



Findings to the flora of Russia and adjacent countries: New national and regional vascular plant records, 1

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ABSTRACT

For the first time, new locality of *Viola suavis* is recorded for the Asian part of Russia, *Chloris virgata*, × *Elyhordeum arcuatum* and *Persicaria orientalis* for Siberia, *Thalictrum amurense* for Japan, *Eritrichium pseudolatifolium* and *E. pseudostrictum* for Kirghizia, *Aquilegia juncunda*, *A. vulgaris* and *Viola hirta* for Baikal Siberia, *Astragalus pallescens* and *A. physodes* for the North Caucasus, *Astragalus guttatus* for the Central Caucasus, *Astragalus somcheticus*, *Lotus frondosus* and *Vicia bithynica* for Dagestan, *Medicago* × *varia* and *Lappula tuvinica* for the Irkutsk region. For each species, the general distribution, habitat, and taxonomy, indicating differences from related species and location are presented.

Keywords: floristic findings, taxonomy, Asian Russia, Caucasus, Japan, Kyrgyzia, Mongolia

РЕЗЮМЕ

Верхозина А.В., Белоус В.Н., Чернышева О.А., Эбель А.А., Эрст А.С., Фризен Н.В., Южакова М.А., Кузнецов А.А., Луфаров А.Н., Мурашко В.В., Муртазалиев Р.А., Овчинникова С.В., Ванг В., Завгородняя О.Ю., Королюк А.Ю., Сенатор С.А., Зибзеев Е.Г., Васюков В.М., Кривенко Д.А. Находки во флоре России и сопредельных стран: новые национальные и региональные локалитеты сосудистых растений, 1. Впервые для Азиатской части России приводится *Viola suavis*, для Сибири – *Chloris virgata*, × *Elyhordeum arcuatum*, *Persicaria orientalis*, для Японии – *Thalictrum amurense*, для Киргизии – *Eritrichium pseudolatifolium*, *E. pseudostrictum*, для Байкальской Сибири – *Aquilegia juncunda*, *A. vulgaris*, *Viola hirta*, для Северного Кавказа – *Astragalus pallescens*, *A. physodes*, для Центрального Предкавказья – *Astragalus guttatus*, для Дагестана – *Astragalus somcheticus*, *Lotus frondosus*, *Vicia bithynica*, для Иркутской области *Medicago* × *varia*, *Lappula tuvinica*. Для каждого вида представлены общее распространение, местообитания, таксономия с указанием отличий от близких видов и местонахождения.

Ключевые слова: флористические находки, таксономия, Азиатская Россия, Кавказ, Киргизия, Япония, Монголия

With this paper we introduce a new annual series, the main purpose of which is to make significant floristic findings from Russia and neighboring countries more visible in Russia and abroad. This paper was prepared by the team united more by scientific cooperation than the taxonomy or geography of the species. In total, this paper presents new records for 18 vascular plant species from 3 Eurasian countries, obtained during field explorations, as well as during taxonomic revisions of herbarium materials.

Aquilegia juncunda Fisch. & Avé-Lall. (Ranunculaceae)

Contributors: Andrey S. Erst & Mariya A. Iuzhakova

Distribution and habitat

A. juncunda is a species naturally distributed in RUSSIA (Altai Territory, Krasnoyarsk Territory, Zabaikalsky Ter-

ritory, Irkutsk Province, Altai Republic, Buryatia Republic, Tyva Republic, Khakassia Republic, Yakutia Republic), CHINA (Xinjiang), KAZAKHSTAN (Almaty and East Kazakhstan Province) (Erst et al. 2016). It resides anywhere from forest to subalpine and alpine, mainly on mixed grass, grass-sedge and sedge meadows, often on stony substrate and fine ground. This paper for the first time indicates the distribution of *A. juncunda* for the most eastern part of its range in Transbaicalia.

Taxonomic notes

A. juncunda was described by F.E.L. Fischer and R. Avé-Lalleman in “Index Seminum, quae Hortus Botanicus Imperialis Petropolitanus pro Mutua Commutatione Offert. Accedunt Animadversiones Botanicae Nonnullae”, however, without indication of its distribution and habitat. The comparative characteristics of this species with other closely related taxa were also not given. *A. juncunda* is often

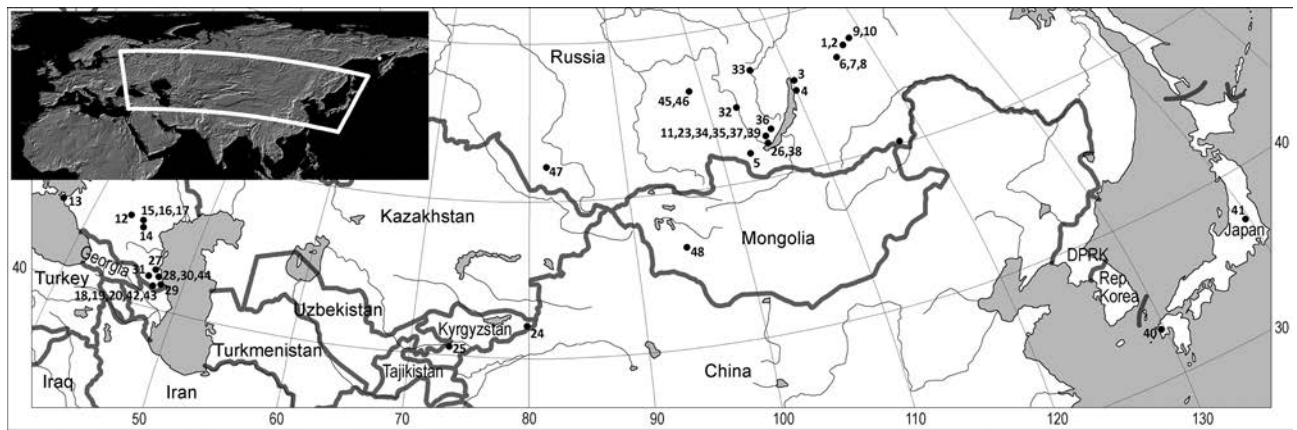


Figure 1 Locations of new findings (see the bolded numbers in the text)

