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**NEW RECORDS OF MILLIPEDES OF THE ORDER JULIDA  
(DIPLOPODA) FROM ASIAN RUSSIA AND ADJACENT REGIONS**

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**Summary.** Data on distribution of the seven species of the families Julidae and Nemasomatidae are clarified and provided by maps. *Leptoiulus tigirek* Mikhailjova, Nefediev, Nefedieva et Dyachkov, 2015 is recorded from Republic of Altai and East Kazakhstan for the first time, *Orinisobates sibiricus* (Gulička, 1963) is new for Irkutskaya oblast, and *Pacifiulus amurensis* (Gerstfeldt, 1859) is firstly recorded from Buryatia.

**Key words:** millipedes, Julidae, Nemasomatidae, fauna, new records, Siberia, Russian Far East, Kazakhstan.

**П. С. Неведьев. Новые находки двупарноногих многоножек отряда Julida (Diploroda) из азиатской России и сопредельных регионов // Дальневосточный энтомолог. 2018. N 370. С. 12-20.**

**Резюме.** Приведены уточненные сведения по распространению 7 видов двупарноногих многоножек семейств Julidae и Nemasomatidae с картированием всех известных находок. *Leptoiulus tigirek* Mikhailjova, Nefediev, Nefedieva et Dyachkov, 2015 впервые отмечен в Республике Алтай и Восточном Казахстане. *Orinisobates sibiricus* (Gulička, 1963) впервые указан из Иркутской области, а *Pacifiulus amurensis* (Gerstfeldt, 1859) – из Бурятии.

**INTRODUCTION**

Despite the recent progress in our knowledge of the millipede fauna of the Asian part of Russia (Mikhailjova, 2017; Nefediev & Nefedieva, 2017, 2018) the distribution ranges of some millipede species are still far from being well-known. The new material treated herein has mainly been deposited in the collection of the Altai State University, Barnaul, Russia (ASU), while re-examined specimens deposited in the collection of the Federal Scientific Center of East Asian Terrestrial Biodiversity, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok, Russia (FSCB). The distribution maps were composed using QGIS 3.0. New records are asterisked (\*).

**NEW RECORDS**

**Order Julida Brandt, 1833**

Family Julidae Leach, 1814

*Julus azarovae* Mikhaljova, 2009

MATERIAL. Russia: **Republic of Altai**: Ulaganskii District, Aigulakskii Mt. Range, near source of Sardyma River, rocky alpine meadow with stony streams, 50°24'N, 87°33'E, 2400–2500 m, 29.VII 2016, 1 ♂, 6 ♀, 1 subadult ♂ (ASU), leg. A.A. Fomichev; Ulaganskii District, Aigulakskii Mt. Range, subalpine meadow with stony streams and tundra, 50°24'N, 87°33'E, 2400–2500 m, 29.VII 2016, 1 ♂ (ASU), leg. Yu.V. Dyachkov; Kuraiskii Mt. Range, watershed of Korumduairy and Yarlyamry rivers, mountain top with retranslator, rocky mountain tundra, 50.33958°N, 87.74865°E, ca 3000 m, 7.VIII 2016, 2 ♀ (ASU), leg. V.V. Sidorov.

DISTRIBUTION. Russia: Republic of Altai (Fig. 1).

REMARKS. Previously this species was known from the northern part of Altai (Mikhaljova, 2009, 2016); here it is recorded from south-east part at elevation 2400–3000 m. Three species of the genus *Julus* Linnaeus, 1758 (*J. jedryczkowskii* Golovatch, 1981, *J. colchicus* Lohmander, 1936 and *J. lignaii* Verhoeff, 1910) seem to be the most high-montane congeners in the Caucasus region (Evsyukov *et al.*, 2018).

