

New floristic records from Central Europe 10 (reports 134-148)

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Abstract: The presented 10th part of the series includes fifteen new chorological records, one from Czechia, two from Hungary, three from Poland, five from Slovakia and four from the Ukrainian Carpathians. In Czech Silesia, *Arum maculatum*, considerably remote from the species continuous distribution area, was found. In Hungary, spreading of *Geranium sibiricum* and *Limonium gmelinii* subsp. *hungaricum* was recorded. In Poland, two alien *Erigeron sumatrensis* and *Lepidium didymum* were found as well as the native species *Typha shuttleworthii*, which is considered vulnerable. In Slovakia, new localities of *Scorzonera humilis*, *Stellaria ruderalis*, *Taraxacum serotinum* and *Typha shuttleworthii* were found as well as alien *Portulaca grandiflora*. New records of *Centaurea kotschyana*, *Euphrasia salisburgensis*, *Galium album* subsp. *suberectum* and *Salix retusa* were reported in the Ukrainian Carpathians.

Keywords: chorology, vascular plants, new findings, Czechia, Hungary, Poland, Slovakia, Ukraine, native species, alien, red list species.

This is an ongoing report in the established series dealing with new chorological data on higher vascular plants in Central Europe (for details, see Thaiszia – J. Bot. 28 (1), pp. 79–80, 2018). The nomenclature of the taxa follows the Euro+Med PlantBase (Euro+Med 2006+) and/or Chromosome number survey of the ferns and flowering plants of Slovakia (Marhold et al. 2007), herbarium acronyms follow Thiers (2022+).

The publication includes contributions by M. Dudáš (134-136), P. Eliáš Jr. (137), P. Eliáš Jr., L. Ďurišová & S. Kšíňan (138), P. Eliáš Jr. & M. Eliášová (139), Y. Kobiv (140-143), M. Malovcová-Staníková (144), A. Pliszko (145-146) and V. Taraška (147-148) arranged alphabetically.

Matej Dudáš (reports 134-136)

Poland

134. *Typha shuttleworthii* W.D.J. Koch et Sond: southeastern Poland, the Bieszczady Mts, Muczne, valley of the Muczny brook east from the village, wet roadside ditch, over ten plants, 765 m, 49°7'26.0"N 22°46'14.1"E, 14. 7. 2022, M. Dudáš, KO 37039.

Typha shuttleworthii is a perennial plant recorded in Central and Southern Europe, from eastern France to Ukraine, Romania, Bulgaria and western Russia, as well as in Turkey and Iran in south-western Asia (cf. Kozłowska et al. 2011; Felbaba-Klushyna 2011). In the Carpathian countries it is considered a rare species, it is critically endangered in Slovakia (Eliáš et al. 2015) and in the Czech Republic (Grulich 2012), endangered in the Ukrainian Carpathians (Kricsfalussy & Budnikov 2007) and vulnerable in Poland (Kozłowska et al. 2011). Similarly, it was evaluated as a vulnerable species for the whole Carpathians (Turis et al. 2014). *T. shuttleworthii* occurs rarely only in SE Poland in river and stream valleys in the Beskid Niski Mts and in the Western Bieszczady Mts where it grows mostly in anthropogenic habitats such as roadside ditches, ruts, old disused quarries but it has also been observed in wet meadows and swamps (Kozłowska et al. 2011; Nobis et al. 2015). Kozłowska et al. (2011) assessed these Polish populations as small and suggests the species should be treated here as a vulnerable. Newly found population east from Muczne village represents the easternmost known locality in Poland.

Slovakia

135. *Portulaca grandiflora* Hook.: the Východoslovenská nížina Lowland, Sirník, Hlavná Street, south from the church, roadside, dense growth with hundreds of flowering plants on ca. 50 m long roadside, on gravel, 108 m, 48°31'7.3"N 21°48'11.8"E, 7496d, July 2019, July 2020, 21. 8. 2021, M. Dudáš, observation. – Zemplín, Hlavná Street, in the joints of interlocking paving on the sidewalk, south end of the village, tens of plants, 100 m, 48°26'13.8"N 21°48'43.9"E, 7596d, 21. 8. 2021, M. Dudáš, observation. – Svätuše, east end of the village, sandy roadside of Road 79, single plant, 102 m, 48°26'9.9"N 21°55'42.33"E, 7597d, 28. 8. 2021, M. Dudáš, observation. – Malý Kamenec, east end of the village, sandy roadside,

scattered, 102 m, 48°21'6.8"N 21°47'36.6"E, 7696b, 28. 8. 2021, M. Dudáš, observation. – the Zemplínske vrchy Mts., Malá Bara, the bend of the road northern from the village in the direction of Černochov, gravel roadside, small population, 144 m, 48°25'40.25"N 21°43'44.94"E, 7596c, 25. 9. 2021, M. Dudáš, observation. – the Ipeľsko-rimavská brázda Region, the Juhoslovenská kotlina Basin, Bátka, western end of the village, gravel roadside of the Road 16, several plants, 186 m, 48°22'44.0"N 20°9'47.4"E, 7686b, 26. 8. 2021, M. Dudáš, observation.

Portulaca grandiflora is a species native to South America and it is considered casual neophyte in Slovakia (Medvecká et al. 2012). Garden escaping was recorded in warmer territories of the western parts of the country, in Záhorská and Podunajská nížina lowlands and in many sites in Bratislava (Feráková et al. 2012; Rendeková & Mičieta 2017). Some records from southeastern Slovakia were listed by Mártonfi et al. (2014). In southeastern Slovakia *P. grandiflora* is frequently cultivated as an undemanding annual plant. All the populations listed here have been recorded at least in two consecutive years. The populations comprised many individuals and colonized predominantly sands and to a lesser extent also gravel on roadsides.

