

## New data on the millipede fauna of the Russian Altai, southwestern Siberia (Diplopoda)

### Новые сведения по фауне двупарноногих многоножек русского Алтая, юг Западной Сибири (Diplopoda)

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**KEY WORDS:** Diplopoda, Julidae, Nemasomatidae, Polydesmidae, Anthroleucosomatidae, Diplomaragnidae, Kirkayakidae, fauna, new records, Russian Altai, Siberia.

**КЛЮЧЕВЫЕ СЛОВА:** Diplopoda, Julidae, Nemasomatidae, Polydesmidae, Anthroleucosomatidae, Diplomaragnidae, Kirkayakidae, фауна, новые находки, Русский Алтай, Сибирь.

**ABSTRACT.** Based on abundant collections in the Altai region, four millipede species, *Julus ghilarovi ghilarovi* Gulička, 1963, *Ghilarovia cylindrica* (Shear, 1990), *Altajosoma bakurovi bakurovi* (Shear, 1990) and *A. deplanatum* (Stuxberg, 1876), are newly reported in the Altai Province, SW Siberia, Russia. Distribution data and remarks are provided for all species encountered.

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**РЕЗЮМЕ.** По обильному коллекционному материалу из Алтайского региона четыре вида двупарноногих многоножек, *Julus ghilarovi ghilarovi* Gulička, 1963, *Ghilarovia cylindrica* (Shear, 1990), *Altajosoma bakurovi bakurovi* (Shear, 1990) и *A. deplanatum* (Stuxberg, 1876), впервые отмечены на территории Алтайского края, юг Западной Сибири, Россия. Для всех видов приведены сведения по их распространению и замечания.

### Introduction

According to Mikhaljova's [2017] latest review of the millipedes of the Asian part of Russia, the fauna of the Altai region within Russia, including the Altai Province and the Republic of Altai, encompasses at least 39 species or subspecies from 19 genera, nine families and three orders. One more diplomaragnid, *Shearia oiskaya* Mikhaljova, 2000, previously found in the Re-

public of Altai [Mikhaljova et al., 2008], was omitted from the 2017 book and must be added to the list. Based on fresh faunistic material from the study area, the present paper supplements the regional list of millipedes with new records.

The material treated herein has mainly been deposited in the collection of the Altai State University, Barnaul, Russia (ASU), partly shared also with the collections of the Zoological Museum of the Lomonosov Moscow State University, Moscow, Russia (ZMUM) and the Federal Scientific Center of the East Asian Terrestrial Biodiversity, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok, Russia (FSCB), as indicated in the text. Literature references to the species concern the Russian Altai only.

### Taxonomic part

Class Diplopoda  
Order Julida  
Family JULIDAE

*Julus ghilarovi ghilarovi* Gulička, 1963

*Julus ghilarovi ghilarovi* — Mikhaljova, Golovatch, 2001: 104; Mikhaljova, 2004: 59, 60: figs, 61: map; 2013: 8; 2016: 6; 2017: 61, figs, 63: map; Babenko et al., 2009: 183; Nefedieva, Nefediev, 2008: 123; Nefediev, Nefedieva, 2013: 87; Nefediev et al., 2014: 63; Nefedieva et al., 2014: 65; 2015: 144.

non *Julus ghilarovi* pro parte — Mikhaljova, Nefediev, 2003: 84.

**MATERIAL EXAMINED.** 4 ♂♂, 3 ♀♀, 3 subadult ♂♂, 1 subadult ♀, 15 juv. (ASU), 4 ♀♀ (FSCB), Russia, southwestern Siberia, **Republic of Altai**, Turochak District, NW of Lake Teltetskoye, 2 km E of Iogach, *Pinus sibirica*, *Abies sibirica* and

*Betula pendula* forest with fern, 434 m a.s.l., 14–17.07.2004; 1 subadult ♂ (ASU), same locality, N slope close to mountain top, 15.07.2004; 1 subadult ♂ (ASU), same locality, foot of mountain, 15.07.2004; 1 ♀, 6 juv. (ASU), same locality, middle part of N slope, 17.07.2004; 8 ♂♂, 11 ♀♀, 8 juv. (ASU), same Republic, Ulagan District, Altai State Nature Reserve, S of Lake Teletskoye, cordon Chiri, mouth of Chiri River, *Betula pendula* forest, 11–12.08.2005; 1 ♀ (ASU), same Republic, Turochak District, Altai State Nature Reserve, central part of Lake Teletskoye, cordon Kokshi, *Betula pendula* and *Pinus sylvestris* forest, litter, 18.08.2005; 1 ♂, 8 ♀♀, 2 juv. (ASU), same Republic and District, Altai State Nature Reserve, N of Lake Teletskoye, Yailyu, *Betula pendula* and *Pinus sylvestris* forest, 19.08.2005, all leg. P.S. Nefediev, J.S. Nefedieva; 4 juv. (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, *Betula pendula*, 513 m a.s.l., 3.09.2005; 1 ♂, 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, *Padus avium*, 409 m a.s.l., 3.09.2005; 2 juv. (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, *Populus tremula*, 475 m a.s.l., 3.09.2005; 1 ♂, 2 ♀♀, 1 juv. (ASU), same Republic and District, Altai State Nature Reserve, NE of Lake Teletskoye, cordon Kamga, floodplain of Malyi Meanok River, *Betula pendula*, 6.09.2005; 2 ♀♀, 1 juv. (ASU), same Republic and District, Altai State Nature Reserve, NE of Lake Teletskoye, cordon Kamga, old fire-site, *Betula pendula*, 980 m a.s.l., 6.09.2005; 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45′34.9″N, 87°25′55.9″E, *Padus avium* and *Sorbus sibirica*, 460 m a.s.l., 30.09.2013; 2 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45′33.7″N, 87°25′58.9″E, *Padus avium* and *Sorbus sibirica*, 468 m a.s.l., 30.09.2013; 1 ♂, 6 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45′35.0″N, 87°26′02.3″E, *Salix caprea*, 482 m a.s.l., 30.09.2013; 2 ♂♂, 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45′34.1″N, 87°26′03.6″E, *Padus avium*, 490 m a.s.l., 1.10.2013; 1 ♂, 7 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45′32.7″N, 87°26′05.8″E, *Padus avium* and *Betula pendula*, 481 m a.s.l., 1.10.2013; 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45′34.4″N, 87°25′51.3″E, *Padus avium*, *Sorbus sibirica* and *Salix caprea*, 465 m a.s.l., 3.10.2013; 1 juv. (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45′34.4″N, 87°25′45.9″E, *Padus avium*, 467 m a.s.l., 3.10.2013; 1 ♂, 1 juv. (ASU), same Republic, Ulagan District, Altai State Nature Reserve, S of Lake Teletskoye, cordon Chiri, 51°21′40.9″N, 87°50′19.7″E, 444 m a.s.l., *Betula pendula* and *Padus avium*, 9.07.2014; 3 ♂♂, 2 ♀♀, 1 juv. (ASU), same Republic, Turochak District, Altai State Nature Reserve, central part of Lake Teletskoye, cordon Kokshi, 51°34′35.1″N, 87°44′05.9″E, *Pinus sylvestris* with *Spiraea*, 445 m a.s.l., 10.06.2014; 2 juv. (ASU), same Republic and District, Altai State Nature Reserve, NE of Lake Teletskoye, cordon Kamga, 51°47′54.8″N, 87°42′26.4″E, *Salix* and *Padus avium*, 438 m a.s.l., 10.06.2014; 4 ♂♂, 4 ♀♀, 1 juv. (ASU), same Republic, Ulagan District, Altai State Nature Reserve, central part of Lake Teletskoye, cordon Chelyush, 51°29′43.8″N, 87°44′54.4″E, 443 m a.s.l., *Duschekia fruticosa*, 11.06.2014, all leg. M.B. Sakhnevich; 2 ♂♂, 2 ♀♀, 9 juv. (ASU), same Republic, Maima District, Gorno-Altaiisk, floodplain of Maima River, foot of Mt Tugaya, 53°59′03.2″N, 85°53′56.5″E, *Betula pendula* and *Acer*, 276 m a.s.l., 9.10.2014; 15 ♂♂, 25 ♀♀, 25 juv. (ASU), same Republic and District, Gorno-Altaiisk, slope of Mt Tugaya, 53°59′01.8″N, 85°54′10.8″E, *Betula pendula* forest, 346 m a.s.l., 9.10.2014; 3 ♂♂, 3 ♀♀, 1 juv., 1 fragm. (ASU), same Republic, Ongudai District, ca. 5 air-km NW of Elo, near the Lebedka Grotto, 50°47′29″N, 85°29′26″E, W slope with *Larix sibirica*, 1370 m a.s.l., 28.06.2016; 3 ♂♂, 18 ♀♀, 3 juv. (ASU), same Republic, Ulagan District, ca. 7 air-km S of Aktash, Mt Belkenek, 50°15′N, 87°37′E, *Pinus sibirica* and *Larix sibirica* forest, 1930 m a.s.l., 1.07.2016; 1 ♂, 1 ♀ (ZMUM), 1 ♂, 1 ♀

