

New regional records of vascular plants from Kyrgyzstan

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Abstract

We present and discuss noteworthy floristic records obtained during the Moscow University summer expedition to Kyrgyzstan in 2016. Three taxa are reported as new for Kyrgyzstan: a native species (*Utricularia australis* R. Br.), an established alien (*Artemisia verlotiorum* Lamotte), and a nothospecies of local origin (*Arctium* × *ambiguum* (Čelak.) Nyman). Additionally, we document 31 species (26 native and 5 alien – *Anthemis ruthenica* M. Bieb., *Atriplex oblongifolia* Waldst. et Kit., *Chenopodium vulvaria* L., *Lepidotheca suaveolens* (Pursh) Nutt., and *Medicago sativa* L. s. l.) as new records for one of the seven floristic regions defined in the standard national checklist. These include 12 new records for Western Tian Shan, six for the Alay Valley, six for Inner Tian Shan, four for Fergana, three for the Ysyk-Köl Depression, and two for Northern Kyrgyzstan. Furthermore, we provide supplementary records for 12 species previously overlooked in the national checklist, supported by historical references and newly collected specimens.

Keywords

Biodiversity, flora, Middle Asia, new records, tracheophytes

Introduction

The Checklist of Vascular Plants of Kyrgyzstan (Lazkov & Sultanova 2011, 2014) serves as a foundational resource for floristic and taxonomic research in the region. With 3,927 documented species of vascular plants (Lazkov & Sultanova 2014), Kyrgyzstan ranks among the most biodiverse temperate countries, yet numerous undescribed taxa remain. Since the checklist's publication, at least 40 new species have been described from Kyrgyzstan (2014–2024), resulting from monographic revisions, molecular studies, and the examination of recent collections (IPNI, <https://ipni.org/>).

The 2016 Moscow University summer expedition was initially organized to collect extensive material on *Allium* species, but its scope was expanded to include broader floristic surveys. Utilizing an off-road vehicle, the team conducted fieldwork across 90 sites over 28 days (Fig. 1, Table 1), collecting approximately 1,000 specimens. While taxonomic identification of these collections remains ongoing—particularly for taxonomically complex groups—this study presents preliminary findings, including three new country records, 31 new regional records, and supplementary documentation for 12 previously underreported species. Given the increasing number of botanical expeditions to Kyrgyzstan, these records contribute to refining the country's floristic inventory.

Materials and methods

Expedition

The Moscow University summer expedition of 2016 to Kyrgyzstan had at least three priority tasks:

- visiting of *loci classici* of *Allium* species from the sections *Oreiprason* and *Falcatifolia* for clear understanding of name implementation in line with molecular revision;
- enlargement of fresh Middle Asian collections in the Moscow University Herbarium (MW) with special emphasis on groups studied by the university staff members;
- search for new regional plant records upon the scheme of floristic regions used by Lazkov & Sultanova (2011, 2014).

The schedule of expedition, collectors' names and intensity of collections (excluding duplicates) are presented in Table 1. All collections were made by A.P. Seregin, except specimens collected in July, 13–19 as a part of the international expedition and from July, 31 to August, 7 with D.F. Lyskov. The map of collecting localities is presented in Fig. 1.

Table 1. General information on the Moscow State University summer expedition to Kyrgyzstan (2016)

Date	Localities	Collector's numbers	Number of specimens
Phase 1 (11.07.2016–12.07.2016): collector A. Seregin			
11.07.2016	Kyrgyz Ala-Too: the Kara-Balta River, the Abla River, Töö-Ashuu Pass	A-1211 to A-1244	35
12.07.2016	Talas Ala-Too: the Chichkan River; the Naryn River (below Kara-Köl)	A-1245 to A-1282	38
Phase 2 (13.07.2016–18.07.2016): collectors A. Seregin, G. Lazkov, A. Sennikov, E. von Raab-Straube, A. Szukala, & M. Ganybayeva			
13.07.2016	Aflatun, Sumsar	A-1283 to A-1313	30
14.07.2016	Sumsar, the Kasansay River, Chatkal Range	A-1314 to A-1358	45
15.07.2016	Chatkal Range: Aygyrdzhal, Chapchyma Pass, the Kasansay River	A-1359 to A-1396	38
16.07.2016	Fergana Valley: Kyzyl-Jar, Uuru-Jar	A-1397 to A-1410	14
17.07.2016	Alay Mountains: Uch-Korgon	A-1411 to A-1451	43
18.07.2016	Alay Mountains: Okhna (Orozbekovo); Kadamzhay	A-1452 to A-1476	26
Phase 3 (19.07.2016–30.07.2016): collector A. Seregin			
19.07.2016	Kadamzhay	A-1477 to A-1484	8
20.07.2016	the Bekechal River	A-1485 to A-1518	35
21.07.2016	Toktogul Dam, the Chichkan River	A-1519 to A-1554	36
22.07.2016	Sysamyr Depression; Talas Ala-Too: Ötmök Pass, the Taldy-Bulak River; Talas Valley: Kara-Choku Mount	A-1555 to A-1588	34
23.07.2016	Talas Ala-Too: Besh-Tash gorge, the Kara-Buura River, Kara-Buura Pass	A-1589 to A-1633	45
24.07.2016	Chatkal Range: Tuz-Ashuu gorge	A-1634 to A-1671	38
25.07.2016	Chatkal Range: Chapchyma Pass, the Kasansay River; Fergana Valley: Ak-Tam; Aflatun	A-1672 to A-1702 A-1713 to A-1724	31
26.07.2016	Chatkal Range: Sary-Chelek Reserve; Tash-Kömür	A-1703 to A-1712	21
27.07.2016	Alay Mountains: Pamirsky Trakt (Gulcha, Ak-Bosogo, Taldyk Pass, Sary-Tash); Alay Valley	A-1725 to A-1786	61
28.07.2016	Trans-Alay Range: Bardoba border post; Alay Valley: the Kyzyl-Su River, Kashka-Su	A-1787 to A-1833	47
29.07.2016	Alay Valley: the Kyzyl-Su River; Alay Mountains: Sary-Tash, Taldyk Pass, Ak-Bosogo	A-1834 to A-1871	38
30.07.2016	the City of Osh	-	-
Phase 4 (31.07.2016–9.08.2016): collectors A. Seregin & D. Lyskov			
31.07.2016	Fergana Range: ascent to Kazarman (old road)	A-1872 to A-1878	7

Date	Localities	Collector's numbers	Number of specimens
1.08.2016	Fergana Range: descent to Kazarman (old road), road to Jaman-Too Range	A-1879 to A-1908	30
2.08.2016	Jaman-Too Range, the Jaman-Davan River, Bayetovo, Moldo-Too: ascent to Song-Köl	A-1909 to A-1958	51
3.08.2016	Inner Tian Shan: the Jungol River, the Tyugel-Say River, the Chüy River below Kochkorka, Orto-Tokoy Dam	A-1959 to A-2008	50
4.08.2016	Teskey (Terskey) Ala-Too: the Ulakhol River, Tuura-Suu; Lake Ysyk-Köl: Ak-Buluk Peninsula	A-2009 to A-2049	41
5.08.2016	Küngöy Ala-Too: the Toru-Aygyr River	A-2050 to A-2083	34
6.08.2016	the Chong-Kemin River	A-2084 to A-2133	47
7.08.2016	the Chong-Kemin River; Kyrgyz Ala-Too: Chonkurchak near Bishkek	A-2134 to A-2155	22

We made 945 numbered gatherings (963 physical specimens) transferred to the Moscow University Herbarium (MW) soon after labeling and identification of easy groups. By December, 5 2016, 397 specimens (37%) were not identified at species level due to large scale on-purpose collecting of *Astragalus*, *Oxytropis*, *Artemisia*, *Erigeron*, *Lappula*, *Rosa*, *Cotoneaster*, *Salix*, some Poaceae, Polygonaceae, Chenopodiaceae, etc.