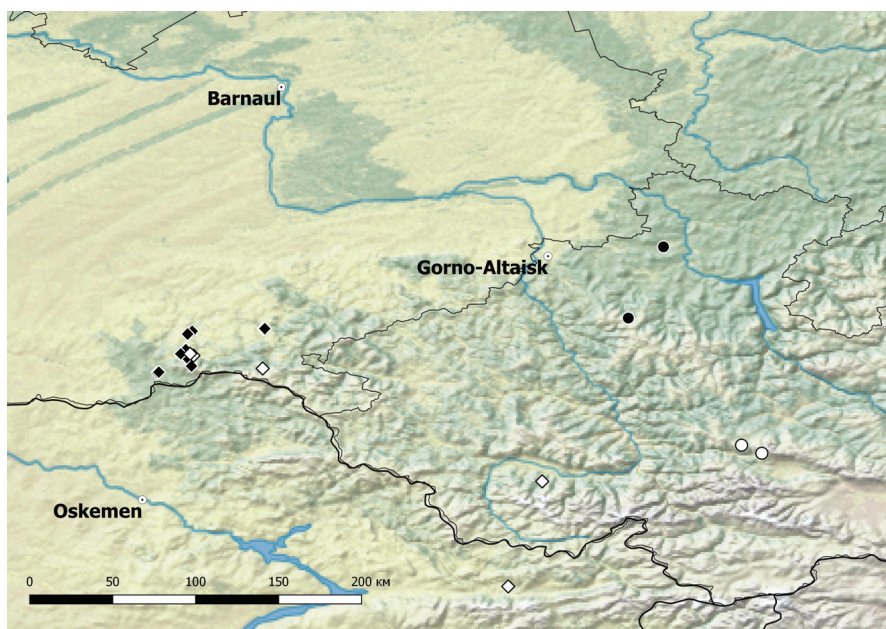


Fig. 1. Distribution of *Julus azarovae* Mikhaljova, 2009 (circle) and *Leptoilulus tigirek* Mikhaljova, Nefediev, Nefedieva et Dyachkov, 2015 (diamond). Previously known localities marked in black, new records marked in white.

### *Leptoiulus tigrek* Mikhaljova, Nefediev, Nefedieva et Dyachkov, 2015

**MATERIAL.** Russia: **Altai**: Krasnoschiokovskii District, Tigirekskii State Nature Reserve, near Tigirek village, pitfall traps, 30.VI 2004, 3 ♀, 1 subadult ♂, 1 subadult ♀, 2 juv. (ASU); Krasnoschiokovskii District, Tigirekskii State Nature Reserve, Khankhara site, 23.VII 004, 1 ♀ (ASU), all leg. V.A. Balashiova; Charyshskii District, near Tigirek village, E of Mt Chainaya, bush thicket, rich herbaceous rocky steppe with *Festuca valesiaca*, 51.139611°N, 83.047559°E, 530 m, pitfall traps, 2–12.VI 2006, 1 ♂, 2 ♀ (ASU), leg. O.V. Kosova; Krasnoschiokovskii District, near Tigirek, 18.VI 2018, 1 ♀ (ASU), leg. I.H. Tuf; **Republic of Altai**: Charyshskii District, Korgonskii Mt. Range, Mt Gorkii Belok, rocky meadow with stony streams, 51°02'N, 83°37'E, 1700–1900 m, 13.VII 2016, 1 ♀ (ASU), leg. A.A. Fomichev; Ust-Koksinskii District, 7 km SW of Multa village, valley of Multa River, *Pinus sibirica* and *Betula* forest, 50°06'03.63"N, 85°54'45.56"E, 1200 m, 23.VIII 2016, 1 ♂, 2 ♀ (ASU), leg. Yu.V. Dyachkov; **Kazakhstan**: East Kazakhstan oblast: valley of Bukhtarma River, left bank, 6 km NNE of Katon-Karagai, scree, 49°14'N, 85°38'E, 780 m, 1.IX 2016, 4 ♂, 2 ♀, 2 juv. (ASU), leg. A.A. Fomichev.