136. *Typha shuttleworthii* W.D.J. Koch et Sond: Laborecká vrchovina hill area, Svetlice, valley of the stream Ščobský potok 1 km SE from the village, road ditch (road 567) with weakly flowing water, at least 50 plants, 349 m, 49°9'33.4"N 22°3'5.8"E, 6898a, 29. 6. 2022, M. Dudáš, KO 36983.

Typha shuttleworthii occurs rarely in central and eastern parts of Slovakia (Dudáš et al. 2020). In the eastern part, only two records are known and documented by herbarium specimens: in the Bukovské vrchy Mts near Runina (Bača 17. 7. 1999 SLO) and in the Laborecká vrchovina hill area near Zbojné, on the right bank of the Výrava river, NE from the village (Ľ. Dostál 10.1975 SLO). It is evaluated as critically endangered species in Slovakia (Eliáš et al. 2015).

Pavol Eliáš Jr. (report 137)

Slovakia

137. *Scorzonera humilis* L.: Tribeč Mts, Velčice, Kľačany settlement, wet meadow ca 300 m E from the settlement, several flowering individuals, 340 m, 48°27'28.1"N 18°17'18.8"E, 5. 5. 2019, P. Eliáš Jr., NI.

The species is very rare in this area; our data represent probably the first record in the Tribeč Mts. Another, but rare data were published from the surrounding mountains – from the Vtáčnik Mts (Daníhelka in Ambros 1996) and the Pohronský Inovec Mts (Koutecký in Eliáš et al. 2018). *Scorzonera humilis* occurs most often in the vegetation of springs and peat bogs (Grulich 2004). At the locality, it is growing in the vegetation of the *Molinion* alliance, *Scorzonera humilis* is a characteristic species for this type of community (Řezníčková 2014).

Pavol Eliáš Jr., Ľuba Ďurišová & Samuel Kšiňan (report 138)

Hungary

138. *Geranium sibiricum* L.: Börzsöny, Letkés, Nagy Galla, in the forest on the SE slope of the western twin peak, 475 m, 47°52'33.9"N 18°49'28.9"E, 4. 6. 2018, P. Eliáš Jr., Ľ. Ďurišová & S. Kšiňan, NI.

Geranium sibiricum is a Eurasian species with a native range in the temperate zone of Eastern Europe, Western and Central Asia (Xu & Aedo 2008). In central Europe, it is regarded naturalised neophyte (Schmidt 2004; Danihelka et al. 2012; Medvecká et al. 2012). In Hungary, the species has been found especially in NW and NE parts (Pinke & Pál 2001; Schmidt 2004, 2015; Schmidt et al. 2014), in the southern part it was recorded only rarely (Csathó & Schmidt 2007). Recently, Somlyay & Csábi (2019) found *G. sibiricum* in Budapest; our finding is the first one north of this town.

Pavol Eliáš Jr. & Mariana Eliášová (report 139)

Hungary

139. *Limonium gmelinii* (Willd.) Kuntze subsp. *hungaricum* (Klokov) Soó: Székesfélvér, Palotai út, roadside, single individual, 111 m, 47°11'25.6"N 18°24'20.4"E, 19. 6. 2022, P. Eliáš Jr. & M. Eliášová, NI.

Limonium gmelinii is a perennial species occupying large Eurasian distribution range (Malekmohammadi et al. 2017). In Central and SE Europe, the Pannonian endemic subsp. *hungaricum* is present (Klement 1999). In the last decades, it is spreading west of its natural range especially around highways and has been found in the Czech Republic, Austria and Germany (Kocián et al. 2016; Kocián 2018; Hohla et al. 2015; Hanselmann 2017). The taxon spreads to anthropogenic habitats (mainly road edges) in Hungary, too (Fekete et al. 2022), for example around Dorogh, Nagyvenyim and Csóbánka (Bauer 2015; Csíky et al. 2017). However, the occurrence in inner-villages of municipalities is rare, it was found in Brno (SE Moravia, the Czech Republic) (Danihelka 2019).

Yuriy Kobiv (reports 140-143)

Transcarpathian Ukraine

140. *Centaurea kotschyana* Heuff.: Khust Region, 7 km NE of Nehrovets village, the Inner Gorgany Mts, Mt. Nehrovets, rocks, steep E slope, 1620 m, 48°29'50.0"N 23°43'3.0"E, 7. 7. 2021, Y. Kobiv, LW 215450.

Centaurea kotschyana is distributed in the East and South Carpathians and in the north of the Balkan Peninsula. In the Ukrainian part of the Carpathians, this basiphilous heliophytic species is rare and occurs on calcium-rich bedrock mostly in the subalpine and montane zones. In Transcarpathia, it was known from the Beskydy (at the Ukrainian-Polish border), the Polonyna Rivna, Borzhava, Svydovets and the

Chornohora Mts where it is scattered among the tall-grass vegetation on the rocks and meadows (Dobrochayeva 1965). The reported Nehrovets locality is new for the Inner Gorgany Mts. It is situated on the eroded steep slope with calcium-rich bedrock. The population is low-numbered and includes about two dozen flowering individuals confined to ca. 20 × 20 m area.

141. *Euphrasia salisburgensis* Funck: Rakhiv Region, 8.5 km SW of Chorna Tysa village, the Svydovets Mts, Mt. Kotel, rocks, NW slope, 1747 m, 48°16'31.9"N 24°12'30.5"E, 21. 7. 2018, Y. Kobiv, LW 215447.