All specimens from the Moscow University summer expedition to Kyrgyzstan were digitized later and published online in the Moscow Digital Herbarium (Seregin 2025; <https://plant.depo.msu.ru/>). Every record published below is linked with a published e-record of the specimen (for example, MW0896299). These links lead to specimen pages with 300 dpi images, label data and precise geolinks.

Identification of Collections

Identification of plants was performed by Seregin primarily using Manual of Vascular Plants of Central Asia (Vols. 1–10, 1968–1993) and to some extent Flora of Tajik SSR (Vols. 1–10, 1957–1991). Other sources were used for consultation in various groups additionally. Dr. Georgy A. Lazkov (Caryophyllaceae, Lamiaceae and many other) and Dr. Alexander N. Sennikov (Asteraceae) kindly shared with us their knowledge on some groups of Kyrgyz plants during our mutual trip and lately by photo. Brassicaceae were identified by Dr. Dmitry German during his short visit to the Moscow University Herbarium in September 2016. Some identifications were made by Dr. D.F. Lyskov (Apiaceae), Dr. O.V. Yurtseva (Polygonaceae) and Dr. D.A. Krivenko (*Astragalus*).

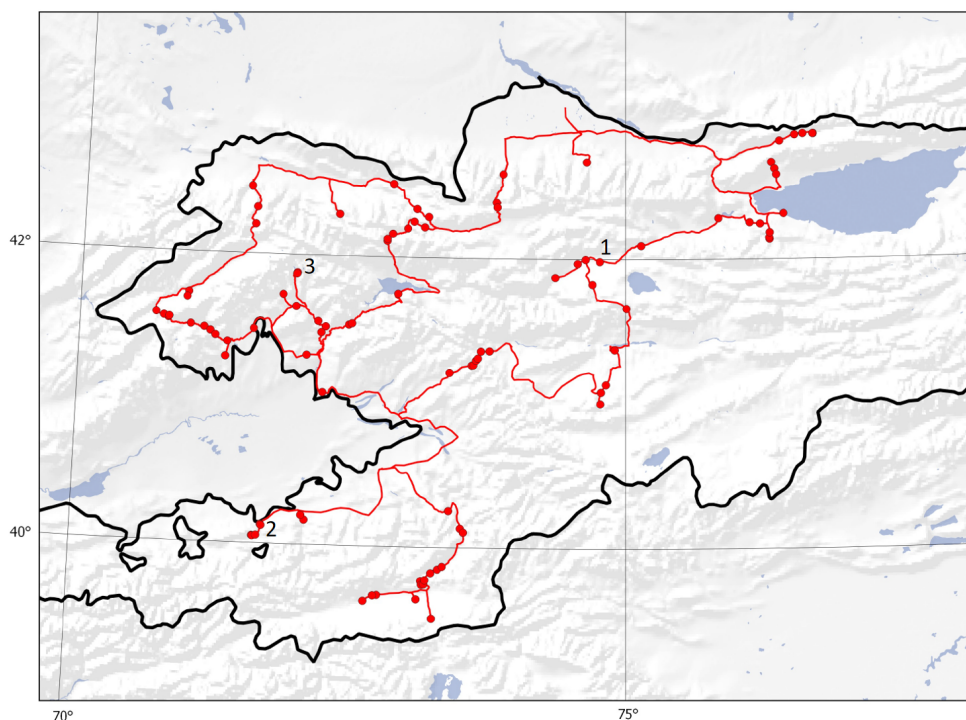


Figure 1. Expedition route and collection localities of the 2016 Moscow University summer expedition to Kyrgyzstan, with new country records indicated: (1) *Utricularia australis* R. Br. (Tyugel-Say, 3.08.2016); (2) *Artemisia verlotiorum* Lamotte (Kadamzhay, 18.07.2016); (3) *Arctium ×ambiguum* (Čelak.) Nyman (Sary-Chelek Reserve, 26.07.2016).

Floristic Records

All records were checked against both editions of the Checklist of vascular plants of Kyrgyzstan by Lazkov & Sultanova (2011, 2014) to find out the new reports for one of seven floristic regions ("biogeographical provinces"). The standard English names and abbreviations for these regions were designated later by Lazkov & Sennikov (2015) (Fig. 2):

- Northern Kyrgyzstan (NK),
- Ysyk-Köl Depression (YK),
- Central Tian Shan (CT),
- Western Tian Shan (WT),
- Fergana part of Kyrgyzstan (FK),
- Inner Tian Shan (IT),
- Alay Valley (A).

Finally, we consulted other published sources to find out whether the plant is really new for a certain region, or earlier records were just missed in the checklist. Some references were kindly pointed out by an anonymous reviewer.

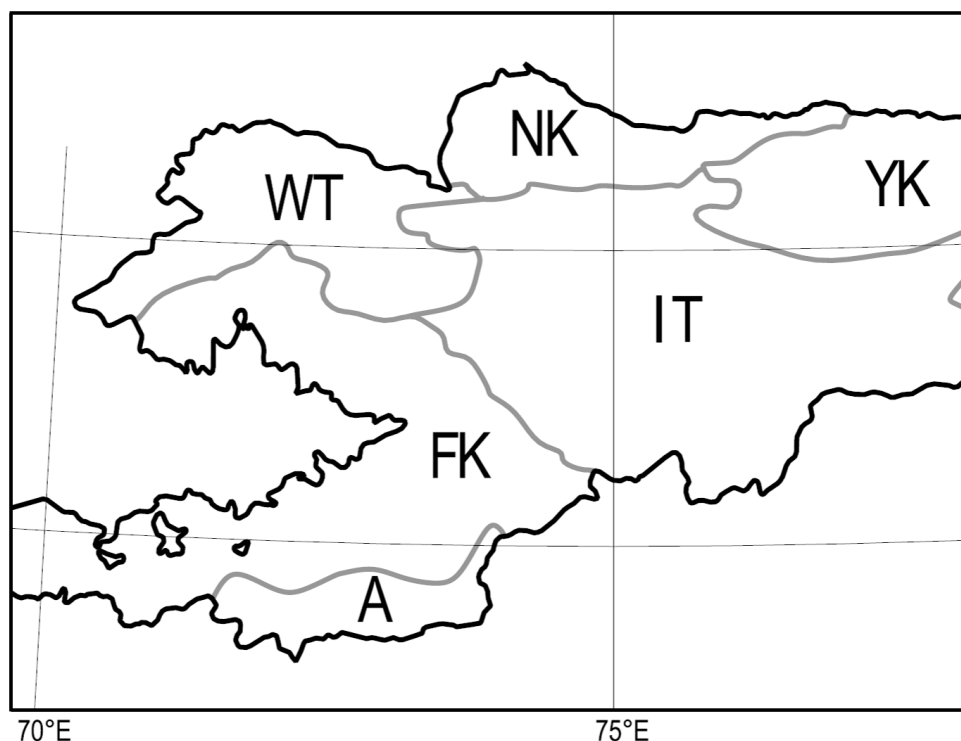


Figure 2. Floristic regions (biogeographical provinces) of Kyrgyzstan as delineated by Lazkov & Sultanova (2011), with English nomenclature following Lazkov & Sennikov (2015).