**DISTRIBUTION.** Russia: Altai; \*Republic of Altai; \*Kazakhstan: East Kazakhstan oblast (Fig. 1).

### *Megaphyllum sjaelandicum* (Meinert, 1868)

**MATERIAL.** Russia: **Republic of Altai**: Kosh-Agachskii District, Chikhachiova Mt. Range, foot of Mt Talduair, valley of Sailyugem River, *Larix sibirica* forest, 50°01'08.52"N, 89°14'04.53"E, 2200 m, 30.VI 2014, 1 ♀ (ASU), leg. Yu.V. Dyachkov; **Altai**: Zmeinogorskii District, Tigirekskii State Nature Reserve, Beloretskii Redoubt, 51.012766°N, 82.764799°E, 510 m, pitfall traps, 29.VI 2004, 1 ♀ (ASU); Krasnoschiokovskii District, near Tigirek village, pitfall traps, 30.VI 2004, 4 ♀ (ASU); Krasnoschiokovskii District, near Tigirek village, Khankharinskii site, 23.VII 2004, 1 ♂, 1 ♀ (ASU); July 2005, 5 ♂, 25 ♀ (ASU), all leg. V.A. Balashiova; Charyshskii District, near Tigirek village, E of Mt Chainaya, bush thicket, rich herbaceous rocky steppe with *Festuca valesiaca*, 51.139611°N, 83.047559°E, 530 m, pitfall traps, 2–12.VI 2006, 1 ♀ (ASU), leg. O.V. Kosova; Zmeinogorskii District, Beloretsk cordon, chern taiga, in litter, 14.VI 2009, 3 juv. (ASU), leg. D.V. Kuzmenkin; Krasnoschiokovskii District, environs of Tigirek village, Mt Kozyr, 17–19.VI 2018, 3 ♂, 2 ♀, 1 subadult ♂, 20 juv. (ASU), leg. I.H. Tuf; Zmeinogorskii District, 3 km N of Zmeinogorsk, meadow, 51.207239°N, 82.170883°E, 400 m, 29.VI 2016, 2 ♂, 3 ♀, 1 subadult ♂, 4 juv. (ASU), all leg. Yu.V. Dyachkov; Charyshskii District, environs of Charyshskoye village, valley of Charysh River, left bank, 51°21'N, 83°38'E, 500–700 m, 12.VII 2016, 1 ♀ (ASU), leg. A.A. Fomichev; **Kazakhstan**: East Kazakhstan oblast: Katon-Karagaikskii District, Ulken-Naryn, gardens, 49°13'09"N, 84°30'56"E, 410 m, 28.VI 2016, 8 ♂, 14 ♀, 24 juv. (ASU), leg. Yu.V. Dyachkov; Mt Listvyaga, near Verkh-Katun village, wet small meadows in taiga forest, 49°32'N, 85°32'E, 1400 m, 3–5.VII 2018, 1 ♂, 1 ♀, 1 subadult ♂, 5 subadult ♀, 2 juv. (ASU), leg. R.V. Yakovlev, V.V. Doroshkin, V.V. Rudoj, A.E. Naydenov.

**DISTRIBUTION.** Russia: central and northern Europe, European part of Russia, Urals, SW Siberia (Republic of Altai, Altai; \*Kazakhstan: East Kazakhstan oblast (Fig. 2).

*Pacifiulus amurensis* (Gerstfeldt, 1859)

MATERIAL. Russia: **Republic of Tyva**: Todzhinskii District, East Sayan, right bank of right tributary of Arzhan-Khem River, 52°35.059'N, 98°46.910'E, swampy river bank with ushes, ca 1905 m, sifting litter and old rodent nests, 19.VI 2017, 1 ♂, 1 ♀, 3 juv. (ASU); same