(FSCB), 2 ♂♂, 10 ♀♀, 6 subadult ♂♂, 9 subadult ♀♀, 9 juv. (ASU), same Republic and District, Altai State Nature Reserve, Stone Mushrooms (= Akkurum), 51°06′40″N, 87°58′33″E, *Betula pendula*, 730 m a.s.l., 5.07.2016, all leg. P.S. Nefediev, J.S. Nefedieva; 7 ♂♂, 12 ♀♀, 12 juv. (ASU), Russia, southwestern Siberia, **Altai Province**, Zalesovo District, near Peshchiorka, 54°05′00″N, 84°49′31″E, *Populus tremula* forest with *Betula pendula* and *Salix*, 240 m a.s.l. 9.09.2015; 4 ♂♂, 14 ♀♀, 2 juv. (ASU), same Province, Krasnogorskoe District, near Karaguzh, 52°07′60″N, 86°04′47″E, *Alnus*, *Viburnum opulus* and *Sorbus sibirica*, 260 m a.s.l., 15.08.2016; 1 ♂, 1 ♀ (ZMUM), 1 ♂, 1 ♀ (FSCB), 4 ♂♂, 6 ♀♀, 1 juv. (ASU), same Province and District, near Karaguzh, 52°07′32″N, 86°04′26″E, *Betula pendula* and *Sorbus sibirica*, 265 m a.s.l., 15.08.2016, all leg. P.S. Nefediev; 2 ♂♂, 7 ♀♀, 7 subadult ♂♂, 3 juv. (ASU), Russia, southwestern Siberia, **Kemerovo Area**, Gurievsk District, along Kuzbass–Altai road, 54°16′59″N, 85°26′05″E, *Betula pendula* on slope, 380 m a.s.l., 15.07.2017, leg. P.S. Nefediev; 1 ♂, 6 ♀♀, 1 subadult ♂, 2 juv. (ASU), same Area, same District, along Kuzbass–Altai road, 54°16′55″N, 85°26′00″E, *Betula pendula*, 370 m a.s.l., 11.08.2017, leg. J.S. Nefedieva, P.S. Nefediev.

**DISTRIBUTION.** This is the most widespread *Julus* species in SW Siberia, inhabiting the Kemerovo and Novosibirsk areas, the Republic of Altai, as well as the southern part of central Siberia, i.e. Republic of Khakassia and Krasnoyarsk Province; doubtful records are also from the Altai Province [Mikhajlova, 2017].

**REMARKS.** The previously known record of the species from the Altai Province, near Tigirek [see Mikhajlova, Nefediev, 2003], seems to be a misidentification. The above are the first valid records of the species in the Altai Province, where *J. ghilarovi* tends to dwell in the NE and SE districts at the border between the Salair Mts and the foothills of the Altai.

*Leptoiumulus tigirek* Mikhajlova, Nefediev, Nefedieva et Dyachkov, 2015

*Julus ghilarovi* pro parte — Mikhajlova, Nefediev, 2003: 84. Julidae gen. sp. — Dyachkov, 2014: 41.

Undescribed species of Julidae — Nefediev et al., 2014: 63.

*Leptoiumulus tigirek* Mikhajlova, Nefediev, Nefedieva, Dyachkov, 2015: 268, 269–273: figs.

*Leptoiumulus tigirek* — Nefediev, 2016: 30; Mikhajlova, 2017: 77, 78: figs, 90: map, insets; Nefediev et al., 2017: 13.

**MATERIAL EXAMINED.** 1 ♂, 2 ♀♀, 4 juv. (ASU), Russia, southwestern Siberia, **Altai Province**, Zmeinogorsk District, Tigirek State Nature Reserve, Beloretsk site, 51°00.277″N, 82°45.830″E, dead-surface *Abies sibirica* forest (chern taiga), upper part on N slope, 537 m a.s.l., pitfall traps, 28.05.–5.06.2013; 1 ♂ (ASU), same Province and District, Tigirek State Nature Reserve, Beloretsk site, 51°00.211″N, 82°45.815″E, glade in chern taiga, upper and middle parts on W slope, 562 m a.s.l., pitfall traps, 28.05.–5.06.2013; 2 ♀♀ (ASU), same Province and District, Tigirek State Nature Reserve, Beloretsk site, 51°00.188″N, 82°45.812″E, chern taiga, upper and middle parts on W slope, ca. 600 m a.s.l., pitfall traps, 28.05.–5.06.2013, all leg. T.M. Krugova; 4 ♂♂ (ASU), same Province, Krasnoshchekovo District, near Chineta, Chineta Nature Reserve, floodplain of Inya River, near bridge, 51°20′20.2″N, 83°02′16.0″E, *Salix* with *Caragana arborens* and *Lonicera tatarica*, on left bank, 365 m a.s.l., litter, 6.06.2015; 1 ♂, 1 ♀, 4 juv. (ASU), same Province and District, near Chineta, Chineta Nature Reserve, 51°19″N, 83°00″E, *Betula pendula*, *Pinus sylvestris*, *Populus tremula* with *Caragana arborens* and *Lonicera tatarica*, on slope of hill, 480 m a.s.l., litter, 6.06.2015, all leg. P.S. Nefediev, J.S. Nefedieva.

**MATERIAL RE-EXAMINED** (specimens published by Mikhajlova, Nefediev, 2003). 1 ♀, 1 subadult ♂, 3 juv. (ASU), Russia,

**Altai Province**, near Tigirek, lower reaches of Malyi Tigirek River, *Abies* and *Betula* forest, 17.06.2000; 2 ♀♀ (ASU), same Province, near Tigirek, upper reaches of Malyi Tigirek River, N slope of Tigirek Mt. Range, litter, under stones, 19.06.2000, all leg. A.N. Tchemeris.

**DISTRIBUTION.** The distribution area of the species is restricted to the Tigiretskii Mt. Range and the floodplain of the Charysh River in the SE part of the Altai Province [Mikhailjova et al., 2015; Nefediev, 2016; Mikhailjova, 2017].

**REMARKS.** A restudy of several specimens from the Altai Province, earlier found near Tigirek, in the lower and upper reaches of the Malyi Tigirek River, 17–19.06.2000, determined as *Julus ghilarovi* [see Mikhailjova, Nefediev, 2003], shows that these records actually belong to *Leptoionulus tigirek*.

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

*Julus ghilarovi* pro parte — Mikhailjova, Nefediev, 2003: 84.

*Megaphyllum sjaelandicum* — Mikhailjova et al., 2007: 62; fig; Nefediev, Nefedieva, 2007: 162; 2008b: 62; Babenko et al., 2009: 183; Mikhailjova, 2013: 9; 2016: 7; 2017: 97, 98: figs, 56: map; Nefediev et al., 2014: 63; 2017: 13.