Results and discussion

There are two sorts of noteworthy records published and discussed below.

“New records” are completely new reports in one of seven floristic regions (NK, YK, CT, WT, FK, IT, A) comparing to Lazkov & Sultanova (2011, 2014) based upon our field collections.

“Additional records” are the reports from floristic regions new to Lazkov & Sultanova (2011, 2014), but published earlier by other authors and confirmed by us. For instance, many neglected records were published in the Flora of Tajik SSR (Vols. 1–10, 1957–1991) from Alay Valley which was fully covered by this source. A brief citation of all available specimens is a superb advantage of this series over other standard floras of the former Soviet Middle Asian states. Some omissions are mentioned in Manual of Vascular Plants of Central Asia (Vols. 1–10, 1968–1993). Although records in this source are generalized up to the ranges, some of them could be undoubtedly correlated with floristic regions used in Lazkov & Sultanova (2011, 2014).

Species are cited in alphabetic order of families and genera.

***Allium carolinianum* DC. (*A. polyphyllum* Kar. et Kir.) (Amaryllidaceae)**

Fig. 3

Additional records: Kyrgyzstan. **A.** Alay Mountains: 39°44'32"N, 73°10'36"E, M41 highway (Pamirsky Trakt), 6 km to W from Sary-Tash, rocks and fine earth on slope among rocks, 3,530 m a.s.l., 27.07.2016, **A.** Seregin A-1771 (MW0896307); **A.** Alay Valley: 39°39'46"N, 72°44'25"E, 1.5 km to E from Karakabak, Kyzyl-Dong Mount (E part), S slope, red sandy loam, 2,870 m a.s.l., 29.07.2016, **A.** Seregin A-1841 (MW0896308).

Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Western Tian Shan, Fergana, and Inner Tian Shan floristic regions. We revealed an earlier report from Sary-Mogol situated in Alay Valley floristic region based upon collections by Krivonogova (Vvedensky 1963). Our collections confirm this record.



Figure 3. Umbel of *Allium carolinianum* (Sary-Tash).

***Allium filifolium* Regel (Amaryllidaceae)**

Fig. 4

Additional records: Kyrgyzstan. **WT.** Talas Ala-Too: 42°20'09"N 73°04'21"E, between Ötmök Pass and Taldy-Bulak, group of rocks along highway, shelves, 2,480 m a.s.l., 22.07.2016, A. Seregin A-1569 (MW0896289); **WT.** 42°17'20"N, 72°21'10"E, 27 km to SSE from Talas, Besh-Tash gorge, middle course, right slope, shelves and crevices of small rocky ridge and adjacent bare stony slope, 2,170 m a.s.l., 23.07.2016, A. Seregin A-1604 (MW0896287); **WT.** 42°19'14"N, 71°35'31"E, 31 km to S from Kyzyl-Adyr, the Kara-Buura River gorge, shelves and ridges of vertically dislocated shale rocks, 1,720 m a.s.l., 23.07.2016, A. Seregin A-1613 (MW0896285).



Figure 4. Young umbel of *Allium filifolium* (locus classicus, Besh-Tash).

This species was synonymized with *A. kokanicum* Regel by Vvedensky (1971). This broad concept was presented by Lazkov & Sultanova (2011, 2014), who reported *A. kokanicum* s.l. from Northern Kyrgyzstan and Fergana floristic regions. Preliminary molecular data show that *A. kokanicum* group is extremely diverse and consists of several geographical lineages of uncertain relations (Seregin, Friesen 2015). The *locus classicus* of *A. filifolium* is situated in Western Tian Shan floristic region – it was described from Besh-Tash Valley in Talas Ala-Too (Regel 1878). Being

one of the oldest names in the group, *A. filifolium* will be accepted for dwarf plants which are forming patches in rock crevices of Talas Ala-Too, whereas typical *A. kokanicum* is more robust and growing solitary on sandy loam of Alay Mountains. We made several collections of *A. filifolium* in Western Tian Shan floristic region, including a gathering from the *locus classicus* (MW0896287).

Later on, Lazkov & Turdumatova (2021b) revised *A. kokanicum* s. l. in Kyrgyzstan. They mapped three taxonomic entities within the group (*A. kokanicum* s. str., *A. filifolium*, *A. caricoides* Regel) separately, but the whole list of collections was attributed to *A. kokanicum* s. l.

***Allium jucundum* Vved. (Amaryllidaceae)**

Fig. 5

Additional record: Kyrgyzstan. YK. Teskey (Terskey) Ala-Too: 42°08'25"N, 76°20'14"E, lower course of the Ulakhol River, rock on right bank, N river-faced slope, stony grassland (near Tuura-Suu), 2,230 m a.s.l., 4.08.2016, A. Seregin & D. Lyskov A-2013 (MW0896295, MW0896294).



Figure 5. Umbels of *Allium jucundum* (locus classicus, the Ulakhol River).

The *locus classicus* which was clearly defined on the holotype label and protologue as "lower course of the Ulakhol River, rocks" (Vvedensky 1934) is situated in Ysyk-Köl Depression floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan and Inner Tian Shan floristic regions, while the classical locality was missed. We confirmed presence of the species in *locus classicus*.

***Allium kirilovii* N. Friesen et Seregin (Amaryllidaceae)**

Fig. 6

New record: Kyrgyzstan. YK. Küngöy Ala-Too: 42°40'06"N, 76°21'46"E, the Toru-Aygyr River catchment, 19 km to N from Toru-Aygyr, W slope, *Ziziphora* community on granite crushed stones, 2,440 m a.s.l., 5.08.2016, A. Seregin & D. Lyskov A-2051 (MW0896299).

Additional records: Kyrgyzstan NK. Chong-Kemin River valley (middle course): 42°51'49"N, 76°39'34"E, lower course of the the Dzhindi-Suu River (fed by glaciers below Chok-Tal Mount), *Picea* forest zone, fine earth between boulders, 2,560 m a.s.l., 6.08.2016, A. Seregin & D. Lyskov A-2127 (MW0896297; MW0896298); 42°48'55"N, 76°26'25"E, *Picea* forest zone, the Dzhan-Aryk River mouth (right tributary), river bed escarp of the Chong-Kemin River, 2,170 m a.s.l., 7.08.2016, A. Seregin & D. Lyskov A-2141 (MW0896296).



Figure 6. Umbel of *Allium kirilovii* (the Chong-Kemin River).

The species was described from two localities – Kegen District, Kazakhstan and E Tian Shan, China based on molecular evidence (Seregin et al. 2015). Later on, A. Seregin identified the photo made by A. Naumenko in Chong-Kemin valley (NK), Kyrgyzstan (<http://www.plantarium.ru/page/image/id/204075.html>). This was the first country record of the species. Lazkov & Turdumatova (2021a) revised specimens in the Herbarium of Institute of Biology and Soil Science, Bishkek (FRU) and published several records from Northern Kyrgyzstan floristic region, but mainly from Chong-Kemin mentioned above.

Allium kirilovii looks similar to white-flowered *A. leptomorphum* Vved. and *A. talassicum* Regel, which also have cylindrical false bulbs. Meanwhile, it clearly differs from both by yellow anthers, and represents another lineage being phylogenetically related to *A. petraeum* Kar. et Kir. from the section *Oreiprason* Hermann.