referred to as a synonym of *A. glandulosa* Fisch. ex Link. Further C.F. Ledebour (1843) in his fundamental work “Flora of the Russian Empire” pointed out the following differences of *A. glandulosa* from *A. jucunda*: leaf blades rounded (in *A. glandulosa* – pointed); the filaments at the beginning of flowering are erect parallel (in *A. glandulosa* – diverging); fruits are ovoid, scarred at the base (*A. glandulosa* – pi-shaped, constricted at the base); sepals ovate (in *A. glandulosa* – obovate); petals obovate, pale yellow, on each side, (*A. glandulosa* – wedge-shaped oblong, obtuse at the top, acuminate above, violet-blue, rarely white, almost completely separated from each other); narrowly oval anthers (linear in *A. glandulosa*); pistils 6–10 (in *A. glandulosa* – 8–15). Seeds longitudinally almost 5-fin (in *A. glandulosa* – fine-grained 3-fin). In later reports, *A. jucunda* is synonymous with *A. glandulosa* (Bulavkina 1937, Munz 1946, Vasilyeva 1992, Friesen 1993). Both species are described from Altai and Kazakhstan. Our data confirm the distinctness of *A. glandulosa* and *A. jucunda* (Erst & Vaulin 2014). We believe that *A. jucunda* should be recognized as an independent taxon based on the following characters: bicoloured petals (white-blue or whitening at the end of the limb of the petals and blue spur) that are parallel to each other, not spatially separated, angled and not overlapping limb petals and longer, curved at the end of the spur. R. Nold in his monograph “Columbines: *Aquilegia*, *Paraquilegia* and *Semiaquilegia* also point to the isolation of these taxa (Nold 2003).

Examined specimens (new records)

RUSSIA: Irkutsk Province, № 1210, m. 168, coll. Preobrazhensky (MW0092978): **1**; Irkutsk Province, Nizhnyaya Sygkyty River, 1750 m a.s.l., 09.08.1958, coll. Preobrazhensky (MW0092982): **2**; Buryatia Republic, Stanovoye Nagorye, Ilbikaichi River, a tributary of the Tompuda River, gravelly mountain slope, 1900 m a.s.l., 07.22.1966, coll. L. Malyshev, E. Titov (IRK): **3**; Buryatia Republic, the Kurumkansky District, the Barguzinsky Range, basin of the Alla River, 1825 m, point 5, alpine meadow, 07.19.2014, coll. A.A. Taran (IRK): **4**; Buryatia Republic, Eastern Sayan, Tunkinsky Alps, the Tubota River, in the alpine belt, 1800 m a.s.l., on the stony slope, 23.07.1963, coll. L.I. Malyshev (NSK): **5**; Buryatia Republic, Stanovoe highlands, South Muisky ridge, upper reaches of the Kindikan river, in the subalpine belt, on a meadow slope, 25.07.1965, № 280, coll. Yu. Petrochenko (NSK): **6**; Stanovoe highlands, South Muisky ridge, the river to the east of the Akundakan brook, in the subalpine belt, 1600 m a.s.l., subalpine sedge meadow in place of newly melted snow, 3.08.1966, № 761, coll. M. Ivanova, O. Volchugov (NSK): **7**; Buryatia Republic, Stanovoe highlands, South Muisky ridge, the river to the east of the Akundakan brook, in the subalpine belt, 1700 m a.s.l., at the

bottom of the crumbling slope of the trough, 03.08.1966, № 1539, coll. M. Ivanova, O. Volchugov (NSK): **8**; Zabaikalsky Territory, Stanovoe highlands, Kodar ridge, upper reaches of the Apsat river, in the forest belt, height 1300 m a.s.l., on the river pebbles, 10.07.1964, № 255, coll. L. Malyshev, Yu. Petrochenko (NSK): **9**; Zabaikalsky Territory, Stanovoe highlands, Kodar ridge, upper reaches of the Apsat river, in the subalpine belt, 1550 m a.s.l., on a grassy meadow, 16.07.1964, № 598, coll. L. Malyshev, Yu. Petrochenko (NSK): **10**.

Aquilegia vulgaris L. (Ranunculaceae)

Contributors: Denis A. Krivenko & Alexander A. Kuznetsov

Distribution and habitat

A. vulgaris (European columbine, Common columbine, Granny’s nightcap, Granny’s bonnet) is a species with natural distribution in Central and Northern Europe, British Isles, northern and middle Balkan countries, North of the Italian and Iberian Peninsulas (Munz 1954). The species is cultivated as an ornamental plant in numerous countries outside Europe, where it has become naturalized, e.g. Macronesia, Asores, the Americas, Oceania, Russia. This species grows in the forest edges, shady places, meadows, roadsides, and banks of rivers and streams; altitudes 50–1200 m. The species is sporadically distributed in Siberia, where it tends to concentrate along the valley bottoms near towns and villages and grows wherever conditions are suitable, not far from the places of original cultivation (Nardi 2015). Hybrids morphologically similar to *A. vulgaris* can be found near natural populations of *A. sibirica* Lam.

Taxonomic notes

More than 50 subspecies and related species have been described from Europe. The plants grow anywhere from 30 to 100 cm or more, with inflorescence hairy, sometimes glandular-hairy above. The basal leaves are biternate, the leaflets glabrous above and pilose beneath. The flowers, in various shades of purple, blue, pink and white, are pendent or horizontal with hooked spurs. The sepals are spreading, ovate-lanceolate (Nold 2003). The stamens short and not exerted or equal to petal lamina. *Aquilegia vulgaris* is morphologically similar to *A. ophiolitica* Barberis & Nardi in short exerted staminal column, homogeneous corolla and isotropic petals; however, it distinctly differs from *A. ophiolitica* by the absence of glands in the basal part of the plant, frondose inflorescence, spatulate petal lamina and 0-exserted or extent of 1–2 mm petal lamina (Nardi 2015).

Examined specimens (new records)

RUSSIA: Irkutsk Province, Irkutsk city, Akademgorodok, territory of SIPPB SB RAS, 52°14′21.02″N, 104°16′20.83″E,

arboretum, 23.06.2017, coll. D.A. Krivenko 48121, 48122 (IRK), 48123 (MW), 48124, 48125 (NS): 11.

***Astragalus guttatus* Banks & Sol. (Fabaceae)**

Contributor: Victor N. Belous

Distribution and habitat

Geographical distribution: Iranian-Turanian. From the territory of the former USSR the species (under the name *A. striatellus* Pall. ex M. Bieb.) is found in Transcaucasia, Middle Asia, Crimea and Eastern Caucasus also: "Dagestan" (Podlech & Zarre 2013).

It was first found in the territory of the Central Ciscaucasia: the Southern Primorye and the Prikumsk highlands (Belous 2006). The ecologo-coenotical optimum of the species is associated with the subzonal belt of grassland (*Festuca valesiaca*) and desert steppes for Ciscaucasia's plain and lowland landscapes. This taxon is very rare in the region.

