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Findings to the flora of Russia and adjacent countries: New national and regional vascular plant records, 4

Alla V. Verkhozina[1]*, Andrey V. Anisimov[2], Natalya Yu. Beshko[3], Roman Yu. Biryukov[4], Victoria V. Bondareva[5], Dmitry V. Chernykh[4], Nikolay V. Dorofeev[1], Vladimir I. Dorofeyev[6], Alexandr L. Ebel[7,8], Andrey N. Efremov[9], Andrey S. Erst[7,8], Husniddin K. Esanov[10], Irina G. Esina[11], Alexander V. Fateryga[12], Valentina V. Fateryga[12], Valeria A. Fomenko[13], Natalia S. Gamova[14,15], Alim D. Gaziev[3], Valerii A. Glazunov[16], Alisa E. Grabovskaya-Borodina[6], Vladislav N. Grigorenko[17], Anvarbek M. Jabborov[3], Olga G. Kalmykova[18], Olga A. Kapitonova[19], Alexey A. Kechaykin[2], Anatoliy A. Khapugin[11,20], Oleg N. Kholodov[21], Mariia G. Khoreva[22], Natalia O. Kin[18], Andrey Yu. Korolyuk[8], Elena A. Korolyuk[8], Yuri N. Korotkov[15], Petr A. Kosachev[23], Irina V. Kozyr[15], Mariia A. Kulagina[24], Nina V. Kulakova[1], Igor V. Kuzmin[20], Nikolay N. Lashchinskiy[8], Georgii A. Lazkov[25], Alexander N. Luferov[13], Dmitrii N. Malov[5], Elena A. Marchuk[26], Ramazan A. Murtazaliev[27], Marina V. Olonova[7], Svetlana V. Ovchinnikova[8], Yurii V. Ovchinnikov[8], Dmitry K. Pershin[4], Irina M. Peskova[28], Nataliya V. Plikina[29], Andrei I. Pyak[7,30], Elizaveta A. Pyak[7], Alexey V. Salokhin[26], Stepan A. Senator[31], Dmitry N. Shaulo[8], Alexander I. Shmakov[2], Sergei V. Shumilov[13], Sergei V. Smirnov[2], Vladimir A. Sorokin[13], Nadezhda V. Stepantsova[32], Sergey A. Svirin[33,34], Dilarom M. Tajetdinova[3], Natalia A. Tsarenko[26], Vladimir M. Vasjukov[5], Andriy V. Yena[35], Dmitry V. Yepikhin[35], Pavel E. Yevseyenkov[35], Wei Wang[37,38], Dmitry V. Zolotov[4], Elena Yu. Zykova[8], Vladislav V. Murashko[1] & Denis A. Krivenko[1]

[1] Siberian Institute of Plant Physiology and Biochemistry SB RAS, Irkutsk, Russia
[2] Altai State University, Barnaul, Russia
[3] Institute of Botany, Academy Sciences of Uzbekistan, Tashkent, Uzbekistan
[4] Institute for Water and Environmental Problems of SB RAS, Barnaul, Russia
[5] Samara Federal Research Scientific Center of the RAS, Institute of Ecology of the Volga River Basin of the RAS, Togliatti, Russia
[6] Komarov Botanical Institute RAS, St. Petersburg, Russia
[7] National Research Tomsk State University, Tomsk, Russia
[8] Central Siberian Botanical Garden SB RAS, Novosibirsk, Russia
[9] Research Center of Fundamental and Applied Problems of Bioecology and Biotechnology of Ulyanovsk State Pedagogical University, Ulyanovsk, Russia
[10] Bukhara State University, Bukhara, Uzbekistan
[11] Joint Directorate of the Mordovia State Nature Reserve and National Park "Smolny", Saransk, Russia
[12] Vyazemsky Karadag Scientific Station – Nature Reserve of RAS – Branch of Kovalevsky Institute of Biology of the Southern Seas of RAS, Feodosiya, Russia
[13] Sechenov First Moscow State Medical University, Moscow, Russia
[14] Lomonosov Moscow State University, Moscow, Russia
[15] Baikalsky State Nature Biosphere Reserve, Tankhoy, Republic of Buryatia, Russia
[16] Tyumen Scientific Centre SB RAS, Tyumen, Russia
[17] Independent researcher, Simferopol, Russia
[18] Steppe Institute of the Orenburg Federal Research CenterUB RAS, Orenburg, Russia
[19] Tobolsk complex scientific station UB RAS, Tobolsk, Russia
[20] Tyumen State University, Tyumen, Russia
[21] Independent researcher, Omsk region, Russia
[22] Institute of the biological problems of the North FEB RAS, Magadan, Russia
[23] South-Siberian Botanical Garden, Altai State University, Barnaul, Russia
[24] National University of Pharmacy, Department of Botany, Kharkiv, Ukraine
[25] Institute of Biology, National Academy of Sciences, Bishkek, Kyrgyzstan

ABSTRACT

With this paper we continue 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. In total, this paper presents new records for 48 vascular plant species from 6 Eurasian countries, obtained during field explorations, as well as during taxonomic revisions of herbarium materials. For the first time, a new locality of *Leontopodium leiolepis* is recorded for Russia, *Rheum uzengukuushi* for China, *Rorippa prolifera* for Lithuania, *Lappula marginata* for Kyrgyzstan and Tajikistan, *Anthriscus caucalis*, *Chenopodium ficifolium*, *Euphorbia prostrata* for Uzbekistan, *Adonis* × *hybrida*, *Potamogeton* × *franconicus*, *Solidago* × *niederederi* for the Asian part of Russia, *Echinochloa esculenta*, *Poa jamalinensis*, *Puccinellia poecilantha* for Siberia, *Potentilla intermedia* for the Caucasus, *Rhynchospora alba* for the Russian part of Altai, *Poa sphondylodes*, *Veronica beccabunga* for Eastern Siberia, *Asclepias syriaca* for the Republic of Altai, *Chimaphila umbellata*, *Orobanche korshinskyi*, *Veronica scutellata* for the Republic of Buryatia, *Cirsium alatum*, *Thalictrum simplex* for the Republic of Crimea, *Thymus rariflorus*, *Th. terekensis* for the Republic of Ingushetia, *Berberis thunbergii*, *Crataegus maximowiczii*, *Prunus serotina* for the Republic of Mordovia, *Oenothera villosa* for the Republic of Tatarstan, *Astragalus sulcatus*, *Galium mollugo* for the Republic of Tyva, *Phragmites altissimus* for the Chelyabinsk Region, *Senecio dubitabilis* for the Magadan Region, *Asclepias syriaca*, *Galatella villosa*, *Potentilla recta* for the Novosibirsk Region, *Dodartia orientalis* for the Omsk Region, *Viola hultenii* for the Sakhalin Region, *Phragmites tzvelevii* for the Samara Region and the Middle Volga, *Jacobaea erganensis* for the Samara Region, *Carex media*, *Impatiens parviflora* for the Tyumen Region. There are some more findings which are not new for the region but they contribute significantly to the understanding of species distribution.

Keywords: floristic findings, taxonomy, Russia, China, Kyrgyzstan, Lithuania, Tajikistan, Uzbekistan

РЕЗЮМЕ

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[26] Botanical Garden-Institute FEB RAS, Vladivostok, Russia

[27] Caspian Institute of Biological Resources of the Dagestan Federal Research Center of the RAS, Makhachkala, Russia

[28] Moscow State Pedagogical University, Moscow, Russia

[29] Omsk State Pedagogical University, Omsk, Russia

[30] Tuvan State University, Kyzyl, Russia

[31] Tsitsyn Main Botanical Garden, RAS, Moscow, Russia

[32] Irkutsk State University, Irkutsk, Russia

[33] Urban Development Institute, Sevastopol State University, Sevastopol, Russia

[34] Nikitsky Botanical Garden – National Scientific Center, Yalta, Russia

[35] Vernadsky Crimean Federal University, Simferopol, Russia

[36] Independent researcher, Sevastopol, Russia

[37] University of Chinese Academy of Sciences, Beijing, China

[38] Institute of Botany, Chinese Academy of Sciences, Beijing, China

* corresponding author

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Мы приглашаем авторов участвовать в дальнейшем развитии этого раздела. Пожалуйста, присылайте материалы ответственному редактору раздела Алле Васильевне Верхозиной (allaverh@list.ru).

Ключевые слова: флористические находки, таксономия, Россия, Китай, Кыргызстан, Литва, Таджикистан, Узбекистан

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Adonis × *hybrida* G. Wolff ex Simonk. (Ranunculaceae)

Contributors: Andrey S. Erst, Sergey V. Smirnov & Wei Wang

Distribution and habitat. *A.* × *hybrida* (*A. vernalis* L. × *A. volgensis Steven ex DC.*) is currently known to occur only at five locations in Central Europe, two in Romania, and three in Hungary (Jakab 2003, Jakab & Sallaine Kapocshi 2005). By contrast, recent molecular data showed that this species is absent in Hungary (Sramkó et al. 2012). The classic habitat of *A.* × *hybrida* is Cluj Napoca (Szénafüvek), Romania (Szabo 1977, 1978). According to Luferov (2020), hybridogenic species is present in some areas of the Central Black Earth Economic Region (Russia: Voronezh, Lipetsk, and Kursk Regions); Ukraine and Bulgaria. In Russia, it has been also reported in the Volga River basin (Rakov et al. 2014, Vasjukov & Saksonov 2020).

Taxonomic notes. *A.* × *hybrida* is a hybridogenic species of *A. vernalis* × *A. volgensis*. *A. vernalis* is characterized by filiform-linear or linear, bare leaves (the sheath and rachis of the leaf may be pubescent), a bright green color of young shoots, pubescent sepals, golden-yellow flowers, 4–5 cm in diameter, oval multiachenes, and hook-shaped bent down persistent stylodia. *A. volgensis* characters linear-lanceolate, sometimes almost lanceolate, tucked under the edge, pubescent leaf lobes, grayish-green and densely pubescent young shoots, pubescent sepals; pale yellow flowers 3.5–4.5 cm in diameter; rounded multiachenes directly bent down and pressed by persistent stylodia. *A.* × *hybrida* has intermediate characteristics. It should be noted that the apex of petals in *A. vernalis* is rounded, whereas in *A. volgensis*, it is acute. In *A.* × *hybrida*, the petal apex is most often acute, and the pubescence of the stems is scattered not dense.

Examined specimen (new record). RUSSIA: Altai Territory, Pavlovsky District, village Sibirskiye Ogni, 53°19'32.7"N 83°03'28.9"E, forest steppe with shrubs, 182 m a.s.l., 23.05.2021, coll. A.S. Erst & S.V. Smirnov (NS).

Aldrovanda vesiculosa L. (Droseraceae)

Contributor: Andrey N. Efremov

Distribution and habitat. *A. vesiculosa* is a polyzonal species with a range covering Europe, Central and East Asia, Central Africa, Australia and North America (introduced). It occurs sporadically throughout its range (GBIF Secretariat 2021a). The total world range (EOO) is 25,1219 million sq km, the Palaearctic range area is 12,5382 million sq km (Murphy et al. 2019). In Russia, the area is disjunctive. The species grows within the European part, the Ciscaucasia (Leningrad, Pskov, Voronezh, Kursk, Lipetsk, Astrakhan, Volgograd, Tambov Regions, Krasnodar Territory), and the south of the Far East to the basin of the Amur River − the estuarine areas of the Ussuri, Zeya and Bureya Rivers (Amur Region, Primorsky and Khabarovsk territories). The protection status is "rare

species" (Geltman 2008). In the Khabarovsk Territory, it occurs in oxbows, estuarine bays of the Ussuri, Khor, Kiya and Tunguska Rivers (Khabarovsk, Bikin, Lazo districts) (Geltman 2008, Kryukova 2019a).

A. vesiculosa inhabits shallow (0.2–0.6 m) stagnant, well-warmed and illuminated water bodies (lakes, oxbows, in river creeks, overgrown reclamation canals, usually in areas with weak flowing or stagnant water, often at the edge of floating mats). This species prefers slightly mineralized, soft water, with an acidic or neutral reaction (pH 4.5–7.6), and a high content of humic and fulvic acids. It is not restricted to any particular depth because of its submerged habit, whereby it grows just beneath the water surface. It can form large masses, especially among thickets of helophytes (Adamec 1997, Geltman 2008, Les 2018, Kryukova 2019a). Isolated from the main range, the new habitat limits the northern boundaries of the distribution of this species in the Far East. The habitat features are given in the description of the *Brasenia schreberi* below.

Taxonomic notes. While the genus *Aldrovanda* is monotypic, there are up to 19 extinct species in the fossil record. Though the species displays some degree of morphological plasticity between populations, genetic studies, using a variety of different markers have shown little variation to exist worldwide, with only two haplotypes detected. The Eurasian populations are essentially distinquished from the others but overall polymorphism is low otherwise. Moreover, phylogenetic studies consistently resolve the monotypic *Aldrovanda* as the sister group of *Dionaea*, which also is monotypic (Adamec 1997, Les 2018).

Examined specimens (new records). RUSSIA: Khabarovsk Territory, Verkhnebureinsky District, 5.3 km NE from the settlement of Novy Urgal, left side of the valley of the Bureya River, an unnamed oxbow near reserve road of the Baikal-Amur Railroad, 51°05'29.2"N 132°30'34"E, 270 m a.s.l., depth 0.5–2.5 m, fine silt on a sandy base, phytocenoses *Brasenia schreberi* and *B. schreberi* + *Nymphaea tetragona*, 13.07.2020, ib. 17.07.2020, coll. A.N. Efremov (IBIW, MW).

Anthriscus caucalis M. Bieb. (Apiaceae)

Contributors: Natalya Yu. Beshko & Alim D. Gaziev

Distribution and habitat. *A. caucalis* was described from Europe as *Scandix anthriscus* L. (Spalik 1997). Its native range includes Europe, Mediterranean, north-western Africa, Asia Minor and Caucasus, and the species is introduced to North and South America, Australia, New Zealand, Japan, Korea and Central Asia (Schischkin 1950, Spalik 1997, GBIF Secretariat 2021b, POWO 2022). In Central Asia, *A. caucalis* has been recorded for the first time in 2004 from Bishkek, Kyrgyzstan (Lazkov & Redina 2007). In 2021, it has been found in the Almaty Region of Kazakhstan (iNaturalist contributors, iNaturalist 2022a).

Pimenov (1983) reported for Central Asia following three representatives of the genus *Anthriscus* Pers. – annual *A. cerefolium* (L.) Hoffm. and two perennial species, *A. glacialis* Lipsky and *A. sylvestris* (L.) Hoffm. In the first edition of the "Flora of Uzbekistan" (Korovin 1959), two species of the genus *Anthriscus*, *A. sylvestris* and *A. glacialis*, have been cited as "probably present". Later, the occurrence of *A. cerefolium*, *A. glacialis* and *A. sylvestris* in Uzbekistan has been confirmed by herbarium specimens (Tojibaev 2010).

A. caucalis is a weed which grows mostly in ruderal places and other secondary habitats, but in mountainous regions of Italy, Spain, southern France and Caucasus, it also can be found in natural habitats as calcareous screes, rocks, ravines, stony slopes, shrublands and entrances to caves (Schischkin 1950, Spalik 1997). In Central Asia, *A. caucalis* occurs in urban areas and inhabits front gardens, wastelands, ruderal places along sidewalks and roads. According to the classification of alien plants used in Russia and other countries of the former USSR (Vinogradova et al. 2009, Baranova et al. 2018), in Uzbekistan, this species is xenophyte by the mode of introduction and colonophyte by the invasive status, i.e. unintentionally introduced and naturalized species that grows mostly in secondary habitats. In accordance with the IUCN Environmental Impact Classification for Alien Taxa (EICAT) Categories and Criteria (IUCN 2020), status *A. caucalis* can be assessed as Minimal Concern (MC).

Another annual representative of the genus in Central Asia, *A. cerefolium*, occurs in shady gorges, among riparian woodlands in Western Tien Shan, Pamir-Alay and Kopet-Dag, and as a weed in gardens, ruderal places and along roads. Both perennial species, *A. glacialis* and *A. sylvestris*, grow in natural habitats in mountain areas, in middle and upper altitudinal zone, up to 3200–3300 m a.s.l. (Pimenov 1983).

Taxonomic notes. *A. caucalis* is poisonous annual herb up to 75–80 cm tall. This species well differs from *A. cerefolium* by glabrous (not hispid) rays of umbels and umbellets, pedicels distinctly thickened at fruits, a crown of bristles at the base of the flowers and fruits, and ovate or pyriform fruits 2.5–3.5 × 1.5–2 mm with a beak about 0.5–0.7 mm long, covered with tuberculate hooked bristles, rarely smooth (not oblong to linear, 7–10 × 1.5 mm with a beak 1.8–2 mm long, smooth or covered with antrorse bristles). In addition, fresh leaves of *A. cerefolium* have a characteristic anise smell, while leaves of *A. caucalis* are odorless (Schischkin 1950, Spalik 1997).