**MATERIAL EXAMINED.** 2 ♀♀ (ASU), Russia, southwestern Siberia, **Altai Province**, Zmeinogorsk District, near Savvushka, S extremity of Lake Kolyvanskoye, Mt Bolshaya, 3.08.2007, leg. A.M. Psarev; 1 ♂, 1 ♀, 1 juv. (ASU), same Province, Altaiskoe District, ca. 5 km NW of Aya, Lake Aichionok, *Betula pendula* stand on slope, litter, 7.07.2010, leg. P.S. Nefediev; 5 ♂♂, 15 ♀♀, 1 juv. (ASU), same Province, Krasnoshchekovo District, near Tigirek, Tigirek State Nature Reserve, Khankhara site, 51°11.440'N, 82°58.850'E, sparse *Larix sibirica* forest, 4 years old fire-site, upper part on S slope, left bank of Dragunskii Brook, pitfall traps, 23.05.–28.05.2012; 11 ♂♂, 7 ♀♀, 2 juv. (ASU), same Province and District, near Tigirek, Tigirek State Nature Reserve, Khankhara site, 51°11.569'N, 82°58.740'E, *Larix sibirica* forest, 4 years old fire-site, upper part on S slope, left bank of Dragunskii Brook, pitfall traps, 23.05.–1.06.2012; 2 ♂♂, 4 ♀♀ (ASU), same Province, Zmeinogorsk District, Tigirek State Nature Reserve, Beloretsk site, 51°00.277'N, 82°45.830'E, dead-surface *Abies sibirica* forest, upper part on N slope, 537 m a.s.l., pitfall traps, 28.05.–5.06.2013; 3 ♂♂, 1 ♀ (ASU), same Province and District, Tigirek State Nature Reserve, Beloretsk site, 51°00.188'N, 82°45.812'E, chern taiga, upper and middle parts on W slope, ca. 600 m a.s.l., pitfall traps, 28.05.–5.06.2013, all leg. T.M. Krugova; 2 ♀♀, 34 juv. (ASU), same Province, Krasnoshchekovo District, ca. 1.5 km NW of Tigirek, Mt Kozyr, Tigirek site, 51°09.219'N, 83°01.146'E, sparse *Larix sibirica* forest, 639 m a.s.l., soil samples, 2.07.2013; 2 juv. (ASU), same locality, pitfall traps, 2.07.–7.07.2013; 1 ♀, 1 juv. (ASU) same Province and District, ca. 1.2 km SW of Tigirek, Tigirek site, foot of Mt Chainaya, S slope, 51°07.765'N, 83°01.706'E, *Caragana arborescens* and *Lonicera tatarica* thicket, 619 m a.s.l., pitfall traps, 2.07.–7.07.2013; 1 ♀, 1 juv. (ASU), same locality, soil samples, 5.07.2013; 1 ♂ (ASU), same Province and District, ca. 0.75 km E of Tigirek, buffer zone of Tigirek State Nature Reserve, 51°08.613'N, 83°02.725'E, *Betula* forest, 503 m a.s.l., soil samples, 4.07.2013; 1 ♂, 16 juv. (ASU), same Province and District, ca. 1.3 km SE of Tigirek, buffer zone of Tigirek State Nature Reserve, 51°08.247'N, 83°02.531'E, stony hill, shrub thicket of *Pentaphylloides fruticosus*, 514 m a.s.l., soil samples, 10.07.2013; 2 ♀♀, 1 juv. (ASU), same Province, Charysh District, ca. 7.6 km SSW of Tigirek, 51°04.846'N, 83°00.309'E, subalpine meadow in crooked *Betula* forest, 1268 m a.s.l., soil samples, 17.07.2013; 2 juv. (ASU), same Province, Krasnoshchekovo District, ca. 6.1 km SSW of Tigirek, 51°05.769'N, 83°00.733'E, *Abies sibirica* forest, 1307 m a.s.l., soil samples, 18.07.2013; 1 ♀ (ASU), same Province and District, ca. 6.1 km NW of Tigirek, Tigirek State Nature Reserve, Khankhara site, *Betula* and *Salix* forest, 675 m a.s.l., soil samples, 18.08.2014, all leg. Yu.V. Dyachkov; 5 ♂♂, 8 ♀♀, 11

juv. (ASU), same Province and District, near Chineta, Chineta Nature Reserve, 51°19'N, 83°00'E, *Betula pendula*, *Pinus sylvestris*, *Populus tremula* with *Caragana arborescens* and *Lonicera tatarica*, on slope of hill, 480 m a.s.l., litter, 6.06.2015, leg P.S. Nefediev, J.S. Nefedieva; 3 ♂♂, 5 ♀♀ (ASU), same Province, Altaiskoe District, near Sarasa, broad gully Arbanak, August 2016, leg. V.N. Berdyugina.

**MATERIAL RE-EXAMINED** (specimen published by Mikhailjova, Nefediev, 2003). 1 ♂ (ASU), Russia, **Altai Province**, near Tigirek, lower reaches of Malyi Tigirek River, *Abies* and *Betula* forest, 17.06.2000, leg. A.N. Tchemeris.

**DISTRIBUTION.** The species is widespread in central and northern Europe, the European part of Russia and in southeastern Siberia (the Republic of Altai, the Novosibirsk Area and the Altai Province), also known from eastern Kazakhstan [Mikhailjova, 2017].

**REMARKS.** In the Altai Province, the species tends to dwell in foothill and mountainous habitats within the S and SE administrative districts. A restudy of the above ♂ from the Altai Province, earlier found near Tigirek, lower reaches of the Malyi Tigirek River, *Abies* and *Betula* forest, 17.06.2000, identified as *Julus ghilarovi* by Mikhailjova, Nefediev [2003], shows that the specimen actually belongs to *Megaphyllum sjaelandicum*.

### *Sibirius altaicus* Gulička, 1963

*Cylindroiulus (Sibirius) altaicus* Gulička, 1972: 43, 44: fig. *Cylindroiulus (Sibirius) altaicus* — Nefediev, Nefedieva, 2008a: 117.

*Sibirius altaicus* — Mikhailjova, 1993: 5; 2004: 75, fig, 74: map; 2016: 7; 2017: 88, 89: figs, 90: map, insets; Mikhailjova, Golovatch, 2001: 106; Mikhailjova et al., 2007: 57, 58: figs; 2014: 45, 46: figs, 51: map; Nefediev, Nefedieva, 2007: 162; 2008b: 62; 2013: 86; Nefedieva, Nefediev, 2008: 123; Nefedieva et al., 2014: 65; 2015: 146.

**MATERIAL EXAMINED.** 1 ♂ (ASU), Russia, southwestern Siberia, **Republic of Altai**, Turochak District, Altai State Nature Reserve, NE of Lake Teletskoye, cordon Kamga, 51°47'54.8"N, 87°42'26.4"E, *Salix* and *Padus avium*, 438 m a.s.l., 10.06.2014, leg. M.B. Sakhnevich; 2 ♂♂, 4 ♀♀, 1 juv. (ASU), same Republic, Ulagan District, Altai State Nature Reserve, Stone Mushrooms (= Akkurum), 51°06'40"N, 87°58'33"E, *Betula pendula*, 730 m a.s.l., 5.07.2016, leg. P.S. Nefediev, J.S. Nefedieva.

**DISTRIBUTION.** Until recently, the species has been recorded from the south of Lake Teletskoye, Republic of Altai [Mikhailjova et al., 2014]. A single male has recently been found in Gornaya Shoriya (Shorsky National Nature Park, Kemerovo Area), a territory located at the junction of the Altai, Salair Mts and Kuznetsky Alatau [Mikhailjova, 2016].

**REMARKS.** The above records update the distribution area of *S. altaicus* and are highly predictable: one of them lies between the type locality and Gornaya Shoriya, while the other one is located ca. 25 air-km south of the *terra typica*.