Taxonomic notes

A. guttatus is strongly isolated from other members of the genus which constituted grounds for its segregation in the monotypic section of *Aulacolobus* Bunge. It is an annual plant, furnished with basifixed hairs. Racemes have a short peduncle, remotely 1–4 flowers. Calyx campanulate, with very unequal teeth, the lower three (abaxial) subulate, longer than tube, the upper (adaxial) distinctly shorter. Wings distinctly shorter than keel. Legumes stipitate, nodding, curved, incompletely bilocular, glabrous. The shape of fruits and bare stem branching from the distinguishes *A. guttatus* from other annual small species of the genus.

Examined specimens (new records)

RUSSIA: Stavropol Territory, Ipatovo District, near the village of Bolshaja Jalga, 19.05.1989, coll. V.N. Belous (SPI): 12; Krasnodar Territory, Taman peninsula, to the South from the Taman city, the mountain Zelenskaya, 45°14'47"N 36°69'06"E, 132 m a.s.l., steppe, clay, 29.04.2007, coll. V.N. Belous (SPI): 13; Stavropol Territory, Arzgyr District, northeast spurs of the Stavropol height, the right indigenous bank of the Chogray river, 45°22'41"N 44°14'33"E, 100 m a.s.l., hilly-beam relief elements, semidesert-steppe slope with ephemeratum, alluvial clay and loamy soils, 2.05.2015, coll. V.N. Belous (SPI): 14.

***Astragalus pallescens* M. Bieb. (Fabaceae)**

Contributor: Victor N. Belous

Distribution and habitat

The distribution is Nomadic, the geoelement is Pontic. Black Sea endemic.

For the floras of adjacent areas, there are indications about the location of *A. pallescens* in the territory of the Lower Volga (Laktionov 2009) and the right bank of the Lower Don (Zozulin 1984). The species was discovered by us in the territory of the Kumo-Manych depression (valley-lake landscapes of Western and Eastern Manych) (Belous 2011). Our latest finding in the North Caucasus mark the southern boundary of its range in Russia. This significantly expands the understanding of the chorological features of the *A. pallescens*.

Taxonomic notes

A. pallescens (section *Dissitiflora* DC., subgenus *Cercidobrixa* Bunge) belongs to the group of perennial herbs with lignified stems and loose tassels. From close related *A. macropus* Bunge, the species differs by a set of the following characteristics: thin, densely and white-fluffy perennial stems and yellowish-white corolla.

Examined specimens (new record)

RUSSIA: Rostov Province, Orlovsky District, near the Manych village, the right bank of the West Manych river,

elevated parts of the lower floodplain terrace of Manych-Gudilo, 46°42'93"N 42°73'27"E, dry-steppe (semishrub – shrubby – Herbae stepposae with ephemers) slope of Gruzskoe Lake, clay, 11.06.2008, coll. V.N. Belous (SPI): 15; Stavropol Territory, Arzgyr District, northeast spurs of the Stavropol height, 45°38'35"N 44°24'12"E, hilly plain, the right indigenous bank of the Chogray river, carbonate dry-steppe slope, steppe (*Festuca valesiaca* + *Stipa ucrainica* – Herbae stepposae with ephemers), clay, rock debris of limestone, 2.05.2015, coll. V.N. Belous (SPI): 16.

***Astragalus physodes* L. (Fabaceae)**

Contributor: Victor N. Belous

Distribution and habitat

A. physodes – Turanian species of the desert-steppe complex, Caspian-East Black Sea's endemic. It is characterized by a fragmented range in Eastern Black Sea-Volga's landscapes. Occurs on the Ergeni hill, the Lower Don and the Lower Volga (Goncharov et al. 1946, Zozulin 1984, Yakovlev et al. 1996, Baktasheva 2000, Laktionov 2009). Two close locations were cited for the North Caucasus. They are localized on the territory of the Terek-Sulak lowland in the North-Western Pre-Caspian (Grossgeim 1952, Murtazaliyev 2009). However, herbarium specimens confirming these data were not found during taxonomical revision of the genus *Astragalus* (Podlech & Zarre 2013) and our own searches at the local Caucasian herbaria (LENUD, DAG).

Thus, we present the first reliable findings of *A. physodes* for the territory of the North Caucasus. Our findings are located 270 km to north-west from previous location, which are disputable.

Taxonomic notes

A. physodes belongs to section *Cystium* Bunge, subgenus *Cercidobrixa* Bunge. It differs from other species the section by bare leaves, ovaries and fruits. Spherical swollen fruits are collected in dense brushes. The species is characterized by real physocarp.

Examined specimens (new record)

RUSSIA: Stavropol Territory, Arzgyr District, South Pre-Manych, northeast spurs of the Stavropol height, the right indigenous bank of the Chogray river, 45°22'40"N 44°16'30"E, 161 m a.s.l., dry-steppe slope, steppe grass and communities of *Festuca valesiaca*, *Koeleria cristata*, clay, 2.05.2015, coll. V.N. Belous (SPI): 17.

***Astragalus somcheticus* K. Koch (Fabaceae)**

Contributor: Ramazan A. Murtazaliyev

Distribution and habitat

The species is spread in the Greater and Lesser Caucasus, as well as in northeastern Turkey (Podlech & Zarre 2013). Within the Greater Caucasus, it is more often observed in Karachay-Cherkessia Republic and Kabardino-Balkaria Republic, as well as in the region of the Caucasian Mineral Waters. The main finds of the species in Armenia and Azerbaijan are confined to the southern borders (Grossheim 1952).

New locations were found for the first time in the Eastern Caucasus, namely in South Dagestan.

In the new location, the species is found on rocky and gravelly slopes of shale rocks in the middle and upper mountain belts.

Taxonomic notes

This species belongs to the section *Incana* DC., represented mainly by stemless perennials. In the Caucasus, this section includes about 30 species, most of which are endemic. This species combines two taxa that were previously taken as independent species: *A. demetrii* Charadze (Western and Central Greater Caucasus) and *A. polygala* Pall. (Central and Southern Transcaucasia, Turkey).

Examined specimens (new records)

RUSSIA: Republic of Dagestan, Kurakhsky District, in vicinities of the village Aschar, 41°37'51.1"N 47°39'08.3"E, southeast slope, gravelly places, 1600 m a.s.l., 7.07.2010, coll. R.A. Murtazaliev s. n. (DAG): **18**; Republic of Dagestan, Akhtynsky District, in vicinities of the village Lutkun, 41°29'06.4"N 47°42'47.7"E, south-western slope, 1200–1500 m a.s.l., 5.06.2012, coll. R.A. Murtazaliev s. n. (DAG, LE): **19**; Republic of Dagestan, Dokuzparinsky District, the northeast slope of the mount Nesindag, 41°15'10.9"N 47°48'10.9"E, 2700 m a.s.l., 5.08.2017, coll. R.A. Murtazaliev s. n. (LE): **20**.

