikhaljova, 2002: 201; Mikhaljova, Nefediev, 2003: 87, 82: map.

MATERIAL EXAMINED. 1 ♀ (ASU.NPS.D-008), Russia, south of central Siberia, Republic of Khakassia, **Askiz District**, Askiz River valley, near mouth of Portal River, 53.419056°N, 89.756056°E, edge of *Picea obovata*, *Larix sibirica* and *Betula pendula* forest, under stones, in litter, 1.VIII.2020; 3 juv. (ASU.NPS.D-009), same District, Askiz River valley, 53.382417°N, 89.754139°E, mixed *Betula pendula*, *Pinus sylvestris*, *Abies sibirica* and *Picea obovata* forest, in litter, 22.VI.2021; 2 ♂♂ (ASU.NPS.D-010), 1 ♀ (ASU.NPS.D-011), same locality, in litter, 13.VIII.2021, all S.V. Dragan leg.

DISTRIBUTION. Being originally described as *Craspedosoma cylindricum* by Stuxberg [1876a, b] from between Achinsk and Mariinsk (now the Krasnoyarsk Krai and the Kemerovo Oblast, SW and central Siberia, Russia, respectively), this species was later synonymized with *Ghilarovia novosibirica* Shear, 1988 [Mikhaljova, 2002]. The distribution area of *G. cylindrica* seems to be confined to the Novosibirsk, Tomsk and Kemerovo oblasts, the republics of Altai and Khakassia, and the Altai Krai [Nefediev, Nefedieva, 2017]; the record of this species from the Krasnoyarsk Krai is doubtful and requires confirmation.

REMARKS. Recently, the genus *Ghilarovia* Gulička, 1972 was removed from the family Anthroleucosomatidae [Antić, Makarov, 2016, 2017], and the systematic position of the genus has become unclear. Above is the first record of this species from the Askiz District, central part of the Republic of Khakassia.

Conclusions

To date, the myriapod fauna of the Republic of Khakassia comprises at least 31 species from 14 genera, 11 families and 6 orders: *Thereuonema tuberculata* (Wood, 1862)*, *Geophilus proximus* C.L. Koch, 1847, *Arctogeophilus macrocephalus* Folkmanová et Dobroruka, 1960, *Escaryus japonicus* Attems, 1927, *E. koreanus* Takakuwa, 1937, *E. kusnetzowi* Lignau, 1929**, *Strigamia pusilla* (Sseliwanoff, 1884)*, *Lithobius* (*Chinobius*) *opinatus* (Zalesskaja, 1978), *L.* (*Ezembius*) *ostiacorum* Stuxberg, 1876, *L.* (*E.*) *princeps* Stuxberg, 1876, *L.* (*L.*) *lucifugus* L. Koch, 1862, *L. vagabundus* Stuxberg, 1876*, *L.* (*Monotarsobius*) *curtipes* C.L. Koch, 1847, *L.* (*M.*) *franciscorum* Dányi et Tuf, 2012*, *L.* (*M.*) *fugax* Stuxberg, 1876, *L.* (*M.*) *insolens* Dányi et Tuf, 2012*, *L.* (*M.*) *nordenskioeldii* Stuxberg, 1876, *L.* (*M.*) *worogowensis* Eason, 1976, *Julus ghilarovi* Gulička, 1963, *Julus* sp. 2, *Pacifiiulus amurensis* (Gerstfeldt, 1859), *Sibiriulus profugus* (Stuxberg, 1876), *Orinisobates sibiricus* (Gulička, 1963), *Teleckophoron montanum* Gulička, 1972, *Ghilarovia cylindrica* (Stuxberg, 1876), *Altajosoma bakurovi* (Shear, 1990), *A. deplanatum* (Stuxberg, 1876), *A. kemerovo* (Shear, 1990), *Shearia khakassica* Mikhaljova, 2000, *Schizoturanius clavatipes* (Stuxberg, 1876), and *S. tabescens* (Stuxberg, 1876). The first records from the Republic of Khakassia are marked above with an asterisk (*), as well as the first record from Russia is denoted above with double asterisks (**).

The genus *Thereuonema* Verhoeff, 1904 and the subfamily Thereuoneminae are newly reported from Siberia. The genus *Strigamia* Gray, 1843, as well as the family Linotaeniidae it belongs to, are formally new to the Republic of Khakassia.

Compliance with ethical standards

CONFLICT OF INTEREST: The authors declare that they have no conflict of interest.

Ethical approval: No ethical issues were raised during our research.

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References

Antić D.Ž., Makarov S.E. 2016. The Caucasus as a major hotspot of biodiversity: Evidence from the millipede family Anthroleucosomatidae (Diplopoda, Chordeumatida) // Zootaxa. Vol.4211. No.1. P.1–205.