### *Sibirius latisupremus* Mikhailjova, Nefediev et Nefedieva, 2014

*Sibirius dentiger* — Nefediev, 2001: 85.

*Sibirius multiniticus* pro parte — Mikhailjova, Nefediev, 2003: 85, figs; Mikhailjova et al., 2007: 60, 61: figs.



*Sibirulius latisupremus* Mikhailjova, Nefediev et Nefedieva, 2014 in Mikhailjova et al., 2014: 35, 36–38: figs, 51: map.

*Sibirulius latisupremus* — Mikhailjova, 2017: 90, 91: figs, 92: map, insets; Nefediev et al., 2017: 13.

MATERIAL EXAMINED. 5 ♂♂, 3 ♀♀, 6 juv. (ASU), Russia, southwestern Siberia, **Republic of Altai**, Ongudai District, Seminskii Pass, *Pinus sibirica* and *Betula* forest, 2.07.2014; 1 ♂, 1 ♀ (ZMUM), 1 ♂, 2 ♀♀, 6 juv. (FSCB), same Republic and District, Seminskii Pass, alpine meadow, 2.07.2014, all leg. Yu.V. Dyachkov; 1 ♂, 1 ♀ (ASU), Russia, southwestern Siberia, **Altai Province**, Altaiskoe District, near Altaiskoe, foot of Mt Prokhodnaya, *Betula* stand, pitfall traps, 9.09.2016, leg. I.N. Kudinova.

DISTRIBUTION. Being an Altai endemic, the species has been reported in the E and SE parts of the Altai Province, as well as from the SW part of the Republic of Altai [Mikhailjova et al., 2014; Nefediev et al., 2017].

REMARKS. The new samples of *S. latisupremus* from the environs of the Seminskii Pass at about 1700 m a.s.l. seem to be the highest altitude records of the species.

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

non *Sibirulius dentiger* — Nefediev, 2001: 85.

*Sibirulius profugus* — Mikhailjova et al., 2014: 33, 34: figs, 51: map; Mikhailjova, 2017: 85, 86: figs, 85: map, insets.

MATERIAL EXAMINED. 22 ♂♂, 11 ♀♀ (ASU), Russia, southwestern Siberia, **Altai Province**, Kosikha District, near Ozero-Krasilovo, Altai State University Students' Field Station, 53° 11'23.6"N, 84°21'23.8"E, *Pinus sylvestris*, *Betula pendula* and *Populus tremula* forest with fern, 256 m a.s.l., pitfall traps, 30.06.–5.07.2014; 9 ♂♂, 8 ♀♀, 1 juv. (ASU), same locality, pitfall traps, 5.07.–10.07.2014; 9 ♂♂, 26 ♀♀, 11 juv. (ASU), same Province, Zalesovo District, near Peshchiorka, 54°05'00"N, 84°49'31"E, *Populus tremula* forest with *Betula pendula* and *Salix*, 240 m a.s.l. 9.09.2015, all leg. P.S. Nefediev; 1 ♂ (ASU), same Province, Troitskoe District, near Chervyanka, *Betula* forest, 23.06.–3.07.2016, leg. N.M. Vyatkina.

DISTRIBUTION. This species is the most widespread *Sibirulius*, dwelling in southwestern (the Tomsk, Novosibirsk and Kemerovo areas, the Altai Province and the Republic of Altai) and central Siberia (the southern part of the Krasnoyarsk Province and the Republic of Khakassia) [Mikhailjova et al., 2014; Mikhailjova, 2017].

REMARKS. In the Altai Province, the species appears to occur in a riparian forest massif near the Ob River between the cities of Biysk and Barnaul, as well as in the NE part of the Province in the Salair Mts.

### *Sibirulius rectangulus* Mikhailjova, 2009

*Sibirulius rectangulus* Mikhailjova, 2009: 67, 65: figs.

*Sibirulius rectangulus* — Mikhailjova et al., 2014: 37, 49: figs, 51: map; Mikhailjova, 2017: 83, 84: figs, 85: map, insets.

MATERIAL EXAMINED. 1 ♂, 1 ♀ (ZMUM), 1 ♂, 8 ♀♀, 2 juv. (ASU), Russia, southwestern Siberia, **Republic of Altai**, Maima District, Gorno-Altai, floodplain of Maima River, foot of Mt Tugaya, 53°59'03.2"N, 85°53'56.5"E, *Betula pendula* and *Acer*, 276 m a.s.l., 9.10.2014; 2 ♂♂, 1 subadult ♂, 1 juv. (ASU), same Republic and District, Gorno-Altai, slope of Mt Tugaya, 53°59'01.8"N, 85°54'10.8"E, *Betula pendula* forest, 346 m a.s.l., 9.10.2014, all leg. P.S. Nefediev, J.S. Nefedieva.

DISTRIBUTION. The species is only known from the environs of Gorno-Altai, the capital city of the Republic of Altai [Mikhailjova, 2009, 2017; Mikhailjova et al., 2014].

REMARKS. Being a second formal record of *S. rectangulus* from near its *terra typica*, the above samples may be referred to as topotypes.

## Family NEMASOMATIDAE

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

*Orinisobates sibiricus* — Enghoff, 1985: 53, 54: figs, 50: map; Mikhailjova, 1993: 5; 2004: 96, figs, 94: map; 2016: 9; 2017: 120, 121: figs, 122: map; Mikhailjova, Golovatch, 2001: 107; Mikhailjova, Nefediev, 2003: 83; Nefedieva, Nefediev 2008: 123; Nefediev, Nefedieva, 2013: 87; Nefediev et al., 2014: 63; 2017: 13; Nefedieva et al., 2014: 65; 2015: 147.

MATERIAL EXAMINED. 5 ♂♂, 14 ♀♀, 1 juv. (ASU), Russia, southwestern Siberia, **Republic of Altai**, Turochak District, NW of Lake Teletskoye, 2 km E of Iogach, *Pinus sibirica*, *Abies sibirica* and *Betula pendula* forest with fern, 434 m a.s.l., 14–17.07.2004; 63 ♂♂, 59 ♀♀, 22 juv. (ASU), same Republic, Ulagan District, Kalbakaya River, *Betula rotundifolia*, in moss, 25.07.2006; 1 ♂, 4 ♀♀, 1 juv. (ASU), same Republic and District, Altai State Nature Reserve, 9 km S of Lake Dzhulukul, near Pak-Yyash Lakes, *Betula rotundifolia*, 2200 m a.s.l., 27.07.2006; 20 ♂♂, 21 ♀♀, 4 juv. (ASU), same Republic and District, Altai State Nature Reserve, Lake Dzhulukul, *Betula rotundifolia*, in moss, 28.07.2006; 10 ♂♂, 25 ♀♀, 2 juv. (ASU), same Republic, Kosh-Agach District, ca. 14 air-km NW of Chagan-Uzun, floodplain of Chuya River, on right bank, stony steppe, under stones in grassy glades, 11.08.2006; 1 ♀ (ASU), same Republic, Ongudai District, old road of Chike-Taman Pass, *Caragana arborescens*, 5.08.2007; 8 ♂♂, 6 ♀♀ (ASU), same Republic and District, ca. 3 air-km SW of Chyi-Oozy, confluence of Chuya River with Katun River, *Caragana arborescens* and *Pentaphylloides fruticosa*, 5.08.2007; 2 ♀♀ (ASU), same Republic, Ulagan District, ca. 18 air-km NNW of Aktash, NW part of Lake Sorulukel, foot of N slope of Aigulakskii Mt. Range, *Pinus sibirica* and *Larix sibirica* forest with *Betula rotundifolia*, *Vaccinium vitis-idaea*, *Equisetum*, *Sphagnum*, 11.08.2007; 1 ♀ (ASU), same Republic and District, ca. 18 air-km NNW of Aktash, Lake Sorulukel, *Betula rotundifolia*, 13.08.2007, all leg. P.S. Nefediev, J.S. Nefedieva; 1 ♂, 3 ♀♀ (ASU), same Republic, Turochak District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'34.9"N, 87°25'55.9"E, *Padus avium* and *Sorbus sibirica*, 460 m a.s.l., 30.09.2013; 3 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'33.7"N, 87°25'58.9"E, *Padus avium* and *Sorbus sibirica*, 468 m a.s.l., 30.09.2013; 1 ♂ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'35.0"N, 87°26'02.3"E, *Salix caprea*, 482 m a.s.l., 30.09.2013; 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'32.1"N, 87°25'54.8"E, *Padus avium*, 454 m a.s.l., 1.10.2013; 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'32.7"N, 87°26'05.8"E, *Padus avium* and *Betula pendula*, 481 m a.s.l., 1.10.2013; 1 ♂, 6 ♀♀, 1 juv. (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'34.4"N, 87°25'51.3"E, *Padus avium*, *Sorbus sibirica* and *Salix caprea*, 465 m a.s.l., 3.10.2013; 3 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'34.4"N, 87°25'45.9"E, *Padus avium*, 467 m a.s.l., 3.10.2013; 1 ♂, 3 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'35.0"N, 87°25'42.2"E, *Padus avium*, 470 m a.s.l., 3.10.2013; 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'31.6"N, 87°25'39.1"E, *Padus avium*, *Salix caprea* and *Betula pendula*, 448 m a.s.l., 3.10.2013, all leg M.B. Sakhnevich; 1 ♂, 1 ♀ (ZMUM), 1 ♂, 1 ♀ (FSCB), 4 ♂♂, 11 ♀♀ (ASU), same Republic, Kosh-Agach District, mouth of Karagem River, *Larix sibirica* and *Pinus sibirica* forest, along brook, under stones, 28.06.2014, leg. Yu.V. Dyachkov.