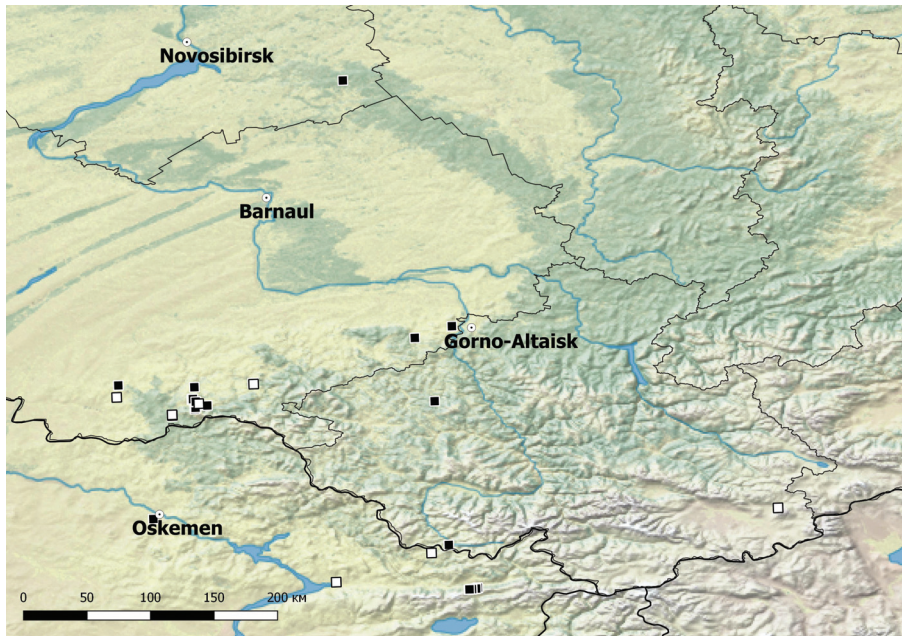


Fig. 2. Distribution of *Megaphyllum sjaelandicum* (Meinert, 1868) in Asia. Previously known localities marked in black, new records marked in white.



Fig. 3. Distribution of *Pacifiulus amurensis* (Gerstfeldt, 1859). Previously known localities marked in black, new records marked in white.

locality, 21.VIII 2017, 2 ♂, 4 juv. (ASU); Todzhinskii District, East Sayan, valley of Arzhan-Khem River, Natural Arzhaan Complex “Choiganskiye Mineralnye Vody”, 52°35'03.8"N, 98°45'22.5"E, mixed *Picea sibirica* & *Pinus sibirica* forest with green moss, on riverine slope, ca 1890 m, sifting leaf litter and moss, 26.VI 2017, 1 ♂ (ASU); **Republic of Buryatia**: Okinskii District, East Sayan, valley of Dunda-Gol River, 52°35'07.5"N, 98°47'55.9"E, riverine mixed *Picea sibirica* & *Pinus sibirica* forest with *Salix* and *Alnus fruticosa*, ca 1940 m, 17.VII 2015, 13 ♂, 8 ♀ (ASU); same locality, sifting leaf litter, 27.VI 2017, 42 ♂, 13 ♀, 12 subadult ♂, 13 subadult ♀, 185 juv., 1 fragm. (ASU), all leg. I.V. Enushchenko; **Primorskii krai**: Vladivostok, Russky Island, ca 1 km NE of Podnozhie village, 43.058388°N, 131.806571°E, ca 35 m, *Quercus* forest with *Acer*, in litter between stones, 9.VI 2018, 1 ♀ (ASU), leg. P.S. Nefediev.

MATERIAL RE-EXAMINED (specimens recorded by Mikhaljova, 1993 and Mikhaljova & Nefediev, 2003). Russia: **Republic of Khakassia**: Bolshoi On River, 15.VI 1990, 8 ♂, 12 ♀, 37 juv. (FSCB), leg. A.B. Ryvkin; Shirinskii District, near Kommunar village, 2 km upstream of Bolnichnyi Brook, *Betula* and *Abies sibirica* forest, 2.VIII 1999, 1 ♂, 1 ♀, 3 juv. (ASU), leg. P.S. Nefediev; **Krasnoyarskii krai**: 4 km of Verkhneusinskoye village, 1 ♂, 1 ♀ (FSCB), leg. A.B. Ryvkin.