Euphrasia salisburgensis is distributed mostly in the high-mountain areas of the temperate European mountains. In the Ukrainian Carpathians, it occurs only in the Svydovets Mts, Transcarpathia. The species has been previously known there from the Blyznytsia-Drahobrat Mts and from Mt. Gerashaska (Klášterský 1930) where it is restricted to calcium-rich sandstone outcrops within 1700–1800 m a.s.l. The reported locality on Mt. Kotel has never been mentioned in the literature or herbarium labels. The population of *E. salisburgensis* covers the area of only about 25 m² among the low grassland vegetation on a steep rocky slope.

142. *Galium album* subsp. *suberectum* (Klokov) E. Michalková: Khust Region, 7 km NE of Nehrovets village, the Inner Gorgany Mts, Mt. Nehrovets, rocks: NE slope, 1625 m, 48°29'47.3"N 23°43'02.7"E, Y. Kobiv, LW 215446; S slope, 1440 m, 48°29'39.3"N 23°42'24.0", 7. 7. 2021, Y. Kobiv, LW 215449.

Galium album subsp. *suberectum* is a West-East-Carpathian endemic (Michalková 1993; Kliment et al. 2016). In Transcarpathia, this rare taxon is scarcely distributed in the Beskydy, Watershed Ridge, Svydovets, Chornohora and Marmarosh Mts in the high-mountain rocky habitats (Gynda 2004; Kobiv et al. 2009, 2017). The reported data from Mt. Nehrovets are new for the Inner Gorgany Mts and expand the knowledge about the distribution of *G. album* subsp. *suberectum*. Both localities are situated on the grassland rocky steep slopes in the subalpine zone that is typical of the taxon (Gynda 2004). The bedrock is built of calcium-rich sandstone. Both newly reported populations are not numerous and occupy only several m² each.

143. *Salix retusa* L.: border between Transcarpathia (Zakarpattia) and Ivano-Frankivsk Oblast, Rakhiv Region, 10 km NE of Luhy village, the Chornohora Mts, summit of Mt. Drabyny (N spur of Mt. Turkul), alpine grassland, 1852 m, 48°7'49.2"N 24°31'54.5"E, 5. 7. 2020, Y. Kobiv, LW 215448.

Salix retusa is distributed in the alpine zone of the temperate European mountains. Plants from the Carpathians are sometimes referred to as *S. kitaibeliana* Willd. (= *S. retusa* subsp. *kitaibeliana* (Willd.) Jav.), which is considered a West-East-South Carpathian endemic (Rechinger 1981; Kliment et al. 2016). In the Ukrainian part of the Carpathians, it occurs only in the high-mountain zone of the Chornohora Mts. On the Transcarpathian side of the Chornohora the species is known from Mt. Petros, Mt. Hoverla, Mt. Gytyn-Tomnatyk, Mt. Brebeneskul and Mt. Pip Ivan (Chopyk 1976). The newly discovered locality is situated in the alpine zone on the very summit of

Mt. Drabyny. The patch of *S. retusa* among the grassland covers only ca. 0.5 m². This record adds to the knowledge of the distribution of this species included in the Red Data Book of Ukraine (Didukh 2009).

Miroslava Malovcová-Staníková (report 144)

Slovakia

144. *Taraxacum serotinum* (Waldst. et Kit.) Fisch.: the Podunajská nížina Lowland, the Nitrianska pahorkatina hilly area, Bojničky, locality Sekliny, ca 700 m west from the village, semi-natural dry grasslands on W oriented slope, 3 plants, 180 m, 48°23'36.4"N 17°46'49.7"E, 7672b, 2. 9. 2022, M. Malovcová, photodocumentation.

Taraxacum serotinum belongs to endangered species with 16 recently known populations in SW Slovakia (Eliáš et al. 2015; Dudáš et al. 2016). This recent record represents the exact localization most likely of an old record collected by Viera Feráková in 1966 (specimen stored in herbarium SLO). In the vicinity of Hlohovec several records of *T. serotinum* older than 50 years have been published (Feráková 1967; Feráková et al. 1968; Feráková & Ješko 1970; Vozárová 1979).

Artur Pliszko (reports 145-146)

Poland

145. *Erigeron sumatrensis* Retz.: southern Poland, Lesser Poland Province, Kraków, one flowering individual in the park near Gumniska Street, 210 m, 50°02.976'N, 19°59.537'E, 24. 9. 2022; one mature individual in a ruderal habitat near Tadeusza Romanowicza Street, 206 m, 50°02.749'N 19°57.753'E, 2. 10. 2022, A. Pliszko, photodocumentation, Fig. 1.

Erigeron sumatrensis is an annual plant native to Central and South America, however, it was introduced to North America, Asia, Europe, Africa and Australia (Pruski & Sancho 2006; Randall 2017). In Europe, it has been naturalized mainly in the southern and western parts of the continent, and in some countries, it is also considered invasive. It usually occurs in sun-exposed and dry anthropogenic habitats, on roadside verges, railway tracks, old walls, coalmine heaps, abandoned fields, as well as on river banks (Vladimirov 2009; Randall 2017; Maslo & Šarić 2020; Liendo et al. 2021; Manual of the Alien Plants of Belgium 2022a). The first record of *E. sumatrensis* in Poland came from Głogoczów near Mogilany, Lesser Poland Province, in 2016 (Pliszko 2016). The only individual found there was collected and no other individuals appeared in the following years. The plant is classified as an ephemeralophyte in the Polish flora (Mirek et al. 2020). This note presents two new localities of *E. sumatrensis* in Lesser Poland Province, southern Poland. Further investigations are needed to confirm the establishment of the species in Poland.



Fig. 1 *Erigeron sumatrensis* in Kraków, southern Poland: A – park near Gumniska Street, B – ruderal ground near Tadeusza Romanowicza Street, C – middle part of the stem, D – capitula, E – panicle. Photographed by A. Pliszko.