***Prangos pabularia* Lindl. (Apiaceae)**

Additional record: Kyrgyzstan. IT. Fergana Range foothills: 41°21'36"N, 73°45'40"E, old road from Jalal-Abad to Kazarman, 22 km to W from Kazarman, small escarp, 1,850 m a.s.l., 1.08.2016, A. Seregin & D. Lyskov A-1907 (MW0858237, MW0858238).

Lazkov & Sultanova (2011, 2014) recorded the species from Western Tian Shan and Fergana floristic regions. Pimenov & Kljuykov (2002) mapped the species with at least three localities on NE slope of Fergana Range (Inner Tian Shan floristic region). We made our collection roughly in the same place.

***Anthemis ruthenica* M. Bieb. (Asteraceae)**

New record: Kyrgyzstan. FK. Fergana Range: 41°12'27"N, 73°23'54"E, 7 km to NE from Arkhangelskoye, *Juglans regia* forest zone, Kazarman road margin, 1,580 m a.s.l., 31.07.2016, A. Seregin & D. Lyskov A-1873 (MW0883310).

A rapidly spreading in Kyrgyzstan annual alien (Sennikov, Lazkov 2024). Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan and Fergana floristic regions. Lazkov & Sennikov (2014) mapped thoroughly *A. ruthenica* from many localities in Northern Kyrgyzstan and a single place in Western Tian Shan floristic region, whereas records from Fergana Valley were neither discussed nor confirmed by them. Most probably, the record from Fergana floristic region of Kyrgyzstan was based on Kamelin & Kovalevskaja (1993a) who reported the species for the first time for Middle Asia, including the Shakhimardan [Shohimardon] River catchment in Alay Mountains. This area is an exclave of Uzbekistan, therefore formally our collection is the first evidence of the species presence in Fergana floristic region of Kyrgyzstan. Only one individual was discovered.

***Arctium* × *ambiguum* (Čelak.) Nyman (= *A. lappa* L. × *A. tomentosum* Mill.)**
 (*A. ×leiobardanum* Juz. et Ye.V. Serg. ex Stepanov = *A. leiospermum* Juz. et Ye.V. Serg. × *A. tomentosum* Mill.) (Asteraceae)

New record: Kyrgyzstan. FK. Chatkal Range: 41°52'00"N, 71°58'35"E, Sary-Chelek Reserve, small lake Kyls-Köl (along road to Lake Sary-Chelek), NW bank, grass slope from road to lake, 1,850 m a.s.l., 26.07.2016, A. Seregin & T. Zhunusova A-1712 (MW0887825).

This hybrid was neglected for Kyrgyzstan by Lazkov & Sultanova (2011, 2014). Juzepczuk & Sergievskaya (1962) regarded *A. leiospermum* to be distinct from *A. lappa*, and therefore described *A. ×leiobardanum* as a new nothospecies. The description of this hybrid was made in Russian and no type was cited, although a brief distribution record included Tian Shan. Later on, the name was validated by Stepanov (1992) with a type originating from Krasnoyarsk Krai, Russia. We regard *A. leiospermum* to be a synonym of *A. lappa*, and therefore reduce *A. ×leiobardanum* to the synonymy of *A. ×ambiguum*. Both parents, i.e. *A. tomentosum* Mill. (MW0887839) and *A. lappa* L. s. l. (MW0887826) were growing together thus making the hybrid easily recognisable.

***Artemisia verlotiorum* Lamotte (Asteraceae)**

New record: Kyrgyzstan. FK. Alay Mountains foothills: 40°07'29"N, 71°43'23"E, Kadamzhay, town centre (near House of Culture), on lawn among cultivated shrubs, vegetative clone, 1,060 m a.s.l., 18.07.2016, A. Seregin A-1476 (MW0886588).

A new record for Kyrgyzstan and Middle Asia (alien species). The plant was recognized easily due to presence of long rhizomes which form a dense vegetative clone. The species was incorrectly synonymized with *A. vulgaris* by Li (1993), who introduced misleading broad treatment of this complex in Middle Asia. Molecular data show that *A. vulgaris* and its rhizomatous East Asian allies are genetically different and forming several well-supported clades (Sanz et al. 2008; Hobbs & Baldwin 2013). *Artemisia verlotiorum* is the most widespread East Asian alien from this group in Europe and the Mediterranean area (Greuter 2006–2016). It is widely distributed in China where it is treated as a native species, but no records were made in the neighbouring Xinjiang (Lin et al. 2011). In Kyrgyzstan, *A. verlotiorum* is a locally established alien spreading vegetatively by long creeping rhizomes. Additional on site observations are required to study whether it produces fertile seeds in late autumn.

***Doronicum turkestanicum* Cavill. (Asteraceae)**

Additional record: Kyrgyzstan. A. Trans-Alay Range: 39°30'33"N, 73°16'34"E, M41 highway (Pamirsky Trakt), Bardoba border post, small right tributary of the

Kyzyl-Art River, fine earth above N-faced rock, 3,560 m a.s.l., 28.07.2016, A. Seregin A-1806 (MW0886878).

Lazkov & Sultanova (2011, 2014) recorded the species from all floristic regions excluding Alay Valley, although there are multiple collections from this area starting from historical gatherings by O. & B. Fedtschenko (Kinzikayeva 1988). We made our collection exactly in the same place near Bardoba border post.

***Lepidothea suaveolens* (Pursh) Nutt. (*Matricaria discoidea* DC.) (Asteraceae)**

New record: Kyrgyzstan. WT. Talas Ala-Too: 42°06'40"N, 72°48'12"E, middle course of the Chichkan River, left bank, 27 km to N from Toktogul, highway margin, 1,640 m a.s.l., 21.07.2016, A. Seregin A-1540 (MW0883708).

New to Western Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Fergana, and Inner Tian Shan floristic regions. This North American weed is still spreading. Alien species in Kyrgyzstan (Sennikov, Lazkov 2024).

***Rhaponticoides ruthenica* (Lam.) M. V. Agab. & Greuter
(*Centaurea ruthenica* Lam.) (Asteraceae)**

Additional record: Kyrgyzstan. WT. Talas Ala-Too: 42°17'17"N, 72°21'14"E, 27 km to SSE from Talas, Besh-Tash gorge, middle course, right slope, stony W slope dominated by steppe grasses and petrophytes, 2,120 m a.s.l., 23.07.2016, A. Seregin A-1590 (MW0890720).

Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Fergana, and Inner Tian Shan floristic regions. Machmedov (1993a) reported the species from Talas Ala-Too (Western Tian Shan floristic region), where we also collected it.

***Senecio subdentatus* Ledeb. (Asteraceae)**

New record: Kyrgyzstan. YK. Inner Tian Shan: 42°17'08"N, 75°51'48"E, upper course of the Chüy River, right slope of the valley, 10 km below Kochkorka, granite outcrops above highway, 1,760 m a.s.l., 3.08.2016, A. Seregin & D. Lyskov A-2004 (MW0887181).

New to Ysyk-Köl Depression floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Western Tian Shan, Fergana, and Inner Tian Shan floristic regions. Additionally, it was reported from Alay Valley floristic region by Zuckerwanik (1993). The species is widely distributed in Middle Asia, as well as in Transcaucasia, Southern Siberia, Xinjiang, and Mongolia (Zuckerwanik 1993; Chen et al. 2011).