Antić D.Ž., Makarov S.E. 2017. Review of the Holarctic family Anthroleucosomatidae (Diplopoda, Chordeumatida) // Tropical Natural History. Suppl.5. Book of abstracts. 17th International Congress of Myriapodology. Krabi, Thailand. 23–26 July 2017. P.10.

Attems C. 1904. Central- und hoch-asiatische Myriopoden. Gesammelt im Jahre 1900 von Dr. von Almassy und Dr. von Stummer // Zoologische Jahrbücher, Abtheilung für Systematik, Geographie und Biologie der Thiere. Bd.20. S.113–130.

Attems C. 1927. Neue Chilopoden // Zoologischer Anzeiger. Bd.72. S.291–305.

Barber A.D. 2011. *Thereuonema tuberculata* (Wood, 1863), a scutigeromorph centipede from China, found in a warehouse at Swindon // Bulletin of the British Myriapod and Isopod Group. Vol.25. P.49–50.

Bragina T.N., Dyachkov Yu.V., Farzalieva G.Sh. 2020. New data on the centipede fauna (Myriapoda: Chilopoda) of Kostanay region, Kazakhstan // Far Eastern Entomologist. No.406. P.27–32. https://dx.doi.org/10.25221/fee.406.4.

Dányi L., Tuf I.H. 2012. *Lithobius* (*Monotarsobius*) *franciscorum* sp. nov., a new lithobiid species from the Altai, with a key to the Central Asian species of the subgenus (Chilopoda: Lithobiomorpha) // Zootaxa. Vol.3182. P.16–28.

Dunlop J.A., Friederichs A., Langermann J. 2017. A catalogue of the scutigeromorph centipedes in the Museum für Naturkunde, Berlin // Zoosystematics and Evolution. Vol.93. No.2. P.281–295. https://dx.doi.org/10.3897/zse.93.12882.

Dyachkov Yu.V. 2019. New data on lithobiomorph centipedes (Chilopoda: Lithobiomorpha: Anopsobiidae, Henicopidae, Lithobiidae) from Kazakhstan // Arthropoda Selecta. Vol.28. No.1. P.8–20. https://dx.doi.org/10.15298/arthsel. 28.1.02.

Dyachkov Yu.V. 2022. Thereuoneminae Verhoeff, 1905 (Chilopoda: Scutigeromorpha: Scutigeridae), a new subfamily for the Russian fauna // Acta Biologica Sibirica. Vol.8. P.469–473. https://dx.doi.org/10.14258/abs.v8.e28.

Dyachkov Yu.V. 2023. [The history of the studies and preliminary data on Chilopoda from the Maritime Province, Russian Far East] // Bulletin of Perm University. Biology. Vol.4. P.307–314 [in Russian, with English summary]. https://dx.doi.org/10.17072/1994-9952-2023-4-307-314.

Dyachkov Yu.V., Farzalieva G. Sh. 2023. An annotated checklist of Chilopoda from Mongolia // Ecologica Montenegrina. Vol.64. P.221–241. https://dx.doi.org/10.37828/em.2023.64.7.

Dyachkov Yu.V., Tuf I.H. 2018. New data on the genus *Escaryus* Cook et Collins, 1891 (Chilopoda: Geophilomorpha: Schendylidae) from Kazakhstan // Arthropoda Selecta. Vol.27. No.4. P.293–299. https://dx.doi.org/10.15298/arthsel. 27.4.04.

Eason E.H. 1976. The type specimens and identity of the Siberian species described in the genus *Lithobius* by Anton Stuxberg in 1876 (Chilopoda: Lithobiomorpha) // Zoological Journal of the Linnean Society. Vol.58. P.98–127.

Edgecombe G.D. 2011. Order Scutigeromorpha. Chilopoda – taxonomic overview // A. Minelli (ed.). Treatise on zoology – anatomy, taxonomy, biology. The Myriapoda. Vol.1. Leiden-Boston: Brill. P.363–370.

Edgecombe G.D., Giribet G. 2006. A century later – a total evidence re-evaluation of the phylogeny of scutigeromorph centipedes (Myriapoda: Chilopoda) // Invertebrate Systematics. Vol.20. P.503–525. https://dx.doi.org/10.1071/IS05044.

Farzalieva G.Sh., Esyunin S.L. 2008. A review of the centipede (Lithobiomorpha, Henicopidae, Lithobiidae) fauna of the Urals and Cis-Ural Area // Entomological Review. Vol.88. No.5. P.598–623.

Folkmanová B., Dobroruka L.J. 1960. [A contribution to Chilopoda of the USSR] // Zoologicheskii Zhurnal. Vol.39. No.12. P.1811–1818 [in Russian, with German summary].