ov; 3 ♂♂, 1 juv. (ASU), same Republic, Maima District, Gorno-Altai, slope of Mt Tugaya, 53°59'01.8"N, 85°54'10.8"E, *Betula pendula* forest, 346 m a.s.l., 9.10.2014, leg. P.S. Nefediev, J.S. Nefedieva; 1 ♂, 2 ♀♀ (ASU), same Republic, Ulagan District, ca. 1 km S of Balykcha, floodplain of Chulyshman River, 51°16'19.6"N, 87°43'22.2"E, meadow, 500 m a.s.l., 4.06.2016; 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, mouth of Karasu River near Stone Mushrooms (= Akkurum), 51°06'25.5"N, 87°58'44.1"E, *Populus*, 560 m a.s.l., 5.06.2016, all leg. P.S. Nefediev; 1 ♂ (ASU), Russia, southwestern Siberia, **Altai Province**, Krasnoshchekovo District, ca. 1 km SW of Tigirek, Tigirek site, S slope of Mt Chainaya, 51°07.797'N, 83°01.658'E, meadow steppe, 644 m a.s.l., pitfall traps, 30.06.–5.07.2013; 2 ♀♀ (ASU), same Province, Zmeinogorsk District, ca. 12 km SSW of Tigirek, Tigirek State Nature Reserve, Beloretsk site, 51°02.444'N, 82°57.658'E, subalpine meadow, 1346 m a.s.l., pitfall traps, 22–26.08.2014, all leg. Yu.V. Dyachkov; 2 ♂♂ (ASU), same Province and District, near Chineta, Chineta Nature Reserve, 51°19'N, 83°00'E, *Betula pendula*, *Pinus sylvestris*, *Populus tremula* with *Caragana arborescens* and *Lonicera tatarica*, on slope of hill, 480 m a.s.l., litter, 6.06.2015, leg. P.S. Nefediev, J.S. Nefedieva; 4 ♂♂, 11 ♀♀, 1 fragm. (ASU), Russia, south of central Siberia, **Republic of Khakassia**, Shira District, near Kommunar, bald Mt (= golets) Podoblachnyi, August 2004, leg. E.V. Miroshnichenko; 1 ♀ (ASU), Russia, southwestern Siberia, **Kemerovo Area**, Gurievsk District, along Kuzbass–Altai road, 54°16'55"N, 85°26'00"E, *Betula pendula*, 370 m a.s.l., 11.08.2017, leg. J.S. Nefedieva, P.S. Nefediev.

**DISTRIBUTION.** The species is highly widespread in Central Asia: being originally described from the Kemerovo Area, *O. sibiricus* has since been recorded from adjacent Russian administrative units in SW Siberia, i.e. the Republic of Altai and the Altai Province, likewise from central and eastern Siberia (the southern part of the Krasnoyarsk Province, the Khakassian and Tyva republics, and the Zabaikalskii Province); also known from eastern Kazakhstan and Kyrgyzstan [Mikhaljova, Nefediev, 2003; Mikhaljova, 2017].

**REMARKS.** Based on the material studied, the number of setae on each lamella lingualis of the gnathochilarium is variable (4+4, 5+3 vs 3+3 in the redescription [see Engstoff, 1985]).

#### Order Polydesmida

#### Family POLYDESMIDAE

#### *Schizoturanus clavatipes* (Stuxberg, 1876)

*Schizoturanus clavatipes* — Nefediev, 2001: 85; Mikhaljova, Golovatch, 2001: 116; Mikhaljova, Nefediev, 2003: 81; Mikhaljova, 2004: 238, 239: figs, 228: map; 2013: 9; 2016: 24; 2017: 288, 289: figs, 290: map; Nefedieva, Nefediev, 2008: 123; Nefediev, Nefedieva, 2013: 87; Nefediev et al., 2014: 63; 2017: 13; Nefedieva et al., 2014: 65; 2015: 152.

**MATERIAL EXAMINED.** 11 juv. (ASU), Russia, southwestern Siberia, **Republic of Altai**, Turochak District, NW of Lake Teletskoye, 2 km E of Iogach, *Pinus sibirica*, *Abies sibirica* and *Betula pendula* forest with fern, 434 m a.s.l., 14–17.07.2004; 1 juv. (ASU), same locality, on N slope close to mountain top, 15.07.2004; 2 ♂♂, 1 juv. (ASU), same Republic, Ulagan District, Altai State Nature Reserve, S of Lake Teletskoye, cordon Chiri, mouth of Chiri River, *Betula pendula* forest, 11–12.08.2005; 3 juv. (ASU), same Republic and District, Altai State Nature Reserve, S of Lake Teletskoye, near cordon Chiri, hut in upper reaches of Bayas River, sparse *Pinus sibirica* stand, 1600 m a.s.l., 14.08.2005; 1 ♂, 2 ♀♀, 1 juv. (ASU), same Republic, Turochak District, Altai State Nature Reserve, N of Lake Teletskoye, Yailyu, *Betula pendula* and *Pinus sylvestris* forest, 19.08.2005, all leg. P.S. Nefediev, J.S. Nefedieva; 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cor-