***Serratula sogdiana* Bunge (Asteraceae)**

New record: Kyrgyzstan. **IT.** Fergana Range foothills: 41°21'27"N, 73°40'59"E, old road from Jalal-Abad to Kazarman, 28 km to W from Kazarman, meadow community, 2,020 m a.s.l., 1.08.2016, A. Seregin & D. Lyskov A-1903 ([MW0890247](#)).

New to Inner Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Western Tian Shan, and Fergana floristic regions. Additionally, it was reported from Alay Valley floristic region by Machmedov (1993b). The species is endemic to western sector of Tian Shan and Pamir-Alay. Our record denotes the eastern limit of the species range.

***Tripleurospermum inodorum* (L.) Sch. Bip. (Asteraceae)**

Additional record: Kyrgyzstan. **WT.** Talas Valley: 42°30'13"N, 72°50'57"E, 9 km below Köpürö-Bazar, Kara-Choku Mount, S foot, *Artemisia* community, a single individual, 1,830 m a.s.l., 22.07.2016, A. Seregin A-1587 ([MW0883796](#)).

Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan and Fergana floristic regions. Earlier, it was reported from Inner Tian Shan floristic region (vicinity of the Naryn City) and Western Tian Shan floristic region (Talas Valley) by Kamelin & Kovalevskaja (1993b). We confirmed the species from Talas Valley. In Kyrgyzstan, *T. inodorum* is a rapidly spreading alien (Sennikov, Lazkov 2024). There were no collections from the Middle Asian mountains until mid-20th century (Pobedimova 1961), whereas Kamelin & Kovalevskaja (1993) reported the species from many places in Dzhungarian Alatau, Tian Shan and Pamir-Alay.

***Buglossoides arvensis* (L.) I.M. Johnst. (*Lithospermum arvense* L.) (Boraginaceae)**

New record: Kyrgyzstan. **A.** Alay Mountains: 39°46'05"N, 73°10'09"E, M41 highway (Pamirsky Trakt), Taldyk Pass, man-made stony terrace above the Taldyk River, 3,600 m a.s.l., 27.07.2016, A. Seregin A-1758 ([MW0876575](#)).

New to Alay Valley floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Western Tian Shan, and Fergana floristic regions. It is a fairly common species in Middle Asia but usually it occurs on lower altitudes. We discovered *L. arvense* as a pioneer of a newly constructed area at the altitude 3,600 m a.s.l. The highest previous altitudinal record for this species was 3,000 m a.s.l. (Chukavina 1984).

***Draba lanceolata* Royle (Brassicaceae)**

New record: Kyrgyzstan. **WT.** Talas Ala-Too: 42°12'02"N, 72°59'22"E, upper course of the Chichkan River (just above the Tersty River mouth), right slope of the gorge,

slope meadow (pasture) with rock outcrops and shrubs (*Rosa*, *Juniperus*), 2,510 m a.s.l., 12.07.2016, A. Seregin A-1263, det. D. German (MW0835090).

New to Western Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, and Fergana floristic regions. Detailed distribution of the species in Tian Shan was not specified by Kovalevskaja (1974) because of its commonness in the Middle Asian region.

***Erysimum kamelinii* D.A. German (*E. humillimum* auct.) (Brassicaceae)**

Additional record: Kyrgyzstan. A. Alay Mountains: 39°46'05"N, 73°10'09"E, M41 highway (Pamirsky Trakt), Taldyk Pass, man-made stony terrace above the Taldyk River, 3,600 m a.s.l., A. Seregin, 27.07.2016, № A-1763, det. D. German (MW0835753).

This recently described species should be encountered for Middle Asia instead of *E. humillimum* auct. (German 2012) including old reports of *E. altaicum* auct. It is the most common high mountainous representative of the genus in the region ranging from Tarbagatai to Pamir-Alai, as reported for *E. humillimum* by Adylov (1974). As shown earlier (German 2012; German et al. 2013), the vast majority of specimens cited as *E. altaicum* Novopokr. by Polatschek (2010) also belong there. Lazkov & Sultanova (2011, 2014) recorded this species under the name *E. humillimum* auct. from six out of seven (except for Alay Valley) floristic regions. However, it is not rare in this region as well and was recorded from it since long ago. In particular, Shevchenko (1955) stressed that "...Some specimens [of "*E. humillimum*"] from Chon-Alay have deep violet sepals" thus unambiguously referring to Alay Valley floristic region. Recently, two accessions (O. Paulsen 604 (C) and J. Rusanovich s.n. (MHA), both as "*E. altaicum*") have been reported by Polatschek (2010). Abundance of *E. kamelinii* in the region is illustrated by the fact that only in LE there are over 40 gatherings of the species (stored under the names *E. altaicum* C.A. Mey. and *E. humillimum* (C.A. Mey.) N. Busch) from Alay Valley including those from Taldyk Pass. Hence, *E. kamelinii* occurs in all floristic regions of Kyrgyzstan.

***Eutrema altaicum* (C.A. Mey.) Al-Shehbaz et Warwick
(*Taphrospermum altaicum* C.A. Mey.) (Brassicaceae)**

Additional record: Kyrgyzstan. A. Alay Mountains: 39°46'05"N, 73°10'09"E, M41 highway (Pamirsky Trakt), Taldyk Pass, man-made stony terrace above the Taldyk River, 3,600 m a.s.l., 27.07.2016, A. Seregin A-1746, det. D. German (MW0833963).

Lazkov & Sultanova (2011, 2014) recorded the species from all floristic regions except Alay Valley. We revealed an earlier report from this floristic region upon collections by Grubov et al. from Bardoba in Trans-Alay Range published by Yunusov (1978b).

***Goldbachia torulosa* DC. (Brassicaceae)**

New record: Kyrgyzstan. **A.** Alay Mountains: 39°46'05"N, 73°10'09"E, M41 highway (Pamirsky Trakt), Taldyk Pass, man-made stony terrace above the Taldyk River, 3,600 m a.s.l., 27.07.2016, A. Seregin A-1759, det. D. German (MW0834316).

New to Alay Valley floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Fergana floristic region only. Although Nabijev (1974) indicated that the species is distributed throughout Middle Asia, following Botschantzev's (1963) characteristics of *G. torulosa* as "very widely distributed: from Turkey through Transcaucasia and Iran to India and through the Middle Asia to Kashgaria", the first precise report of the species from Kyrgyzstan was published by Aydarova & Sultanova (1985). Further records of *G. torulosa* from other floristic regions of the country are very likely.

Iljinskaea planisiliqua* (Fisch. et C.A. Mey.) Al-Shehbaz, Özüdogru et D.A. German*(*Conringia planisiliqua* Fisch. et C.A. Mey.) (Brassicaceae)**

New record: Kyrgyzstan. **WT.** Talas Ala-Too: 42°17'20"N, 72°21'10"E, 27 km to SSE from Talas, Besh-Tash gorge, middle course, right slope, stony slope, 2,170 m a.s.l., 23.07.2016, A. Seregin A-1608, det. D. German (MW0837591).

New to Western Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Fergana, Inner Tian Shan, and Alay Valley floristic regions.

***Lepidium apetalum* Willd. (Brassicaceae)**

New record: Kyrgyzstan. **NK.** Kyrgyz Ala-Too: 42°23'18"N, 73°48'28"E, the Aba River gorge, 32 km to S from Sosnovka, large stony highway margin, 2,210 m a.s.l., 11.07.2016, A. Seregin A-1229, teste D. German (MW0833279).

New to Northern Kyrgyzstan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Ysyk-Köl Depression and Inner Tian Shan floristic regions.

