

New floristic records from Central Europe 15 (reports 222-231)

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Abstract: The presented 15th part of the series includes ten new records of vascular plants from the territory of Central Europe. In Hungary, *Eichhornia crassipes*, *Isatis tinctoria*, *Neobotrydium pumilio* and *Plectranthus* cf. *coleoides* were recorded. In Slovakia *Bromus secalinus*, *Elatine hungarica*, *Elymus elongatus*, *Ranunculus polyphyllus* and *Vaccaria hispanica* were reported. Alien *Cymbalaria pallida* has been recorded for the first time in the flora of Slovakia.

Keywords: adventive species, chorology, Hungary, native species, new findings, red list species, Slovakia, vascular plants.

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 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 (2025+). The map was processed in Corel Draw using the map grid described by Niklfeld (1971). Distribution data taken from the public database iNaturalist.org were cited as follows: iNaturalist ID and number of observation(s), with subsequent citation in References.

The publication includes contributions by N. Bauer (222), M. Dudáš (223-224), P. Eliáš Jr. (225-226), G. Király & A. Király (227-228), Sz. Kis & A. Molnár V. (229), A. V. Molnár (230) & Š. Týr & P. Eliáš Jr. (231) arranged alphabetically.

Norbert Bauer (report 222)

Slovakia

222. *Elymus elongatus* (Host) Runemark: Southern Slovakia, distr. Nové Zámky, Salka, „Prírodná rezervácia Sovie vinohrady“, 190 m a.s.l., 47.887483° N, 18.718464° E, 8178.1, 28. 7. 2024, N. Bauer (BP, HNHM-TRA 00730823).

Elymus elongatus [*Elytrigia elongata* (Host) Nevski] is a perennial grass species probably of Mediterranean origin. In Hungary, it was collected by Zoltán Siroki on the Hortobágy (Great Hungarian Plain) in 1973 for the first time (herbarium specimen BP 411350). Following the first few observations of the taxon in the lowlands, the species was also suspected to be indigenous (Bagi & Székely 2006). In the last two decades, attempts have also been made to cultivate the species as an energy plant in some sites. It is uncertain to what extent this background factor participated in its intensive spread (Király & Király 2018; Matus et al. 2019; Molnár et al. 2016; Takács et al. 2014; Bauer 2023; Molnár et al. 2024) in the last decade. There are already many self-sustaining stands in Hungary, which can make the spontaneous spread of the taxon even more successful. Most of its recent occurrences have been observed along roads and main roads (Takács et al. 2014; Király & Király 2018; Molnár et al. 2024; Schmidt et al. 2024). Molnár et al. (2024) suggest the spread of a cultivated variety of the species (cv. "Szarvasi-1") along roads in Eastern Hungary and report that the traffic infrastructure may contribute to the spread of the species. In the last decade, there have been an increasing number of reports of this species from semi-natural habitats, especially from xerothermic dry grasslands and abandoned vineyard grasslands (Bauer 2023; Schmidt et al. 2024). The new record from southern Slovakia is also from this habitat, which fits well with the experience of the species' spread in Hungary. It is likely that with a systematic survey, it can be spotted in other areas of Slovakia.

The occurrence of *E. elongatus* near Salka threatens a protected and particularly valuable steppe habitat. In the dry grassland - steppe shrub habitat complex of the hill on loess bedrock, in addition to the significant number of *Crepis pannonica* (Jacq.) K. Koch, the occurrences of *Aster amellus* L., *Cirsium pannonicum* (L. f.) Link, *Crambe tataria* Sebeók, *Cytisus austriacus* L., *Jurinea mollis* (L.) Rchb., *Linum flavum* L., *L. hirsutum* L., *Polygala major* Jacq., *Prunus fruticosa* Pall., *Veronica orchidea* Crantz and *Allium marginatum* Janka were also observed during the field survey. It is interesting that the latter taxon is missing from the most recent floristic work of the

area (Gyetven & Dítě 2024) and is not indicated in the Red Data Book (Čeřovský et al. 1999) from this flora mapping grid. Occurrence data: *Allium marginatum* Janka [syn. *Allium paniculatum* subsp. *marginatum* (Janka) Soó]: 47.887671° N, 18.715131° E, 8178.1, 28. 7. 2024, N. Bauer.

In such an important area, controlling and eradicating *E. elongatus*, which has an uncertain invasive career, may be worthwhile by planning a targeted, active conservation action.

Matej Dudáš (reports 223-224)

Slovakia

223. *Ranunculus polyphyllus*: the Východoslovenská nížina Lowland, Malý Horeš, settlement Onča, field depression on pasture with small temporary pool, several plants, 97 m, 48°23'25.60"N 21°57'53.55"E, 7697b, 30. 3. 2024, M. Dudáš, KO 38017, iNaturalist ID 210696244.