DISTRIBUTION. Russia: Far East (Primorskii krai, S part of the Khabarovskii krai, Jewish Autonomous Region, Amurskaya oblast) and Siberia (NE part of the Republic of Altai, S part of the Krasnoyarskii krai, Republic of Khakassia, Republic of Tyva, \*Republic of Buryatia, Zabaikalskii krai); NE China (Fig. 3).

REMARKS. A restudy of specimens from Khakassia and Krasnoyarskii krai, which were determined by Mikhaljova (1993) as *Sibiriulus dentiger* Gulička, 1963 [= *Sibiriulus profugus* (Stuxberg, 1876)], shows that they belong to *Pacifiulus amurensis*.

#### ***Sibiriulus latisupremus* Mikhaljova, Nefediev et Nefedieva, 2014**

MATERIAL. Russia: **Republic of Altai**, Ust-Koksinskii District, 0.5 km W of Ust-Koksa village, main manor of Katunskii State Nature Reserve, 50°16'27.74"N, 85°35'29.21"E, 980 m, 14–15.VIII 2016, 3 ♂, 15 ♀, 2 subadult ♂, 3 subadult ♀, 4 juv. (ASU), leg. Yu.V. Dyachkov.

DISTRIBUTION. Russia: Altaiskii krai, Republic of Altai.

REMARKS. The above record of *S. latisupremus* from the Republic of Altai is presently the southernmost one for the species (Fig. 4).

#### ***Sibiriulus profugus* (Stuxberg, 1876)**

MATERIAL. Russia: **Altaiskii krai**: Zmeinogorskii District, 3 km N of Zmeinogorsk, meadow, 51.207239°N, 82.170883°E, 400 m, 29.VI 2016, 4 ♂, 8 ♀, 1 subadult ♂ (ASU), leg. Yu.V. Dyachkov; Eltsovskii District, right bank of Chumysh River, 1 km E of Mostovaya village, 53.4583°N, 86.7761°E, 305 m, chern taiga, 7.V 2017, 1 ♀ (ASU), leg. D.V. Kuzmenkin; Zalesovskii District, at border with Kemerovskaya oblast, 54.235533°N, 85.375949°E, *Betula* forest with *Ribes nigrum*, 400 m, 3.VII 2018, 1 ♂, 2 ♀, 1 juv. (ASU), leg. P.S. Nefediev; Russia: **Novosibirskaya oblast**: Novosibirskii District, valley of Inya River, right bank, “Izumrud” Gardening Partnership, garden, 55°00'13"N, 83°21'33"E, 110 m, 23.VII 2016, 1 ♂ (ASU); Novosibirskii District, valley of Inya River, right bank, 2 km SSW of Plotnikovo village, small rocks at foot of slope with mixed forest (*Pinus sylvestris*, *Betula*, *Populus tremula*) on river bank, 55°00'43"N, 83°22'33"E, 110 m, 23.VII 2016, 2 ♀ (ASU), all leg. A.A. Fomichev.

MATERIAL RE-EXAMINED. Russia, **Republic of Khakassia**: environs of Abaza, 16.VI 1990, 3 ♂, 1 ♀ (FSCB), leg. A.B. Ryvkin. These specimens recorded by Mikhajlova (1993) have kindly been verified by Dr. E.V. Mikhajlova.

DISTRIBUTION. Russia: Tomskaya, Novosibirskaya and Kemerovskaya oblasti, Altaiskii krai, Republic of Altai, Krasnoyarskii krai, Republic of Khakassia (Fig. 4).