146. *Lepidium didymum* L.: southern Poland, Lesser Poland Province, Kraków, one generative individual under a young tree of *Acer platanoides* L. at Tarłowska Street, 210 m, 50°03.418'N 19°55.897'E, 8. 10. 2022, A. Pliszko, photodocumentation, Fig. 2.

Lepidium didymum is an annual or rarely biennial plant native to South America. It was introduced to all other continents except for Antarctica and has become naturalized in many countries (Yannitsaros 1986; Al-Shehbaz & Gaskin 2010; Randall 2017). Moreover, it is considered invasive in Tunisia (El Mokni & Iamonicco 2018). It is often found in moist and nitrogen-rich soils, on fields, pastures, margins of ponds, roadsides, as well as in gardens, flowerbeds and lawns (Yannitsaros 1986; Al-Shehbaz & Gaskin 2010; Manual of the Alien Plants of Belgium 2022b). *L. didymum* was introduced to Poland in the first half of the 19th century. It is a rare casual alien species (ephemeral phyte), which has been recorded in several sites in Poland so far (Urbisz 2011; Mirek et al. 2020). This is the first record of *L. didymum* in Lesser Poland Province.

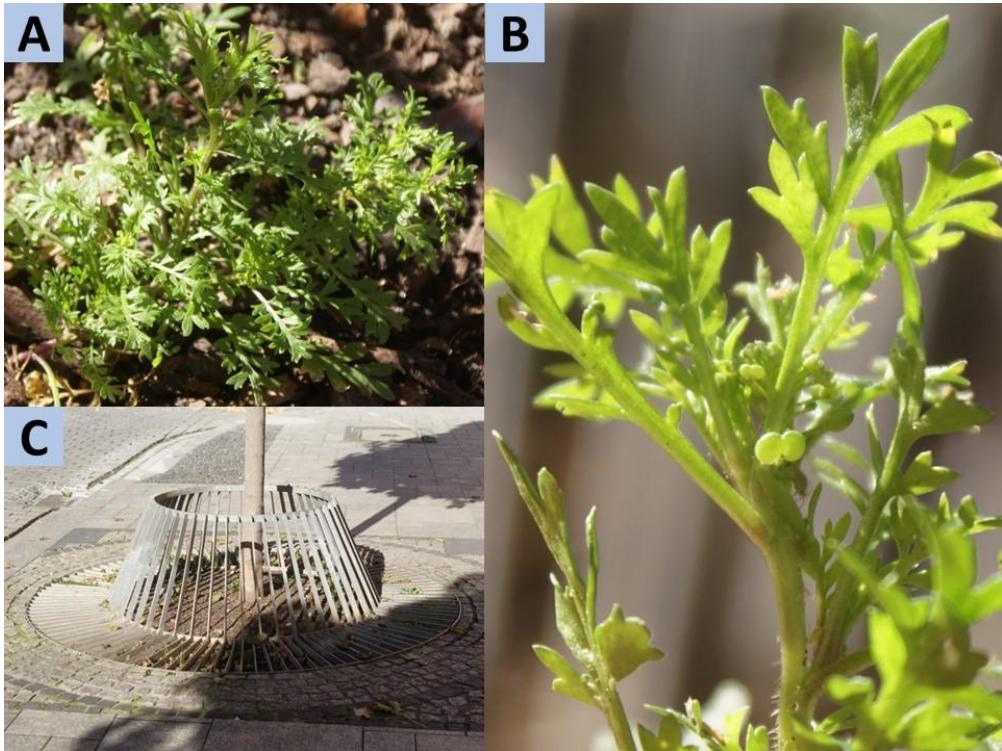


Fig. 2 *Lepidium didymum* in Kraków, southern Poland: A – single plant with decumbent and ascending stems, B – upper part of the plant with unripe fruits, C – habitat. Photographed by A. Pliszko.

Vojtěch Taraška (reports 147-148)

Czechia

147. *Arum maculatum* L.: Czech Silesia, Velké Kunětice (distr. Jeseník), sloping shore on the right side of the road Velké Kunětice-Vidnava, 1,60 km SE of the border crossing Stará Červená Voda – Jarnołtów, 315 m, 50°20'26.6"N 17°14'9.3"E, 5669c, 13. 5. 2022, V. Taraška, BRNM 837355, rev. Z. Kaplan. – Velké Kunětice (distr. Jeseník), ash-alder alluvial and hornbeam forest on the spring of a right-sided tributary of the Luže river on the left side of the road Velké Kunětice-Vidnava, 1,59 km SE of the border crossing Stará Červená Voda – Jarnołtów, 313 m, 50°20'25.9"N 17°14'07.7"E, 5669c, 13. 5. 2022, V. Taraška, BRNM 837354, rev. Z. Kaplan, relevé 1.

Relevé 1: area 25 x 15 m, exp. SW, decl. 0-25 °; E₃: 50 %, E₂: 55 %, E₁: 65 %, E₀: 2 % (indet.); other details see above.