Ranunculus polyphyllus is a Eurosiberian species, extremely rare in the western part of its distribution range. In Slovakia, this lowland semiaquatic plant has its westernmost border, where only two recent locations are known in southeastern part of the country (Holub 1999; Dítě et al. 2021; Dudáš 2024). The nearest population north from Strážne village in 2024 contained hundreds of plants and probably represented the source of diaspores. On this newly found locality not more than 10 plants were observed. Its recent status in Slovakia is CR (critically endangered; Dudáš 2024).

224. *Cymbalaria pallida* (Ten.) Wettst.: Orava region, the Západné Beskydy Mts., Zákamenné, Babinec Street, several tens of flowering plants on gravel along a road, 690 m, 49°23'34.915"N, 19°17'56.528"E, 6681b, 12. 10. 2024, M. Dudáš, KO 38296, iNaturalist ID 247493150.

Cymbalaria pallida is distributed in Central Italy and naturalized in several European countries, in the Czech Republic, the United Kingdom and Germany (POWO 2025). The occurrence data from Central Europe are rare. In Slovakia, only *Cymbalaria muralis* is known (Mártonfi 1997). From Slovakia only one record is known (Čejka 2023, iNaturalist ID 182016179), but is not clear, whether these plants were cultivated or they escaped from cultivation. Despite this unclear finding, *C. pallida* is a new alien for the flora of Slovakia with at least one wild growing population.

Pavol Eliáš Jr. (reports 225-226)

Slovakia

225. *Elatine hungarica* Moesz: the Podunajská nížina lowland, Nové Zámky, large field wetland ca 2.5 km NNE from the intersection of Bezručova and Bešeňovská cesta streets, 113 m, 48°00'50.8"N, 18°13'03.5"E, 7975c, 17. 7. 2024, P. Eliáš Jr., NI.

Elatine hungarica is a Pannonian-Black Sea-Caspian species (Shapoval 2006) occupying relatively small distribution range in Slovakia, Hungary, Romania, Serbia, Moldavia, Ukraine and southern Russia, it was introduced and naturalized in Portugal (Molnár 2003; Király & Eliáš 2011; Uotila 2009+). Today, most finds are concentrated in agricultural areas, which are exposed to periodic floods creating temporary wetlands in the years with high rainfall (Takács et al. 2013). In Slovakia, the species is evaluated as critically endangered (Eliáš et al. 2015) and has occurred especially in the Východoslovenská nížina lowland (Fig. 1). In the Podunajská nížina lowland it was found only recently at single locality in temporary field inundation near the village of Okánikovo (Király & Eliáš l. c.). We found it in the same type of habitat near Nové Zámky (Fig. 2).

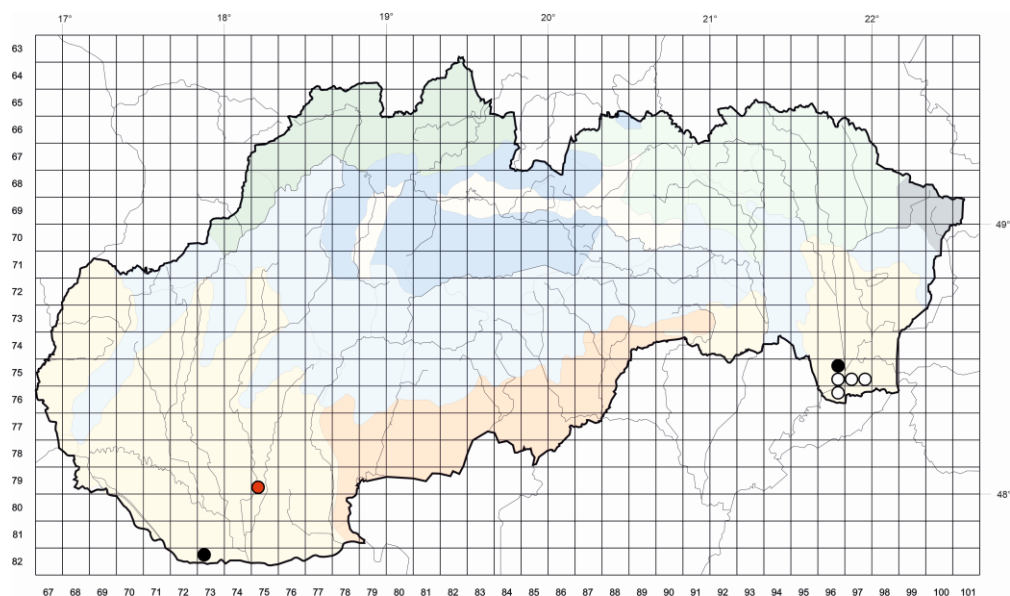


Fig. 1 Current occurrence of *Elatine hungarica* Moesz in Slovakia: empty circles represent historical localities, black circles represent recent localities, red circle represents new locality (modified after Király & Eliáš 2011).