Examined specimens (new records). UZBEKISTAN: II-2 Middle-Syrdarya district. II-2-a Chinaz region: the city of Tashkent, Mukimi St., ruderal place [41°17'52"N 69°12'54"E], 27.04.2014, coll. A.D. Gaziev (TASH); Tashkent, Chilanzar-7, along sidewalks and roads [41°17'43"N 69°12'41"E], 10.04.2019, coll. A.D. Gaziev (TASH); Tashkent, Yunusobod-2, [41°21'40"N 69°17'08"E], 27.04.2019, coll. A.D. Gaziev (TASH); Tashkent, Yashnobod District, Sulola St., in the front garden [41°18'48"N 69°19'02"E], 04.05.2021, coll. N.Yu. Beshko (TASH). Herbarium specimens cited here and below are arranged according to the scheme of phytochoria of Uzbekistan used in the second edition of the national "Flora" (Sennikov et al. 2016, Tojibaev et al. 2017).

Artemisia scoparia Waldst. & Kit. (Asteraceae)

Contributors: Sergei V. Shumilov, Alexander N. Luferov, Irina M. Peskova, Valeria A. Fomenko & Vladimir A. Sorokin

Distribution and habitat. *A. scoparia* is an Eurasian species distributed from Atlantic and Northern Europe, the Mediterranean region (the Balkan Peninsula), Asia Minor, Iran and Central Asia to the Pacific Ocean. In Russia it can be found in the European part, in the Caucasus, in the south of Western and Eastern Siberia and the Far East (Primorye Territory and Amur Region), predominantly in the forest-steppe and the steppe zones, in river valleys, on fine earth, limestone, sandy or stony substrates, on roadsides and wastelands (Korobkov 1992, Leonova 1994, Krasnoborov 1997).

A. scoparia was stated for Prioksky, South-Eastern, Zaoksky, Eastern botany-geographical districts as well as adventitious along railways (Voroshilov 1966) and in valleys of the Oka, the Moskva, the Klyazma rivers and their major tributaries (Tikhomirov & Chichev 1987). Herbarium collections are known only from the Serpukhov and Kolomna Districts.

Our study of the flora of Moscow and Kaluga Regions in 2020–2021 resulted in finding the new locations of *A. scoparia* in the Oka valley and adjacent territories. The plants were found in natural communities on sandy substrate on the margins of pine (*Pinus sylvestris* L.) forests in forbs and steppe meadows with *Alopecurus pratensis* L., *Phleum phleoides* (L.) Karst., *Dianthus fischeri* Spreng., *Astragalus danicus* Retz., *Cytisus ruthenicus* Fisch ex Woloszczak, *Phlomis tuberosa* L. The specimens from aboriginal populations from the south of the Moscow Region collected in the Lukhovitsky and Serebryano-Prudsky urban districts are presented for the first time.

A. scoparia was denoted by Flerov (1912) for the Tarusa District of the Kaluga Region without evidence by plant collections. Later the species has not been found there (Reshetnikova et al. 2010). A reliable herbarium specimen of *A. scoparia* for the Tarusa District is presented for the first time. The cited herbarium specimens confirm that the northern boundary of the range of *A. scoparia* in the Moscow and Kaluga Regions passes along the valley of the Oka River.

Taxonomic notes. *A. scoparia* (subgenus *Dracunculus* (Bess.) Peterm., section *Campestres* Korobkov) is the most closely related to *A. campestris* L. These species are well distinguished by the life form (*A. scoparia* is an annual, biennial, or sometimes perennial herb (Fedoskin 1974), A campestris is a subshrub, rarely a perennial herb), by the size of aboveground shoots (in *A. scoparia* shoots are 50–130 cm tall, in *A. campestris* – 20–70 cm tall), by the stem colour (reddish-purple in *A. scoparia* stems, green in *A. campestris*), by the shape and diameter of the capitula (spheric or broadly ovoid, 1.5–2 mm in diameter in *A. scoparia*, ovoid, 2.2–3 mm in diameter in *A. campestris*).

Examined specimens (new records). RUSSIA: Kaluga Region, Tarusa District, 7 km south of the Tarusa River, barrier beach of the first riverine terrace on the left bank of the Oka River, 54°69'19.4"N 37°21'97.8"E, 18.10.2020, coll. S.V. Shumilov, A.N. Luferov (MHA); Moscow Region, Lukhovitsky urban district, the settlement of Kadanok, 54°99'53.8"N 39°33'49.1"E, a copious population in the forest plantations on the southern outskirt of the settlement, 08.08.2021, coll. S.V. Shumilov & A.N. Luferov (MHA); Moscow Region, Lukhovitsy urban district, the settlement of Beloomut, a copious population in the forest plantations on the northern outskirt of the settlement, 54°95'74.7"N 39°32'69.8"E, 08.08.2021, coll. S.V. Shumilov & A.N. Luferov (MHA); Moscow Region, Serebryanye Prudy urban district, 54°40'73.6"N 38°52'50.0"E, sparse plants in the high bank of the Polosnya River in the vicinity of the village of Lishnyagi, 10.10.2021, coll. S.V. Shumilov & A.N. Luferov (MHA).

Asclepias syriaca L. (Apocynaceae)

Contributors: Elena Yu. Zykova & Aleksandr L. Ebel

Distribution and habitat. The native area of *A. syriaca* covers North America and adjacent areas of Canada (Hartzler & Buhler 2000, USDA, NRCS, 2022). This was experimentally cultivated as a rubbery species, and now it is cultivated as ornamental and melliferous plant. The species has widely settled in the countries of Central and Southern Europe, where it is currently an invasive species prohibited for cultivation (Verloove 2006, Bagi 2008, Pyšek et al. 2012, Bacieczko et al. 2013, Protopopova & Shevera 2014, CABI 2022, EPPO 2022). It grows in groups in open habitats such as meadows, wastelands, fields, fallow lands, also along roads, etc. It is an aggressive persistent weed containing substances that are toxic to livestock and poultry (White 1996, Anderson 1999). The plant produces many seeds with long flies that are carried over long distances by the wind. High seed viability, active vegetative reproduction, and the ability to form floristically poor phytocenoses determine the potential invasiveness of the species and indicate a serious threat to native species and natural communities (White 1996, Dvirna 2016). In Russia, it is recorded as an adventive species in several regions of the middle zone of the European part (Maevskii 2006). In Moscow, it blooms regularly, but sets fruit only occasionally (Mayorov et al. 2012). In Siberia, as an abandoned culture, it was found in the Krasnogorsk District of the Altai Territory (Terekhina 1998), where it is still growing (iNaturalist contributors, iNaturalist 2022b). In the new localities that we discovered, *A. syriaca* forms extended monospecific populations.

Taxonomic notes. The genus *Asclepias* belongs to the subfamily Asclepiadoideae in the Apocynaceae family (Endress & Bruyns 2000). *A. syriaca* is the most widespread and numerous species of the genus (Hartzler & Buhler 2000). It is a perennial with strong stems up to 2 m high, opposite leaves 10–20 cm long, 5–11 cm wide and fragrant flowers, collected in large multi-flowered (up to 120) inflorescences. All parts of the plant contain latex.

Examined specimens (new records). RUSSIA: Novosibirsk Region, Novosibirsk District, environs of Akademgorodok, mixed forest, adjacent to the old exposition areas of the Central Siberian Botanical Garden, 54°49'35.2"N 83°07'20.6"E, 27.09.2020, coll. E.Yu. Zykova (NS); Republic of Altai, the city of Gorno-Altaysk, along the trail to mount Tugaya, 51°57'39.0"N 85°57'12.0"E, 15.06.2021, coll. E.Yu. Zykova (NS).

Astragalus sulcatus L. (Fabaceae)

Contributors: Andrei I. Pyak & Elizaveta A. Pyak

Distribution and habitat. This species was described from Siberia and it is widespread within the forest-steppe regions of Eurasia (Knyazev 2007), including Austria, Romania, Moldavia, Ukraine, European part of Russian, Western Siberia, Kazakhstan, Mongolia, Northern China. However, it was not found from the territory of the Republic of Tyva. *A. sulcatus* is an optional halophyte. The species is confined to steppes, solonetsous meadows, outskirts of shrub swamps along the banks of rivers and lakes.

Taxonomic notes. *A. sulcatus* belongs to the section *Craccina* (Steven) Bunge which includes perennials with well-developed or rarely short stems, herbaceous or rarely subshrubby, with bifurcate white and black hairs. Stipules are free from the petiole or nearly so, connate behind the stem, sometime only the lower ones. Racemes are loose or more rarely dense, on a well-developed peduncle. Calyx is campanulas or shortly tubular-campanulate. Petals are purplish or violet, rarely white. Flowers are mostly small. Wings are longer than the keel. Legumes are sessile or shortly stipitate, from narrowly oblong to narrowly elliptic, grooved dorsally, incompletely to completely bilocular, more rarely unilocular (Bunge 1868). In the territory of the Republic of Tyva one more species of this section is represented – *A. brachybotrys* Bunge, from which *A. sulcatus* is distinguished by smaller flowers 6.5–8 mm long (vs 10–13 mm long), which are arranged in elongated loose racemose inflorescences (vs shortened round-ovate racemose inflorescences).

Examined specimens (new record). RUSSIA: Republic of Tyva, Mongun-Tayginsky District, 20 km SE from the village Mugur-Aksy, basin of Lake Uregnur, terrace above the floodplain on the right bank of the Kargy River, reclaimed land on a floodplain terrace, [50°15'53.18"N 90°40'03.55"E], 1635 m a.s.l., 24.07.2021, coll. A.I. Pyak & E.A. Pyak (TK).

Berberis thunbergii DC. (Berberidaceae)

Contributors: Irina G. Esina & Anatoliy A. Khapugin

Distribution and habitat. *B. thunbergii* is native to Central and Southern Japan (POWO 2022). It is widely cultivated as an ornamental plant that contributes to its distribution outside of the native range. This species is occurred non-frequently in Australia, Asia, South America, Africa, while the majority of *B. thunbergii* records is from Europe and North America (GBIF Secretariat 2021c). In North America, *B. thunbergii* is recognized as an aggressive invasive plant (Silander & Klepeis 1999). This East Asian species is widely cultivated in urban floras of Russia, although it was recorded only as cultivated species in the central part of european Russia, with exception of the Moscow Region (Maevskii 2014). *B. thunbergii* was never mentioned in floras of the Republic of Mordovia (Silaeva et al. 2010) or Mordovia State Nature Reserve (Borodina et al. 1987, Vargot et al. 2016). Surveying the forest-covered areas of the Mordovia State Nature Reserve, we found a high number of *B. thunbergii* individuals escaped into the wild within and outside (in the mixed forest natural communities) of the nursery woody plants area. We suppose the future dispersal of this species through the forest roads.

Taxonomic notes. In the Mordovia State Nature Reserve, both widely cultivated species *B. vulgaris* L. and *B. thunbergii* were cultivating in the nursery woody plants (Borodina et al. 1987). Of them, now *B. vulgaris* is actively dispersing and frequently occurred along forest roads (pers. observations). Probably, we may expect further dispersal of *B. thunbergii* in natural habitats of the Protected Area in future. In its turn, *B. thunbergii* includes many infraspecies taxa used as ornamental plants (POWO 2022, GBIF Secretariat 2021c), especially *B. thunbergii* var. *atropurpurea* Chenault, recognized as no less invasive plant in USA (Lubell & Brand, 2011). This points to the importance of monitoring of *Berberis* spp. in man-made and natural habitats.

Examined specimens (new record). RUSSIA: Republic of Mordovia, Temnikov District, former nursery woody plants

in the quarter 445 of the Mordovia State Nature Reserve, 54°43'16.7"N 43°12'20.0"E, 08.07.2021, coll. I.G. Esina & A.A. Khapugin (HMNR).

Brasenia schreberi J.F. Gmel. (Cabombaceae)

Contributor: Andrey N. Efremov

Distribution and habitat. *B. schreberi* is a polyzonal temperate-tropical species with a range covering southern Asia, Africa, North America, the north of South America, and Eastern Australia (GBIF Secretariat 2021d). The total world range (EOO) is 44,1579 million sq km, the Palaearctic range area is 7,85421 million sq km (Murphy et al. 2019).

There are 29 localities of the species in Russia. The protection status of *B. schreberi* is "endangered species" (Kryukova 2008). The local habitat of this Cretaceous relict is found in the south of Eastern Siberia (Irkutsk Region, suburbs of Gadalei, floodplain of the Iya River) (Chepinoga 2015). The main part of the range is located in the south of the Russian Far East (Amur Region, Jewish Autonomous Region, Primorye and Khabarovsk Territories). In the Khabarovsk Territory it is confined to the water bodies of the floodplains of the the Chirki and Urmi Rivers (Khabarovsk District), Kiya River (Lazo District), the Amur River (Nedostupnyye lakes system, Nanaisky District) (Kryukova 2008, 2019b). The new isolated habitat is the northernmost bondary of its distribution range in the Far East.

B. schreberi grows in well-warmed floodplain lakes (flooded only during high floods) at a depth of 2.5–3.0 m, with a thick layer of silty bottom deposits (Kryukova 2008, 2019b). It occupies a wide range of oligotrophic–mesotrophic habitats, which are characterized by low alkalinity (6.5–140 mg/L $CaCO_3$) and relatively low conductivity (20–250 μmhos/cm). The plants are turbidity-tolerant and possess phytotoxic properties, factors that may contribute to their frequently dominant growth pattern manifested as expansive monocultures in small lakes (Les 2018). In the Irkutsk Region it forms the association *Brasenio schreberi–Nymphaeetum tetragonae* (Chepinoga 2015).

The found habitat is located to the oxbow near the mouth of the Urgal River in the valley of the Bureya River and surrounded by a semifrutex sedge marsh. The surface area of the oxbow is 3.6 ha, the total projective cover (PC) of phytocenoses with *B. schreberi* is 50–60 %. The depth is 0.5–2.5 m, the bottom deposits are fine detrital silt on a sandy foundation. The communities are represented by pure thickets of *B. schreberi* (PC up to 90–100 %) or mixed (PC 60–80 %). The pleistophyte layer contains *Nymphaea tetragona* Georgi (10–15 %), *Calla palustris* L. (2–5 %); the hydatophyte layer contains *Aldrovanda vesiculosa* L. (5–10 %), *Utricularia multispinosa* (Miki) Miki (< 1 %, identified by A.A. Bobrov), *U. macrorhiza* Leconte (1–2 %), *U. intermedia* Hayne (1–2 %), *Eriocaulon chinorossicum* Kom., *Sparganium stenophyllum* Maxim. ex Meinsh., *Habenaria linearifolia* Maxim, *Myriophyllum ussuriense* (Regel) Maxim., *Triadenum japonicum* (Blume) Makino are found on floating mats along the shores. Waters are ultra-fresh hydrocarbonate-sodium, with the following characteristics: transparency − > 30.0 cm, colority − 5.3 degrees of colority, pH − 6.7 pH units, total hardness − 0.050 degrees of hardness, chemical oxygen consumption − 10.3 mgO/dm^3, permanganate oxidizability − 5.02 mg/dm^3, dry particles − 52, suspended solids − 34.63, sum of ions − 41, sodium and potassium (total) − 20.8, magnesium − 0.53, calcium − 0.13, ammonium − 0.48, total iron − 0.52, chlorides − 2.85, hydrocarbonates − 11.0, sulfates − 4.4 .mg/dm^3.

Taxonomic notes. Cabombaceae is a small family of only 2 genera (*Brasenia* Schreb. and *Cabomba* Aubl.), and the 6 species consist entirely of aquatic herbaceous perennials. Numerous phylogenetic studies have established the monophyly of the family and its resolution as the sister group to the Nymphaeaceae. *Brasenia* is monotypic. It has been allied with *Cabomba* on the basis of such shared morphological features as long, slender, sympodial stems; peltate floating leaves; small hypogynous flowers with apocarpous gynoecia, and few floral parts (Osborn & Schneider 1998, Les 2018).

Examined specimens (new records). RUSSIA: Khabarovsk Territory, Verkhnebureinsky District, 5.3 km north-east of Novy Urgal, left side of the valley of the Bureya River, an unnamed oxbow near reserve road of the Baikal-Amur Railroad, 51°05.487'N 132°30.578'E, 270 m a.s.l., depth 0.5–2.5 m, fine silt on a sandy base, phytocenoses *Brasenia schreberi* and *B. schreberi* + *Nymphaea tetragona*, 13.07.2020, ib. 17.07.2020, coll. A.N. Efremov (IBIW, MW).

Carex media R. Br. (Cyperaceae)

Contributor: Olga A. Kapitonova

Distribution and habitat. *C. media* is a Holarctic montane and hypoarctic species. It is quite widespread in Siberia (Shekhovtsova 2012). In Western Siberia, it is indicated for the Yamalo-Nenets Autonomous Okrug, Khanty-Mansi Autonomous Okrug – Yugra, Novosibirsk, Kemerovo Regions, Altai Territory (Malyshev 1990, Egorova 1999), Republic of Altai (Krasnoborov 2012), Tomsk Region (Vyltsan 1994). In the Urals, it is reported for the Sverdlovsk (Knyazev 1994, Knyazev et al. 2017) and Chelyabinsk (Kulikov 2010) Regions. Despite the extensive range, the species in all plain regions of Siberia belongs to rare taxa (Krasnoborov 2003, 2006, Knyazev et al. 2017). It is more common in the mountains of the forest zone (Egorova 1999). This species has not been previously recorded for the territory of the Tyumen Region (Glazunov et al. 2017).