E₃: *Alnus glutinosa* 3, *Carpinus betulus* 1, *Tilia cordata* 1;
E₂: *Acer pseudoplatanus* 2b, *Corylus avellana* 2b, *Frangula alnus* 2a, *Sambucus nigra* 2m, *Fraxinus excelsior* 1, *Abies alba* +, *Ulmus glabra* +, *Viburnum opulus* +, *Crataegus* sp. r, *Euonymus europaeus* r;
E₁: *Anemone nemorosa* 3, *Ficaria verna* 3, *Arum maculatum* 2a, *Polygonatum multiflorum* 2a, *Oxalis acetosella* 2m, *Aegopodium podagraria* 1, *Athyrium*

filix-femina 1, *Carex remota* 1, *Crepis paludosa* 1, *Alliaria petiolata* +, *Brachypodium sylvaticum* +, *Carex sylvatica* +, *Circaeа lutetiana* +, *Dryopteris carthusiana* +, *Galium aparine* +, *Maianthemum bifolium* +, *Primula elatior* +, *Rubus* sect. *Rubus* +, *Urtica dioica* +, *Dryopteris dilatata* r, *Dryopteris filix-mas* r, *Filipendula ulmaria* r, *Geranium robertianum* r, *Geum urbanum* r, *Impatiens parviflora* r, *Lysimachia nemorum* r, *Lysimachia vulgaris* r.

A new locality of *Arum maculatum*, a threatened species of the Czech Republic (Grulich 2017), was found between the town of Vidnava and the village of Velké Kunětice in the Czech Silesia. Two species of the *A. maculatum* agg. are recently recognized in the country (Danihelka et al. 2012; Kaplan 2019): *A. cylindraceum* growing in the eastern part of the Czech Republic and *A. maculatum* s. str. mentioned only from its western part (i.e. Bohemia), with an exclave occurrence near the town of Osoblaha (Záveská Drábková 2010). The only report on the occurrence of *A. maculatum* near Vidnava was published by Chrtek et al. (1959), who cited an older work of Hrúby (1923). However, earlier literature is unreliable because *A. cylindraceum* and *A. maculatum* s. str. were not formerly distinguished, both being mentioned under the name *A. maculatum* (cf. Dostál 1958). Moreover, Hrúby (1923: 412) refers to a vast area including the bordering territory of Poland (previously Prussia) where only *A. cylindraceum* (ut *A. alpinum*) has been confirmed (Dajdok & Kącki 2001).

The locality of *A. maculatum* s. str. in Osoblaha mentioned by Záveská Drábková (2010) is also enigmatic. Only *A. cylindraceum* is recently known from the broad surroundings of the town (Dajdok & Kącki 2001; Hlisníkovský in Kocián 2019). Historical occurrences of *A. maculatum* from the area were reported by Podpěra (1949) and Veselý (1954); even these authors, however, did not distinguish between the particular species of *A. maculatum* agg. Herbarium material is therefore necessary to verify the taxonomic identity of these plants. Still, no vouchers of *Arum* from the area have been found in most relevant herbaria, namely BRNM, BRNU, JESM, OLM, OP, OVMB and SUM. This riddle thus remains unresolved until a comprehensive revision of herbarium collections is carried out.

The newly found locality of *A. maculatum* in Velké Kunětice is considerably remote from the species' continuous distribution area. Major part of the population grows in a fragment of the ash-alder alluvial and hornbeam forest on the spring of an unnamed tributary of the Lužec (Łuża) river. The attempt to find *A. maculatum* downstream up to the Jarnołtów village in Poland was not successful. Another group of individuals was observed on a steep slope of the ditch along the nearby road. This subpopulation touches the state border, but it probably does not exceed to the territory of Poland; that, however, depends on the exact course of the borderline, which is difficult to assess in the field. More intensive field survey is needed in adjacent part of Poland, where the species is extremely rare, with natural populations known only in the north of the country (Dajdok & Kącki 2001).

Slovakia

148. *Stellaria ruderalis* M. Lepší, P. Lepší, Z. Kaplan et P. Koutecký: Podunajská nížina Lowland, Piešťany, Nábrežie Ivana Krasku street, grassland under the trees near the Božského Srdca Ježíšovho chapel close to the bridge Kolonádový most, 156 m, 48°35'19.7"N 17°50'22.0"E, 7473a, 27. 5. 2022, V. Taraška & K. Vojtěchová, BRNM 837298, rev. Z. Kaplan. – Banka (distr. Piešťany), gravelly shore of the pedestrian path ca 100 m NE of the slip road of the bridge Krajinský most, near the mouth of the arm Pieštanské rameno to the Váh river, 190 m, 48°35'07.5"N 17°50'25.8"E, 7473a, 29. 5. 2022, V. Taraška & K. Vojtěchová, BRNM 837309, rev. Z. Kaplan. – Malé Karpaty Mts, Nové Mesto nad Váhom, margin of a tourist route in a broad-leaved forest 2,25 km W of the station hall in the train station Nové Mesto nad Váhom and 2,70 km SE of the Salásky hill (588 m), 285 m, 48°45'04.3"N 17°48'18.1"E, 7272b, V. Taraška & K. Vojtěchová, 28. 5. 2022, BRNM 837302, rev. Z. Kaplan.

Stellaria ruderalis is an allopolyploid species from the *S. media* group newly described in 2019 from the Czech Republic. It was mentioned also from several other countries in protologue, including Austria, Croatia, Greece, Hungary, Italy, Serbia, Slovakia and Slovenia. Only three localities were included from Slovakia, all situated in south-western part of the country in the Záhorská nížina Lowland and Malé Karpaty Mts (incl. Devínska Kobyla) (Lepší et al. 2019). However, a number of new localities of *S. ruderalis* have been found in the Czech Republic due to an intensive floristic survey following the species description (Lustyk & Doležal 2021). Undoubtedly, it is more common also in other Central European countries. Here we present three new localities of the species in Slovakia, where it is probably just overlooked or confused with other taxa of the *S. media* group.