don Baigazan, *Sorbus sibirica* and *Salix*, 447 m a.s.l., 3.09.2005; 2 ♂♂ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'33.7"N, 87°25'58.9"E, *Padus avium* and *Sorbus sibirica*, 468 m a.s.l., 30.09.2013; 1 ♂ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'32.7"N, 87°26'05.8"E, *Padus avium* and *Betula pendula*, 481 m a.s.l., 1.10.2013; 2 ♂♂, 2 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'34.4"N, 87°25'45.9"E, *Padus avium*, 467 m a.s.l., 3.10.2013; 5 ♂♂, 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'35.0"N, 87°25'42.2"E, *Padus avium*, 470 m a.s.l., 3.10.2013; 1 ♂, 3 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'31.6"N, 87°25'39.1"E, *Padus avium*, *Salix caprea* and *Betula pendula*, 448 m a.s.l., 3.10.2013, all leg. M.B. Sakhnevich; 4 juv. (ASU), same Republic, Ongudai District, Seminskii Pass, alpine meadow, 2.07.2014, leg. Yu.V. Dyachkov; 1 ♂, 2 ♀♀ (ASU), same Republic, Maima District, Gorno-Altai, slope of Mt Tugaya, 53°59'01.8"N, 85°54'10.8"E, *Betula pendula* forest, 346 m a.s.l., 9.10.2014, leg. P.S. Nefediev, J.S. Nefedieva; 1 ♂ (ASU), Russia, southwestern Siberia, **Altai Province**, Biysk, Sorokino, *Pinus sylvestris*, *Populus tremula* and *Betula pendula* forest with *Padus avium*, on *Armillaria*, 13.09.2008, leg. P.S. Nefediev, J.S. Nefedieva; 1 ♂, 3 juv. (ASU), same Province, Biysk, Odintsovka, *Salix* along brook, 19.06.2009; 5 ♂♂, 2 ♀♀ (ASU), same Province, Biysk, Molodezhnyi, right bank of Biya River, *Betula pendula* and *Salix*, litter, 13.10.2009; 1 ♀, 3 juv. (ASU), same Province, Altaiskoe District, ca. 5 km NW of Aya, Lake Aichionok, *Betula pendula* stand on slope, litter, 7.07.2010, all leg. P.S. Nefediev; 1 ♂, 2 ♀♀, 1 fragm. (ASU), same Province, Krasnoshchekovo District, near Tigirek, Tigirek State Nature Reserve, Khankhara site, 51°11.569'N, 82°58.740'E, *Larix sibirica* forest, 4-year old fire-site, upper part on S slope, left bank of Dragunskii Brook, pitfall traps, 23.05.–1.06.2012; 2 ♂♂ (ASU), same Province, Zmeinogorsk District, Tigirek State Nature Reserve, Beloretsk site, 51°00.277'N, 82°45.830'E, dead-surface *Abies sibirica* forest (chern taiga), upper part on N slope, 537 m a.s.l., pitfall traps, 28.05.–5.06.2013, all leg. T.M. Krugova; 5 ♂♂, 2 ♀♀ (ASU), same Province, Smolenskoe District, Smolenskoe, floodplain of Poperechka River, *Populus*, 21.04.2013, leg. P.S. Nefedieva, J.S. Nefedieva; 10 juv. (ASU), same Province, Krasnoshchekovo District, ca. 0.75 km E of Tigirek, buffer zone of Tigirek State Nature Reserve, 51°08.613'N, 83°02.725'E, *Betula* forest, 503 m a.s.l., pitfall traps, 1.07.–6.07.2013; 2 ♂♂, 3 ♀♀, 33 juv., 2 fragm. (ASU), same locality, soil samples, 4.07.2013, all leg. Yu.V. Dyachkov; 1 ♀ (ASU), same Province, Barnaul, "Lesnaya Skazka" Park, *Acer* and *Betula*, under boards and stones, in litter, 01.05.2015; 5 ♂♂, 6 ♀♀, 7 juv. (ASU), same Province, Zalesovo District, near Peshchiorka, 54°05'00"N, 84°49'31"E, *Populus tremula* forest with *Betula pendula* and *Salix*, 240 m a.s.l. 9.09.2015; 3 ♂♂, 2 ♀♀ (ASU), same Province, Krasnogorskoe District, near Karaguzh, 52°07'60"N, 86°04'47"E, *Alnus*, *Viburnum opulus* and *Sorbus sibirica*, 260 m a.s.l., 15.08.2016; 1 ♀ (ASU), same Province and District, near Karaguzh, 52°07'32"N, 86°04'26"E, *Betula pendula* and *Sorbus sibirica*, 265 m a.s.l., 15.08.2016, all leg. P.S. Nefediev; 1 ♂, 1 juv. (ASU), same Province, Krasnogorskoe District, 3 km N of Bystryanka, *Acer* and *Alnus* stands along Chuya Tract, 52°19'39"N, 85°49'38"E, 215 m a.s.l., 15.08.2016, leg. P.S. Nefediev, J.S. Nefedieva.

**DISTRIBUTION AND REMARKS.** This species is very widespread throughout southwestern and central Siberia: the Kemerovo, Novosibirsk and Tomsk areas, the Altai and Krasnoyarsk provinces, the Altai and Khakassian republics [Mikhaljova, 2017]. Thus, the species is obviously high in ecological valence.

#### *Schizoturanus tabescens* (Stuxberg, 1876)

*Schizoturanus salairicus* — Nefediev, 2001: 85; Mikhaljova, Nefediev, 2003: 83.



*Schizoturanus tabescens* — Mikhailjova, 2004: 240, 241: figs, 242: map; 2017: 291, figs, 292: map; Mikhailjova, Marusik, 2004: 8, 7: figs; Nefedieva, Nefediev, 2008: 123; Babenko et al., 2009: 183; Nefediev, Nefedieva, 2013: 87; Nefedieva et al., 2014: 65; 2015: 153.

**MATERIAL EXAMINED.** 18 ♀♀, 15 juv. (ASU), Russia, southwestern Siberia, **Republic of Altai**, Turochak District, NW of Lake Teletskoye, 2 km E of Iogach, *Pinus sibirica*, *Abies sibirica* and *Betula pendula* forest with fern, 434 m a.s.l., 14–17.07.2004; 2 ♀♀ (ASU), same locality, middle part of N slope, 17.07.2004; 1 ♀ (ASU), same Republic, Maima District, Gomo-Altaysk, slope of Mt Tugaya, 53°59'01.8"N, 85°54'10.8"E, *Betula pendula* forest, 346 m a.s.l., 9.10.2014; 3 ♀♀ (ASU), same Republic, Ongudai District, near Belyi Bom, right bank of Chuya River, along road to Shavla Nature Reserve, *Ribes nigrum* thicket, 21.07.2006; 1 ♀ (ASU), same Republic and District, Tutugoi River, *Betula pendula*, 9.08.2006, all leg. P.S. Nefediev, J.S. Nefedieva; 27 juv. (ASU), Russia, southwestern Siberia, **Altai Province**, Pervomaiskii District, near Kostyaki, *Betula pendula* and *Pinus sylvestris* forest, 19.08.2007; 1 juv. (ASU), same Province and District, near Sibirskii, *Betula pendula* and *Pinus sylvestris* forest, 24.08.2007, all leg. P.S. Nefediev, J.S. Nefedieva; 1 ♀ (ASU), same Province, Kosikha District, ca. 5 km NW of Polkovnikovo, *Betula pendula*, litter, 4.05.2009; 4 ♀♀, 8 juv. (ASU), same Province, Pervomaiskii District, Beriozki Railway Station, "Motorostroitel" Gardening Partnership, 53°33'35.8"N, 83°44'48.7"E, open hand-made ground, 225 m a.s.l., 12.06.2010; 2 ♀♀ (ASU), same locality, onion bed, 30.06.2013; 9 ♀♀, 1 juv. (ASU), same locality, 7.06.2014; 4 ♂♂, 19 ♀♀, 1 juv. (ASU), same locality, 6–20.09.2014, all leg. P.S. Nefediev; 14 ♀♀, 27 juv. (ASU), same Province, Barnaul, Yuzhnyi, South Siberian Botanical Garden, open hand-made ground with flowers and fruit trees, under boards and paving tiles of footpaths between beds, 19.06.2013, leg. P.S. Nefediev, Yu.V. Dyachkov; 1 ♀ (ASU), same Province, Krasnoshechekovo District, ca. 0.75 km E of Tigirek, buffer zone of Tigirek State Nature Reserve, 51°08.613'N, 83°02.725'E, *Betula* forest, 503 m a.s.l., pitfall traps, 1.07.–6.07.2013, leg. Yu.V. Dyachkov; 2 ♀♀, 1 juv. (ASU), same Province, Kosikha District, near Ozero-Krasilovo, Altai State University Students' Field Station, 53°11'23.6" N, 84°21'23.8" E, 256 m a.s.l., *Populus tremula* forest with *Pinus sylvestris*, *Betula pendula* and ferns, tall grass vegetation, pitfall traps, 30.06.–10.07.2014; 1 ♂, 19 ♀♀, 3 juv. (ASU), same Province, Zalesovo District, near Peshchiorka, 54°05'00"N, 84°49'31"E, *Populus tremula* forest with *Betula pendula* and *Salix*, 240 m a.s.l. 9.09.2015, all leg. P.S. Nefediev; 1 juv. (ASU), same Province, Solton District, near Akatievo, *Populus*, 22.06.2016, leg. J.S. Nefedieva; 1 ♀ (ASU), same Province, Krasnogorskoe District, near Karaguzh, 52°07'60"N, 86°04'47"E, *Alnus*, *Viburnum opulus* and *Sorbus sibirica*, 260 m a.s.l., 15.08.2016, leg. P.S. Nefediev.