Typical habitats of *C. media* are damp, swampy, often floodplain forests and shrubs, swampy meadows, river and stream banks (Egorova 1999). In the cited locality, the species was found in a swampy dark coniferous forest on the second terrace above the floodplain of the Irtysh River.

Taxonomic notes. The species belongs to the section *Microrhynchae* Drej ex L.H. Bailey (Egorova 1999). This is a turf sedge with purple-brown scaly and leaf-bearing sheaths at the base of the shoots. *C. media* is distinguished from a closely related arctoalpine species *C. norvegica* Retz. by taller stems up to 75 cm, larger size of saccules (2.6–3.3 mm, versus 1.8–2.6 mm in *C. norvegica*); scales are dark brown, with a purple tint and narrow light edges that are 1/3–1/2 shorter than the saccule (in *C. norvegica*, scales are entirely brown or black, ¼ shorter than saccule). In addition, in contrast to *C. norvegica*, in *C. media* saccule has clearly distinguished veins and smooth short (about 0.3 mm) beak (veins are absent in *C. norvegica*, beak is rough) (Malyshev 1990, Egorova 1999, Kulikov 2010).

Examined specimen (new record). RUSSIA: Tyumen Region, Tobolsk District, 0.65 km NW from the village Mikhailovka, 58°16'16"N 68°22'56"E, site "Clean swamp" ("Chistoe boloto"), swampy dark coniferous forest at the base of the root terrace of the Irtysh River, 22.06.2021; coll. O.A. Kapitonova (TOB, IBIW).

Chenopodium ficifolium Sm. (Amaranthaceae)

Contributors: Husniddin K. Esanov,
Dilarom M. Tajetdinova & Anvar M. Jabbarov

Distribution and habitat. *Ch. ficifolium* was described from wastelands and ruderal places in surroundings of London, United Kingdom (Sukhorukov et al. 2019, Mosyakin & de Lange 2020), the type material is probably lost. Although the species was described from England, it is an archaeophyte, non-native to this region. The primary range of *Ch. ficifolium* is tropical areas of south and south-eastern Asia. The species is introduced to temperate and subtropical regions of Eurasia, Japan, northwestern Africa, New Zealand, North and South America (Sukhorukov et al. 2019, Mosyakin & de Lange 2020, GBIF Secretariat 2022e, POWO 2022).

Ch. ficifolium is a weed growing in disturbed areas – wastelands, garbage dumps, roadsides, croplands, etc. (Sukhorukov et al. 2019, Mosyakin & de Lange 2020). It also occurs in some natural habitats, as river valleys and lakeshores (Nobis et al. 2018). The available data shows that this species has a rather low invasive potential (Nobis et al. 2018, Mosyakin & de Lange 2020). In Uzbekistan, it is xenophyte and epecophyte, unintentionally introduced and naturalized species that grows in secondary and some natural habitats. In accordance with the IUCN

Environmental Impact Classification for Alien Taxa (EICAT) Categories and Criteria (IUCN 2020), *Ch. ficifolium* can be assessed as alien species of minor impact (MN category).

Taxonomic notes. *Ch. ficifolium* is annual herb, erect, 20–50 cm tall. According to "Conspectus Florae Asiae Mediae" (Pratov 1972), the flora of Central Asia includes 19 species of *Chenopodium* L. s. l., and 10 species are recorded in Uzbekistan (Botschantzev 1953). Among them, the closest species to *Ch. ficifolium* is *Ch. album* L., a common weed widely spread in Uzbekistan. *Ch. ficifolium* differs by bright green, long-petiolate, clearly trilobate leaves with elongated apical lobe, two to four times as long as the lateral ones, with almost parallel margins (not entire, dentate or lobate with the apical lobe slightly or not larger than the lateral ones) (Sukhorukov et al. 2019). The historical herbarium specimens from TASH cited below and two specimens from MW (MW0821202, MW0821204) were previously identified as *Ch. album* L. These materials show that *Ch. ficifolium* was introduced into the territory of Uzbekistan and naturalized in the valleys of large rivers at least in the first half of the 20th century, but due to misidentification was not included in the first edition of the "Flora of Uzbekistan" (Botschantzev 1953).

Examined specimens (new records).UZBEKISTAN: I-3 Fergana-Alay district. I-3-b Eastern Alay region: Western part of Alay Range, surroundings of the village Vuadil [40°11'02"N 71°42'58"E], 15.06.1965, coll. R. Shonazarov 1916 (TASH)). II-1 Central Fergana district. II-1-a Kayrakum-Yazyavan region: Kokand, [40°27'40"N 70°54'51"E], 23.05.1919, coll. G.K. Werner (MW0821204); II-1-b East Fergana region: surroundings of the station Tenteksay, Kokan-kishlak [40°55'47"N 72°28'44"E], 08.07.1934, coll. V.S. Titov 24 (TASH). II-3 Kyzylkum district. II-3-b Kyzylkum Relic Mountains: Sultan-Uiz-Dag, a hollow near the tomb of Sultan-bobo, near the spring [42°00'35" 60°38'40"E], 25.05.1934, coll. E.T. Arsenieva & Sidorov 174 (MW0821202). II-4 Bukhara district. II-4-a Middle Zeravschan region: surroundings of the city of Samarkand, Karasu [39°37'10"N 67°05'46"E], 08.07.1940, coll. M.G. Popov (TASH); northern outskirts of Samarkand, the right bank of the river Zeravschan River [39°40'19"N 67°03'57"E], 09.05.2002, coll. A.P. Sukhorukov (MW0821203); II-4-b Lower Zeravschan region: Kyzylkum, Kenimekhchul, surroundings of the Lake Shorkul [40°19'08"N 64°54'42"E], 22.05.1936, coll. A.I. Pugassova (TASH); Bukhara, Arabon St., 39°46'8"N 64°25'12"E, 24.04.2019, coll. F. Thiebault (TASH); Bukhara, southern part of 5th microdistrict, surroundings of croplands, 39°43'56"N 64°25'6"E, 02.03.2022, coll. H.K. Esanov (TASH); Bukhara, 5th microdistrict, Piridastgir St., roadsides and wastelands, 39°45'7"N 64°25'36"E, 03.03.2022, coll. H.K. Esanov (TASH); Bukhara, A. Gizhduvoniy St., roadsides, 39°45'5"N 64°23'29"E, 03.03.2022, coll. H.K. Esanov (TASH); Bukhara, K. Murtazaev St., surroundings of alfalfa field, 39°45'39"N 64°24'10"E, 03.03.2022, coll. H.K. Esanov (TASH); Bukhara, Bakhowuddin Nakshbandi and Gazli streets, 39°46'10"N 64°27'45"E, 04.03.2022, coll. H.K. Esanov (TASH); Bukhara, A. Navoiy Avenue, wastelands, 39°46'10"N 64°27'45"E, 08.03.2022, coll. H.K. Esanov (TASH); Bukhara, I. Muminov St., 39°45'53"N 64°25'35"E 08.03.2022, coll. H.K. Esanov (TASH); Bukhara, Alpamysh St., roadsides and wastelands, 39°44'33"N 64°25'35"E, 14.03.2022, coll. H.K. Esanov (TASH).

Chimaphila umbellata (L.) W.P.C.Barton (Ericaceae)

Contributor: Natalia S. Gamova

Distribution and habitat. *Ch. umbellata* is a widespread plant species in boreal coniferous forests in Eurasia and North America. This species is relatively rare in the regions of Russia neighbouring to the Republic of Buryatia and therefore it is included into the Red Data Books of the Irkutsk Region (2020) and the Republic of Sakha (Yakutia) (2017). With this only record from the Republic of Buryatia we suggest this species to be included into the next edition of the Red Data Book of the Republic of Buryatia, too. The plants are growing on the territory of the Baikalsky State Nature Reserve which is a strictly protected area and already provides the necessary level of nature conservation.

Taxonomic notes. The genus *Chimaphila* Pursh consists of the five accepted species widespread in the temperate regions of Eurasia and North America (POWO 2022), with two of them occurrng in Russia, and only one *Ch. umbellata* in Siberia. On the Russian Far East (Primorye and Sakhalin) another species East Asian *Ch. japonica* Miq (Khokhryakov & Mazurenko 1991) is also known. These two species differ by leaf size (up to 6 cm long and 1.5 cm wide for *Ch.umbellata* and 3.5 × 1 cm for *Ch. japonica*), leaf form (obtuse at apex for *Ch. umbellata* and acute for *Ch. japonica*), and by the number and colour of flowers, *Ch. umbellata* has an umbellate inflorescence with 3–5 pink flowers, while *Ch. japonica* usually has one, rarely two, white flowers.

Examined specimen (new record). RUSSIA: Republic of Buryatia, Kabansky District, Baikalsky State Nature Reserve, 51°35'00.4"N 105°31'14.3"E, 529 m a.s.l., northern macroslope of the Khamar-Daban Range, valley of the Mishikha River, poplar forest (*Populus suaveolens*), on sandy soil, five non-flowering plants, 23.06.2021, coll. N.S. Gamova (MW).

Cirsium alatum (S.G. Gmel.) Bobrov (Asteraceae)

Contributors: Sergey A. Svirin, Pavel E. Yevseyenkov, Vladislav N. Grigorenko & Andriy V. Yena

Distribution and habitat. This species is distributed in Eastern Europe (Bulgaria, Romania, Moldova, Ukraine), South of European Russia, South of Western Siberia to Kazakhstan and Central Asia (Tzvelev 1994a). Throughout its range, *C. alatum* prefers open wet ecotopes like saline meadows and solonchaks. Though *C. alatum* range covers area around Crimea, this species has not been found there previously. We revealed this species in the very north of the Crimean Peninsula in its typical ecotope. Such a late finding could be explained by the fact that this part of the region is considered to be of little botanical attraction in comparison with the Crimean Mountains and therefore still remains sparsely explored.

Taxonomic notes. The species name *C. alatum* has enormous synonymy (> 20) but it is accepted in the most complete expert floristic sources (e.g. Tzvelev 1994a, Kadereit & Jeffrey 2007, Greuter & Raab-Straube 2008, WFO 2022). In Turkey, the name *C. alatum* was revealed to be misapplied for *C. elodes* M. Bieb. (Yildiz et al. 2016). Aside from *C. alatum*, four more long known species of the genus are distributed in Crimea, namely, *C. arvense* (L.) Scop., *C. laniflorum* (M. Bieb.) Fisch., *C. serrulatum* (M. Bieb.) Fisch., and *C. vulgare* (Savi) Ten. (Yena 2012).

Examined specimen (new record). RUSSIA: Republic of Crimea, Krasnoperekopsk District, 2.3 km to the north of Krasnoarmeyskoye village, western coast of Lake Aygul'skoye, 46°01'00.0"N 34°02'08.5"E, 2 m a.s.l., saline meadow, 01.07.2020, coll. S.A. Svirin & P.E. Yevseyenkov (CSAU, LE, MW, YALT).

Crataegus maximowiczii C.K.Schneid. (Rosaceae)

Contributors: Irina G. Esina & Anatoliy A. Khapugin

Distribution and habitat. *C. maximowiczii* is a shrub or small tree native to East Siberia and East Asia. Within the natural range it inhabits floodplain meadows, among forest understorey and forest edges of mountain slopes (Polozhij & Malyshev 2004). Outside native range, it is used as an ornamental plant. According to Maevskii (2014), this species is rarely cultivated in the central part of European Russia, although it was found in the wild only in Moscow and Tver Regions. In the Republic of Mordovia (Silaeva et al. 2010), *C. maximowiczii* has never been noticed previously, like in the Mordovia State Nature Reserve (Vargot et al. 2016). Despite these data, while surveying the area of the Mordovia State Nature Reserve, we found numerous individuals escaped into the wild from both former nursery woody plants and natural forest communities around the nursery. Some of the found plants had a height of 1.0–1.5 m. We expect the further dispersal of *C. maximowiczii* through the surrounding forest communities, as well as along adjacent forest roads.

Taxonomic notes. The genus *Crataegus* L. consists of 215 accepted species (POWO 2022). In the central part of European Russia, it could be confused with native *C. sanguinea* Pall.

and alien East Asian (*C. dahurica* (Dieck) Koehne, *C. chlorosarca* Maxim.) and Middle Asian (*C. chlorocarpa* Lenné & K.Koch) species (Maevskii 2014).

Examined specimen (new record). RUSSIA: Republic of Mordovia, Temnikov District, former nursery woody plants in the quarter 445 of the Mordovia State Nature Reserve, 54°43'17.7"N 43°12'22.0"E, 08.07.2021, coll. I.G. Esina & A.A. Khapugin (HMNR).

Cystopteris dickieana R. Sim (Cystopteridaceae)

Contributors: Svetlana V. Ovchinnikova & Yurii V. Ovchinnikov

Distribution and habitat. *C. dickieana* was described by R. Sim from Aberdeen (Scotland) by collections of Knight (lectotype – BM001066217). Sporadically distributed in the mountains of the Northern Hemisphere and was found in the Republic of Khakassia only from the Monysh ridge (Fomin 1934, Danilov 1988, Shmakov 1999, 2005, Ebel 2012). *C. dickieana* grows on rocks, screes, stony slopes on carbonate rocks.

Taxonomic notes. *C. dickieana* belongs to subgenus *Cystopteris*, which included plants with short thick rhizomes and crowded fronds (Shmakov 2005). From the related species *C. fragilis* (L.) Bernh. it is distinguished by lanceolate or narrow-lanceolate leaf blades covered with jointed hairs and brown glands, as well as spores with smoothly-bosselated surface (Danilov 1988, Shmakov 1999, 2005). It was first collected by Yu.V. Ovchinnikov on the southeastern slope of the Joysky ridge, among the stones in the summer of 2021. Revision of herbarium collections NSK and literature data confirmed that the Joysky Ridge is the second location in the Republic of Khakassia for *C. dickieana* from the territory of Khakassia.

Examined specimens (new record). RUSSIA: Republic of Khakassia, Sayanogorsk District, 6 km from the village of Maina, southeastern slope of the Joysky ridge, kurumniks, among the stones, [53°00'N 91°30'E], 02.08.2021, coll. Yu.V. Ovchinnikov (NSK0027157).

Dodartia orientalis L. (Mazaceae)

Contributors: Andrey N. Efremov, Nataliya V. Plikina & Oleg N. Kholodov

Distribution and habitat. *D. orientalis* range includes steppes and semi-deserts of southeast of Eastern Europe, the Caucasus, the south of Western Siberia, Altai, the north of Central Asia, Iran, Afghanistan, Pakistan, Northern China, Mongolia (Tsagolova 1965, Kurbatsky 1996, Hong et al. 1998, Kosachev 2010). The nearest habitats are known in the Altai Territory and Kazakhstan (Tsagolova 1965, Kurbatsky 1996, Kosachev 2010, GBIF Secretariat 2022f). It grows on rocky slopes and sands, salt-marsh steppe meadows, along the edge of pine forests, along river valleys. Sometimes it clogs crops, is found on deposits, along roads, along irrigators, in gardens, along the sides of roads (Tsagolova 1965, Kurbatsky 1996, Sokolova 2008). As an adventitious species it is known in the Moscow Region (Mayorov et al. 2012).

For the Omsk Region *D. orientalis* is indicated for the first time. A known habitat limits the northern boundary of the range. A small population of about 30 individuals, covers an area of about 100–150 m^2. Confined to the slope of the indigenous coast of the Akhmin River, within the valley of the Irtysh River, in the deserted fescue (*Festuca pseudovina*) – sagebrush (*Artemisia nitrosa*) steppe.

Taxonomic notes. *Dodartia* L. is a monotypic genus of semi-parasitic plants (Tsagolova 1965, Kosachev 2010) of the Mazaceae family (APG IV 2016). It is a small herbaceous family in Lamiales currently containing three genera: *Dodartia* L., *Lancea* Hook.f. & Thomson and *Mazus* Lour. (APG IV 2016). *Dodartia*, *Lancea* and *Mazus* were once placed in the traditionally circumscribed Scrophulariaceae but variably affiliated with tribe Gratioleae or Mimuleae (Xiang et al. 2021).The genus *Dodartia* is characterized by having scale-like leaves and much-branched stems.

Examined specimen (new record). RUSSIA: Omsk Region, Omsk, Novovarshavsky District, the suburbs of the village Bogdanovka, slope along the valley of the Akhmin River, deserted fescue (*Festuca pseudovina*) – sagebrush (*Artemisia nitrosa*) steppe, 54°04'29"N 74°49'26"E, 19.08.2020, coll. O.N. Kholodov (OMSK).