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References

- Al-Shehbaz I. A. & Gaskin J. F. (2010): *Lepidium* L. – In: Flora of North America Editorial Committee (eds): Flora of North America, vol. 7. – Oxford University Press, New York, Oxford, pp. 570–595.
- Ambros M. (ed.) (1996): Floristický kurz Partizánske 2.–9. júla 1994. Rosalia (special issue), Nitra, 76 pp.
- Bauer N. (2015): A *Limonium gmelinii* (Willd.) Kuntze subsp. *hungaricum* (Klokov) Soó alkalmi megjelenései útpadkákon. – Kitaibelia 20(2): 300.
- Chopyk V. I. (1976): Vysokohirna flora Ukrayins'kych Karpat. – Naukova dumka, Kyiv.

- Chrtek J., Žertová A. & Spudilová V. (1959): Příspěvek ke květeně Rychlebských hor, pp. 114–128. – In: Krkavec F. (ed.): Rychlebské hory. Sborník prací o přírodních poměrech. – Krajské Naklad.
- Csathó A. I. & Schmidt D. (2007): A szibériai gólyaorr (*Geranium sibiricum* L.) előfordulása Szegeden. – Fl. Pannonica 5: 195.
- Csiky J., Baráth K., Bocz V., Deme J., Fülop Z., Kovács D., Nagy K., Tamási B. & Csikyné R. (2017): Contributions to the Atlas Flora Hungariae V. – Kitaibelia 22: 383–403.
- Dajdok Z. & Kącki Z. (2001): The distribution of *Arum maculatum* L. (Araceae) in Poland. – Acta Soc. Bot. Pol. 70(2): 103–106. doi.org/10.5586/asbp.2001.014
- Danihelka J. (2019): *Limonium gmelinii*. – In: <https://pladias.cz/taxon/distribution/Limonium%20gmelinii> (Accessed on October 24. 2022).
- Danihelka J., Chrtek J. Jr. & Kaplan Z. (2012): Checklist of vascular plants of the Czech Republic. – Preslia 84: 647–811.
- Didukh Y. P. (ed.) (2009): Chervona knyha Ukrayiny. Roslynnyi svit. – Globalkonsaltyng, Kyiv.
- Dobrochayeva D. M. (1965): Rid 928. Voloshka – *Centaurea* L., p. 37–165. – In: Visiulina O. D. (ed.): Flora URSR 12. – Naukova Dumka, Kyiv.
- Dostál J. (1958): Klíč k úplné květeně ČSR. – ČSAV, Praha.
- Dudáš M., Eliáš P. jun. & Mártonfi P. (2016): Occurrence of *Taraxacum serotinum* (Waldst. et Kit.) Fisch. (sect. *Dioszegia*) in Slovakia. – Thaiszia – J. Bot. 26/1: 1–10.
- El Mokni R. & Iamonic D. (2018): A new record for the non-native flora of Tunisia, *Eclipta prostrata* (Asteraceae), and a note on the national status of *Erigeron bonariensis*, *Symphyotrichum squamatum* (Asteraceae), and *Lepidium didymum* (Brassicaceae). – Fl. Medit. 28: 145–153. doi: 10.7320/FIMedit28.145
- Eliáš P. jun., Dítě D., Kliment J., Hrvnák R. & Feráková V. (2015): Red list of ferns and flowering plants of Slovakia, 5th edition (October 2014). – Biologia 70/2: 218–228. DOI: 10.1515/biolog-2015-0018
- Eliáš P. jun., Bureš J., Dítě D., Eliáš P. sen., Grulich V., Hodálová I., Košťál J., Koutecký P., Meredá P., Rydlo J., Valachovič M. & Vymyslický T. (2018): Rastliny zaznamenané počas Floristického kurzu v Zlatých Moravciach. – Bull. Slov. Bot. Spoločn. 40, Suppl. 1: 49–921.
- Euro+Med (2006+) [continuously updated]: Euro+Med PlantBase - the information resource for Euro-Mediterranean plant diversity. – Published at <http://www.europlusmed.org>
- Fekete R., Bak H., Vincze O., Süveges K. & Molnár V. A. (2022): Road traffic and landscape characteristics predict the occurrence of native halophytes on roadside verges. – Sci Rep. 12(1): 1298. doi: 10.1038/s41598-022-05084-3
- Felbaba-Klushyna L. (2011): *Typha shuttleworthii* in Ukraine and adjoining regions: tendencies of dynamics of distribution, ecological and coenotic peculiarities. – Bot. Serb. 35/2: 121–124.
- Feráková V. (1967): Bemerkungen zur Flora der Umgebung der Stadt Hlohovec in der Slowakei. – Acta Fac. Rerum Natur. Univ. Comen., ser. Bot. 14: 229–277.
- Feráková V. & Ješko C. (1970): Bemerkungen zur Flora der Umgebung der Stadt Hlohovec in der Slowakei II. – Acta Fac. Rerum Natur. Univ. Comen., ser. Bot., 16: 43–72.
- Feráková V., Hromadová L., Lehotská D., Lehotský V., Ottlinger O., Pleva J., Valenčík M. & Zelenay Š. (1968): Hlohovec a jeho okolie. – Obzor, Bratislava. – 264 pp.
- Feráková V., Walter J. & Hodálová I. (2012): 1. *Portulaca* L. – In: Goliašová K. & Michalková E. (eds): Flóra Slovenska VI/3. – Veda, Bratislava, pp. 50–64.
- Grulich V. (2004): *Scorzonera* L. – hadí mord. – In: Slavík B., Štěpánková J. & Štěpánek J. (eds): Květena České republiky 7, p. 724–729. – Academia, Praha.