***Chloris virgata* Sw. (Poaceae)**

Contributors: Alexander L. Ebel & Alla V. Verkhovina

Distribution and habitat

C. virgata is widespread predominantly in warm temperate to tropical areas, but extending well into temperate regions with hot summer (Anderson 1974, Sun & Phillips 2006). It is distributed in Asia (Afghanistan, Azerbaijan, Bhutan, China, India, Korea, Kyrgyzstan, Myanmar, Mongolia, Nepal, Pakistan, Russia (Far East), Saudi Arabia, Tajikistan), North, South and Central America, Africa, Australia, Pacific Islands (Rozhevitz 1934, Anderson 1974, Probatova 1985, Sun & Phillips 2006). The species is included in the “Handbook of Alien Species in Europe” (Hulme 2009), and also was recorded in the Caucasus (Rozhevitz 1934, Tzvelev 2006).

In the Asian part of Russia, *C. virgata* was recorded as alien species in the Primorsky Territory, Khabarovsk Territory and the Amur Province (Probatova 1985, Antonova 2009, 2018, Starchenko & Darman 2011). However, there is an assumption that the basin of the Razdolnaya River in Primorsky Territory is a part of its natural range (Probatova 2007).

C. virgata grows in many types of habitats, including cultivated farmland and such disturbed areas as roadsides and railroad tracks and (for example, in China) it is common on stony slopes, steppe, sandy riversides, roadsides, fields, plantations, frequent on walls and roofs; up to 3700 m a.s.l. (Sun & Phillips 2006).

Taxonomical notes

The genus *Chloris* Sw. is represented by 63 species in tropical and warm-temperate regions throughout the world (The Plant List 2013).

C. virgata is the only species of the genus that grows in Russia in the wild. Other species of the genus – *C. gayana* Kunth (Rhodes Grass) is cultivated in Russia (Medvedev & Smetannikova 1981).

C. virgata is considered the most variable of the all annual species in the genus. It varies in height, leaf size, tomentum and spikelet character. Only two attributes are given as constantly correlated and the species can be recognized by them: the conspicuous tufts of spreading, silky hairs on the upper lemma margins together with a digitate inflorescence of erect racemes (Anderson 1974). *C. virgata* closely resembles *Ch. gayana* in spikelet characters, but can be easily separated from it being an annual, having longer awns and lowest lemma with spreading longer hairs on upper margins (Anderson 1974, Sun & Phillips 2006).

C. virgata is a new alien species to Siberia. A large number of specimens of *Ch. virgata* were found in Baikal Siberia during a field trip in 2017.

Examined specimens (new records)

RUSSIA: Zabaykalsky Territory, Zabaykalsk, 49°39'29.71"N 117°19'14.04"E, railway deadlock, wasteland, 15.08.2017, coll. A.L. Ebel, A.A. Verkhovina, et al. 49796, 49480, 49481, 49483 (IRK, TK): **21**; 49°38'27.21"N 117°19'57.69"E, roadside near the railway station, 15.08.2017, A.L. Ebel, A.A. Verkhovina, et al. 49482, 49484, 49485 (IRK, TK): **22**.

× *Elybordeum arcuatum* W.W. Mitch. & H.J. Hodgs. – *Elymus sibiricus* L. × *Hordeum jubatum* L. (Poaceae)

Contributors: Alla V. Verkhovina, Alexander L. Ebel. & Vladislav V. Murashko

Distribution and habitat

× *E. arcuatum* was described from disturbed sites around Palmer, Alaska, USA, from which it has been eliminated since it was sterile (Mitchell & Hodgson 1968, Barkworth 2006).

This hybrid is relatively common in the Russian Far East (in Vladivostok and Khabarovsk), where it can be partially fertile (Probatova 1985).

× *E. arcuatum* grows on disturbed areas.

Taxonomical notes

× *Elybordeum* Mansf. ex Tsitsin & K.A. Petrova is the name given to hybrids between *Elymus* L. and *Hordeum* L., which are fairly common. All appears to be sterile, i.e. they do not produce viable pollen or set seed (Barkworth 2006) × *Elybordeum* represented by about 19 species in the world (The Plant List 2013). Most of them has *Hordeum jubatum* L. as one of their parent species. *H. jubatum* hybridizes in its native and non-native areas with a number of species of the genus *Elymus*.

Besides *Elybordeum* × *arcuatum*, 2 other hybrids of *Hordeum jubatum* with species of the genus *Elymus* are known in the Asian part of Russia (mostly in the Far East): × *Elybordeum chatangense* (Roshev.) Tzvel. (*Hordeum jubatum* × *Elymus macrourus* (Turcz.) Tzvel.), × *Elybordeum kolymsense* Prob. (*Hordeum jubatum* × *Elymus pubiflorus* (Roshev.) Peschkova (Probatova 1985, Peschkova 1990). Additionally, four new hybrids were revealed by D. Lysenko (2010) and named by him as × *Elybordeum detrinense* Lysenko (*Elymus jacutensis* (Drob.) Tzvel. × *Hordeum jubatum*), × *Elybordeum kbokbrjakovii* Lysenko (*Elymus kronokensis* (Kom.) Tzvel. × *Hordeum jubatum*), × *Elybordeum olaense* Lysenko (*Elymus boreochoctensis* Khokhr. × *Hordeum jubatum*), × *Elybordeum sinogoricum* Lysenko (*Elymus subfibrosus* (Tzvel.) Tzvel. × *Hordeum jubatum*). Unfortunately, none of binomials supposed by Lysenko were accompanied by a Latin diagnosis, so they cannot be used in taxonomical practice.

Previously only one species of the nothogenus was known in Siberia, namely × *Elybordeum chatangense*. It was described from Taymyr and is also found in Yakutia (Peschkova 1990).

× *E. arcuatum* was found in Irkutsk in 2015 and it is a new species to Siberia. It is distinguished from *Hordeum jubatum* by barely deflecting thin spines of lemmas, 2–3 times shorter than that of *H. jubatum*. The hybrid differs from *Elymus sibiricus* by slightly arcuate and very brittle thick spikes (Probatova 1985).

Examined specimens (new record)

RUSSIA: Irkutsk Province, Irkutsk city, University micro-district, near the building 109, 52°15'09.42"N 104°14'36.23"E, meadow between houses, 05.09.2015, A.A. Verkhovina. 44251–44257 (IRK): **23**.