**DISTRIBUTION AND REMARKS.** The species seems to be rather widespread in southwestern and central Siberia, i.e. the Kemerovo, Tomsk and Novosibirsk areas, the Krasnoyarsk and Altai provinces, the Khakassian and Altai republics [Mikhailjova, 2017]. Hence, *S. tabescens* is characterized by high ecological plasticity.

#### Order Chordeumatida

#### Family ANTHROLEUCOSOMATIDAE

#### *Ghilarovia cylindrica* (Shear, 1990)

**MATERIAL EXAMINED.** 5 ♂♂, 6 ♀♀ (ASU), Russia, southwestern Siberia, **Altai Province**, Zalesovo District, near Peshchiorka, 54°05'00"N, 84°49'31"E, *Populus tremula* forest with *Betula pendula* and *Salix*, 240 m a.s.l. 9.09.2015, leg. P.S. Nefediev.

**DISTRIBUTION.** Up to now, this species has only been known from the Tomsk, Kemerovo and Novosi-

birsk areas, the southern part of the Krasnoyarsk Province, and the Republic of Khakassia [Mikhailjova, 2017].

**REMARKS.** Being widespread in the southern taiga of SW Siberia, *G. cylindrica* seems to have penetrated the NE part of the Altai Province from the Salair Mts in the Kemerovo Area, from where it is freshly reported.

#### *Ghilarovia kygae* Gulička, 1972

*Ghilarovia kygae* Gulička, 1972: 39, 40: figs.

*Ghilarovia kygae* — Shear, 1988: 54, 55: figs; Mikhailjova, 1993: 6; 2002: 203; 2017: 231, figs, 191: map; Shelley et al., 2000: 68; Mikhailjova, Golovatch, 2001: 107; Nefediev, Nefedieva, 2007: 162; 2008a: 117; 2008b: 62; 2013: 87; Nefedieva, Nefediev, 2008: 123; Nefedieva et al., 2014: 65; 2015: 150.

non *Ghilarovia kygae* pro parte – Mikhailjova, Golovatch, 2001: 107.

**MATERIAL EXAMINED.** 34 subadult ♂♂, 40 subadult ♀♀, 1 juv. (ASU), Russia, southwestern Siberia, **Republic of Altai**, Turochak District, NW of Lake Teletskoye, 2 km E of Iogach, *Pinus sibirica*, *Abies sibirica* and *Betula pendula* forest with fern, 434 m a.s.l., 14–17.07.2004; 7 subadult ♂♂, 4 subadult ♀♀ (ASU), same locality, on N slope close to mountain top, 15.07.2004; 1 subadult ♂, 5 juv. (ASU), same locality, foot of mountain, 15.07.2004; 3 subadult ♂♂, 4 subadult ♀♀, 1 juv. (ASU), same locality, middle part of N slope, 17.07.2004; 16 ♂♂, 29 ♀♀, 6 juv. (ASU), same Republic, Ulagan District, Altai State Nature Reserve, S of Lake Teletskoye, cordon Chiri, mouth of Chiri River, *Betula pendula* forest, 11–12.08.2005; 2 ♂♂, 8 ♀♀, 1 fragm. (ASU), same Republic and District, Altai State Nature Reserve, S of Lake Teletskoye, near cordon Chiri, hut in upper reaches of Bayas River, sparse *Pinus sibirica* stand, 1600 m a.s.l., 14.08.2005; 1 ♀ (ASU), same Republic, Turochak District, Altai State Nature Reserve, central part of Lake Teletskoye, cordon Kokshi, *Betula pendula* and *Pinus sylvestris* forest, litter, 18.08.2005; 2 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, N of Lake Teletskoye, Yailyu, *Betula pendula* and *Pinus sylvestris* forest, 19.08.2005, all leg. P.S. Nefediev, J.S. Nefedieva; 1 juv. (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, *Padus avium*, 409 m a.s.l., 3.09.2005; 2 ♂♂, 2 ♀♀, 1 juv. (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, *Populus tremula*, 475 m a.s.l., 3.09.2005; 4 ♂♂, 3 ♀♀, 3 juv. (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, *Sorbus sibirica* and *Salix*, 447 m a.s.l., 3.09.2005; 3 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NE of Lake Teletskoye, cordon Kamga, floodplain of Malyi Meanok River, *Betula pendula*, 6.09.2005, all leg. M.B. Sakhnevich; 3 ♂♂, 6 ♀♀, 6 juv. (ASU), same Republic, Ulagan District, 28 km N of Aktash, Ulagan Pass, crooked *Pinus sibirica* and *Larix sibirica* forest with *Betula rotundifolia*, in moss, 2080 m a.s.l., 31.07.2006; 1 ♂, 1 juv. (ASU), same Province and District, near Aktash, top of Mt Sardyma, 50°20'02"N, 87°34'46"E, *Pinus sibirica* and *Larix sibirica* forest, motley grass vegetation, 1790 m a.s.l., 5.08.2006; 1 ♀ (ASU), same Republic, Ongudai District, Tutugoi River, *Betula pendula*, 9.08.2006; 1 ♀ (ASU), same Republic, Ulagan District, ca. 18 air-km NNW of Aktash, N part of Lake Sorulukel, 50°27'44"N, 87°30'24"E, *Betula rotundifolia*, *Salix glauca* and *Pentaphylloides fruticosus*, motley grass vegetation, green mosses, 1817 m a.s.l., 9.08.2007; 3 ♂♂, 6 ♀♀, 12 juv., 1 fragm. (ASU), same Republic and District, ca. 18 air-km NNW of Aktash, NW part of Lake Sorulukel, *Pinus sibirica* and *Larix sibirica* forest, hill top, 10.08.2007; 1 ♂, 3 juv. (ASU), same Republic and District, ca. 18 air-km NNW of Aktash, NW part of Lake Sorulukel, foot of N slope of Aigulakskii Mt. Range, *Pinus sibirica* and *Larix sibirica* forest with *Betula rotundifolia*, *Vaccinium vitis-idaea*, *Equisetum* and *Sphagnum*, 11.08.2007; 4 ♂♂, 5 juv. (ASU), same Republic and District, ca. 18 air-km NNW of Aktash, NE part of Lake Sorulukel, *Larix sibirica* and *Pinus sibirica* forest with *Vaccinium vitis-idaea*, 13.08.2007, all leg. P.S. Nefediev, J.S. Nefedieva; 3