Echinochloa esculenta (A. Braun) H. Scholz (= *Echinochloa utilis* Ohwi & Yabuno ≡ *E. crus-galli* subsp. *utilis* (Ohwi & Yabuno) T. Koyama, *E. frumentacea* subsp. *utilis* (Ohwi & Yabuno) Tzvelev) (Poaceae)

Contributor: Aleksandr L. Ebel

Distribution and habitat. *E. esculenta* is widely cultivated in many non-tropical countries (Japan, China, Korea, USA, Canada, Australia, etc.) as a fodder and food plant, and sometimes found as a weed along roads and in waste places, and in the fields of other crops (Probatova 1985, Michael 2003, Malyshev 2008). As an experimental crop it is also grown in the southern European region of the former USSR, the Caucasus, and Central Asian countries (Tzvelev 1976, Probatova 1985, Malyshev 2008). In European countries, the species is known as a weed plant in Germany, Austria, Belgium, Great Britain, Poland, Czech Republic, Belarus, Ukraine, where is distributed mainly with feed mixtures for domestic and cage birds, and with imported soybean seeds (Hanson & Mason 1985, Dzhus 2012, Englmaier & Wilhalm 2018). In European countries, *E. esculenta* is usually an ephemerophyte (rarely persistent), since the flowering and ripening of seeds occurs only at the end of the growing season. Within Russia this species was found as an alien plant in the Far East (Tzvelev 1976, Probatova 1985, Tzvelev & Probatova 2019), and in last two decades in the European part of the country, from the Smolensk Region in the west to the Udmurt Republic in the east (Tzvelev & Probatova 2019, GBIF Secretariat 2022g). It was also reported for Western Siberia from Altay (Zolotukhin 1983, Probatova 1985, Probatova & Tzvelev 2019) but not listed for Siberia nor for Russian Altay in the recent treatments (Lomonosova 2003, Krasnoborov et al. 2012, Vlasova 2012). Specimen from Altay collected by N. Zolotukhin in 1980 and determined by him as *E. utilis* (LE 01119716) does not fit perfectly to this species. This specimen has mostly green spikelets and some lower lemmas with conspicuous awn, so probably it belongs to *E. crus-galli* s. str.

Taxonomic notes. The genus *Echinochloa* comprises about 35 species occurring mainly in tropical and warm-temperate regions of the world. *E. esculenta* is thought to be a cultivated derivative of widespread as weed *E. crus-galli* that arose in China, Japan, and Korea (Shou-liang & Phillips 2006). As seen from the above synonyms, *E. esculenta* is close to *E. crus-galli*, and to another crop plant *E. frumentacea* Link. It differs from the first one by dense, usually erect inflorescences and persisting grain at maturity. *E. esculenta* can be distinguished from *E. frumentacea* by very dense racemes with blackish-brown to purplish brown broad ovate spikelets, whereas *E. frumentacea* has rather spaced racemes with ovate green or yellowish spikelets (Shou-liang & Phillips 2006, Probatova & Tzvelev 2019).

Examined specimen (new record). RUSSIA: Tomsk Region, the city of Tomsk, pebble bank of the Tom River, 56°28'08"N 84°55'55"E, 29.09.2021, coll. A.L. Ebel (TK).

Euphorbia prostrata Aiton (Euphorbiaceae)

Contributors: Natalya Yu. Beshko & Alim D. Gaziev

Distribution and habitat. *E. prostrata* was described from Richmond, Surrey (United Kingdom), but this species is alien in Europe. Its native range is subtropical and tropical areas of North and South America, and secondary range includes Western Europe, Africa, Mediterranean, western and southern Asia, Japan and Australia (Radcliffe-Smith & Tutin 1968, Pahlevani & Riina 2011, GBIF Secretariat 2022h, POWO 2022). According to the data of Plantarium web-site, in Central Asia, *E. prostrata* was recorded for the first time from the Almaty Region of Kazakhstan in 2012 (Epiktetov 2016). *E. prostrata* is a weed which grows mainly in anthropogenic habitats, as wastelands, lawns, parks, gardens, fields, fallow lands, sidewalks, roadsides, railway embankments, etc. But it

also occurs in natural habitats, on pebbles, stony banks and dry beds of rivers and streams, stony and stony-clayey slopes of foothills and low mountains. In Uzbekistan, it is xenophyte and epecophyte. In accordance with the IUCN Environmental Impact Classification for Alien Taxa (EICAT) Categories and Criteria (2020), *E. prostrata* can be assessed as alien species of minor impact (MN category).

Taxonomic notes. *E. prostrata* is annual herb with procumbent, usually branched stems 10–25 cm long. Among 4 species of *Euphorbia* subg. *Chamaesyce* Raf. recorded in Central Asia and Uzbekistan (Pazij 1959, Nasimova 1983), the closest species is *E. chamaesyce* L., which is widely spread in Central Asia and grows in the same habitats. *E. prostrata* has glands with small ovate or oblong pinkish appendages and a capsule pilose along keels only, while a capsule of *E. chamaesyce* is uniformly pubescent to glabrous, and glands with large, lobate, whitish appendages (Radcliffe-Smith & Tutin 1968, Pahlevani & Riina 2011).

Examined specimens (new records). UZBEKISTAN: I-1 Western Tien Shan district. I-1-e Chorkesar region: Namangan Region, Pap District, surroundings of the village Chadak, foothills of Kurama Range, 40°58'21"N 70°45'55"E, 14.07.2021, coll. T.S. Tillaev (TASH, Tillaev 2021). I-4 Nuratau district. I-4-a Nuratau region: Djizak Region, Nuratau Nature Reserve, Khayatsay, 1000 m a.s.l., stony-clayey soil, 40°31'31"N 66°45'37"E, 25.06.2012, coll. N.Yu. Beshko (TASH). II-2 Middle-Syrdarya district. II-2-a Chinaz region: Tashkent Region, Yangiyul District, 41°8'23"N 69°1'58"E, 15.07.2013, coll. A.D. Gaziev (TASH, Gaziev 2013); Tashkent Region, Pskent District, surroundings of the village Aybulak, stony bed of the river Akhangaran, 40°54'41"N 69°33'29"E, 01.08.2019, coll. T.S. Tillaev (TASH, Tillaev 2019).

***Galatella villosa* (L.) Reichenb. fil.** (≡ *Crinitaria villosa* (L.) Grossh. ex Czer., *Linosyris villosa* (L.) DC.) **(Asteraceae)**

Contributors: Andrey Yu. Korolyuk & Elena A. Korolyuk

Distribution and habitat. *G. villosa* is a species that is widespread in the steppe biome in Europe and the Caucasus (Tzvelev 1994b, 2008). In Kazakhstan and the Southern Ural it grows in desert and typical steppes as well as in petrophytic and xerohalophytic communities. In Nothern Xinjiang (China) it is distributed in salt marshes, steppes and stony slopes (Yilin & Brouillet 2011). In Siberia it was found in the Altai Territory, Kurgan and Omsk Regions (Korolyuk 2007) where the species is confined to zonal bunchgrass steppes and xeric meadows on solonetz soils. In many xerophytic plant communities *G. villosa* is characterized by high constancy or abundance, especially in dry and desert steppes, in habitats on rocky or salinized soils. The desertification process associated with climate aridization and a high anthropogenic pressure on steppe ecosystems raise the species abundance (Gorshkova 1954). In the Novosibirsk Region *G. villosa* was observed in steppe on solonetz soil where the species co-dominates with such common steppe buncgrasses as *Stipa capillata* and *Festuca valesiaca.*

Taxonomic notes. *Galatella villosa* belongs to sect. *Chrysocomella* Novopokr. ex. Tzvelev that comprises two Eurasian perennial caespitose herbs, 10–35 cm tall. This section is often distinguished as a separate genus – *Crinitaria* Cassini, *Linosyris* Cassini, *Crinitina* Soják. *G. villosa* differs from the most similar *G. tatarica* (Less.) Novopokr. by grayish tomentose oblong to linear-oblong leaves and involucres. The dense pubescence of the leaves makes their color gray, and also hides numerous dotted glands. These features make it possible to distinguish two species in a non-flowering state.

Examined specimens (new record). RUSSIA: Novosibirsk Region, Kupino District, to the west from Lake Vishnevoe, steppe, 53°51'N 76°52'E, 05.07.2013, coll. A.Yu. Korolyuk (NS).

***Galium mollugo* L. (Rubiaceae)**

Contributor: Dmitry N. Shaulo

Distribution and habitat. *G. mollugo* is a boreal European–North American species spreading into western regions of Asia. In Russia, it occurs in the European part, Ciscaucasia, Siberia, and the Far East. The species grows in forests, meadows, and along roads and sometimes railways. In the Asian part of Russia, it is possibly alien (Balde 2012, Shaulo et al. 2020). The eastern boundary of the natural range probably lies in the Cis-Ural part of the West Siberian Plain (Naumenko 2008). *G. mollugo* occurs in southernmost regions of Siberia and the Far East (Petelin 1991, Balde 2012, Ebel 2012, Shaulo et al. 2020). In the Republic of Tyva, *G. mollugo* is registered for the first time.

Taxonomic notes. *G. mollugo* is the only representative of the section *Leiogalium* (DC.) Ledeb. in the Asian part of Russia (Balde 2012). It is a perennial herbaceous plant with a creeping dark-brown woody rhizome. Stems are ascending, tetrahedral, and branched. Leaves are linear-oblong or lanceolate with a pointed tip. Flowers are white and arranged into numerous apical spreading inflorescences.

Examined specimens (new records). RUSSIA: Republic of Tyva, the city of Kyzyl, Internatsional'naya St., near the stadium, on the lawn, 560 m a.s.l., 51°07'25.8"N 94°33'30.0"E, 18.08.2020, coll. D.N. Shaulo (NS); Republic of Tyva, Tandinsky District, 35th km of the Bai-Khak–Balgazyn road, roadside, 1090 m a.s.l., 51°01'48"N 94°51'37"E, 23.08.2020, coll. D.N. Shaulo (NS).

***Impatiens parviflora* DC. (Balsaminaceae)**

Contributor: Igor V. Kuzmin

Distribution and habitat. *I. parviflora* is a species native to areas from Central Asia (Afghanistan, Altay, Kazakhstan, Kyrgyzstan, Tadzhikistan, Turkmenistan, Uzbekistan) to Mongolia and Manchuria. Since 1831, this species is being cultivated in European botanical gardens. From 1848, *I. parviflora* started to escape into the wild, while from half of the XX century, its invaded range actively expanded (Vinogradova et al. 2009). At present, the easternmost records in the European-Ural part of its invaded range are known in the cities of Irbit, Yekaterinburg and Chelyabinsk. The Siberian part of its invaded range lies at 1300 km to the east from the European one (the cities of Novosibirsk, Barnaul and others). Finally, the third part of its invaded range is located in the Far East (GBIF Secretariat 2022i). *I. parviflora* grow in wet and shaded habitats: flower beds, gardens and parks, garbage places, wet willow thickets and alder groves, wet forest parks, and disturbed deciduous forests (Vinogradova et al. 2009).

We found *I. parviflora* in nine sites within the city of Tyumen. These sites are located at 150–300 km to the east out of the previously known border of its invaded range (European part), i.e. Irbit and Yekaterinburg. The space between cities of the Urals and Western Siberia, where *I. parviflora* is known, is reduced to 1000 km. In almost all locations in Tyumen, the presence of *I. parviflora* was associated with the activities of gardening and planting flower beds. However, in two cases, this species has spread far beyond the site of its original introduction in gardens by colonizing a wet forbs birch forest and *Acer negundo* L. thickets at the riverbank. In all sites, *I. parviflora* occurs with high abundance by forming a full coverage. In Tyumen, we observe this species each year since 2018, and its abundance is annually increased in each site. *I. parviflora* is a new alien species to the flora of the Tyumen Region.

Taxonomic notes. *I. parviflora* may grow nearby of populations of another alien species, *I. glandulifera* Royle. The second mentioned alien species is easily distinguished by a larger habitus of plants and red (instead of yellow in *I. parviflora*) flowers. Also, in West Europe, the close species, *I. edgeworthii* Hook.f., has been introduced (Weiss 2020). This species has curved spurs, while *I. parviflora* has straight ones.

Examined specimens (new records). RUSSIA: Tyumen Region, Tyumen, Tarskaya St. near house with number 89, 57°08'13.6"N 65°33'03.9"E, 80 m a.s.l., near the front garden of a wooden house, 18.07.2018, coll. I.V. Kuzmin; Plodopitomnik St. opposite the house with number 4/1, 57°10'03.6"N 65°27'35.3"E, 82 m a.s.l., a small street of wooden houses, next to a fence around a firewood storage

area, 05.08.2019, coll. I.V. Kuzmin; Yuriya Semovskikh St. near houses with numbers 1 and 4, 57°06'15.7"N 65°31'40.3"E, 86 m a.s.l., garbage places around garden center fence, 05.09.2018, coll. I.V. Kuzmin & N.S. Drachyov; Stavropolskaya St. near houses with numbers 13 and 13A, 57°07'27.4"N 65°31'19.0"E, 90 m a.s.l., an abandoned flower garden near the entrances of a nine-storey building, 01.10.2018, coll. I.V. Kuzmin; Permyakova St. near houses with numbers 58 and 60, 57°06'59.3"N 65°34'21.7"E, 78 m a.s.l., heaps of soil brought for making lawns, 27.06.2019, coll. I.V. Kuzmin; Severnaya St. near house with number 6 and Profsoyuznaya St. near house with number 17, 57°09'18.6"N 65°33'51.8"E, 73 m a.s.l., an abandoned flower garden near the entrances of a nine-storey buildings, 23.08.2021, coll. I.V. Kuzmin; the northwestern part of the natural monument "Topolya", 57°06'09.7"N 65°31'40.7"E, 96 m a.s.l., roadsides and clearings in damp birch grass-forb forest, 19.07.2019, coll. I.V. Kuzmin; Kharkovskaya St. near house with number 58, 57°08'52.6"N 65°35'05.3"E, 72 m a.s.l., a flower garden near the entrances of a five-storey building, 01.10.2019, coll. I.V. Kuzmin; Gosparovskaya St. near houses with numbers 41, 45 and 28, 57°09'40.7"N 65°34'12.7"E, 55 m a.s.l., *Acer negundo* thickets on the banks of the river Tura, 23.06.2021, coll. I.V. Kuzmin. All plant specimens are stored at the XBIO Institute of Tyumen State University.

***Jacobaea ferganensis* (Schischk.) B. Nord. & Greuter** (≡ *Senecio ferganensis* Schischk.) **Asteraceae**

Contributors: Vladimir M. Vasjukov & Dmitrii N. Malov

Distribution and habitat. *J. ferganensis* was described from the Alai Range in Kyrgyzstan by B.K. Schischkin (1961) and found in southeastern European Russia, eastern Ukraine, and Central Asia (Konechnaya 1994). The species is first reported for the Samara Region. It grows in the steppes and steppe forest clearings.

Taxonomic notes. Perennial plant with a creeping rhizome, without a rosette of basal leaves. A stem is straight, branched above, with upward directed branches, cobwebby pubescent together with leaves, 20–75 cm tall. Middle stem leaves are twice pinnatisected, numerous, narrowly ovate in outline, sessile, 6–15 cm long and 1.5–3 cm wide. Inflorescence corymbose, spreading with 10–25 heads. Pseudolingual flowers are yellow, 17–20 mm long; involucre at base 6–7 mm wide, involucral leaflets 6–7 mm long, sharply narrowed in upper quarter, 3–5 of them outer, 2–3 times shorter than inner, cobwebbed or almost glabrous. The closest species *Jacobaea vulgaris* Gaertn. (*Senecio jacobaea* L.) is taller plant (50–160 cm); anthers are usually more numerous (in number (20) 30–50) and with fruits in a compressed corymbose panicle; leaflets of involucre 4–4.5 mm long, from middle to upper third gradually narrowed towards apex; involucre at base 3–4 mm in diameter; pseudolingual flowers about 15 mm long.

Examined specimens (new records). RUSSIA: Samara [Kuibyshev] Region, Bolshechernigovskii District, floodplain of the Bolshaya Glushitsa River, 2 km west of the village Utekaevo, [52°12'18"N 50°48'34"E], 7.07.1990, coll. E.A. Uzhametskaya (TLT); Samara [Kuibyshev] Region, Bolshegluchitsky District, floodplain of the Bolshoy Irgiz River, 4 km south of the village Tambovka, steppe slope, [52°18'29"N 50°35'57"E], 8.07.1990, coll. E.A. Uzhametskaya (TLT).

***Lappula marginata* (M. Bieb.) Gürke (Boraginaceae)**

Contributor: Svetlana V. Ovchinnikova

Distribution and habitat. *L. marginata* was described by F.A.F. Marschall von Bieberstein from Astrakhan (Volga Region) by own collection (lectotype – LE, syntype – MW0594373). It is known in the European part of Russia in Astrakhan, Volgograd, Saratov Regions, the Caucasus, Siberia in Republic of Altai, Republic of Tyva and Krasnoyarsk Territory, Central Asia: Mongolia, China (Popov 1953, Zhu et al. 1995, Gubanov 1999, Ovchinnikova et al. 2004, Ovchinnikova 2006, 2012, 2019, Ovczinnikova 2009). In Middle Asia species is known only from single locations of Western, Northern and Eastern Kazakhstan (Goloskokov 1964, Kupriyanov & Ovchinnikova 2017). *L. marginata* grows in dry steppes, on coastal pebbles, in sandy places in semi-desert. Revision of herbarium collections TASH showed that *L. marginata* is new species from the territory of Tadjikistan. Collector I.A. Raikova was engaged in the development of alpine agriculture in the Pamirs, studied cultivated vegetation in Tajikistan. This species was apparently introduced with the seeds of sown grasses. Revision of herbarium collections TK showed that *L. marginata* is a new species from Kyrgyzstan, the species was collected from a natural population.