***Eritrichium pseudolatifolium* Popov (Boraginaceae)**

Contributor: Svetlana V. Ovchinnikova

Distribution and habitat

E. pseudolatifolium was described from Kashgaria (China) and later was found in Eastern Pamir and Central and Eastern Tien Shan from the territory of Tadjikistan and Sinkiang in China (Popov 1953, Chukavina 1984, Ovchinnikova 2011), and was not found from the territory of Kyrgyzstan. *E. pseudolatifolium* grows in shaded crevices and foothill rocks in zone of high-mountain deserts and cryophil steppes at the altitudes 3700–4000 m a.s.l.

Taxonomic notes

The genus *Eritrichium* Schrad. ex Gaudin comprises 75 species of pubescent, sericeous or villous perennial cushion-

forming herbs with distribution in the mountains of the Asia and Northern America, with 1–2 species in Europe (Ovchinnikova 2003). The 35 species of the subgenus *Pseudobackelia* (Popov) Ovczinnikova come across in the alpine zone of Southern and Central Asia (Ovchinnikova 2011). Three *Eritrichium* species were reported for Kyrgyzstan (Filatova & Aidarova 1962, Ovchinnikova 2011).

E. pseudolatifolium belongs to series *Albiflora* Popov of section *Pseudobackelia* Popov with drooping pedicels, white corolla, dorsiventrally compressed, short pubescent nutlets with triangular to lanceolate horizontally deflecting marginal glochids. From the related species of series *Albiflora* it is distinguished by an ovate to elliptic form of leaf blade and pressed pubescent pedicels (Ovchinnikova 2003, 2011).

E. pseudolatifolium is a new species from the territory of Kyrgyzstan.

Examined specimens (new records)

KYRGYZSTAN: Eastern Tien Shan, basin of the Sarydzhas River, Uchat Stream to the south from Taschkoroov village, on rocks, 14.08.1988, coll. M.G Pimenov, E.V. Kljukov (MW0876566): 24.

Eritrichium pseudostrictum Popov (Boraginaceae)

Contributor: Svetlana V. Ovchinnikova

Distribution and habitat

E. pseudostrictum was described from Pamir (Tadzhikistan) and later was found in Kashgaria (China) (Popov 1953, Chukavina 1984, Ovchinnikova 2011), and was not found from the territory of Kyrgyzstan.

E. pseudostrictum grows on rocks and scree of high-mountains at the altitudes 3500–4200 m a.s.l.

Taxonomic notes

The 11 species of the section *Himalaica* (Popov) Ovczinnikova subgenus *Pseudobackelia* (Popov) Ovczinnikova come across in alpine zone (2700–5600 m a.s.l.) of Himalaya, Tibet, Pamir-Alay in Tadzhikistan, Afghanistan, Pakistan, India, Nepal (Ovchinnikova 2003, 2011). Three *Eritrichium* species were reported for Kyrgyzstan: *E. tianschanicum* Iljin ex Ovczinnikova (sect. *Eritrichium*), *E. turkestanicum* Franch. (sect. *Himalaica*), *E. fetissovii* Regel (sect. *Pseudobackelia*) (Filatova & Aidarova 1962, Ovchinnikova 2003, 2011).

E. pseudostrictum belongs to series *Pamiralaica* Ovczinnikova of section *Himalaica* (Popov) Ovczinnikova with upward protruding pedicels, blue corolla, turbinate, short pubescent nutlets with short upward protruding marginal glochids or almost fusing at base. From the related species *E. canum* (Benth.) Kitamura and *E. dubium* O. Fedtsch. it is distinguished by soddy growth and filiform leaves and original stellate prickly pericarpia of achenes (Popov 1953, Ovchinnikova 2007, 2011).

E. pseudostrictum is a new species from the territory of Kyrgyzstan.

Examined specimens (new records)

KYRGYZSTAN: Alaikii mountain range, basin of the Shakhimardan River, in headwater of Dugova River, alt. 3000 m a.s.l., on rocks, 4.08.1977, coll. O. Politova, S. Alekseev (MW0876106): 25.

Lappula tuvinica Ovczinnikova (Boraginaceae)

Contributors: Svetlana V. Ovchinnikova & Olga A. Chernysheva

Distribution and habitat

L. tuvinica was described from Siberia (Tyva Republic) and was found from the territory of W and C Siberia, E Kazakhstan, W Mongolia (Ovchinnikova 1997, 2009). Recently, it was reported from Eastern Siberia: Republic of Buryatia and Zabaykalsky Territory (Ovchinnikova & Nikirova 2016). *L. tuvinica* grows in desertified steppes and

stepped meadows on rubbly and rocky slopes of mounds and foothills.

Taxonomic notes

The genus *Lappula* Moench comprises over 70 species of hispid small to medium-sized annual or perennial herbs with distribution in the northern Hemisphere and has several representatives in Africa and Australia (Ovchinnikova 2005). It belongs to series *Lappula* of section *Lappula* with subulate gynobase, ovate glochidiate nutlets with 1–3 rows of spinules. From the related species *L. consanguinea* (Fisch. et C.A. Mey.) Guerke it is distinguished by very small nutlets with minute spinules and tubercles along disc and all flanks (Ovchinnikova 2005, 2009).

Examined specimens (new records)

RUSSIA: Irkutsk Province, Ust-Orda Buryat Okrug, Ekhirit-Bulagatsky District, vicinity of Gushit village, Ordynskoe lake, 51°52'50"N, 104°58'11"E, 548 m a.s.l., bank of the lake, 24.06.2010, coll. O.A. Chernysheva 52365 (IRK): 26.

Lotus frondosus Freyn (Fabaceae)

Contributor: Ramazan A. Murtazaliev

Distribution and habitat

Most often, the species is noted in Central Asia, but is found both to the west and east of the main part of the range, sometimes quite far, forming isolated locations (Yakovlev et al. 1996). In the Caucasus, the species was previously cited for Azerbaijan (Grossheim 1952). New locations are given for Dagestan on the old herbarium collections found in the Herbarium of the Komarov Botanical Institute RAS (LE). According to these collections, 4 localities of the species were identified, of which 3 are found in the coastal part of Dagestan, and one in the middle mountain zone, in the Sulak river basin. In these locations, the species is noted along the outskirts of rivers and lakes, in shrubs, and in the middle mountain zone, on gravelly slopes along the road.

Taxonomic notes

The species belongs to the section *Eulotus* Ser., to which most Caucasian species of this genus belong. *L. frondosus* differs from other species of section with a reddening corolla during flowering and drying.