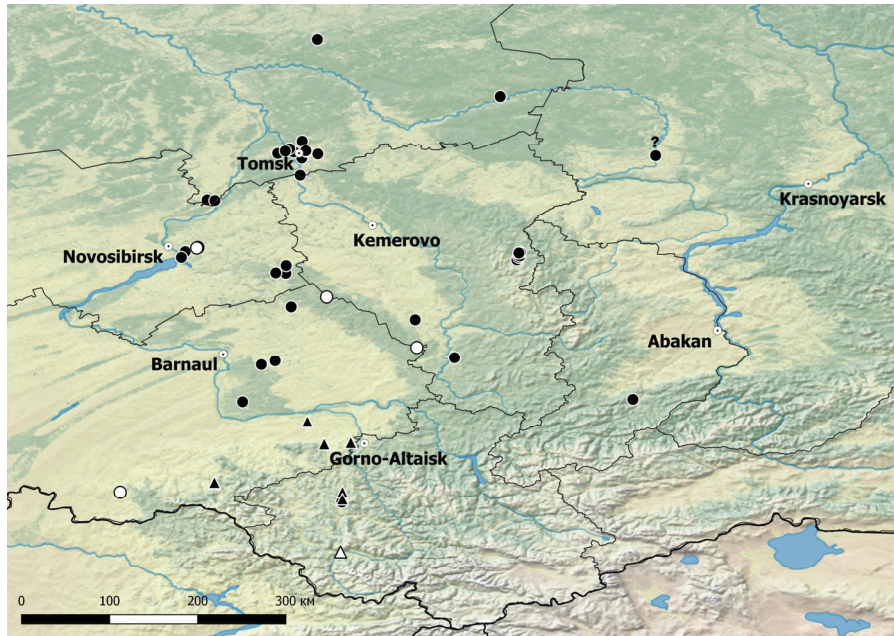


Fig. 4. Distribution of *Sibirulius profugus* (Stuxberg, 1876) (circle) and *S. latisupremus* Mikhajlova, Nefediev et Nefedieva, 2014 (triangle). Previously known localities marked in black, new records marked in white.

#### Family Nemasomatidae Bollman, 1893

##### *Orinisobates sibiricus* (Gulička, 1963)

MATERIAL. Russia: **Republic of Tyva**: Todzhinskii District, East Sayan, valley of Arzhan-Khem River, Natural Arzhaan Complex “Choiganskiye Mineralnye Vody”, 52° 35'03.8"N, 98°45'22.5"E, mixed *Picea sibirica* & *Pinus sibirica* forest with green mosses, on riverine slope, ca 1890 m, sifting leaf litter and moss, 26.VI 2017, 2 ♂, 1 ♀ (ASU), leg. I.V. Enushchenko; **Irkutskaya oblast**, Irkutsk, right bank of Angara River, near mouth of Ushakovka River, 52°17'56.6"N, 104°17'55.9"E, *Acer* and *Populus* along stream, ca 570 m, on Polyporales gen. sp., 16.VI 2018, 1 subadult ♀ (ASU); Irkutsk, right bank of Irkut River, near mouth of Kaya River, 52°17'10.7"N, 104°13'59.5"E, park forest with *Pinus sylvestris*, *Padus avium*, *Acer nigundo*, *Swida alba*, 475 m, on *Ganoderma applanatum*, 18.VII 2018, 1 ♀ (ASU), all leg. I.V. Enushchenko; **Republic of Altai**: Ulaganskii District, Aigulakskii Mt. Range, subalpine meadow with stony streams and tundra, 50°24'N, 87°33'E, 2400–2500 m,