Taxonomic notes. *L. marginata* belongs to series *Strictae* Popov ex Ovczinnikova of section *Lappula* with subulate gynobase, eremocarps with one row of long ones, up to 1.5 mm long, upwardly protruding spines, widened at the base, not merging, or along the edge of the disc forming a narrow or wide cup-shaped wing, ending at the top with swollen short teeth with an anchor head, with a bare, shiny or finely prickly disc; with a coarsely folded or tuberculate surface. The appendages in the corolla are oblong, 0.5 mm long, covered with papillae (Ovczinnikova 2005). Eremocarps in cenobium of the species *L. marginata* are homomorphic, have a wide raised cupped wing at the edge of the disc. Some authors (Chater 1972) confuse this species with *L. patula* (Lehm.) Menyh., from which it differs in soft pubescence of the leaf blade, long pedicels, larger corolla with well-developed appendages (Ovchinnikova et al. 2004, Ovczinnikova 2009, 2021).

Examined specimens (new records). TADJIKISTAN: [Murghab Region, 38°20'N 74°03'E], Eastern Pamir, Chechekty tract, 07.1940, coll. I.A. Raikova (TASH). KYRGYZSTAN: Issyk-Kul basin, Issyk-Kul (Balykchinsky) District, village Dontala, rocky steppe, [42°27'21.6"N 76°11'7.4"E], 17.09.1932, coll. V.I. Sobolev & Kharchenko 185 (TK).

***Leontopodium leiolepis* Nakai (Asteraceae)**

Contributor: Elena A. Marchuk

Distribution and habitat. This species was considered as endemic of high mountains of northern and central Korea (Lee et al. 2016). New locality of *L. leiolepis* was recorded for the first time for Russia in the Primorye Territory. Some individuals of edelweiss were discovered in the south-west of the Primorye Territory, on the rocks in the upper reaches of the Amba River in June 2020 by V. Storozhuk an employee of the Land of the Leopard National Park. He took several photographs, which he subsequently sent to specialists from the Botanical Garden-Institute FEB RAS, who carried out the inventory of the flora of the national park. When revising herbarium (VBGI, VLA) and literature (Kozhevnikov & Kozhevnikova 2014, Kozhevnikov et al. 2015, 2019), no indications of the growth of edelweiss in the mountainous part of southwestern Primorye Territory were found. The only species previously reported for the coastal part of this area is *L. leontopodioides* (Willd.) Beauverd – steppe Asian species. But the plants in the photographs clearly did not correspond to this species. Using guides for the flora of the Far East of Russia (Voroshilov 1982, Barkalov 1992) plants were not identified. After that, the keys for the identification of *Leontopodium* species in floras of the adjacent countries Japan (Koyama 1995), China (Chen et al. 2011) and Republic of Korea (Lee et al. 2016) were analyzed. It was previously established that the samples from the photographs may belong to the species – *L. leiolepis* Nakai which has been considered as endemic for Korea (Lee et al. 2016). In the published monograph "Flora of the Land of the Leopard National Park: Vascular Plants" (Marchuk 2021), this species has been included but with question mark. In early June 2021, V. Storozhuk handed us a living edelweiss plant from a locality discovered in 2020. From this sample, it was established that this is indeed *L. leiolepis*. This species grows on rocky slopes of mountains, among shrub-herbaceous vegetation, at an altitude of 200–300 meters above sea level in the south-west of the Primorye Territory. In Korea, this species is widespread in the high mountains; the type sample was collected at an altitude of 2200 m a.s.l. (Lee et al. 2016), other samples from the Herbarium WU (GBIF.org 2021) – at an altitude of 790 and 1382 m a.s.l.

Taxonomic notes. According to the POWO database (2022) *L. leiolepis* is a synonym of *L. coreanum* Nakai. However, following Lee et al. (2016) we consider *L. leiolepis* as a separate

species. *L. leiolepis*, like *L. leontopodioides*, belongs to the sect. *Alpina*. Species from this section could be distinguished at the earlier flowering time since May to first half of June, in contrast to the species of other sections, which bloom later in July–August. Edelweiss discovered in the south-west of the Primorye Territory in early June was indeed in a phase of active blooming. However, the collected plants cannot belong to the early flowering *L. leontopodioides*, since they are well differentiated from this species by the presence of glandular pubescence on the stem, a large number of heads in the inflorescence, bracts strongly pubescent only on the upper side and sparsely glandular. A comparison of the edelweiss specimen from the new locality with Korean specimens of *L. leiolepis*, described in Lee et al. (2016), showed that the specimen from the Primorye Territory differs in larger sizes: height up to 30 cm (up to 11.5 cm for specimens from Korea), leaf of flowering stem up to 50 mm length (up to 22.8 mm for samples from Korea), bracts up to 25 mm length (up to 17.3 mm for samples from Korea). The increase in plant size in the discovered location is most probably associated with more favorable environmental conditions for their growth compared to the high mountains in Korea. At the same time, the severity of the highland conditions is compensated by the more northern location of edelweiss in the new habitat.

Examined specimen (new record). RUSSIA: Primorye Territory, Khasan District, The Land of the Leopard National Park, upper reaches of the Amba River, Mramorny Stream, rocky slope, 43°20'40"N 131°23'39"E, 233 m a.s.l., 01.06.2021, coll. V.B. Storozhuk, VBGI121574.

Oenothera villosa Thunb. (Onagraceae)

Contributor: Denis A. Krivenko

Distribution and habitat. The original natural range of this species was presumably in Great Plains region, widely naturalized in eastern North America, Asia, Europe, South America, and South Africa (from where it was described). Occurring in seasonally moist open or disturbed sites, such as stream or ditch banks, meadows, bottom lands, fields, and roadsides (Skvortsov 1994, Dietrich et al. 1997). In Northern Eurasia, there are at least four main foci of distribution of the species: a wide strip from Kyiv to Rostov-on-Don, a strip from Ulyanovsk to Kulach-on-Don, the foothills of Altai, and the south Primorye (Skvortsov 1994). *O. villosa* was not previously known in the flora of the Republic of Tatarstan (Bakin et al. 2000). However, its locations in the Republic of Tatarstan are documented on the site iNaturalist.org in 2019–2021 in the Volga River valley: Zelenodolsky (iNaturalist contributors, iNaturalist 2022c,d), Verkhneuslonsky (iNaturalist contributors, iNaturalist. 2022e), Laishevsky (iNaturalist contributors, iNaturalist 2022f,g,h, etc) districts as well as in the city of Kazan (iNaturalist contributors, iNaturalist 2022i, etc) and in the Kama River valley: Nizhnekamsky District (iNaturalist contributors, iNaturalist. 2022i,j,k).

Taxonomic notes. Skvortsov (1994, 1996), who understood the species of the genus *Oenothera* L. more broadly than Rostanski et al. (2004, Rostanski & Verloove 2015), notes that with all the diversity of *O. villosa*, it has fairly constant signs: these are low, slightly branched plants, with narrow grayish leaves; the whole plant is appressed-pubescent, with small twisted hairs, so it looks matte – grayish or diffuse reddish. In other species alien to Eastern Europe, *O. biennis* L. (incl. *O. rubricaulis* Kleb.) and *O. oakesiana* (A. Gray) J.W. Robbins ex S. Watson, stem pubescent with protruding and then curved bristly hairs sitting on tubercles (Skvortsov 1994).

Examined specimens (new records). RUSSIA: Republic of Tatarstan, Zelenodolsky District, dam to Sviyazhsk Island at the confluence of the Sviyaga River into the Volga River, 50 m a.s.l., 55°46'00"N 48°38'43"E, sandy roadside, 25.07.2021, coll. M.A. Markaryan 65690, 65691 (IRK), 65692 (VLA).

Orobanche korshinskyi Novopokr. (Orobanchaceae)

Contributor: Natalia S. Gamova

Distribution and habitat. *O. korshinskyi* is known from the eastern part of European Russia, Southern Siberia, Manchuria and the Russian Far East, and from the northern parts of Kazakhstan, Mongolia and China (Novopokrovsky 1950). It is a plant parasite growing on several *Artemisia* species (on *A. sericea* Weber ex Stechm. and on *A. tanacetifolia* L. in the Republic of Buryatia). The close species *Orobanche coerulescens* Steph. is widespread in the steppe plant communities in the aforementioned regions and in southern part of the Republic of Buryatia (Anenkhonov et al. 2001) and is known from the Baikalsky Nature Reserve as well (Abramova & Volkova 2011). *O. korshinskyi* is a new species to the Republic of Buryatia.

Taxonomic notes. *O. korshinskyi* was separated from *O. coerulescens* and it differs by minor height, less pubescent stems, somewhat smaller flowers and its yellowish colour, mostly more dissect segments of flower cup, and by the filaments almost glabrous or significantly less pubescent at their base (Novopokrovsky 1950). In the general appearance, however, the two named species are unmistakably distinguished by the colour of the living plants, which is bluish-violet for *O. coerulescens* and light-yellowish for *O. korshinskyi*. Some resources consider *O. korshinskyi* as a form of *O. coerulescen*s (*O. coerulescens* f. *albiflora* Korsh.) and include it in the latter species (Kurbatsky 1996; Chepinoga et al. 2008). The Key to plants of the Buryatia (Anenkhonov et al. 2001) has no references of *O. korshinskyi* (as the synonym of *O. coerulescens* or not).

Examined specimen (new record). RUSSIA: Republic of Buryatia, Selenginsky District, Baikalsky State Nature Reserve, 51°14'11.2"N 105°25'28.5"E, 997 m a.s.l., southern macroslope of the Khamar-Daban Range, valley of the Temnik River, steppe plant community on the rocky steep southern slope, a group of three flowering plants, 10.07.2021, coll. N.S. Gamova (MW).

Phragmites altissimus (Benth.) Mabille (Poaceae)

Contributors: Valery A. Glazunov, Olga G. Kalmykova, Natalia O. Kin & Stepan A. Senator

Distribution and habitat. *Ph. altissimus* is a species of the Eurasian-North African, Iranian-Turanian origin. In Russia, the natural part of the range includes the delta the Volga River and the lower reaches of the Don River, Crimea, Ciscaucasia, the south of Eastern Siberia and the Far East (Tzvelev 1976, Probatova 1985, Nikiforova, 2012, Tzvelev & Probatova 2019). As an alien species, it extends northward through the European part (Papchenkov 2008, Kapitonova & Lysenko 2020), noted in the Southern Urals – in the Orenburg Region (Golovanov et al. 2019); in Western Siberia – in Kurgan (Naumenko 2008) and Tyumen regions, in Khanty-Mansiysk Autonomous Okrug – Yugra (Glazunov et al. 2020, Kapitonova et al. 2020). For the Sverdlovsk (Knyazev et al 2017) and Chelyabinsk (Kulikov 2010) regions are not specified.

Taxonomic notes. In many sources it is considered as a variety or subspecies of *Ph. australis* (Kapitonova, Lysenko 2020). The species independence of the taxon is confirmed by molecular phylogenetic data (Nosov et al. 2020). *Ph. altissimus* is a perennial herbaceous plant up to 5–7 m in height, with 20(25) or more internodes. The leaves are linear-lanceolate or lanceolate, from 2.5 to 5–7 cm wide. Panicles are large, thick and wide, 20–40 cm long, usually with a pinkish-purple hue. Outside the natural range, it usually has underdeveloped spikelets, which develop 2–3 weeks later than in *Ph. australis* (Cav.) Trin. ex Steud. The lemma are more than 2 times larger than the upper glume, at the tip with a thin awnlike cusp, which easily breaks off and the flowering glume become short and obtuse.

Examined specimens (new records). RUSSIA: Chelyabinsk Region, Bredinsky District, 3 km north of the settlement Pavlovsky, 52°07'11.7834"N, 60°01'57.6582"E, along the bank of the oxbow on the Utyazhkin Dol River, clumps of 10–20 m^2 among the tangle of *Ph. australis*, 5.06.2021, coll. Valery A. Glazunov, Olga G. Kalmykova, Natalia O. Kin & Stepan A. Senator (ORIS, TMN).

Phragmites tzvelevii Val. N. Tikhom. (Poaceae)

Contributors: Vladimir M. Vasjukov & Victoria V. Bondareva

Distribution and habitat. *P. tzvelevii* is a hybridogenic species described by Tikhomirov (2021) from Belarus originating

from the hybridization of *P. nigricans* and *P. altissimus*. The general distribution has not been well studied, the species is recorded in the western and northern regions of Belarus, and in the Pskov Region of Russia. We have shown it for the first time for the flora of the Samara Region and the Middle Volga Region, where it occurs near joint populations of parent species and is confined to secondary habitats.

Taxonomic notes. There are currently 4 species of the genus *Phragmites* known in the Samara Region: 1) *P. nigricans* (Mérat) E.S. Marshall et Shoolbred [*P. communis* Trin.; *P. australis* auct. europ., non (Cav.) Steud.] – the most common, ubiquitous species; 2) *P. flavescens* (Custer) Hegetschw. – ordinary species in saline habitats; 3) *P. altissimus* (Benth.) Mabille is adventitious, sporadically distributed species in the territory, mainly in secondary habitats; 4) *P. tzvelevii* Val. N. Tikhom. – evidently, a rare species, with an insufficiently studied distribution in the region. *P. tzvelevii* differs from *P. nigricans* in larger sizes (up to 3.5–4 m, not 2–3 m), wider leaves (25–50 mm, not 10–25 mm), light brown panicles without a blue-violet tinge (not dark, with a blue- violet tinge); from *P. altissimus* differs in slightly smaller sizes (up to 3.5–4 m, not 3–5 m), pubescence of leaves and flower squames (glabrous or very weakly papillose, not distinctly papillose in the upper part). It differs from the both species by absence of long spiny hairs along the edge of the leaf blades and by shorter hairs on the lower panicle node (Tikhomirov 2021).

Examined specimens (new record). RUSSIA: Samara Region, Stavropol District, the city of Zhigulevsk, near the railway station, 53°23'32.16"N 49°30'39.78"E, 03.09.2020, coll. V.M. Vasjukov.

Poa jamalinensis Probat. (Poaceae)

Contributors: Marina V. Olonova & Nadezhda V. Stepantsova

Distribution and habitat. *P. jamalinensis* was considered an endemic taxon of the south of the Russian Far East (Probatova 2006, Tzvelev & Probatova 2019). Until now, it has only been recorded from its locus classicus "Amur Region, Selemdzhinsky District, western offspur of Yam-Alin Ridge, head of the Selemdzha River, the small pebbly island in the middle reach of the Sorukan River, with elevation – 1050 m a.s.l., 1.08.1984, V.V. Yakubov"(isotype – LE 01011199) (Probatova 2006). It occurs on the high and middle mountain belt, on the pebbly banks of the rivers (Tzvelev & Probatova 2019).

Taxonomic notes. *P. jamalinensis* was described by Probatova in 2006 from the Amur Region of the Russian Far East and it was proposed to be alpine race of *P. palustris* L. *P. jamalinensis* which can be distinguished from its close relative species *P. urssulensis* Trin. by smaller anthers (0.7–0.9 mm), smooth stems, very small – 2.5–3.3(3.5) mm and numerous spikelets (Probatova 2006). Later she placed it together with *P. urssulensis* and other relative species, in aggregate *P. palustris* (Tzvelev & Probatova 2019). The sample, which was found at Lake Baikal, is very similar to the type of *P. jamalinensis*. It has anthers 0.7–0.9 mm, spikelets about 3 mm, occurs in similar habitat, and can be attributed to *P. jamalinensis* without doubt. The specimen under consideration from the foothills of the Eastern Sayans is similar to *P. jamalinensis* in its habitus, anthers and spikelets lenth, but it differs by pubescent rachilla and short, a bit longer than 1 mm, ligule. I.V. Enushchenko, who studied this sample in 2007, paid attention to the short anthers, and in April he suggested it as a new species, but then, in May, he attributed it to *P. skvortzovii* Probat, based on such key characters, as ligule length and rachilla pubescence. *P. skvortzovii* seems to belong to the large species complex, which comprises some poorly differentiated populations and races, originated from *P. nemoralis* as a result of adaptive evolution, such as *P. pseudopalustris* Keng ex Shan Chen, *P. pseudopalustris* Skvortzov, *P. mongolica* (Rendle) Keng ex Shan Chen, *P. flavida* Keng ex L. Liu, *P. alta* Hitchcoock, *P. vaginans* Keng. N.S. Probatova (Tzvelev & Probatova 2019) treats *P. skvortzovii* as the Amuro-Korean species that reliably is represented only in the southern part of the Far East and its distribution in Siberia is doubtful. The true status and limits of the species, which compose the East-Asian complex, mentioned above, P. *skvortzovii* as well, are under research now, but it is obviously, that, in spite of corresponding two key characters to *P. skvortzovii*, the sample under consideration is more close to *P. urssulensis*. N.N. Tzvelev supposed this Siberian species to be of hybrid origin and suggested its intermediate position between *P. palustris*, *P. nemoralis* and *P. versicolor* Bess. (Tzvelev 1976), thus, the rachilla pubescence and ligule length vary in populations of *P. urssulensis*. The samples with rachilla glabrous and rachilla pubescent may be found in the same population (Olonova 2016). Thereby the sample IRKU017199 may be attributed to *P. jamalinensis* as well. It is the anthers length, which is of paramount importance in resolving the question of this species affiliation. Indeed, this character is one of the most conservative and genetically inherited features. It is one of the most significant markers of main intraspecific lines of the section level as well.