***Meniocus linifolius* (Steph.) DC. (Brassicaceae)**

New record: Kyrgyzstan. **A.** Alay Valley: 39°39'45"N, 72°44'24"E, 1.5 km to E from Karakabak, Kyzyl-Dong Mount (E part), S slope, red sandy loam, 2,860 m a.s.l., 29.07.2016, A. Seregin A-1834 (MW0836169).

New to Alay Valley floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Western Tian Shan, and Fergana floristic regions. Being widely distributed in Middle Asia, the species is somewhat rare in Pamir-Alay where it was reported only from few ranges (Schermatov 1974; Yunusov 1978a).

***Neslia apiculata* Fisch. et C.A. Mey. (Brassicaceae)**

New record: Kyrgyzstan. IT. Fergana Range foothills: 41°21'27"N, 73°40'59"E, old road from Jalal-Abad to Kazarman, 28 km to W from Kazarman, road margin, 2,020 m a.s.l., 1.08.2016, A. Seregin & D. Lyskov A-1904, det. D. German (MW0834950). New to Inner Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, and Fergana floristic regions. This record delimits the eastern range of the species. Being widely distributed across the Mediterranean area and Middle Asia (Vinogradova 1974; Marhold 2011), the species is apparently absent in China (Zhou et al. 2001; Species..., 2024).

***Parnassia palustris* L. (Celastraceae)**

Additional record: Kyrgyzstan. A. Alay Valley: 39°37'25"N, 72°39'24"E, 1 km to SW of Kashka-Su, spring fen on the left bank of the Kyzyl-Su River, 2,790 m a.s.l., 28.07.2016, A. Seregin A-1832 (MW0838512).

Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Western Tian Shan, Fergana, and Inner Tian Shan floristic regions. There are at least three earlier reports from Alay Valley floristic region upon collections by Ladygina, Kochkareva & Ryabkova published by Chukavina (1975). These gatherings were made on the Kyzyl-Su River, where we also collected *P. palustris*.

***Anabasis tianschanica* Botsch. (Chenopodiaceae)**

New record: Kyrgyzstan. YK. Küngöy Ala-Too foothills: 42°35'02"N, 76°24'33"E, middle course of the Toru-Aygyr River, 10 km to N from Toru-Aygyr, below sandstone inselbergs, 1,920 m a.s.l., 5.08.2016, A. Seregin & D. Lyskov A-2082 (MW0825002).

New to Ysyk-Köl Depression floristic region. No *Anabasis* species were recorded from this area by Lazkov & Sultanova (2011, 2014), whereas *A. tianschanica* was reported from Northern Kyrgyzstan and Inner Tian Shan floristic regions. The species is endemic to Kyrgyzstan (Pratov 1972; Lazkov & Sultanova 2011, 2014).

***Atriplex oblongifolia* Waldst. et Kit. (Chenopodiaceae)**

New records: Kyrgyzstan. WT. Chatkal Valley: 41°43'02"N, 70°59'17"E, Aygyrdzhal, southern part of the village (Karasu), near toilet cabin, in shade, 1,700 m a.s.l., 15.07.2016, A. Seregin, G. Lazkov, A. Sennikov, E. von Raab-Straube, A. Szukala, & M. Ganybayeva A-1359 (MW0821500); WT. Chatkal Range: 41°40'39"N, 70°58'39"E, Tuz-Ashuu gorge running in granites, 5 km to S from Aygyrdzhal, along the trail, as a weed, 2,030 m a.s.l., 24.07.2016, A. Seregin A-1647 (MW0821501).

New to Western Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species only from Northern Kyrgyzstan floristic region following monographic treatment of the genus by Suchorukow (2007), but in the latter paper there are no precisely localized records from Kyrgyzstan. Pratov (1972) had synonymized *A. oblongifolia* with *A. patula* L., and therefore the former species was underrecorded in Kyrgyzstan. Suchorukow (2007) regarded the species to be native for southern steppes and semi-deserts of Eastern Europe, Western and Central Kazakhstan. In Chatkal Range and Chatkal Valley, *A. oblongifolia* is a naturalized alien which is growing along trails and near houses. Also, it is regarded to be an alien species in Kyrgyzstan (Sennikov, Lazkov 2024).

***Chenopodium prostratum* Bunge (Chenopodiaceae)**

New record: Kyrgyzstan. **IT.** Jaman-Too Range foothills: 41°04'52"N, 74°46'40"E, exit of the Jaman-Davan River on the pediment, *Agropyron* + *Artemisia* steppe on the edge of riverbed cliff, 2,480 m a.s.l., 2.08.2016, A. Seregin & D. Lyskov A-1909 (MW0896230).

New to Inner Tian Shan floristic region. Pratov (1972) reported *C. prostratum* for Tian Shan and Pamir-Alay without any details. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan floristic region only. The species is underrecorded in Kyrgyzstan due to traditional broad treatment of *C. album* L. s. l.

***Chenopodium strictum* Roth (Chenopodiaceae)**

New record: Kyrgyzstan. **FK.** Alay Mountains foothills: 40°12'08"N, 72°04'39"E, between Uch-Korgon and Olagysh (Valakish), right slope of the Isfayram-Say River valley, stony talweg, 1,050 m a.s.l., 17.07.2016, A. Seregin, G. Lazkov, A. Sennikov, E. von Raab-Straube, A. Szukala, & M. Ganybayeva A-1450 (MW0821289).

New to Fergana floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan floristic region only. Pratov (1972) had synonymized *C. strictum* with *C. album* L., and therefore the former species was underrecorded in Kyrgyzstan.

***Chenopodium vulvaria* L. (Chenopodiaceae)**

New record: Kyrgyzstan. **WT.** Talas Ala-Too: 42°19'14"N, 71°35'31"E, 31 km to S from Kyzyl-Adyr, the Kara-Buura River gorge, crushed stones below shale rocks with traces of passing cattle, 1,720 m a.s.l., 23.07.2016, A. Seregin A-1616 (MW0821309).

New to Western Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Fergana floristic region only. Later on, Lazkov & Sennikov (2014) reviewed precisely records of *C. vulvaria* in Kyrgyzstan reporting it from Kara-Balta (Northern Kyrgyzstan floristic region) and Nookat (Fergana floristic region) as a locally established alien. The plant is easy recognisable due to disgusting smell of rotten fish. An alien species in Kyrgyzstan (Sennikov, Lazkov 2024).

***Helianthemum songaricum* Schrenk (Cistaceae)**

New record: Kyrgyzstan. **IT.** Inner Tian Shan: 41°52'18"N, 74°21'09"E, left bank of the Kokomeren River near the Jungol River mouth, plateau-like bench above Aral, pebble with fine earth, sparse *Artemisia*-community, 1,580 m a.s.l., 3.08.2016, A. Seregin & D. Lyskov A-1980 (MW0854593).

New to Inner Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Western Tian Shan, and Fergana floristic regions. Some years later, a specimen of the species was collected by E. Duulatov in Ming Kush Valley, Naryn (Inner Tian Shan floristic region) and used in molecular studies of *Helianthemum* (Zhuo et al. 2024).

***Carex caucasica* Steven (Cyperaceae)**

New record: Kyrgyzstan. **WT.** Talas Ala-Too: 42°06'45"N, 72°48'07"E, middle course of the Chichkan River, left bank, 27 km to N from Toktogul, *Abies* + *Betula* forest on the flood plain, 1,630 m a.s.l., 21.07.2016, A. Seregin A-1529 (MW0811015).