Gerstfeldt G. 1859. Ueber einige zum Theil neue Arten Platoden, Anneliden, Myriapoden und Crustaceen Sibiriens, namentlich seines östlichen Theiles und des Amur-Gebiets // Mémoires L'Académie Impériale des Sciences. St. Petersbourg. T.8. S.1–36.

Gulička J. 1963. [New millipedes (Diplopoda) from the USSR. Part 1] // Zoologicheskii Zhurnal. Vol.42. No.4. P.518–524 [in Russian, with English summary].

Gulička J. 1972. [New millipedes (Diplopoda) from the USSR. Part 2] // Zoologicheskii Zhurnal. Vol.51. No.1. P. 36–45 [in Russian, with English summary].

Koch C.L. 1847. System der Myriapoden, mit den Verzeichnissen und Berichtigungen zu Deutschlands Crustaceen, Myriapoden und Arachniden // G.W.F. Panzer, A. Herrich-Schäffer. Kritische Revision der Insectenfaune Deutschlands. Regensburg. Bd.3. H.1–40. S.1–196.

Koch L. 1862. Die Myriapodengattung *Lithobius*. Nürnberg: J.L. Lotzbeck. 94 S.

Lignau N.G. 1929. Neue Myriopoden aus Zantralasien // Zoologischer Anzeiger. Bd.85. H.9/10. S.205–217.

Lokšina I.E., Golovatch S.I. 1979. Diplopoda of the USSR fauna // Pedobiologia. Vol.19. P.381–389.

Mikhaljova E.V. 1993. The millipedes (Diplopoda) of Siberia and the Far East of Russia // Arthropoda Selecta. Vol.2. No.2. P.3–36.

Mikhaljova E.V. 2000. Review of the millipede family Diplomaragnidae (Diplopoda: Chordeumatida) // Arthropoda Selecta. Vol.8 [for 1999]. No.3. P.153–181.

Mikhaljova E.V. 2002. On some poorly-known millipedes from Siberia (Diplopoda) // Arthropoda Selecta. Vol.10 [for 2001]. No.3. P.201–207.

Mikhaljova E.V., Nefediev P.S. 2003. A contribution to the millipede fauna of Siberia (Diplopoda) // Arthropoda Selecta. Vol.11 [for 2002]. No.1. P.81–87.

Muralewitsch W. 1906. Myriapoden, gesammelt von der Expedition nach der Halbinsel Kanin im Jahre 1902 // Zoologischer Anzeiger. Vol.30. No.3/4. S.66–69.

Nefediev P.S. 2018a. *Julus ghilarovi* Gulička, 1963 s.str.: time to put an end to confusion (Diplopoda: Julida: Julidae) // Arthropoda Selecta. Vol.27. No.4. P.284–292. https://dx.-doi.org/10.15298/arthsel. 27.4.03.

Nefediev P.S. 2018b. New records of millipedes of the order Julida (Diplopoda) from Asian Russia and adjacent regions // Far Eastern Entomologist. No.370. P.12–20. https://dx.-doi.org/10.25221/fee.370.2.

Nefediev P.S. 2019a. New data on the millipede genus *Altajosoma* Gulička, 1972 from southwestern Siberia, Russia (Diplopoda: Chordeumatida: Diplomaragnidae) // Arthropoda Selecta. Vol.28. No.2. P.206–212. https://dx.doi.org/10.15298/arthsel.28.2.03.

Nefediev P.S. 2019b. New records of geophilomorph centipedes (Chilopoda: Geophilomorpha) from natural and anthropogenic habitats of Siberia // Far Eastern Entomologist. No.380. P.23–28. https://dx.doi.org/10.25221/fee.380.4.

Nefediev P.S., Farzalieva G.Sh. 2020. New records of lithobiid centipedes from Siberia, Russia (Chilopoda: Lithobiomorpha: Lithobiidae) // Arthropoda Selecta. Vol.29. No.2. P.185–198. https://dx.doi.org/10.15298/arthsel. 29.2.03.

Nefediev P.S., Farzalieva G.Sh., Efimov D.A. 2020. New data on lithobiomorph centipedes (Chilopoda, Lithobiomorpha) from anthropogenic habitats of Siberia // Far Eastern Entomologist. No.418. P.9–14. https://dx.doi.org/10.25221/fee.418.2.

Nefediev P.S., Farzalieva G.Sh., Tuf I.H. 2017a. A preliminary review of the fauna of the Altai State Nature Biosphere Reserve, southwestern Siberia, Russia (Chilopoda: Lithobiomorpha, Geophilomorpha) // Arthropoda Selecta. Vol.26. No.3. P.217–224.