Examined specimens (new records). RUSSIA: Irkutsk Region, Olkhonskiy District, Lake Baikal, Olkhon Island, Yrgentey ecosite, bed of desiccated lake, among sedge, 859 m a.s.l., 53°13'11.96"N 107°35'25.82"E, 26.07.2014, coll. N.V. Stepantsova (IRKU017329, IRKU017330); Irkutsk Region, Zalarinskiy District, the foothills of the Eastern Sayan, on bank of the Khor-Tagna River (Khorka), near the mouth of the Maruzhin River, the plebby river bank, [53°13'24"N 101°20'14"E], 18.07.1999, coll. V.V. Chepinoga & N.V. Yakubenko, № 927 (IRKU017199).

Poa sphondylodes Trin. (Poaceae)

Contributors: Marina V. Olonova & Nadezhda V. Stepantsova

Distribution and habitat. *P. sphondylodes*, the common species of Eastern China, Korea and Japan, was described from Chinese province Hubei in 1833. Up to 2013 it was known primerly in East Asian. Later it was found in Russia: in the Republic of Tyva (Olonova 2013) and in Altai (Nobis et al. 2015). In the present work the third record of *P. sphondylodes* for Russia and the first one for the Republic of Buryatia is reported from the southern footsteps of the Zaganskiy Ridge.

Taxonomic notes. Because *P. sphondylodes* is a widely distributed species in adjacent territory of Eastern China, and recently it was found twice in the territory of Southern Siberia, its finding in other part of this area was highly likely. Since *P. sphondylodes* was synonymized with *P. ochotensis* (Tzvelev 1976, Tzvelev & Probatova 2019), in collections it is identified as the similar species *P. stepposa* or *P. ochotensis*. Nevertheless, *P. sphondylodes* differs from both these species in very characteristic, lobed (laciniate) panicle and long (3)3.5–5 (10) mm ligule. The sample from the IRKU herbarium, collected in Buryatia, had laciniate panicle, and long ligule (3.5 mm and longer), and other characters, inherent for *P. sphondylodes*. Ecological and geographical features are typical for this species as well. Thereby this sample can be attributed to *P. sphondylodes*.

Examined specimen (new record). RUSSIA: Republic of Buryatia, southern footsteps of the Zaganskiy Ridge, 7 km to the North from the settlement Petropavlovka, Altacheyskoye Reservoir, on the Yuzhnuy Alachey River (the right tributary of the Khilok River), along abrupt coast, 50°44'53"N 107°30'17"E, 09.07.2006, coll. V.V. Chepinoga & B. Voges № 16872 (IRKU018014).

Potamogeton × *franconicus* G. Fisch. (Potamogetonaceae)

Contributor: Olga A. Kapitonova

Distribution and habitat. This *Potamogeton*-hybrid is a rare European taxon. It is recorded for the territory of Germany (Wiegleb et al. 2008) and the European part of Russia (Papchenkov 2001, Lisitsyna et al. 2009, Kapitonova 2021). In Russia, it is considered a very rare hybrid, and its findings are known from the Vologda and Ulyanovsk regions, the Republic of Mari El (Papchenkov 2001, Lisitsyna et al. 2009) and the Udmurt Republic (Kapitonova 2021). The finding of this pondweed in the Tyumen Region significantly expands our knowledge about its distribution, which makes it possible to classify it as a species with a European-West Siberian boreotemperate range. It grows in stagnant and slow-flowing wa-

ter bodies. It is found in the bays of rivers and reservoirs, ponds, in disturbed floodplain lakes, and reclamation canals. In the cited locality, the plants were collected in a flooded sandy quarry and an oxbow lake of the Irtysh River, which is affected by recreation and pollution from roads.

Taxonomic notes. *P.* × *franconicus* is a hybrid between *P. berchtoldii* Fieb. and *P. trichoides* Cham. et Schlecht. and belongs to the *Graminifolii* Fries section. It has intermediate characteristics between the parent species. The leaves of this hybrid are similar to those of *P. trichoides*, they are long, narrow, gradually pointed at the top, and have a thick central vein. However, there are well developed glandules at the base of the leaf blade, as in *P. berchtoldii* (Papchenkov 2001). In addition, gaps are clearly visible in the lower part of the leaves, but they are not as wide as in *P. berchtoldii*.

Examined specimens (new records). RUSSIA: Tyumen Region, Tobolsk District, village Bizino, 58°08'16"N 68°15'32"E, oxbow of the Irtysh River, shallow water near the coast, in the mass, 03.08.2021, coll. O.A. Kapitonova (TOB, IBIW); Tyumen Region, Tobolsk District, 1.8 km south of the village Isenyovskaya, 58°08'45"N 68°18'57"E, watered sand quarry, shallow water near the coast, 03.08.2021, coll. O.A. Kapitonova (TOB, IBIW).

Potentilla intermedia L. (Rosaceae)

Contributors: Ramazan A. Murtazaliev & Alexey A. Kechaykin

Distribution and habitat. In the European part of the continent, *P. intermedia* is encountered from France to the Ural Mountains, with the exception of Austria and Hungary, as well as the countries of the Balkan Peninsula and Moldova (Kurtto 2009). East of the Ural Mountains, the species is distributed to the Russian Far East, but solely in the North Asia (Soják 2004, Kurbatskiy 2016, Motorykina 2020). *P. intermedia* is non-native to some provinces in the eastern part of North America (Ertter & Reavel 2014). The species has not been recorded in the Caucasus (Grossheim 1952, Soják 2004, 2012a, Ivanov 2019). This species is ubiquitous in secondary anthropogenic habitats. It also grows on the shores of reservoirs (rivers, lakes, storage lakes and ponds), on the edges of forests and fields, along roads, on lawns and flower beds, and in vegetable gardens. *P. intermedia* actively spreads along roads and railways.

Taxonomic notes. The species belongs to sect. *Supinae* (Lehm.) A. Nelson, of which only two species are recognized for the flora of the Caucasus: *P. norvegica* L. and *P. supina* L. s. l. (Grossheim 1952). *P. norvegica* L. is characterized by ternate leaves, whereas *P. supina* L. s. l. has pinnate leaves. For *P. intermedia*, leaves may appear palmate or ternate. Experimental cross-pollination showed that *P. intermedia* most likely is the result of hybridization between *P. argentea* L. and *P. norvegica* (Soják 2012b). The habitus of *P. heidenreichii* Zimmeter is most similar to that of *P. intermedia*, being distinguished by a slight tomentum on the underside of the leaflets (Kamelin 2001). This species is sometimes considered synonymous with *P. intermedia* (Soják 2004, 2009, Kurtto 2009, Ertter & Reavel 2014). The independence of *P. heidenreichii* is still disputable due to the lack of molecular data.

Examined specimen (new record). RUSSIA: Republic of Daghestan, the city of Makhachkala, central park, along the paths, 42°59'02.2"N 47°29'23.1"E, 20.08.2020, coll. R.A. Murtazaliev (LENUD) (iNaturalist contributors, iNaturalist 2022l).

Potentilla recta L. (Rosaceae)

Contributors: Alexey A. Kechaykin, Andrey V. Anisimov & Alexander I. Shmakov

Distribution and habitat. *P. recta* is mainly confined to the steppe regions of Eurasia (from the Iberian Peninsula to Altai) in temperate latitudes and North Africa (Morocco, Algeria). The species is identified as adventive in the Americas, Australia, and New Zealand, where it is known as an escapee actively spreading in anthropogenic habitats (Kechaykin et al. 2021, POWO 2022). *P. recta* is widespread in Europe (Kamelin 2001, Kurtto 2009), but in Asian Russia it was recorded only from the flora of the Altai Territory (Kurbatskiy 2016). In addition to the new locality from the Novosibirsk Region cited below, *P. recta* has been repeatedly found in this region. Photos from these localities are uploaded to the iNaturalist website (iNaturalist contributors, iNaturalist 2022m,n,o). The distance between all the given locations is less than 1500 m.

Taxonomic notes. The species is actively involved in hybridization processes. In case of intersection with *P. argentea* populations, it can often form hybrids referred to as *P. inclinata* Vill. No species close to *P. recta* have yet been found on the territory of Asian Russia. However, Kamelin (2001) reports *P. obscura* Willd as occurring in Western Siberia. This species differs from *P. recta* in significantly smaller petals (not exceeding the length of the calyx) and their darker color. *P. recta* exhibits rather large cordate petals (1.5-fold and more longer than the calyx) with a slightly yellow tint. We have not yet found herbarium specimens of *P. obscura* from Siberia.

Examined specimen (new record). RUSSIA: Novosibirsk Region, Iskitimsky District, 2 km North-East of the village Barabka, rare birch forest and glades, 54°40'26.38"N 83°26'36.62"E, 227 m a.s.l., 02.06.2021, coll. A.I. Shmakov, A.A. Kechaykin & A.V. Anisimov (ALTB).

Prunus serotina Ehrh. (Rosaceae)

Contributors: Irina G. Esina & Anatoliy A. Khapugin

Distribution and habitat. *P. serotina* is a tree native to North America that was introduced in Europe in XVII century for ornamental and forestry purposes. It is currently considered as an invasive species in several countries (e.g. Belgium, France, Germany, Netherlands, Italy) (Starfinger et al. 2003). In European forests, *P. serotina* can rapidly colonize shrub and woody layers gradually displacing native species (Aerts et al. 2017, Kawaletz et al. 2013). However, in European Russia, this species is not recognized as an invasive plant (Vinogradova et al. 2009). Moreover, *P. serotina* is rarely cultivated in the central part of European Russia without escaping into the wild (Maevskii 2014). Similarly, until now *P. serotina* was known only as introduced plant in the Republic of Mordovia (Silaeva et al. 2010) and the Mordovia State Nature Reserve (Vargot et al. 2016). However, we found escaped into the wild numerous vegetative individuals of 1.0–1.5 m high in both former nursery woody plants and natural forest communities around the nursery in the Mordovia State Nature Reserve. Some of the naturalized individuals were registered along the forest roads nearby the nursery. We propose the further dispersal of *P. serotina* through the surrounding forest communities in the Mordovia State Nature Reserve.

Taxonomic notes. In Russian literature (e.g. Maevskii 2014, Silaeva et al. 2010), this species is commonly refered to as the genus *Padus*, i.e. *Padus serotina* (Ehrh.) Borkh., while we treat this species according to the internationally accepted databases (POWO 2022, GBIF Secretariat 2022j). Within *P. serotina* many authors recognize infraspecific taxa. So, according to McVaugh (1952), *P. serotina* complex consists of five subspecies: subsp. *capuli* (Cav.) McVaugh, subsp. *eximia* (Small) Little, ssp. *hirsuta* (Elliot) McVaugh, subsp. *serotina* (Ehrh.) McVaugh, and subsp. *virens* (Wooton et Standl.) McVaugh, while Rohrer (2014) proposed four varieties of *P. serotina* (i.e. *alabamensis*, *capuli*, *rufula*, and *serotina*) instead of five mentioned above.

Examined specimen (new record). RUSSIA: Republic of Mordovia, Temnikov District, former nursery woody plants in the quarter 445 of the Mordovia State Nature Reserve. 54°43'18.1"N 43°12'21.3"E, 08.07.2021, coll. I.G. Esina & A.A. Khapugin (HMNR).

Puccinellia poecilantha (K. Koch) Grossh. (Poaceae)

Contributor: Svetlana V. Ovchinnikova

Distribution and habitat. *P. poecilantha* was described by Koch from Apscheron (Azerbaijan) from his own collections (lectotype – GOET006910). Later it was found in the European part of Russia in Udmurtia and the Stavropol Territory, South-Western (Iran) and Central Asia (Kazakhstan, Turkmenistan) (Tzvelev 1976, Tzvelev & Probatova 2019). It was first identified by us from 18 locations in the Voronezh, Tambov and Saratov Regions (Gudina & Volodchenko 2020,

Gudina 2021), and was not found from the territory of Siberia. Revision of herbarium collections NSK showed that *P. poecilantha* is a new species from Siberia. *P. poecilantha* grows on salt marshes with sandy and sandy loamy soils, often near the sea coast.

Taxonomic notes. *P. poecilantha* belongs to section *Xeratropis* (V.I. Krecz.) Bor ex Tzvelev and subsection *Festuciformes* Ovczinnikova, which included tall soddy plants of solonchaks and solonchak meadows with compressed or spreading large panicles, on which spikelets are arranged in bunches of (3)5–10 at the ends and at the base of the branches. Panicle branches are strongly rough, the lower lemmas are noticeably hairy, anthers are large 0.9–2.0 mm length (Ovczinnikova 1989, Tzvelev & Probatova 2019). From the related species *P. gigantea* (Grossh.) Grossh. it is distinguished by abundant pubescence of larger lower lemmas, larger anthers and very long lanceolate tongues 4–5 mm long, number of chromosomes 2n = 28 (Ovchinnikova 2014, Ovchinnikova & Probatova 2015). Related species *P. gigantea*, *P. dolicholepis* (V.I. Krecz.) Pavlov, P. waginae Bubnova are widely distributed in Western Siberia (Bubnova 2001).

Examined specimens (new records). RUSSIA: Kurgan Region, Petukhovsky District, shore of Lake Medvezhye, reed site, saline meadow, [55°12'N 68°01'E], 30.06.1984, coll. M.N. Lomonosova & S.V. Bubnova 701, 704 (NSK0052520–NSK0052522); Kurgan Region, Petukhovsky District, environs of the village Troitskoe and Lake Medvezhie, swampy depression, thickets of skaltic soil near the salt edge, [55°8'53.4624"N 68°3'39.3768"E], 01.07.1984, coll. M.N. Lomonosova & S.V. Bubnova 693, 700, 725, 729 (NSK0052523–NSK0052526); Kurgan Region, Zverinogolovsky District, shore of Lake Gorkoe, saline sedge-cereal meadow, [54°24'46.2"N 64°35'16.4"E], 06.07.1984, coll. A.A. Krasnikov & S.V. Bubnova 1214 (NSK0052538); Kurgan Region, Petukhovsky District, Lake Medvezhie, solonchak along the northern shore, on clay soil, [55°12'N 68°01'E], 22.06.1990, coll. N.I. Naumenko 1269, 1284b (NSK0052529, NSK0052531, NSK0052533); Kurgan Region, Safakulevsky district, along the lake near the village Kalmyk-Aburashevo, [54°59'16"N 62°44'42"E], 06.07.1990, coll. N.I. Naumenko 2061 (NSK0052530).

Rheum uzengukuushi Lazkov et H.J. Choi (Polygonaceae)

Contributors: Georgii A. Lazkov & Alisa E. Grabovskaya-Borodina

Distribution and habitat. *R. uzengukuushi* have been described recently (Lazkov et al. 2020) on the base of two specimens from the Uzengukuush River basin (Kyrgyz Republic near the China's border) which belong to the Sary-Dzhaz and the Tarim rivers basins consequentially and previously this species was considered as a narrow endemic of this region. The high probability of finding this species in the neighboring China has already mentioned in the protologue. Indeed, in Komarov Botanical Institute (LE) two more specimens of *R. uzengukuushi* were identified in the Central Asian department (LE) during the herbarium examination. The both specimens were previously assigned as *R. wittrockii* and cited under this name in "Plantae Asiae Centralis" (Borodina 1989). However, they clearly show characters of *Rh. uzengukuushi*. Both of them have been collected in China on the opposite side of the Kyrgyz Republic border. With these specimens we recorded *R. uzengukuushi* for China for the first time. Within the natural range, this species grows at relatively high altitudes (about 3,000 m above sea level) on stony rubble substrate (Lazkov et al. 2020). For the first time, we recorded *R. uzengukuushi* for China.

Taxonomic notes. In the Kyrgyz Republic, 6 species of the genus *Rheum* are known. *Rh. uzengukuushi* differs from *R. wittrockii* by sublanceotate and undulate leaf margins.

Examined specimens (new records): CHINA: Xinjiang Uygur Autonomous Region, Chinese Turkestan, southern slopes of the Tien-Shan mountain system, the middle part of the Kukurtuk valley, fissures of rocks, [41°25.5'N 78°48'E], 22.06–2.07.1903, coll. G. Merzbacher № 360 [orig. label: Turkestania chinensis: declivitas australis jugi montium Tianschan. Kukurtuk Tal, Mitte, an Felsspalten. № 360, 22 VI–2 VII 1903, G. Merzbacher, Iter Tianschanicum 1903"] (LE); Kashgaria, Uch-Turfan, Karagailik gorge, above the juniper belt, [41°31'N, 78°58'E], 25.06.1908, coll. D. Divnogorskaya № 262 [orig. label: Кашкария, Уч-Турфан, ущ. Карагайлик, выше полосы арчи. № 262, 25 VI 1908, Д. Дивногорская] (LE).