Examined specimens (new records)

RUSSIA: North Caucasus, a salt lake near Petrovsk, 19.06.1894, coll. O.A. & B.A. Fedtschenko s. n. (LE): 27; Dagestan, Distr. Kajtag-Tabass., prope st. Kajakent. In pratis et inter frutices, 19.06.1899, coll. [F.N.] Alexeenko s. n. (LE): 28; Dagestan, Distr. Kurinsky. In ripa glareosa fl. Samur, pr. st. Jalominskaja, 400 m, 20.06.1899, coll. [F.N.] Alexeenko s. n. (LE): 29; Prov. Dagestan, Distr. Kajtag-Tabass., pr. st. Kajakent. In fruticetis, 17.07.1900, coll. [F.N.] Alexeenko s. n. (LE): 30; Dagestan, Avar District, valley of Avar Koisu, below the village Gergebil, gravelly slope near the road, 28.08.1927, coll. A. Poretsky, G. Schulz s. n. (LE): 31.

Medicago × varia Martyn (Fabaceae)

(≡ *M. sativa* subsp. *varia* (Martyn) Arcang., *M. sativa* subsp. *varia* (Martyn) O. Bolos & Vigo [isonim], *M. sativa* var. *varia* (Martyn) Urb.; = *M. hemicycla* Grossh., *M. lavrenkoi* Vassilcz., *M. media* Pers., *M. ochroleuca* Kult., *M. rivularis* Vassilcz., *M. sylvestris* Fr., *M. tianschanica* Vassilcz.)

Contributors: Denis A. Krivenko, Olga A. Chernysheva & Olga Yu. Zavgorodnyaya

Distribution and habitat

The world's most important forage crop, alfalfa, belongs to the genus *Medicago* L. The species cultivated in the North Temperate Zone is usually *M. × varia* (Lesins & Lesins 1979). It was found feral in Eastern Europe: Belarus, Estonia, Russia (European part), Ukraine, Caucasus: Armenia,

Azerbaijan, Georgia, Russia (Caucasian part) and Asia: China, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan (Yakovlev et al. 1996, Shu 2010).

In Siberia, *M. × varia* was found feral in 2001 in the Altai Territory (Silantjeva et al. 2003).

Recently, this species has widely spread eastward in the territory of the southern regions of Siberia to the Republic of Buryatia (Abramova et al. 2014, Ebel et al. 2017, Gamova 2018). In 2015, *M. × varia* was also found in the Russian Far East in the Khabarovsk Territory (Probatova et al. 2017). It was also indicated for the Irkutsk Province (Abramova et al. 2014), however, without a specific location and reference to the herbarium specimen. Thus, the locations in this article for the species are the only reliable in the Irkutsk Province at the present moment. This species is probably actively spreading on the disturbed habitats at the along of roadsides and in the vicinities of settlements and in the very near future we can expect new finds of it in Asian Russia.

Taxonomic notes

M. × varia is an amphiploid hybrid with $2n = 32$ (tetraploid $(4x)$, with $x = 8$). Its progenitors are diploid $(2x)$ with $2n = 16$ species *M. falcata* L. and *M. sativa* L. Both of them belong to the section *Falcatago* Rchb. (Lesins & Lesins 1964, 1979). Different plants and a population of *M. × varia* show flowers color ranging from violet to yellowish with all variations between these, and have legumes with less than one to two circles. These characters are possessed by *M. falcata* with yellow flowers and legumes straight or sickle-shaped at one extreme and by *M. sativa* with violet flowers and legumes coiled from one and a half circle to three circles at the other. The variegated color of the flowers of *M. × varia* in the herbarium are not always preserved, however, we noted that they often turn brown when desiccated. Below is the key that will permit one to more or less reliably identify *M. × varia* and related species from the section *Falcatago* inhabiting Asian Russia.

Key to the *Medicago* L. of section *Falcatago* Rchb. species confirmed for Asian Russia

1. Stems strong, flowers yellow or yellow and blue variegated, legumes from sickle-shaped to two circles **2**
+ Stem procumbent, flowers bluish-purple or bluish-violet, legumes coiled from one and a half circle to three circles ***M. sativa* L.**
2. Flowers in varying degrees of intensity yellow and blue variegated, often when desiccated turn brown ***M. × varia* Martyn**
+ Flowers yellow, legumes straight or sickle-shaped, coiled in not more than one half-circle, leaflets of lower leaves reverse ovoid-lanceolate, and of upper reverse lanceolate ***M. falcata* L. var. *falcata***
++ Leaflets of lower leaves reverse lanceolate, and of upper reverse linearly-lanceolate ***M. falcata* var. *romanica* (Prodan) Hayek**

Examined specimens (new records)

RUSSIA: Irkutsk Province, Zalarinsky District, before of Tyret Pervaya urban-type settlement, bridge over Unga river, 53°39'43.69"N, 102°21'09.60"E, red carbonate slope, 17.08.2009, coll. O.A. Chernysheva 52903, 52905 (IRK): **32**; Irkutsk Province, Ust-Kut town, right bank of Kuta River, Ust-Kut sanatorium 56°47'22.47"N, 105°36'59.04"E, on a meadow by the salt lake, 20.07.2010, coll. O.A. Chernysheva 46055, 46056 (IRK): **33**; Irkutsk Province, Irkutsk city, Akademgorodok, 461 m a.s.l., 52°14'25"N 104°16'22"E, weed-ruderal communities, 22.06.2017, coll. D.A. Krivenko 52981, 52982 (IRK), 52983 (MW): **34**; Irkutsk Province, Irkutsk city, Akademgorodok, 52°14'14.09"N, 104°16'17.01"E, on edge of the pedestrian path, 23.06.2017, D.A. Krivenko 49970, 49971 (IRK), 49972 (MW): **35**; Irkutsk Province, Irkutsky District, Listvyanka urban-type settlement, SW shore of

Baikal Lake, 466 m a.s.l., 52°22'02"N, 104°49'57"E, roadside, 3.07.2017, coll. D.A. Krivenko 52916, 52917 (IRK), 52918 (MW), 52919 (LE): **36**; Irkutsk Province, Irkutsk city, right bank of Angara river, Solnechnyi microdistrict, 473 m a.s.l., 52°15'30.2"N 104°20'51.0"E, roadside, 22.08.2018, coll. D.A. Krivenko 51114 (IRK): **37**; Irkutsk Province, Irkutsky District, SW shore of Baikal Lake, estuary of Pylovka, 94th km of Circum-Baikal Railway, 456 m a.s.l., 51°48'01"N, 104°34'11"E, lake shore, 15.09.2018, coll. O.Yu. Zavgorodnyaya 52984 (IRK): **38**.