New to Western Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, and Fergana floristic regions. Distribution record by Egorova (1976) includes several ranges of the Tian Shan system—Ketmen, Trans-Ili, Küngöy, Teskey, Kyrgyz, Uzun-Akhmat, Chatkal, and Fergana (no records from Talas Ala-Too as well).

***Dipsacus dipsacoides* (Kar. et Kir.) Botsch. (*D. azureus* Schrenk) (Dipsacaceae)**

New record: Kyrgyzstan. **IT.** Fergana Range foothills: 41°21'27"N, 73°40'59"E, old road from Jalal-Abad to Kazarman, 28 km to W from Kazarman, meadow community, 2,020 m a.s.l., 1.08.2016, A. Seregin & D. Lyskov (observation, see also MW0880616).

New to Inner Tian Shan floristic region and Fergana Range. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Western Tian Shan, and Fergana floristic regions. Additionally, it was reported from Alay Valley floristic region by Karimova (1988) upon collections by Ovczinnikov & Zaprjagaeva from the Ay-Topkan River. A showy plant which is much rarer in inner regions of Tian Shan, than on western facade.

***Astragalus lepsensis* Bunge (Fabaceae)**

New record: Kyrgyzstan. **WT.** Talas Ala-Too: 42°06'43"N, 72°48'07"E, middle course of the Chichkan River, left bank, 27 km to N from Toktogul, *Abies* + *Betula* forest on the flood plain, 1,630 m a.s.l., 21.07.2016, A. Seregin A-1526 (MW0845977).

New to Western Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, and Inner

Tian Shan floristic regions. Borissova et al. (1946) and Pratov (1981) reported the species from Tian Shan, but in both cases authors underlined that *A. lepsensis* is absent in Western Tian Shan. We suppose our record to be the westernmost one.

***Astragalus lithophilus* Kar. et Kir. (Fabaceae)**

New record: Kyrgyzstan. A. Trans-Alay Range: 39°30'34"N, 73°16'26"E, M41 highway (Pamirsky Trakt), Bardoba border post, small right tributary of the Kyzyl-Art River, stony bottom of the valley, 3,530 m a.s.l., 28.07.2016, A. Seregin A-1802, det. D. Krivenko (MW0894974).

Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Fergana, and Inner Tian Shan floristic regions. Also, there are several collections from Alay Valley made by Lipschitz in 1931 (MW0846085, MW0846086, MW0846088, MW0846091).

***Medicago sativa* L. s. l. (Fabaceae)**

New record: Kyrgyzstan. WT. Talas Valley: 42°30'11"N, 72°50'58"E, 9 km below Köpürö-Bazar, foot of Kara-Choku Mount, the Talas River flood plain between the river and the road, forb community, 1,820 m a.s.l., 22.07.2016, A. Seregin (observation).

New to Western Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan floristic region only following Nikitina (1960), although Ubukeeva (1957) reported *M. sativa* to be an ancient forage plant widely cultivated in all regions of Kyrgyzstan. An alien species in Kyrgyzstan (Sennikov, Lazkov 2024).

***Juncus turkestanicus* V.I. Krecz. et Gontsch. (Juncaceae)**

New record: Kyrgyzstan. WT. Chatkal Range: 41°40'34"N, 70°58'40"E, Tuz-Ashuu gorge running in granites, 5.5 km to S from Aygyrdzhal, spring on trail, 2,050 m a.s.l., 24.07.2016, A. Seregin A-1669 (MW0812664).

New to Western Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Fergana floristic region only. Filimonova (1976) had already reported *J. turkestanicus* from Chatkal Range earlier. Her distributional record for this species includes mainly plains of Middle Asia and only few reports from some lower mountain ranges. We collected the plant on altitude 2,830 m a.s.l. on S side of Chapchyma Pass (Seregin & Szukala A-1366, MW0812665).

***Utricularia australis* R. Br. (*U. vulgaris* auct.) (Lentibulariaceae)**

New record: Kyrgyzstan. IT. Inner Tian Shan: 41°59'00"N, 74°45'52"E, the Tyugel-Say River flood plain (right tributary of the Jungol River) near Tyugel-Say, ponds, in water, 1,920 m a.s.l., 3.08.2016, A. Seregin & D. Lyskov A-1991 (MW0878201).

A new record for Kyrgyzstan. Several flowering plants were recorded in two small artificial ponds build for an unknown purpose. Lazkov & Sultanova (2011, 2014) recorded *U. vulgaris* L. from Ysyk-Köl Depression and Fergana floristic regions. Additionally, Li (1987a) reported *U. vulgaris* from Sarydzhas in Central Tian Shan floristic region. Meanwhile, all reports of *U. vulgaris* from Middle Asia should be thoroughly revised. Most of them could be reidentified as *U. australis* R. Br. or *U. macrorhiza* Le Conte (Taylor 1989; Li & Cheek 2011). In China, both *U. australis* and *U. macrorhiza* were recorded from many provinces, whereas *U. vulgaris* s. str. is an extremely rare plant known to occur in Tibet only (Li & Cheek 2011).

Our plants had erect upward pedicells and glands distributed evenly on abaxial and adaxial sides of corolla spur, a typical character of *U. australis*. Bobrov et al. (2022) named this species *U. ×neglecta* Lehm. However, material from Kyrgyzstan was not included into their dataset, therefore the specimen cited above could not be attributed properly.

***Epipactis helleborine* (L.) Crantz (Orchidaceae)**

New record: Kyrgyzstan. **WT.** Talas Ala-Too: 42°06'45"N, 72°48'08"E, middle course of the Chichkan River, left bank, 27 km to N from Toktogul, swampy depression in flood plain forest, 1,630 m a.s.l., 21.07.2016, A. Seregin A-1531 (MW0816915).

New to Western Tian Shan floristic region. An extremely rare species in Kyrgyzstan. Lazkov & Sultanova (2011, 2014) recorded it from Fergana floristic region only although Bondarenko (1971) did not specify the exact distribution of the species in Tian Shan in a belief that it is not a rare plant. Conifer riverine forest in the middle course of the Chichkan River is an interesting locality which harbours some noteworthy mesophytic plants. Short excursion contributed the list of plants known in Western Tian Shan floristic region with *E. helleborine*, *Carex caucasica*, and *As-tragalus lepsensis*.

***Papaver litwinowii* Fedde ex Bornm. (Papaveraceae)**

New record: Kyrgyzstan. **A.** Alay Mountains: 39°46'05"N, 73°10'09"E, M41 highway (Pamirsky Trakt), Taldyk Pass, man-made stony terrace above the Taldyk River, 3,600 m a.s.l., 27.07.2016, A. Seregin A-1755 (MW0832726).

New to Alay Valley floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Western Tian Shan, Fergana, and Inner Tian Shan floristic regions. It is a widely distributed species in Middle Asia, although not a common one. We discovered the species as a pioneer of a newly constructed area at the altitude 3,600 m a.s.l. Previous highest altitudinal record for this species was 2,700 m a.s.l. (Tolmachev 1975).

***Plantago depressa* Schlecht. (Plantaginaceae)**

New record: Kyrgyzstan. **FK.** Alay Mountains: 39°49'23"N, 73°15'24"E, M41 highway (Pamirsky Trakt), Ak-Bosogo (N part), stony road margin, 2,730 m a.s.l., 27.07.2016, A. Seregin A-1745 (MW0878265).