- Grulich V. (2012): Red List of vascular plants of the Czech Republic: 3rd edition. – Preslia 84/3: 631–645.
- Grulich V. (2017): Červený seznam cévnatých rostlin ČR. – Příroda 35: 75–132.
- Gynda L. (2004): Variation of the two endemic taxa of *Galium* L. (Rubiaceae) from the Eastern Carpathians. – Visnyk Lviv Univ., Biol. Ser. 36: 96–100.
- Hanselmann D. (2017): Neue Zierde für den Straßensaum—Erstnachweis von *Limonium gmelini* (Willd.) Kuntze in Deutschland (und weitere Anmerkungen zu aktuellen Entwicklungen der Straßenbegleitflora in Rheinland-Pfalz). – Mainz. Nat. Wiss. Arch. 54: 155–156.
- Hohla M., Diewald W. & Király G. (2015): *Limonium gmelini* – eine Steppenpflanze an österreichischen Auto-bahnen sowie weitere Neuigkeiten zur Flora Österreichs. – Staphia, 103: 127–150.
- Hruby J. (1923): Die nördlichen Vorlagen des Glatzer Scheeberges und des Hohen und Niederen Gesenkes. Pflanzengeographische Schilderungen. II. Teil. – Beihefte zum Botanischen Centralblatt. Sonderabdruck. Band XXXIX. Abteilung II.: 399–435.
- Kaplan Z. (2019): Araceae Juss. – áronovité, p. 142–143. – In: Kaplan Z., Danihelka J., Chrtek J. jun., Kirschner J., Kubát K., Štech M. & Štěpánek J. (eds): Klíč ke květeně České republiky. Ed. 2. – Academia, Praha.
- Klášterský I. (1930): Ad floram Carpatorossicam additamenta critica III. – Preslia 10: 76–87.
- Kliment J. (1999): An annotated overview of higher plants of the flora of Slovakia, listed in the literature as endemic taxa. – Bull. Slov. Bot. Spoločn. 21, Suppl. 4: 1–446.
- Kliment J., Turis P. & Janišová M. (2016): Taxa of vascular plants endemic to the Carpathian Mts. – Preslia 88 /1: 19–76.
- Kobiv Y., Prokopiv A., Borsukovich L. & Helesh M. (2009): Poshyrennya, stan populiatsiy ta kharakterystyka oselyshch ridkisnykh i zahrozhennykh vydiv roslyn u pivnichniy chastyi Svydovtsvia (Ukrayins'ki Karpaty). – Visnyk Lviv Univ., Biol. Ser. 49: 63–82.
- Kobiv Y., Prokopiv A., Nachychko V., Borsukevych L. & Helesh M. (2017): Distribution and population status of rare plant species in the Marmarosh Mountains (Ukrainian Carpathians). – Ukr. Bot. J. 74 (2): 163–176. doi: 10.15407/ukrbotj74.02.163
- Kocián P. (2018): *Limonium gmelinii*. – In.: Lustyk P. & Doležal J. (eds): Additamenta ad floram Reipublicae Bohemicae. XVI. – Zpr. Čes. Bot. Společ. 53: 40–41.
- Kocián P. (2019): Nálezová databáze Moravskoslezské pobočky ČBS [online]. – URL: <https://www.nalezovka.cz/> [accessed: 24. 10. 2022]
- Kocián P., Danihelka J., Lengyel A., Chrtek J. jun., Ducháček M. & Kúr P. (2016): Limonka Gmelinova (*Limonium gmelinii*) na dálnicích České republiky. – Acta Rer. Natur. 19: 1–6.
- Kozłowska K., Nobis A. & Nobis M. (2011): *Typha shuttleworthii* (Typhaceae), new for Poland. – Pol. Bot. J. 56/2: 299–305.
- Kricsfalussy V. & Budnikov G. (2007): Threatened vascular plants in the Ukrainian Carpathians: current status, distribution and conservation. Thaiszia – Journal of Botany 17: 11–32.
- Lepší M., Lepší P., Koutecký P., Lučanová M., Koutecká E. & Kaplan Z. (2019): *Stellaria ruderalis*, a new species in the *Stellaria media* group from central Europe. – Preslia 91: 391–420. doi: 10.23855/preslia.2019.391
- Liendo D., García-Mijangos I., Biurrun I. & Campos J. A. (2021): Annual weedy species of *Erigeron* in the northern Iberian Peninsula: a review. – Mediterr. Bot. 42: e67649. DOI: 10.5209/mbot.67649
- Lustyk P. & Doležal J. (2021): Additamenta ad floram Reipublicae Bohemicae – XIX. – Zpr. Čes. Bot. Společ. 56(1): 31–176.