Nefediev P.S., Knyazev S.Yu., Farzalieva G.Sh., Tuf I.H. 2017b. A contribution to the myriapod fauna of the Omsk Area, Siberia, Russia (Myriapoda: Diplopoda, Chilopoda) // Arthropoda Selecta. Vol.26. No.2. P.113–118.

Nefediev P.S., Nefedieva J.S. 2017. New data on the millipede fauna of the Russian Altais, southwestern Siberia (Diplopoda) // Arthropoda Selecta. Vol.26. No.4. P.288–296. https://dx.doi.org/10.15298/arthsel.26.4.02.

Nefediev P.S., Nefedieva J.S., Farzalieva G.Sh. 2021. New data on the myriapod fauna (Myriapoda: Chilopoda, Diplopoda) of the Republic of Khakassia, central Siberia, Russia // Invertebrate Zoology. Vol.18. No.1. P.36–46. https://dx.doi.org/10.15298/invertzool.18.-1.04.

Nefediev P.S., Tuf I.H., Dyachkov Yu.V., Efimov D.A. 2016b. First record of *Scutigera coleoptrata* (Linnaeus, 1758) in the south of Western Siberia, Russia (Chilopoda: Scutigeromorpha: Scutigeridae) // Biological Bulletin of Bogdan Chmelnitskiy Melitopol State Pedagogical University. Vol.6. No.1. P.428–432. https://dx.doi.org/10.15421/201626.

Nefediev P.S., Tuf I.H., Farzalieva G.Sh. 2016a. Centipedes from urban areas in southwestern Siberia, Russia (Chilopoda). Part 1. Lithobiomorpha // Arthropoda Selecta. Vol.25. No.3. P.257–266.

Nefediev P.S., Tuf I.H., Farzalieva G.Sh. 2017c. Centipedes from urban areas in southwestern Siberia, Russia (Chilopoda). Part 2. Geophilomorpha // Arthropoda Selecta. Vol.26. No.1. P.8–14.

Reeves W.K. 2017. Discovery of an exotic population of *Thereuonema tuberculata* (Chilopoda: Scutigeromorpha), the Japanese house centipede, in Ohio, USA // American Midland Naturalist. Vol.177. P.162–164. https://dx.doi.org/10.1674/0003-0031-177.1.162.

Reeves W.K., Miller M.M. 2022. *Thereuonema tuberculata* (Wood, 1862) (Chilopoda, Scutigeromorpha, Scutigeridae) from forested habitats in North America // Check List. Vol.18. No.3. P.431–434. https://dx.doi.org/10.15560/18.2.431.

Shear W.A. 1988. Systematic position of the milliped species *Alloiopus solitaries* Attems and the genus *Ghilarovia* Gulička (Chordeumatida, Anthroleucosomatidae) // Myriapodologica. Vol.2. No.8. P.51–58.

Shear W.A. 1990. On the Central and East Asian milliped family Diplomaragnidae (Diplopoda, Chordeumatida, Diplomaragnoidea) // American Museum Novitates. No.2977. P.1–40.

Sseliwanoff A.V. 1884. [Materials towards the study of Russian myriapods] // Trudy Russkogo Entomologicheskogo Obshchestva. Vol.18. No.1–2. P.69–121 [in Russian].

Stoev P., Geoffroy J.-J. 2004. An annotated catalogue of the scutigeromorph centipedes in the collection of the Muséum National d'Histoire Naturelle, Paris (France) (Chilopoda: Scutigeromorpha) // Zootaxa. Vol.635. P.1–12. https://dx.doi.org/10.11646/zootaxa.635.1.-1.

Stuxberg A. 1876a. Myriopoder från Sibirien och Waigatsch ön samlade under Nordenskiöldska expeditionen 1875 // Öfversigt af Kongliga Vetenskaps-Akademiens Förhandlingar. Årg.33. No.2. S.11–38.

Stuxberg A. 1876b. On the Myriopoda, from Siberia and Waigatsch Island, collected during the expedition of Prof. Nordenskiöld, 1875 // Annals and Magazine of Natural History. Ser.4. Vol.17. P.306–318. https://dx.doi.org/10.1080/00222937608681955.

Takakuwa Y. 1937. Eine neue *Escaryus* Arten aus Korea // Zoological Magazine. Vol.49. No.9. P.297–299.

Würmli M. 1975. Revision der Hundertfüßer-Gattung *Thereuonema* (Chilopoda: Scutigeridae) // Entomologica Germanica. Bd.2. H.2. S.189–196.

Zalesskaja N.T. 1978. [Identification book of the lithobiomorph centipedes of the USSR]. Moscow: Nauka Publ. 212 p. [In Russian]

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