Persicaria orientalis (L.) Spach (Polygonaceae)

Contributor: V.V. Murashko

Distribution and habitat

P. orientalis was described from SE Asia (Tzvelev 1989). It is native to SE Asia and mostly northern Australia (Grossheim 1945, Walsh & Entwisle 1994). The secondary areal is wide enough, and covers rest of Asia, Europe, North and South America, Australia and Oceania (Komarov 1936, Walsh & Entwisle 1994, Li et al. 2003, Hinds & Freeman 2005, Kantachot et al. 2010). *P. orientalis* is often cultivated and occasionally persisting in abandoned gardens. In most cases it is adventive, due to the rather frequent use as introduced plant. So, for example, there is an assumption that collection made in 1853 by F.V. Hayden at Fort Pierre, South Dakota (MO) to have come from a cultivated plant (Hinds & Freeman 2005).

P. orientalis is an adventive species for Russia distributed there in the European part and the Far East (Komarov 1936, Majorov et al. 2012, Golovanov & Muldashev 2017). It is growing mainly along roadsides, near houses, on wastelands (Komarov 1936). The species previously was not cited for Siberia.

Taxonomical notes

P. orientalis belongs to the section *Amblygonon* (Meisn.) Tzvelev (Tzvelev 1988, 1989), which contain 2 species (*P. orientalis* and *P. pilosa* (Roxb.) Kitag.). The main feature of the section is a greenish and bent out tips of ocreas. Species belonging to this section have larger flowers than those of sect. *Persicaria* (Tzvelev 1988).

P. orientalis have less abundant downiness of stem and leaf (with more pressed trichomes) than *P. pilosa*. The inflorescence length of *P. orientalis* is 5–10 cm, while *P. pilosa* has 2.5–6 cm. The perianth *P. orientalis* has a brighter color (hot pink or almost red) and some larger. Both species have two stigmas, but the stylodium of *P. orientalis* is much shorter, only 0.2–0.6 mm (*P. pilosa* has 0.8–1.5 mm) (Tzvelev 1989).

Examined specimens (new record)

RUSSIA: Irkutsk Province, Irkutsk City, Novo-Lenino microdistrict, crossing of 6th Soviet Lane and Telman street, 52°20'18.70"N 104°11'44.68"E, an abandoned wasteland, two meters from the road, 08.25.2018, coll. V.V. Murashko. 52910-52913 (IRK): **39**.

Thalictrum amurense Maxim. (Ranunculaceae)

Contributors: Alexander N. Luferov & Nikolai V. Friesen

Distribution and habitat

Thalictrum amurense Maxim. is not listed in the reports on the flora of Japan (Ohwi 1965, Emura 1972, Tamura 1972, Kadota 2006). This species was considered to grow only on the mainland: in the Russian Far East – Primorsky Territory and Khabarovsk Territory, Amur Province, Jewish Autonomous Province, and in Northeast China and the Korean Peninsula (Luferov 1992, 2004, 2015, 2016). It grows in upland and floodplain meadows, forest edges and along roadsides (Luferov 1995).

Taxonomic notes

The species independence of *T. amurense* was not previously recognized by some botanists: this species was considered as a synonym for *T. simplex* L. (Komarov 1903),

T. simplex var. *affine* (Ledeb.) Regel (Regel 1861, Kitagawa 1979) or *T. flavum* L. (Nevski 1937, Emura 1972). At present, taxonomic isolation of *T. amurense* is confirmed by morphological, anatomical, ecological-geographical, phenological and biochemical features (Woroshilov 1961, 1982, Ponomarchuk & Ulanova 1977; Lufarov 1992, 1995). Views towards relationships of the *T. amurense* family are different: V.N. Woroshilov (1961) noted that this species is close to *T. simplex*, *T. flavum* and *T. angustifolium* Jacq. (primarily called *T. lucidum* L.). According to Ponomarchuk & Ulanova (1977), only *T. simplex* is the closest species to *T. amurense*.

T. amurense is a plant up to 220 cm tall, with short underground rhizomes and bunches of numerous lemon-yellow adventitious roots; sometimes with thin stoloniferous rhizomes up to 30 cm long. Stems straight, ribbed, branched at the top and slightly wavy. Leaves 5–20 cm long, 3–12 cm wide, oblong-triangular, bipinnate or tripinnate, biternate or triternate, appressed to the stem; 1–4 basal leaves, wide-triangular, reclined from the stem. Leaflets 2–7 cm long, 0.5–1.5 cm wide, oblong-ovate, lanceolate, oblong-rhombic, 3–5-dentate, base cuneate; blades dark green and shiny on the upper surface, light green and dull beneath, with sharply protruding veins. Inflorescence a narrow pyramidal panicle. Pedicels 2–4(6) together, straight or slightly curved, 0.4–1.2 cm long. Tepals and anther filaments light yellow. Stamens 3–5 mm long. Anthers linear, 1–2 mm long. Pistils 5–12 in number, style oblong-triangular. Achenes 3–3.5 mm long, 1–1.5 mm wide, ovoid or elliptical.

Examined specimens (new records)

The study of herbarium collections stored at the V.L. Komarov Botanical Institute (St. Petersburg) allowed identification of samples of *T. amurense* for the first time for Japan. Their labels are listed below: “Japonia, Nagasaki, inter Idzinohari et Kundsho-san, 23 Septem. / 5 Okt. 1863, coll. Maximowicz” (LE): **40**; “Hondo, Koshigaya in Kotsuke, 28 Jul. 1951, №. 321, coll. J. Ohwi” (LE): **41**.

Vicia bithynica (L.) L. (Fabaceae)

Contributor: Ramazan A. Murtazaliev

Distribution and habitat

The common range of the species covers the Mediterranean countries, in many of which it is invasive. In the Caucasus, the species is distributed in Azerbaijan and Georgia (Grossheim 1952). Within the Russian Federation, it is known in the Krasnodar Territory (along the Black Sea coast), and the species is also found in the Crimea (Yena 2012). Previously, the species was not presented for the flora of Dagestan (Murtazaliev 2009). New locations identified for the territory of Dagestan on charges stored in the Herbarium of the Komarov Botanical Institute of RAS (LE). Three localities were identified in South Dagestan: two points in the vicinity of Derbent and one in the valley of the Samur River.

Taxonomic notes

Annual plant with few-flowered brush, which is longer than leaves. It differs from other species by large up to 10 mm or more, sharply toothed-notched stipules.

Examined specimens (new record)

RUSSIA: [Republic of Dagestan, Akhtynsky District] in rivulorum littore pr. pagum Zrych, 16.06.1830, coll. C.A. Meyer s. n. (LE): **42**; Prov. Dagestan, Derbent, in herbosis angustiarum Sary-Kaja, 22.04.1902, coll. [F.N.] Alexeenko s. n. (LE): **43**; Prov. Dagestan, Derbent, ad viam versus p. Sabnova, 30.04.1902, [F.N.] Alexeenko s. n. (LE): **44**.