Rhynchospora alba (L.) Vahl (Cyperaceae)

Contributors: Dmitry V. Zolotov, Dmitry V. Chernykh, Roman Yu. Biryukov, Dmitry K. Pershin & Mariia A. Kulagina

Distribution and habitat. *Rh. alba* has the Hemicosmopolitan range in the Northern Hemisphere that tends to the Holarctic Floral Kingdom. According to the GBIF database (GBIF Secretariat 2022k), the vast majority of findings are located in Northern and Central Europe, including the European part of Russia, and North America (Canada and the northern part of the USA). The species is much less common in Siberia (Krylov 1929, Timokhina & Bondareva 1990, Doron'kin 2003, Ebel 2012), in the Far East of Russia (Rozhevits 1935, Kovtonyuk 2012) and in Eastern Asia, where most of the findings are concentrated in Japan. The species was not found before for the Republic of Altai (Krasnoborov 2012) and the Russian part of the Altai Mountains as a whole (Krylov 1929, Rozhevits 1935, Timokhina & Bondareva 1990, Ebel 2012, Kovtonyuk 2012). Some findings were made in the Neotropical Floral Kingdom (Puerto Rico and Venezuela) (GBIF Secretariat 2022k). Everywhere the species is confined to peat moss bogs (mainly sphagnum bogs, less often hypnum bogs), edges of overgrown lakes and wet peatland forests. The latter is also observed in the localities which we cited, where the species was first found for the Republic of Altai.

Taxonomic notes. *Rhynchospora* Vahl is distinguished by a few or numerous spikelets from the genera *Trichophorum* Pers. and *Eleocharis* R. Br., which have only one spikelet. The most characteristic features of the genus *Rhynchospora* are few-flowered (1–3 flowers) spikelets at the base with 2–3 sterile floral glumes (scales) shorter than the rest of the fertile ones; perianth bristles in number 5–13, biconvex fruit with the remaining strongly widened base of style. Whereas in closely related genera *Scirpus* Tourn. ex L., *Schoenoplectus* (Rchb.) Palla and *Bolboschoenus* (Asch.) Palla are multiflowered spikelets with lower floral glume (scales) equal or larger than the rest ones; there are 1–6 perianth bristles or they are absent; the style is not expanded at the base. In Siberia, the genus *Rhynchospora* Vahl is represented by the only species *Rh. alba* (L.) Vahl (Krylov 1929, Rozhevits 1935, Timokhina & Bondareva 1990).

Examined specimens (new records). RUSSIA: Republic of Altai, Turochaksky District, Lake Teletskoye, surroundings of the village Artybash, upper reaches ot the Kuatang River, low-ridge-hollow transitional (mesotrophic) sphagnum peat bog, point No. 34, 51°48'50.22"N 87°19'6.20"E, 637 m a.s.l., 19.07.2006, coll. D.V. Zolotov, D.V. Chernykh & R.Yu. Biryukov (KUZ); Republic of Altai, Turochaksky District, Lake Teletskoye, upper reaches of the Karasu River, Lake Plandukel, flat-ridge-hollow sedge-sphagnum bog, point No. 23-8, 51°39'58.9"N 87°31'48.9"E, 975 m a.s.l., 24.07.2007, coll. D.V. Zolotov, D.V. Chernykh & R.Yu. Biryukov (KUZ); Republic of Altai, Turochaksky District, surroundings of the village Kebezen, Kebezenka River, tract Kurash, near the path in the sphagnum bog forested by pubescent birch, 51°52'12.7"N 87°07'26.9"E, 475 m a.s.l., 21.07.2014, coll. D.V. Zolotov & V.D. Zolotov (KUZ); Republic of Altai, Turochaksky District, surroundings of the village Kebezen, Kebezenka River, tract Kurash, sedge-cranberry-sphagnum bog and dystrophic lake, 51°52'11.2"N 87°07'48.5"E, 475 m a.s.l., 25.07.2015, coll. D.V. Zolotov, R.Yu. Biryukov, D.K. Pershin & D.V. Chernykh (KUZ).

Rorippa prolifera (Hauffel) Neilr. (Cruciferae)

Contributor: Vladimir I. Dorofeyev

Distribution, habitat and taxonomic notes. Not so long ago, many botanists tried not to notice this species. The main reason for this was its close relationship with *R. sylvestris* (L.)

Bess. However, *R. prolifera* is well distinguished by longer fruits, which can reach 15 mm. In *R. sylvestris*, the length of the siliquae varies about 10 mm. The origin and main distribution of this species is associated with the North-Eastern area of Mediterranean Province. The unusual length of the fruit was noticed in the middle of the 19th century. However, the existence of this species became apparent to researchers much later, when this species was noted in a number of areas of Central and Eastern Europe as a drift plant. That is the researchers realized that the feature of fruit length is stable.

Examined specimens (new records). LITHUANIA: Telshai District, Upynos Subdistrict, village Besch, [55°57'43"N 22°33'58"E], 05.07.1967, coll. E. Masaitis, n 4016 (BILAS); Kaunas District, Vilkija, Panemune, [54°51'54"N 23°57'47"E], 10.08.1965, coll. E. Masaitis, n 4921 (BILAS); Kretinga District, Kulupenai, in the ravine of Salanta valley, [54°51'54"N 23°57'47"E], 20.07.1960, coll. A. Lekavichius, n 4009 (BILAS); Shakiai District, Gelgaudishkis Subdistrict, village Dabitu, 'olobilų laulu pakusilije necoli lulio', [55°03'32"N 22°59'53"E], 05.07.1958, coll. R. Mazilianshaiti, n 4917 (BILAS).

Senecio dubitabilis C. Jeffrey & Y.L. Chen (Asteraceae)

Contributor: Mariia G. Khoreva

Distribution and habitat. This species was described from Kazakhstan. Its natural range is Asian deserts. It is currently known to to European Russia, Southern Siberia, Russian Far East, Belarus, Kazakhstan, Kirgizstan, Uzbekistan, Tadzhikistan, Mongolia, China, Tibet, West Himalaya (POWO 2022). In Russia it occurs as a native species in Siberia, where it grows in salt marshes, rocky river banks, meadows (Vibe 1997). It seems to be at least partially adventive one in the Far East (Barkalov 1992). *S. dubitabilis* is recently new invasive species for many parts of European Russia, and the main way of its distribution is the railroads (Sukhorukov 2012, Seregin 2014, Leostrin & Efimova 2020). The locations, nearest to the Magadan Region, are in the north of Sakhalin island (Barkalov & Taran 2004, Seregin & Bochkov 2022), app. 800 km to southwest; in Petropavlovsk-Kamchatsky (iNaturalist contributors, iNaturalist 2022p), app. 900 km to south-east; in Sakha (Yakutia): Maya (iNaturalist contributors, iNaturalist 2022q), Vuluysk (iNaturalist contributors, iNaturalist 2022r) and Lensk (Chulanova 2016, Manual… 2020), app. 1000 –1800 km to west. In the Magadan Region, *S. dubitabilis* is definitely adventive plant, which occurs on seaside dry slope in recreational zone, on wastelands and roadsides. *S. dubitabilis* was identified by D. Bochkov from a photograph of a flowering plant on Plantarium website, Magadan region, environs of the city of Magadan, coast of Gertner Bay, rocky seaside slope, 08.12.2017, M.V. Voroshilova (Voroshilova 2018). Later M.V. Voroshilova collected the samples and donated them in MAG. In 2021 this species was observed by E. Andriyanova in Magadan (iNaturalist contributors, iNaturalist 2022s). We also found this species far from the Sea of Okhotsk, in the environs of the city of Susuman that year. Another sample of 2007 from Madaun was found due to revision at MAG. Possibly, coastal and mainland localities mark different ways of invasion. Probably the species is more widespread and requires attention.

Taxonomic notes. *S. dubitabilis* is an annual 5–30 cm high, it belongs to sect. *Senecio*. It is similar to *S. vulgaris* L., but has longer dentate or lobate (not pinnate) leaves, and thoroughly pubescent achenes of 3–4 mm long (Sukhorukov 2005). The similarity to *S. vulgaris* was probably the reason why the taxon was not previously indicated for the Magadan Region.

Examined specimens (new records). RUSSIA: Magadan Region, Tenkinsky District, Madaun, near the boiler house, 60°36'23"N 150°41'48"E, 1.08.2007, coll. D.S. Lysenko (MAG0007151); Magadan Region, Susumansky District, Federal highway "Kolyma" not far from Susuman, turn to Burkandya, on the side of the road, 62°49'20.67"N 148°10'45.17"E 29.08.2021, coll. M.G. Khoreva (MAG0011346); Magadan Region, Magadan, seacoast of Gaertner bay, dry slope, 59°34'N 150°55'E, 27.08.2020, coll. M.V. Voroshilova (MAG0013911–MAG0013913); ib., 22.08.2021, M.V. Voroshilova (MAG0013908–MAG0013910). iNaturalist website observation. RUSSIA: Magadan, Karl Marx St., 59°33'41"N 150°48'34"E, 01.08.2021, E.A. Andriyanova (iNaturalist contributors, iNaturalist. 2022s).

Setaria pumila (Poir.) Roem. & Schult. (Poaceae)

Contributors: Natalia S. Gamova & Irina V. Kozyr

Distribution and habitat. The native area of this species is situated in Europe, but it has spread worldwide as an alien plant and a common weed. It was known from various regions of Siberia about 30 years ago (Peshkova 1990) and it has expanded its area since. *S. pumila* has already been recorded as an alien plant species in the Irkutsk Region (Chepinoga et al. 2008). The first record from the Republic of Buryatia was made in its western part in the Tunkinskaya valley (Krivenko 2016) while our record is 220 km further to East.

Taxonomic notes. The genus *Setaria* includes more than 100 species distributed worldwide (POWO 2022). *S. pumila* can be reliably distinguished from the other annual species of the genus – *S. glauca*, by the yellow-orange colour of the bristles.

Examined specimen (new record). RUSSIA: Republic of Buryatia, Kabansky District, village Tankhoy, 51°33'01.7"N 105°06'27.6"E, 490 m a.s.l., roadside of the highway Irkutsk – Ulan-Ude, one group of fruiting plants, 30.08.2021, coll. N.S. Gamova & I.V. Kozyr (MW).

Solidago × *niederederi* Khek (Asteraceae)

Contributor: Aleksandr L. Ebel

Distribution and habitat. *S.* × *niederederi* is a spontaneous hybrid between the North-American species *S. canadensis* L. (alien and now invasive in Eurasia) and Eurasian species *S. virgaurea* L. The first case of such hybridization in Europe was observed in Austria from where Khek (1905) described this hybrid. Since then, *S.* × *niederederi* has been found in 17 European countries, including the United Kingdom, Sweden, Denmark, Deutschland, Norway, Germany, Poland, Lithuania and Russia (Pliszko & Zalewska-Gałosz 2016, Pliszko & Kostrakiewicz-Gierałt 2017, GBIF Secretariat, 2022l). As these two species differ in flowering period [*S. canadensis* is flowering considerably later than *S. virgaurea*], it was recently supposed that large-scale hybridization is highly improbable to occur (Kabuce & Pride 2010). Nevertheless, by now *S.* × *niederederi* is considered as a naturalized alien taxon in several European countries (Pliszko et al. 2021). Within Russia this still rare hybrid was found in European part of the country, namely in Moscow, Kaluga, Tver, Pskov, Kaliningrad and Bryansk Regions (Mayorov et al. 2012, Vinogradova & Galkina 2019, Galkina & Vinogradova 2020, GBIF Secretariat, 2021 l). In Europe *S.* × *niederederi* grows in open disturbed areas (e.g., abandoned arable fields, quarries, railway and river embankments, etc.), usually together with both parental species (Pliszko et al. 2021). *S.* × *niederederi* is new interspecies hybrid (nothospecies) for Asian Russia (and probably for whole Asia).

Taxonomic notes. Both parent species belong to section *Solidago*, respectively subsect. *Triplinerviae* (Torrey & A. Gray) G.L. Nesom (*S. canadensis*) and subsect. *Solidago* (*S. virgaurea*). As both parental species are morphologically very variable, their taxonomy still requires critical revision (Weber 2000, Kieltyk & Mirek 2014, Semple et al. 2015, Sakaguchi et al. 2018, Tikhomirov & Ravenskaya 2019). As a consequence, it is sometimes hard to decide if 'intermediate' morphotypes represent true interspecific hybrids or only the extreme forms of *S. canadensis* s. l. or *S. virgaurea* s. l. (Pliszko & Zalewska-Gałosz 2016). Being an interspecies hybrid, *S.* × *niederederi* is morphologically usually more or less intermediate between *S. canadensis* and *S. virgaurea*, especially in leaf shape and venation, and size of capitulum. Additionally, the hybrid can be recognized by intermediate size of pollen grains and achenes; on the other hand, its pollen viability and achene development are usually reduced (Migdałek et al. 2014). By now, there are molecular evidences for hybridization between invasive *S. canadensis* and native *S. virgaurea* (Pliszko & Zalewska-Gałosz 2016, Galkina & Vinogradova 2020).

Examined specimens (new record). RUSSIA: Tomsk Region, Tomsk, railway right-of-way [ca. 10 exemplars, together with both parent species], 56°28'25"N 85°1'28"E, 31.07.2020, coll. A.L. Ebel (TK).

***Telekia speciosa* (Schreb.) Baumg. (Asteraceae)**

Contributors: Nikolay N. Lashchinskiy & Aleksandr L. Ebel

Distribution and habitat. This species is native to the South-Eastern Alps, Carpathians, Balkan Peninsula, Asia Minor and the Caucasus. In Hungaria and in Bosnia and Herzegovina (Király 2007, Crvena lista 2013) it is listed as endangered species. *T. speciosa* is widely cultivated as an ornamental plant and nowadays locally naturalized in Central and Eastern Europe escape from cultivation. Its native habitats are tall-herbaceous mountain meadows but in Central Europe it occurs on low elevations in wet habitats along streams, forest edges, in sparse floodplain forests and thickets. It can also invade into natural plant communities, especially wet nitrophilous woodlands and form dense, nearly monospecific stands. According to GBIF data (GBIF Secretariat 2022m) it occurs now in 34 European countries, in northern part of continental USA, South Korea, Turkey and Canada. In Russian Federation it is known from the European part of Russia, from the Caucasus and Sakhalin Island. *T. speciosa* was found in natural forest inside university campus in openings along forest trails. Local population was about one hundred plants on an area of few hundred square meters. There were plants of different age and size successively reproduced by seeds. Until now there were no other findings of this species from Siberia in the wild.

Taxonomic notes. The genus *Telekia* Baumg. belongs to tribe *Inuleae* Cass. and subtribe *Inulinae* Dumort. This genus includes one species. Previously there were two species of *Telekia* but now *T. speciosissima* (L.) Less. – endemic of Northern Italy – considered in genus *Buphthalmum* L. or in genus *Xerolekia* Anderb. (Anderberg et al. 2005). Gutiérrez-Larruscain et al. (2018) based on molecular research showed close relationships between *T. speciosa* and *Inula helenium* L.

Examined specimen (new record). RUSSIA: Novosibirsk Region, Novosibirsk, Akademgorodok, University campus, along the forest trail, [54°50'43.5"N 83°05'37.0"E], 21.08.2009, coll. N.N. Lashchinskiy (NS).

***Thalictrum simplex* L. (Ranunculaceae)**

Contributors: Andriy V. Yena, Sergey A. Svirin, Valentina V. Fateryga, Dmitry V. Yepikhin, Pavel E. Yevseyenkov & Alexander V. Fateryga

Distribution and habitat. This species is widely distributed in Europe (excluding Iceland, Great Britain, Benelux and Portugal) and temperate Asia through the Asia Minor, Caucasus, Siberia to Mongolia, China and Japan (Jalas & Suominen 1989, Krupkina 2001). However, it has not been found in Crimea till now. Within its range, *Th. simplex* occurs in various ecotopes like rocky ledges, grasslands, dry and wet meadows, bushy thickets, forest edges from lowland up to 2000 m a.s.l. (Fu & Zhu 2001, Krupkina 2001). We revealed this species for the first time in the very north point of the Crimean Peninsula, on a shrubby meadow. *Th. simplex* was previously given for Crimea by the authors of the Flora Europaea (Tutin et al. 1964), and a set of later floristic works reproduced this data from it (Tutin et al. 1993, Hand 2014). In fact, no evidence of the presence of *Th. simplex* in Crimea exists in any Soviet and post-Soviet floristic literature, so Flora Europaea reported this species for Crimea erroneously. No wonder, that *Th. simplex* was not listed in the Atlas Florae Europaeae (Jalas & Suominen 1989) because this monograph was based on the data of a great team of national contributors who deals directly with herbaria in their countries.

Taxonomic notes. *Th. simplex* is rather well recognized species in the genus. Crimean plants belong to the subsp. *simplex*. Aside from *Th. simplex*, two more long known species of the genus are distributed in Crimea, namely, *Th. lucidum* L. and *Th. minus* L. (Yena 2012).