- Malekmohammadi M., Lack H. W., Lomonosova M. & Akhani H. (2017): The discovery, naming and typification of *Limonium gmelini* (Plumbaginaceae). – Willdenowia 47: 99–106. doi.org/10.3372/wi.47.47201
- Manual of the Alien Plants of Belgium (2022a): *Erigeron sumatrensis*. Available from: <https://alienplantsbelgium.myspecies.info/content/erigeron-sumatrensis> (accessed 04 October 2022).
- Manual of the Alien Plants of Belgium (2022b): *Lepidium didymum*. Available from: <https://alienplantsbelgium.myspecies.info/content/lepidium-didymum> (accessed 11 October 2022).
- Marhold K., Mártonfi P., Mereda P. jun. & Mráz P. (eds) (2007): Chromosome number survey of the ferns and flowering plants of Slovakia. – Veda, Bratislava. 650 pp.
- Mártonfi P. (ed.), Černý T., Douda J., Eliáš P. jun., Grulich V., Hrouda L., Koutecký P., Lepš J., Lustyk P., Lepší M., Štech M. & Trávníček B. (2014): Cievnaté rastliny okresu Trebišov. – Bull. Slov. Bot. Spoločn. 36, Suppl. 1: 27–70.
- Maslo S. & Šarić Š. (2020): *Erigeron sumatrensis* Retz. (Compositae), a recently recognized invasive alien species in Bosnia and Herzegovina. – Glas. Hrvat. bot. druš. 8(2): 88–93. DOI: 10.46232/glashbod.8.2.3
- Medvecká J., Kliment J., Májeková J., Halada Ľ., Zaliberová M., Gojdičová E., Feráková V. & Jarolímek I. (2012): Inventory of the alien flora of Slovakia. – Preslia 84: 257–309.
- Michalková E. (1993): *Galium mollugo* agg. (Rubiaceae) in Slovakia. – Preslia 65: 201–207.
- Mirek Z., Piękoś-Mirkowa H., Zajac A. & Zajac M. (2020): Vascular plants of Poland. An annotated checklist. – W. Szafer Institute of Botany, Polish Academy of Sciences, Kraków. 526 pp.
- Nobis M., Nobis A., Jedrzejczak E. & Klichowska E. (2015). A new record of *Typha shuttleworthii* (Typhaceae) in Poland. – Acta Mus. Siles. Sci. Natur. 64. 107–109. doi: 10.1515/cszma-2015-0014
- Pinke G. & Pál R. (2001): Adatok a Kisalföld gyomflórájának ismeretéhez. – Kitaibelia 6: 381–398.
- Pliszko A. (2016): *Erigeron sumatrensis* (Asteraceae), casual alien new to the Polish flora. – Bot. Lith. 22(2): 182–184. DOI: 10.1515/botlit-2016-0020
- Podpěra J. (1949): Jak proniká teplobytná květina do údolí jesenických a beskydských. – Přírodověd. sborn. Ostravského kraje 10: 81–95.
- Pruski J. F. & Sancho G. (2006): *Conyza sumatrensis* var. *leiotheca* (Compositae: Astereae), a new combination for a common neotropical weed. – Novon 16(1): 96–101. 10.3417/1055-3177(2006)16[96:CSVLCA]2.0.CO;2
- Randall R. P. (2017): A Global Compendium of Weeds. 3rd edition. – R.P. Randall, Western Australia, Perth. 3654 pp.
- Rechinger K. H. (1981): Salicaceae. p. 22–135. – In: Hegi G. (ed.): Illustrierte Flora von Mitteleuropa 3 (1), 3rd ed. – Parey, Berlin-Hamburg.
- Rendeková A. & Mičieta K. (2017): Interesting and rare plant taxa and community in the ruderal flora and vegetation of Bratislava and Malacky. – Acta Bot. Univ. Comen. 52: 11–27.
- Řezníčková M. (2014): *Molinion caeruleae*. – In: Hegedűšová Vantarová K. & Škodová I. (eds): Rastlinné spoločenstvá Slovenska. 5. Travinno-bylinná vegetácia, p. 305–314. – Veda, Bratislava.
- Schmidt D. (2004): A *Geranium sibiricum* L. előfordulása Magyarországon. – Fl. Pannonica 2(2): 57–67.

- Schmidt D. (2015): Adatok a Kisalföld flórájának ismeretéhez III. – Bot. Közlem. 102(1-2): 61–84. DOI: 10.17716/BotKozlem.2015.102.1-2.61
- Schmidt D., Nótári K. & Korda M. (2014): Kiegészítő adatok a Soproni-hegység és előtere flórájához. – Kitaibelia 19(2): 239–242.
- Somlyay L. & Csabi M. (2019): Adatok Budapest környéke flórájának ismeretéhez III. – Kitaibelia 24(2): 227–237. DOI: 10.17542/kit.24.227
- Thiers B. (2022+) [continuously updated]: Index Herbariorum: A global directory of public herbaria and associated staff. – New York Botanical Garden's Virtual Herbarium, New York. – Published at <http://sweetgum.nybg.org/ih>
- Turis P., Eliáš P. jr., Schmotzer A., Király G., Schneider E., Kuciel H., Szewczyk M., Szewczyk M., Kozurak A., Antosyak T., Voloshchuk M., Lazarević P. & Lustyk P. (2014): Red list of vascular plants of the Carpathians. – In: Kadlecík J. (ed.): Carpathian red list of forest habitats and species. Carpathian list of invasive alien species. – Štátnej ochrany prírody Slovenskej republiky, Banská Bystrica, 44–104 pp.
- Urbisz A. (2011): Occurrence of temporarily-introduced alien plant species (ephemeralophytes) in Poland – scale and assessment of the phenomenon. – Wydawnictwo Uniwersytetu Śląskiego, Katowice. 199 pp.
- Veselý J. (1954): Příspěvek ke květeně Osoblažska. – Přírodověd. sborn. Ostravského kraje 15: 66–76.
- Vladimirov V. (2009): *Erigeron sumatrensis* (Asteraceae): a recently recognized alien species in the Bulgarian flora. – Phytol. Balc. 15(3): 361–365.
- Vozárová M. (1979): Vegetačné pomery lokalít Sedlisko – poniklecová lúčka a Soroš II. Západné Slovensko. – Vlastivedný zborn. múz. Západoslov. kraja, 6: 47–99.
- Yannitsaros A. (1986): New data on the naturalization and distribution of *Coronopus didymus* (Cruciferae) in Greece. – Willdenowia 16(1): 61–64.
- Xu L. & Aedo C. (2008): Geraniaceae, pp. 7–30. – In: Wu Z. & Raven P. H. (ed.): Flora of China Volume 11: Oxalidaceae through Aceraceae. Missouri Botanical Garden Press.
- Záveská Drábková L. (2010): Araceae Juss. – áronovité, p. 276–283. – In: Štěpánková J., Chrtek J. jun. & Kaplan Z. (eds): Květena České republiky. Vol. 8. – Akademia, Praha.