♂♂, 3 ♀♀ (ASU), Russia, southwestern Siberia, Republic of Altai, Turochak District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'34.9"N, 87°25'55.9"E, *Padus avium* and *Sorbus sibirica*, 460 m a.s.l., 30.09.2013; 1 ♂, 4 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'33.7"N, 87°25'58.9"E, *Padus avium* and *Sorbus sibirica*, 468 m a.s.l., 30.09.2013; 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'35.0"N, 87°26'02.3"E, *Salix caprea*, 482 m a.s.l., 30.09.2013; 1 ♂, 2 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'32.1"N, 87°25'54.8"E, *Padus avium*, 454 m a.s.l., 1.10.2013; 2 ♂♂, 8 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'34.1"N, 87°26'03.6"E, *Padus avium*, 490 m a.s.l., 1.10.2013; 2 ♂♂, 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'32.7"N, 87°26'05.8"E, *Padus avium* and *Betula*, 481 m a.s.l., 1.10.2013; 1 ♂, 1 ♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'34.4"N, 87°25'51.3"E, *Padus avium*, *Betula* and *Salix caprea*, 465 m a.s.l., 3.10.2013; 3 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'34.4"N, 87°25'45.9"E, *Padus avium*, 467 m a.s.l., 3.10.2013; 1 ♂, 2 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'35.0"N, 87°25'42.2"E, *Padus avium*, 470 m a.s.l., 3.10.2013; 2 ♂♂, 4 ♀♀ (ASU), same Republic and District, Altai State Nature Reserve, NW of Lake Teletskoye, cordon Baigazan, 51°45'31.6"N, 87°25'39.1"E, *Padus avium*, *Salix caprea* and *Betula*, 448 m a.s.l., 3.10.2013; 1 ♀ (ASU), same Republic, Ulagan District, Altai State Nature Reserve, S of Lake Teletskoye, cordon Chiri, 51°21'40.9"N, 87°50'19.7"E, 444 m a.s.l., *Betula pendula* and *Padus avium*, 9.07.2014; 1 juv. (ASU), same Republic, Turochak District, Altai State Nature Reserve, central part of Lake Teletskoye, cordon Kokshi, 51°34'35.1" N, 87°44'05.9" E, *Pinus sylvestris* with *Spiraea*, 445 m a.s.l., 10.06.2014, all leg. M.B. Sakhnevich.

**DISTRIBUTION.** The distribution area of the species seems to be confined to the Republic of Altai [Mikhailjova, 2017].

**REMARKS.** It seems very likely that *G. kygae* ranges also from Gornaya Shoriya, Kemerovo Area in the north and the Khakassian Republic in the east beyond its currently known distribution area.

#### Family DIPLOMARAGNIDAE

##### *Altajosoma bakurovi bakurovi* (Shear, 1990)

*Altajosoma bakurovi* — Mikhailjova, Golovatch, 2001:108; Mikhailjova, Nefediev, 2003: 86.

*Altajosoma bakurovi bakurovi* — Mikhailjova, 2004: 178, figs, 116: map; 2017: 218, figs, 219: map; Mikhailjova et al., 2008: 51; Nefedieva, Nefediev, 2008: 123; Nefediev, Nefedieva, 2013: 87; Nefedieva et al., 2014: 65; 2015: 147.

**MATERIAL EXAMINED.** 1 ♂ (ASU), Russia, southwestern Siberia, **Altai Province**, Biysk, Molodezhnyi, right bank of Biya River, *Betula pendula* and *Salix*, litter, 13.10.2009; 1 ♂, 1 ♀ (ASU), same Province, Zalesovo District, near Peshchiorka, 54°05'00"N, 84°49'31"E, *Populus tremula* forest with *Betula pendula* and *Salix*, 240 m a.s.l. 9.09.2015, all leg. P.S. Nefediev; 1 ♂ (ASU), same Province, Krasnogorskoe District, 3 km N of Bystryanka, *Acer* and *Alnus* stands along Chuya Tract, 52°19'39"N, 85°49'38"E, 215 m a.s.l., 15.08.2016, leg. P.S. Nefediev, J.S. Nefedieva; 1 ♂ (ASU), Russia, southwestern Siberia, **Republic of Altai**, Maima District, Gorno-Altai, floodplain of Maima River, foot of Mt Tugaya, 53°59'03.2"N, 85°53'56.5"E, *Betula pendula* and *Acer*, 276 m a.s.l., 9.10.2014; 1 ♀ (ASU), same Republic and District, Gorno-Altai, slope of Mt Tugaya, 53°59'01.8"N,

85°54'10.8"E, *Betula pendula* forest, 346 m a.s.l., 9.10.2014, all leg. P.S. Nefediev, J.S. Nefedieva.

**DISTRIBUTION.** The species is rather widespread in southwestern Siberia, likewise in the southern part of central Siberia, and it has previously been reported from the Tomsk, Novosibirsk and Kemerovo areas, the Republic of Altai and the Krasnoyarsk Province [Mikhailjova, 2017].

**REMARKS.** The above records of the species are new to the fauna of the Altai Province, where *A. bakurovi bakurovi* seems to inhabit its NE and E parts.

##### *Altajosoma deplanatum* (Stuxberg, 1876)

*Altajosoma pinetorum* Gulička, 1972: 37, figs.

*Diplomaragna pinetorum* — Shear, 1990: 38; Mikhailjova, 1993: 6.

*Altajosoma pinetorum* — Shelley et al., 2000: 62; Nefediev, Nefedieva, 2008a: 117.

*Altajosoma deplanatum* — Mikhailjova, 2000: 160, figs; 2004: 170, 171: figs, 162: map; 2013: 7; 2016: 12; 2017: 207, figs, 199: map; Mikhailjova, Golovatch, 2001: 108; Mikhailjova, Nefediev, 2003: 86; Mikhailjova et al., 2008: 51; Nefedieva, Nefediev, 2008: 123; Nefediev, Nefedieva, 2013: 87; Nefedieva et al., 2014: 65; 2015: 148.

**MATERIAL EXAMINED.** 2 ♂♂ (ASU), Russia, southwestern Siberia, **Altai Province**, Pervomaiskii District, near Kostyaki, Kislukhinskii Nature Reserve, *Pinus sylvestris* forest with *Betula pendula* and ferns, 31.08.2014, leg. J.S. Nefedieva, P.S. Nefediev; 9 ♂♂, 4 ♀♀ (ASU), same Province, Zalesovo District, near Peshchiorka, 54°05'00"N, 84°49'31"E, *Populus tremula* forest with *Betula pendula* and *Salix*, 240 m a.s.l. 9.09.2015, leg. P.S. Nefediev.

**DISTRIBUTION.** Being originally described from an area between Mariinsk (the Kemerovo Area) and Achinsk (the Krasnoyarsk Province), the species has hitherto been reported from the Tomsk, Novosibirsk and Kemerovo areas, as well as the Altai and Khakassian republics [Mikhailjova, 2017].

**REMARKS.** The above records of *A. deplanatum* are new to the fauna of the Altai Province.

#### Family KIRKAYAKIDAE

##### *Teleckophoron montanum* Gulička, 1972

*Teleckophoron montanum* Gulička, 1972: 41, figs.

*Teleckophoron montanum* — Mikhailjova, 1993: 35; 2004: 193, 195: figs, 107: map; 2017: 236, 237: figs, 136: map; Shelley et al., 2000: 79; Mikhailjova, Golovatch, 2001: 113, 114: figs; Nefediev, Nefedieva, 2007: 161; 2008a: 117; 2008b: 62; 2013: 87; Nefedieva, Nefediev, 2008: 123; Nefedieva et al., 2014: 65; 2015: 152.

**MATERIAL EXAMINED.** 2 ♀♀ (ASU), Russia, southwestern Siberia, **Republic of Altai**, Ulagan District, Altai State Nature Reserve, S of Lake Teletskoye, cordon Chiri, mouth of Chiri River, *Betula pendula* forest, 11–12.08.2005, leg. P.S. Nefediev, J.S. Nefedieva.

**DISTRIBUTION.** The species has been recorded in the NE part of the Republic of Altai and in the S part of the Krasnoyarsk Province [Mikhailjova, 2017].

**REMARKS.** It seems likely that *T. montanum* occurs also in the Republic of Khakassia, a region situated between both known localities of the species.

## Conclusions

To date, at least 41 (sub)species from 19 genera, nine families and three orders are known to occur in the Altai region within southwestern Siberia, Russia. The julid *Julus ghilarovi ghilarovi* Gulička, 1963, the anthroleucosomatid *Ghilarovia cylindrica* (Shear, 1990), and two diplomaragnids, *Altajosoma bakurovi bakurovi* (Shear, 1990) and *A. deplanatum* (Stuxberg, 1876), are recorded from the Altai Province for the first time.

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