Examined specimens (new records). RUSSIA: Republic of Crimea, Krasnoperekopsk District, 2.3 km to the north of the village Krasnoarmeyskoye, western coast of Lake Aygul'skoye, 46°01'00.0"N 34°02'08.5"E, 2 m a.s.l., shrubby meadow, 28.05.2018, coll. A.V. Yena, S.A. Svirin, D.V. Yepikhin, A.V. Fateryga & V.V. Fateryga (CSAU, MW, YALT); ib., 01.07.2020, coll. S.A. Svirin & P.E. Yevseyenkov (CSAU, LE, MW, YALT).

***Thymus rariflorus* K. Koch (Lamiaceae)**

Contributors: Vladimir M. Vasjukov & Denis A. Krivenko

Distribution and habitat. *Th. rariflorus* was described by K. Koch in 1848 from Transcaucasia; type: "Im Tschabantzthale des Gaues Sber auf Porphyr, c. 5000' hoch" (W). General distribution: mountains of the Lesser Caucasus and the northern part of Asia Minor. In Russia it was reliably known only in the Republic of Daghestan: Mt. Shalbuzdag, and between Isauli and Akvali (LE, Klokov 1973, Vasjukov 2019a). The species grows on mountain slopes in high mountain belts. *Th. rariflorus* is a new species for the territory Republic of Ingushetia.

Taxonomic notes. *Th. rariflorus* belongs to the section *Kotschyani* (Klokov et Des.-Shost.) Klokov. From the closely related *Th. osseticus* Vasjukov (North Ossetia), this species can be distinguished by short, half-appressed, recurved trichomes throughout the stem, and scattered, longer (about 1 mm), spreading trichomes. Both sides of leaves of *Th. rariflorus* are covered with scattered long hairs and teeth of the upper lip of calyx are ciliated, while in *Th. osseticus* stems are very shortly pubescent (hairs recurved, up to 0.1 mm long) and leaves are glabrous (*Th. rariflorus* var. *dzawacheticus* Ronniger has shortly pubescent leaves) and non-ciliate calyx teeth (Vasjukov 2019b).

Examined specimens (new records). RUSSIA: Republic of Ingushetia, Dzheyrakhsky District, Greater Caucasus, Skalistyi Ridge, right bank of the Armkhi River, 2.5 km SSW of Guli village, 1400 m a.s.l., schist slope, 42°47'47"N 44°47'10"E, 16.08.2021, coll. D.A. Krivenko 65945 (IRK), 65946 (PVB).

***Thymus terekensis* Klokov (Lamiaceae)**

Contributors: Vladimir M. Vasjukov & Denis A. Krivenko

Distribution and habitat. *Th. terekensis* was described by Klokov in 1973 from the Eastern Caucasus; type: "Caucasus, near Kazbek (= Stepantsminda) village, on the rocks (Paleozoic schist), on a steep slope (about 30–35°, places or more) on the left bank of the Terek River, near Nazrana, at an altitude of 1750–1950 m, not infrequently, 28 VI 1924, S. Dzevanovsky" (LE). It is an endemic of the Eastern Caucasus: Georgia and Russia (Kabardino-Balkarian Republic, Republic of Dagestan and Republic of North Ossetia–Alania) (LE, Klokov 1973, Vasjukov 2019a). *Th. terekensis* is a new species for the flora of the Republic of Ingushetia. The species grows on rocks and steep slopes in the subalpine and alpine belts.

Taxonomic notes. *Th. terekensis* belongs to the section *Kotschyani* (Klokov et Des.-Shost.) Klokov. Its habitus is similar to *Th. rariflorus* K. Koch. but stands closer to *Th. biebersteinii* Vasjukov (≡ *Th. collinus* M. Bieb.). It differs from both species in larger calyces and inconspicuous dot glands on the leaves.

Examined specimens (new records). RUSSIA: Republic of Ingushetia, Dzheyrakhsky District, Greater Caucasus, Skalistyi Ridge, right bank of the Armkhi River, foot of Mt. Stolovaya Gora, near Beini village, 1660 m a.s.l., steppefied meadow, at outcrops of bedrocks, 42°50'23"N 44°43'29"E, 16.08.2021, coll. D.A. Krivenko 65943 (IRK), 65944 (PVB).

***Veronica beccabunga* L. s.str. (Plantaginaceae)**

Contributors: Petr A. Kosachev, Alla V. Verkhozina, N.V. Dorofeev & N.V. Kulakova

Distribution and habitat. The type subspecies has a disjunctive range. The largest population is widely represented in Europe, and also in Africa, the Caucasus, Western Siberia, including the northeastern regions of Kazakhstan, and the northwestern part of Mongolia. Also this subspecies is naturalized in North (east and west) and South America (Elenevsky 1978, Deyuan & Fischer 1998, Albach 2019). In Siberia, until today the most extreme eastern locations were observed in the Republic of Khakassia and the western part of

the Krasnoyarsk Territory (Polozhij 1997, Ankipovich 1999). Plants grow along banks of streams, rivers, lakes, canals, and on spring swamps. The species was first discovered in July 2020 thanks to the observation of N.V. Dorofeev (iNaturalist contributors, iNaturalist. 2022t.) made in the Kabansky district of the Republic of Buryatia. In 2021, the species from this locality was collected for the herbarium. In October 2021, another observation from the Irkutsk Region from the vicinity of the city of Angarsk was posted on the iNaturalist website (iNaturalist contributors, iNaturalist. 2022u.) which has not yet been confirmed by herbarium specimens.

Taxonomic notes. *V. beccabunga* L. includes three subspecies: subsp. *beccabunga*, subsp. *muscosa* (Korshinsky) Elenevsky, and subsp. *abscondita* M. Fisch. *V. beccabunga* differs well from the closely related species *V. anagallis-aquatica* L.: leaves have petioles, and obtuse rounded tips. In addition, inflorescence is short raceme. Stems are dense, without a cavity. Unlike other subspecies, all parts of the type subspecies are larger, leaf blades about 3 cm long, racemes with 10–20 flowers, 5–5.5 mm long lower peduncles, corolla up to 9 mm in diameter, 2–5 mm long style, and capsules are 3–4 mm long and wide. There are two cytotypes $2n = 18$ and 36 (Elenevsky 1978, Albach 2008), but tetraploids are found only in Western Europe (Albach 2008).

Examined specimen (new record). RUSSIA: Republic of Buryatia, Kabansky District, vicinity of the village Ivanovka, near the mouth of the Kluevka River, at the railway bridge, collected in water close to the river bank, 051°43'38.64"N 105°55'27.92"E, 20.06.2021, coll. A.V. Verkhozina & P.A. Kosachev, 67607 (IRK) (iNaturalist contributors, iNaturalist 2022v,w).

Veronica scutellata L. (Plantaginaceae)

Contributors: Natalia S. Gamova & Yuri N. Korotkov

Distribution and habitat. *V. scutellata* is a widespread plant species of the boreal and arctic regions of the Northern Hemisphere. It is also recorded from the most of the regions of Siberia (Polozhij, 1996) but was not found in the Republic of Buryatia until our record. It occurs in various wet and moist habitats, i.e. river banks, marches etc. *V. scutellata* is a new species for the Republic of Buryatia.

Taxonomic notes. *V. scutellata* is one of the 44 species belonging to section *Veronica*, genus *Veronica*, of the plant family Plantaginaceae (POWO 2022). It is a perennial glabrous herb with stem creeping at its base, with long narrow leaves and a very lax inflorescence with small light-bluish or light-pinkish flowers. In our region *V. scutellata* is distinguished from the other wetland species of *Veronica* by the alternate branches of inflorescence (only one pedicel out of the leaf axil in the pair of opposite leaves) while the other pale-flowered species have opposite branches of inflorescence (two pedicels from both the leaf axils of the pair of opposite leaves).

Examined specimen (new record). RUSSIA: Republic of Buryatia, Kabansky District, vicinity of village Tankhoy, the buffer zone of the Baikalsky State Nature Reserve, 51°32'43.4"N 105°07'52.1"E, 525 m a.s.l., on the bank of the small creek at the edge of the coniferous forest (*Pinus sibirica*, *Abies sibirica*, *Picea obovata*) in the *Duschekia* and *Salix* shrub thickets, 27.08.2021, coll. N.S. Gamova & Y.N. Korotkov (MW).

Viola hultenii W. Becker (Violaceae)

Contributors: Alexey V. Salokhin & Natalia A. Tsarenko

Distribution and habitat. The range of *V. hultenii* includes Japan, the Korean Peninsula and the Russian Far East: Kamchatka Peninsula and Kuril Islands (Ohwi 1965, Voroshilov 1982, Bezdeleva 1987, Park 2007, Takahashi 2015). The plant grows in dump and occasionally swampy areas of the forest belt (mixed and coniferous forests) (Ohwi 1965, Bezdeleva 1987, Yakubov & Chernyagina 2004).

V. hultenii was not previously mentioned in flora inventories of the Sakhalin Island. It was first discovered there in 2016 in the Makarovsk District, in the vicinity of the Tikhaya Station in the fir forest with Manchurian alder and Asian white birch. The tree layer is represented by *Abies sachalinensis* (F. Schmidt) Mast., *Alnus hirsuta* (Spach) Rupr. and *Betula platyphylla* Sukaczev. The shrub layer is poorly developed, cover is 10–25 %, represented by *Sorbus sambucifolia* (Cham. et Schlecht.) M. Roem. The herb layer has cover 50–75 % and includes two sublayers, is dominated by *Osmundastrum asiaticum* Tagawa, with a mix of *Lysichiton camtschatcense* (L.) Schott, *Calamagrostis purpurea* (Trin.) Trin., *Cacalia camtschatica* (Maxim.) Kudo and *Veratrum grandiflorum* (Maxim. ex Miq.) O. Loes. *Maianthemum dilatatum* (Alph. Wood) A. Nelson & J. F. Macbr., *Hemerocallis esculenta* Koidz., *Allium ochotense* Prokh., *Trillium camschatcense* Ker Gawl., *Symplocarpus renifolius* Schott ex Tzvelev and *Saussurea acuminata* subsp. *sachalinensis* (F. Schmidt) Kitam. are present with a high degree of constancy. The moss-and-lichen stratum is poorly developed, cover is 10–25 %. Plants of *Viola hultenii,* single and groups, were found next to rhizomes of *Osmundastrum asiaticum*, among mosses.

In 2018, another site of *Viola hultenii* was found in the Tymovskoe District, on the north-eastern slope of Mezhdurechny Ridge. The habitat is disturbed and features visible traces of old logging, which causes the slope's exposure to erosion with water discharges, while the substrate is very wet and covered with moss. The vegetation is regenerating spruce-and-fir forest with Manchurian alder and Erman's birch. The undergrowth is represented by *Betula ermanii* Cham., *Alnus hirsuta*, *Abies sachalinensis*, *Picea ajanensis* (Lindl. et. Gord.) Fisch. ex Carr., *Salix caprea* L. and *S. schwerinii* E. Wolf.). The shrub stratum comprises *Sorbus sambucifolia* and *Spiraea betulifolia* var. *aemiliana* (C.K.Schneid.) Koidz. Herb layer, cover is 25–50 %, is represented by *Artemisia montana* (Nakai) Pamp., *Cornus canadensis* L., *Maianthemum dilatatum*, *Persicaria weyrichii* (F. Schmidt) H. Gross, *Heracleum lanatum* Michx., *Cacalia camtschatica*, *Lilium debile* Kittlitz, *Anaphalis margaritacea* (L.) Benth. & Hook.f., *Cirsium kamtschaticum* Ledeb. ex DC., *Arnica sachalinensis* (Regel) A.Gray, *Calamagrostis purpurea* (Trin.) Trin., *Equisetum arvense* L., *Ranunculus repens* L., *Hieracium umbellatum* L., *Pilosella aurantiaca* (L.) F.W. Schultz & Sch. Bip., *Osmundastrum asiaticum*, *Neolindleya camtschatica* (Cham.) Nevski. and *Anemone debilis* Fisch. ex Turcz. The population of *Viola hultenii* included more than 150 individuals. The plants were in excellent condition.

During the study period, *V. hultenii* in both locations were in their "blooming end" and "fructification start" phases.

Taxonomic notes. Some authors specify the species name as *V. blandaeformis* Nakai (Ohwi 1965, Voroshilov 1982, Masashi 1996, Yamada 2010) or *V. blandiformis* Nakai (Flora of Korea). Espeut (2020) assigned this species as *V. pallens* subsp. *hultenii* (W. Becker & Hulten) Espeut, while *V. blandaeformis* is referred to synonyms for *V. brachyceras* Turcz. We follow Bezdeleva (1987) and consider *V. hultenii* as the taxon of the species level. *V. hultenii* is a perennial herbaceous long-rhizome plant which is up to 7(10) cm tall. Its rhizome is light and filamentous and bears black petioles and long thin branching roots in its nodes. The rosette contains up to 3–4 leaves on long petioles. Leaves are lamellate up to 2.5 cm long and 2.3 cm wide, mostly kidney-shaped or orbicularly kidney-shaped with feature long narrow cavity at the base and a rounded tip, leaf margin are flat-crenate, sparsely downy bracts are 1 to 1.50 mm long in the middle part and lanceolate. Sepals are wide and egg-shaped, up to 3.2 mm long and up to 1.5 mm wide with 1 mm long and 1.2 mm wide appendages. Petals are white, oblong, and obovate, with the lower featuring cut tip and being shorter and wider than others, and also with developed network of violet veins and a very short and thin spur. Capsules are broadly egg-shaped or elliptic, 5–6 mm long and up-to 3 mm thick (Bezdeleva 1987).

Examined specimens (new records). RUSSIA: Sakhalin Region, Makarov District, vicinity of Tikhaya Station, 48°01'17"N 142°29'55"E, fir forest with alder and birch trees, 27.06.2016, coll. A.V. Salokhin (VBGI); Sakhalin Region, Tymovskoe District, on the North-Eastern slope of the Mezhdurechny Ridge, 51°05'00"N 142°49'47"E). 27.06.2018, coll. A.V. Salokhin 38448 (VBGI).

Viola prionantha Bunge (Violaceae)

Contributor: Svetlana V. Ovchinnikova

Distribution and habitat. *V. prionantha* was described by Bunge from Northern China by his own collections (lectotype – LE, syntype – P02141148). Later it was found in many

provinces of China, in Korea, in the south of the Russian Far East (Juzepchuk 1949, Boyko & Starchenko 1982, Yousheng et al. 2007, Kryukova et al. 2010, Zuev 2012), it was introduced to Kyrgyzstan (Lazkov et al. 2011). From the kinship of *V. prionantha*, the species *V. irinae* Zolot. have been described from the Republic of Altai (Zolotukhin 1984) and *V. jenisseensis* Zuev from the Krasnoyarsk Territory (Zuev 1993). Their names were later referred to synonyms of *V. prionantha* (Nikitin & Silantjeva 2006). In "Flora of Siberia" (Zuev 1996), *V. irinae* Zolot. was recorded in the Altai Territory, the Republic of Altai and the Novosibirsk Region from a single location – village Kolyvan. The authors of the publication (Nikitin & Silantjeva 2006) suggested an adventitious nature of *V. prionantha* in Western Siberia. We also collected the species in a man-made locality on a lawn near a residential building. The population includes more than 100 individuals. However, earlier on the site of this microdistrict there was a village and a river flowed, and the modern lawn is located on its former bank. The second location in the Novosibirsk Region is quite remote from the first. The question about the relict or adventitious nature of this species remains open. *V. prionantha* grows on grasslands on mountain slopes, stream sides, near houses.

Taxonomic notes. *V. prionantha* belongs to the section *Violidium* (K. Koch) Juz. of subgenus *Viola* which included perennial stemless plants without creeping shoots with stipules half adhering to the petiole, articulated stalks and bent at an angle at the apex, whole leaves and large seeds (Nikitin & Silantjeva 2006). From the related species *V. macroceras* Bunge it can be distinguished by leaf blade at anthesis is oblong-ovate, ovate-lanceolate, or narrowly ovate, 1–4.5 cm × 6–20 mm, both surfaces are glabrous or puberulous, sometimes hairy only along veins, and base is slightly cordate, truncate, or broadly cuneate, slightly decurrent, margins are usually involute when young, densely crenulate, apex obtuse or ± acute; leaf blade conspicuously enlarged at fruiting, to 10 × 4 cm, it has triangular-ovate, broadest near middle, base is usually broadly cordate. Flowers are purple-violet, 1.2–2 cm in diam., seeds numerous, deep brown, ovoid-globose, ca. 2 mm, ca. 1.5 mm in diam., often brown-punctate (Nikitin & Silantjeva 2006, Yousheng et al. 2007).

Examined specimens (new record). RUSSIA: Novosibirsk Region, Novosibirsk, Akademgorodok, "Shch" microdistrict, Demakova St., 13, south side, on a lawn with meadow and weed vegetation, with gravel elements, [54°51'48" 83°6'33"E], 27.04.2021, coll. S.V. Ovchinnikova, Yu.V. Ovchinnikov (NSK0085729–NSK0085731).

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