29.VII 2016, 2 ♂, 1 ♀ (ASU); Kosh-Agachskii District, Chikhachiova Mt. Range, Talduair Massif, Mt Sailyugem, valley of Sailyugem River, *Larix sibirica* forest, 50°00'N, 89°15'E, 2370 m, 1.VIII 2016, 3 ♂, 7 ♀ (ASU); Kosh-Agachskii District, Sailyugem Mt. Range, confluence of Zhumaly River, rocky steppe, 49°33'N, 87°58'E, 2190 m, under stones, 5.VIII 2016, 11 ♂, 8 ♀ (ASU); Ust-Koksinskii District, 25 air-km SW of Multa village, valley of Multa River, *Pinus sibirica* and *Larix sibirica* forest, 49°56'45.88"N, 85°51'05.09"E, 1700 m, 18.VIII 2016, 4 ♂, 4 ♀ (ASU); Ust-Koksinskii District, 15 air-km SW of Multa village, valley of Multa River, *Pinus sibirica* forest, 50°02'30.67"N, 85°50'53.19"E, 1700 m, 19.VIII 2016, 42 ♂, 37 ♀, 2 fragm. (ASU), all leg. Yu.V. Dyachkov; Ulaganskii District, 3 air-km NW of Chibit village, foot of SW slope, scattered *Picea obovata* and *Berberis*, 50.33347°N, 87.46147°E, ca 1125 m, 23.VII 2018, 1 ♂ (ASU), leg. P.S. Nefediev; Kosh-Agachskii District, 2 air-km NE of Kurai village, valley of Kuraika River, left bank, 1.5–2 air-km up the river from Chuya Tract, riverine *Larix sibirica* forest, 50.24651°N, 87.95520°E, 1590 m, under stones and in litter, 24.VII 2018, 10 ♂, 4 ♀, 1 subadult ♂, 2 subadult ♀, 1 juv. (ASU), leg. P.S. Nefediev, V.I. Gusarov; Kosh-Agachskii District, 2 air-km NE of Kurai village, valley of Kuraika River, left bank, 1.5–2 air-km up the river from Chuya Tract, riverine forest with *Larix sibirica* and *Populus*, 50°14.797'N 87°57.290'E, 1580 m, sifting litter over 150 m, 25.VII 2018, 1 juv. (ASU), leg. V.I. Gusarov, M.F. Maurstad, V. Løveng; Kosh-Agachskii District, 20 air-km NE of Kokorya village, S macroslope of Chikhachiova Mt. Range, Talduair Massif, valley of Sailyugem River, right bank of Sailyugem River, riverine *Larix sibirica* forest, 50.01802°N, 89.23557°E, 2225 m, under stones, 26.VII 2018, 2 ♂, 5 ♀ (ASU), leg. P.S. Nefediev, M.F. Maurstad; Kosh-Agachskii District, 20 air-km NE of Kokorya village, S macroslope of Chikhachiova Mt. Range, Talduair Massif, valley of Sailyugem River, right bank of Sailyugem River, meadow, 50°01.078'N, 89°14.136'E, ca 2215 m, sifting grass tussocks and moss over 80 m, 26.VII 2018, 2 ♂, 1 ♀, 1 juv. (ASU); Kosh-Agachskii District, 20 km NE of Kokorya village, S macroslope of Chikhachiova Mt. Range, Talduair Massif, valley of Sailyugem River, right bank of Sailyugem River, *Larix sibirica* forest patch, 50°01.078'N, 89°14.136'E, ca 2215 m, sifting litter over 40 m, 26.VII 2018, 1 ♀, 2 juv. (ASU); Kosh-Agachskii District, 47 air-km ESE of Belyashi (Dzhazator) village, valley of Zhumaly River, *Larix sibirica* forest patch with gaps, *Lonicera*, herbaceous vegetation, 49°30.864'N, 88°01.244'E, 2305 m, sifting leaf litter and moss over 100 m, 1 ♂ (ASU), 27.VII 2018, all leg. V.I. Gusarov, M.F. Maurstad, V. Løveng; Kosh-Agachskii District, 14 air-km W of Belyashi (Dzhazator) village, valley of Koksui River, cliff edge on left bank, mixed forest (*Larix sibirica*, *Pinus sibirica*, *Betula*, *Populus tremula*) with *Bergenia crassifolia* and low grasses on rocks, 49.71032°N, 87.22144°E, 1670 m, under stones, 28.VII 2018, 1 ♀ (ASU); Kosh-Agachskii District, 26 air-km NNW of Belyashi (Dzhazator) village, W macroslope of Yuzhno-Chuiskii Mt. Range, valley of Karagem River, left bank, brook valley, scree at foot of W slope of rocks, 49.88214°N, 87.20627°E, ca 1550 m, 29.VII 2018, 1 ♀ (ASU), all leg. P.S. Nefediev; Kosh-Agachskii District, 26 air-km NNW of Belyashi (Dzhazator) village, W macroslope of Yuzhno-Chuiskii Mt. Range, valley of Karagem River, wet ravine along river, forest with *Picea obovata*, *Larix sibirica*, *Populus*, moss, 49°53.2'N, 87°11.5'E, 1355 m, sifting litter and moss over 100 m, 29.VII 2018, 3 ♂, 4 ♀, 5 subadult ♂, 10 juv. (ASU), all leg. V.I. Gusarov, M.F. Maurstad, V. Løveng; Ust-Kanskii District, 2.5 km SW of Ust-Kan village, NE macroslope of Korgonskii Mt. Range, thicket of *Spiraea* on S slope with *Aconitum lycoctonum*, *Artemisia* and low grasses, 50.91124°N, 84.72162°E, ca 1285, under stones, 19.VIII 2018, 4 ♂, 1 ♀ (ASU), leg. P.S. Nefediev, A.P. Nefedieva, J.S. Nefedieva; **Altaiiskii krai**: Zmeinogorskii District, Tigirekskii State Nature Reserve, Beloretsk cordon,