New to Fergana floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Inner Tian Shan, and Alay Valley floristic regions. Li (1987b) also indicated the species for the Alay Mountains, but this report was not interpreted as a record from Fergana floristic region. Middle Asian mountains are situated on western edge of the species range which is common in Mongolia, Southern Siberia and continental regions of China.

***Persicaria lapathifolia* (L.) Delarbre (*Polygonum lapathifolium* L.) (Polygonaceae)**

New record: Kyrgyzstan. **FK.** Fergana Valley: 41°30'36"N, 72°15'18"E, 18 km to N from Tash-Kömür, Tegenek coal mines (Kara-Tut plot), bank of flooded quarry, 1,220 m a.s.l., 25.07.2016, A. Seregin A-1721 (MW0820556).

New to Fergana floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Ysyk-Köl Depression and Western Tian Shan floristic regions. Undoubtedly, the species has wider distribution in Kyrgyzstan, but there is a clear lack of accurate records. Chukavina (1971) did not specify a detailed distribution of the species mainly due to its commonness ("almost throughout Middle Asia").

***Polygonum molliiforme* Boiss. (Polygonaceae)**

New record: Kyrgyzstan. **A.** Alay Mountains: 39°46'05"N, 73°10'09"E, M41 highway (Pamirsky Trakt), Taldyk Pass, man-made stony terrace above the Taldyk River, 3,600 m a.s.l., 27.07.2016, A. Seregin A-1747, det. O. Yurtseva (MW0896544).

New to Alay Valley floristic region. Lazkov & Sultanova (2011, 2014) reported it from Inner Tian Shan floristic region following the records first published by Lazkov (2003). The latter reference cited collections of 1953–1996 from three localities. The species is common in the neighbouring Tajikistan (Chukavina 1968).

***Polygonum rottboellioides* Jaub. et Spach (Polygonaceae)**

New record: Kyrgyzstan. **NK.** Kyrgyz Ala-Too: 42°34'59"N, 73°52'05"E, the Kara-Balta River gorge, 10 km to S from Sosnovka, stony highway margin, 1,360 m a.s.l., 11.07.2016, A. Seregin A-1216, det. O. Yurtseva (MW0896547); **WT.** Talas Ala-Too: 42°17'20"N, 72°21'10"E, 27 km to SSE from Talas, Besh-Tash gorge, middle course, right slope, stony slope, 2,170 m a.s.l., 23.07.2016, A. Seregin A-1607, det. O. Yurtseva (MW0896546).

New to Northern Kyrgyzstan and Western Tian Shan floristic regions. Lazkov & Sultanova (2011, 2014) reported it from Fergana floristic region. Undoubtedly, the species has wider distribution in Kyrgyzstan, but there is a clear lack of accurate records. Our collections are filling the gap in distribution of the species, which was reported earlier from Fergana Valley and Lake Balkhash (Chukavina 1971).

***Zannichellia pedunculata* Rchb. (Potamogetonaceae)**

New record: Kyrgyzstan. **IT.** Inner Tian Shan: 41°58'08"N, 74°33'34"E, 2 km to SW from Kairma, flood plain of the right tributary of the Jumgol River, road side enlargement of the stream, in water, 1,760 m a.s.l., 3.08.2016, A. Seregin & D. Lyskov A-1986 (MW0801613).

New to Inner Tian Shan floristic region. An extremely rare species in Kyrgyzstan. Lazkov & Sultanova (2011, 2014) recorded it from Northern Kyrgyzstan floristic region only. Later on, it was published by Volkova & Bobrov (2020) from Ysyk-Köl Depression floristic region. Vvedensky (1968) did not indicate precise distribution of the species due to lack of records ("sporadically throughout Middle Asia").

***Androsace dasyphylla* Bunge (Primulaceae)**

New record: Kyrgyzstan. **WT.** Talas Ala-Too: 42°12'10"N, 71°34'50"E, Kara-Buura pass, sparsely soded gentle stony slope, 3,300 m a.s.l., 23.07.2016, A. Seregin A-1619 (MW0865463).

New to Western Tian Shan floristic region. Lazkov & Sultanova (2011, 2014) recorded the species from Northern Kyrgyzstan, Ysyk-Köl Depression, Fergana, Inner Tian Shan, and Alay Valley floristic regions. Kovalevskaja (1986) did not specify an exact distribution of the species throughout Tian Shan.

***Ranunculus alberti* Regel et Schmalh. (Ranunculaceae)**

Additional record: Kyrgyzstan. **A.** Trans-Alay Range: 39°30'29"N, 73°16'40"E, M41 highway (Pamirsky Trakt), Bardoba border post, small right tributary of the Kyzyl-Art River, grassy slope on N slope of the valley, 3,620 m a.s.l., 28.07.2016, A. Seregin A-1811 (MW0831015).

Lazkov & Sultanova (2011, 2014) recorded the species from all floristic regions except Alay Valley. We revealed an earlier report from this floristic region upon collections by Sidorov published by Ovczinnikov (1975).

***Zygophyllum obliquum* Popov (Zygophyllaceae)**

Additional record: Kyrgyzstan. **A.** Alay Valley: 39°37'26"N, 72°39'26"E, 1 km to SW of Kashka-Su, high sandy bench of the Kyzyl-Su River, *Achnatherum* community, 2,790 m a.s.l., 28.07.2016, A. Seregin A-1833 (MW0851506).

Lazkov & Sultanova (2011, 2014) recorded the species from Ysyk-Köl Depression, Central Tian Shan, and Inner Tian Shan floristic regions. However, Borissova (1949) reported the species from the Kizyl-Su River, and further on Adylov (1983) indicated the species for the whole Alay Valley. We also made our collection on the Kyzyl-Su River.

There are also some other occasional omissions of previously published records in Lazkov & Sultanova (2011, 2014).

Allium fedtschenkoanum Regel (Amaryllidaceae) (A): earlier reports from Alay Valley floristic region upon multiple collections by Stanyukovich, Sidorov and Krivonogova were published by Vvedensky (1963).

Allium hymenorhizum Ledeb. (Amaryllidaceae) (A): an earlier report from Sary-Mogol situated in Alay Valley floristic region upon collections by Ladygina was published by Vvedensky (1963).

Atelanthera perpusilla Hook. f. et Thoms. (Brassicaceae) (A): it was demonstrated by German et al. (2013) that monotypic *Atelanthera* Hook. f. et Thoms. was not included into floristic accounts on Kyrgyzstan despite the direct record from Alay Valley yet by Korshinsky (1898) based on his own collection made in the valley of Karasu (LE!), and a handful of additional specimens from this floristic region were cited (German et al. 2013). Unfortunately, this information was not counted by Lazkov & Sultanova (2014).

Lomatogonium carinthiacum (Wulfen) Rchb. (Gentianaceae) (A): Pachomova (1986) reported the species from Trans-Alay Range (Alay Valley floristic region).

Androsace lactiflora Pall. (Primulaceae) (YK): Kovalevskaja (1986) reported the species from Küngöy Ala-Too and Teskey (Terskey) Ala-Too, i.e. both sides of Ysyk-Köl Depression floristic region.

Ranunculus songaricus Schrenk (*R. trautvetterianus* Regel ex Kom.) (Ranunculaceae) (A): two earlier reports from Alay Valley floristic region upon collections by Ladygina from Sary-Mogol and Ovczinnikov from Trans-Alai Range were published by Ovczinnikov (1975, sub nom. *R. trautvetterianus*).

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