Viola hirta L. (Violaceae)

Contributors: Denis A. Krivenko & Alla V. Verkhozina

Distribution and habitat

V. hirta is found in Caucasus, irregularly throughout Europe (mainly in the southern part), including European

Russia, in southern Siberia (Valentine et al. 1968, Nikitin 1996, Nikitin & Silantieva 2006) and is also known isolated from a location in the Chinese province of Xinjiang (Shu 2007). The eastern boundary of the species range is in Republic of Khakassia and Krasnoyarsk Territory (Vyltsan 1977). Earlier, the species was also indicated for the territory of the Irkutsk Province by M.G. Popov (1957), however, it was not cited in later floristic works on the flora of Siberia (Ivanova 1979, Zuev 1996, 2012).

The first reliable finding of *V. hirta* in the Irkutsk Province was made by us in 2009 on the border of the Irkutsk Province and the Krasnoyarsk Territory, in the vicinity of the village of Shelaevo on a railway embankment. In 2015, the species was collected at this location again, but in a birch forest. Probably in the west of the Irkutsk Province passes the eastern boundary of the range of this species.

V. hirta grows in sparse forests, in thicket of shrubs, on edge of forests and grass of slopes as well as like most species of violets in disturbed habitats.

Taxonomic notes

V. hirta is a close relative of *V. collina* Besser and *V. thomasiana* Songeon & E.P. Perrier. All of them belong to the section *Viola*. These taxa differ mainly in the character of leaf blades: round heart-shaped, maximum width near the middle in *V. collina* vs. oblong-triangular heart-shaped, maximum width is in its lower third in *V. hirta* and *V. thomasiana*, and in stipules: long fringed, ciliated *V. collina* vs. whole or short-fringed, not ciliated. In turn, *V. thomasiana* are more miniature plants than *V. hirta* (Nikitin & Silantieva 2006).

Examined specimens (new records)

RUSSIA: Irkutsk Province, Tayshetsky District, NE vicinity of Shelaevo village, 56°55'53.6"N 97°41'08.8"E, railway mound, 21.06.2009, coll. A.V. Verkhozina 47509, 52946 (IRK): **45**; Irkutsk Province, Tayshetsky District, behind of Shelaevo village, Solonechnoye Lake, left bank of Biryusa River, 56°55'57.41"N 97°40'52.79"E, tall grass of birch forest, 26.07.2015, coll. D.A. Krivenko 41871 (MW), 41872 (VLA), 41873 (IRK): **46**.

Viola suavis M. Bieb. (Violaceae)

Contributor: Denis A. Krivenko

Distribution and habitat

V. suavis s. l. is a species native in forests, forest edges and other shady places in S Europe, Caucasus, Asia: N West and W Middle (Yuzepchuk 1949, Valentine et al. 1968). In Russia, the species is found in south of European and Caucasian parts. The eastern boundary of its range passes in Saratov Province (Nikitin 1996, 2014). Earlier this species for Asian Russia was not known, as well as other species of violets with stolons belonging to the section *Viola* (Zuev 2012). Only in 2015, an endemic species for Altai Territory *V. taynensis* T. Elisafenko & Ovczinnikova from a typical section was described (Elisafenko 2015, Elisafenko & Ovczinnikova 2015). The last taxon, however, is doubtful, and in need of further study.

V. suavis has the potential for secondary distribution, so it was discovered as adventive species in northern European countries of Norway (Marcussen & Nordal 1998) and Poland (Nobis et al. 2015). The location of *V. suavis* we discovered in Siberia is clearly secondary, since it was herbarized in forest plantations of *Pinus sylvestris* L. The final conclusion about the origin of this species in Siberia can be made, probably, after a detailed examination the ribbon-like pine forest on Kasmala River adjacent to forest plantations of *P. sylvestris*.

Taxonomic notes

Viola suavis is most similar to *V. taynensis* and *V. odorata* L. The three species can be easily confused. These taxa differ

mainly in the character of stipules, in stolons and in color of flowers (Yuzepchuk 1949, Nikitin 2014, Elisafenko 2015). Stipules of long fringed-ciliated, flowers of half purple and white, stolons of short and stout in *V. suavis* vs. stipules short fringed or whole, flowers purple, stolons of long, procumbent and rooting in *V. taynensis* and *V. odorata*.

Examined specimens (new records)

RUSSIA: Altai Territory, Rebrikhinsky District, between Voronikha and Rozhnev Log villages, 52°47'47"N 82°20'33"E, forest plantations of *Pinus sylvestris*, 27.09.2018, coll. D.A. Krivenko 52924, 52925 (IRK), 52926 (MW): 47.

Thymus gobi-altaicus (N. Ulziykh.) Kamelin & A.L. Budantzev (Labiatae)

(≡ *Th. gobicus* subsp. *gobi-altaicus* N. Ulziykh.)

Contributors: Andrey Yu. Korolyuk, Stepan A. Senator, Evgenii G. Zibzeev & Vladimir M. Vasjukov

Distribution and habitat

Th. gobi-altaicus is a rare and endemic species of South-West Mongolia. Until recently it was known only by type specimen "P.R.M. Gobi-Altai, jugum Arcz-Bogdo, montana Bag-Bajan, montana-steppe, in schistosis unacum *Juniperus pseudosabina*, 10 August 1967, coll. N. Ulziykhutag, P. Aygangonor" (UBA).

Taxonomic notes

The dwarf shrub with stems ending with a lying vegetative shoot. The stems are smoothly tetrahedral, evenly pubescent along the entire length with short hairs. Generative shoots are unbranched. Leaves are elliptical-lanceolate, up to 2 mm wide, with entire edges, petiolate, densely pubescent with long hairs above and below. Inflorescence is compact. The calyx reaches a length of 4.5–5 mm in flowering time.

Th. gobi-altaicus is mostly close to *Th. gobicus* Tscherneva s. str. (leaves are 2–3 mm wide, pubescent above and naked below). According to Kamelin & Budantsev (1990), *Th. gobi-altaicus* belongs to the series *Praeserpylla* Klokov, which includes mostly Far Eastern species with pubescent leaves, and differs from other species of this series by sparser and shorter pubescence of stalks, narrower leaves coated only by long hairs vs. both long and short hairs in other species. *Th. gobi-altaicus* is possibly similar to the South Altai species *Th. narymensis* Serg., from which it differs by a larger calyx.

Examined specimens (new records)

MONGOLIA: Taishir, 1637 m a.s.l., 46°42'18.4"N 96°34'51.2"E, 21.07.2018, coll. A.Yu. Korolyuk, S.A. Senator, E.G. Zibzeev (MW, PVB): 48.

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