chern taiga, 51.019462°N, 82.763219°E, 500 m, in litter, 14.VI 2009, 2 ♂, 1 ♀ (ASU); Eltsovskii District, right bank of Chumysh River, 1 km E of Mostovaya village, 53.4583°N, 86.7761°E, 305 m, chern taiga, 7.V 2017, 2 ♂ (ASU); Zarinskii District, valley of Togul River, *Pinus sibirica* forest, 53°57'32"N, 85°56'26"E, 365 m, 12.VI 2017, 1 ♂ (ASU), all leg. D.V. Kuzmenkin; Krasnoschiokovskii District, 2.8 km N of Tigirek village, Strashnaya Cave, 51.170746°N, 83.020825°E, 525 m, 17.VI 2018, 6 ♂, 3 ♀ (ASU), leg. I.H. Tuf; **Kazakhstan**: East Kazakhstan oblast: valley of Bukhtarma River, left bank, 6 km NNE of Katon-Karagai, scree, 49°14'N, 85°38'E, 780 m, 1.IX 2016, 1 ♂, 4 ♀ (ASU), leg. A.A. Fomichev.

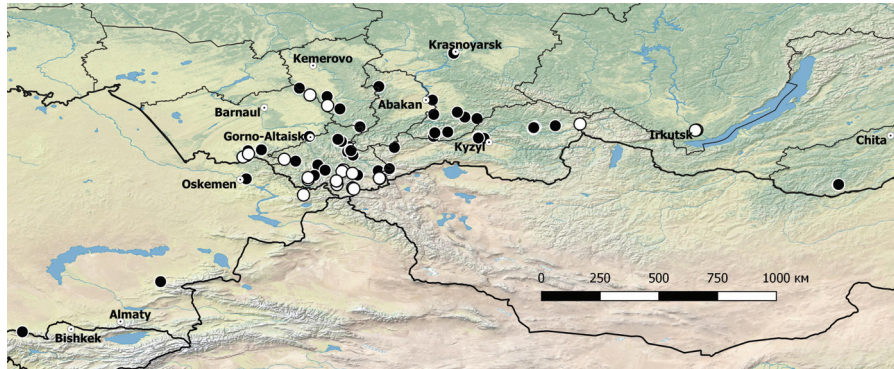


Fig. 5. Distribution of *Orinisobates sibiricus* (Gulička, 1963). Previously known localities marked in black, new records marked in white.

**DISTRIBUTION.** Russia: Kemerovskaya oblast, Republic of Khakassia, Altaiskii krai, Republic of Altai, Krasnoyarskii krai, Republic of Tyva, Zabaikalskii krai, \*Irkutskaya oblast; Kazakhstan: East Kazakhstan and Almaty oblasts; Kyrgyzstan: Talas oblast (Fig. 5).

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