226. *Vaccaria hispanica* (Mill.) Rauschert: the Podunajská nížina lowland, Nitra, escaped from plantings near waste containers in the campus of the Slovak University of Agriculture, 138 m, 48°18'17.4"N 18°05'38.2"E, 7674d, 26. 5. 2025, P. Eliáš Jr., NI.

Cow cockle (*Vaccaria hispanica*), a weed species of probably Mediterranean origin, occupied mainly cereal fields on base-rich soils in Central Europe (Kaplan et al. 2022). It was locally common in Slovakia in the past (Eliáš 2006a), recently regarded critically endangered (Eliáš et al. 2015). In last decades, the species was found very rarely only in ruderal habitats as result of cultivation for ornamental purposes (F. Bača in Eliáš 2012; Gajdošová 2022), as our finding also supported (Fig. 3).



Fig. 2 New locality of *Elatine hungarica* Moesz in Slovakia – extensive field wetland near Nové Zámky in July 2024.



Fig. 3 Cow cockle (*Vaccaria hispanica*) in ruderal place within Slovak University of Agriculture campus in Nitra.

Gergely Király & Angéla Király (reports 227-228)

Hungary

227. *Plectranthus* cf. *coleoides* Benth.: Balaton Upland region, Veszprém County, Tihany, Kossuth Street, vegetative specimens growing in the cracks of the pavement and on the base of a stone fence, 168 m, 46°54'54.8"N, 17°53'10.0"E, 9073c, 02. 11. 2024, A. Király & G. Király, herb. Király, photodocumented, Fig. 4.

The genus comprises numerous taxa with disputed status and nomenclature in the subtropical and tropical Old World. Several cultivars of unclear origin are used as indoor ornamental plants. For *Plectranthus*, there is a single adventive Central European record (under the name *P. fruticosus*) from Germany (Mannheim) (Gams 1927).

The *Plectranthus*-specimens in Tihany were found on open ground after the first autumn frosts, in a quite protected microclimatic situation, probably as a temporary introduction from containers or flower boxes (these were no longer on the scene during our botanical investigations). The plant was confirmed by N. Griebel as *P. cf. coleoides*. The Balaton Upland region, especially the area of Tihany village, has a clear Sub-Mediterranean climate that mirrors both in the native flora, and the thermophilic anthropogenic vegetation. It is not known whether the plants survived the mild winter of 2024/25, however, this occurrence fits well in the line of repeated overwintering of subtropical plants in the Pannonian Basin (e.g. Takács et al. 2020; Wirth et al. 2020).



Fig. 4. Spontaneously growing specimen of *Plectranthus* cf. *coleoides* on the base of a stone fence in Tihany (Hungary) (G. Király).

228. *Isatis tinctoria* L.: Sopron Mts, Győr-Moson-Sopron County, Sopron, one strong flowering specimen on the embankment of the public road to Harka, 234 m, 47°38'58.6"N, 16°35'54.0"E, 8365d, 12. 04. 2024, A. Király & G. Király (herb. Király + photodocumented) (Fig. 5).

This species is an old blue dye and medicinal plant of Mediterranean origin, in the Pannonian Basin probably an archaeophyte (Csiky et al. 2023). In Hungary, it is locally abundant around Budapest, and on the Lesser Plain (Kisalföld), respectively, and quite rare and declining in other parts of the country. It has only a few 50+ years old historical records from Western Hungary (Soó 1968; Bartha et al. 2015), it was considered as regionally extinct (Frank et al. 1998).

Here we report on the rediscovery of *Isatis tinctoria* in Western Hungary, and, at the same time, on the first record of the species from Sopron Mts. It grows here in a synanthropic habitat (roadside) with a few accompanying species (e.g. *Potentilla cinerea*, *Verbascum phoeniceum*) of the dry grasslands. The single specimen found here was mowed before fruiting, therefore its taxonomic position (subspecies assignment) could not be clarified.



Fig. 5. Flowering specimen of *Isatis tinctoria* on the embankment of the road from Sopron to Harka (Hungary) (G. Király).

Szabolcs Kis & Attila Molnár V. (report 229)

Hungary

229. *Eichhornia crassipes* (Mart.) Solms.: SE Hungary, Békés County, Békéscsaba: [1] in the artificial watercourse “Élővíz-csatorna”, 89 m a.s.l., 46.66816° N, 21.12658° E, 2 individuals; [2] 46.67163° N, 21.17066° E, 1 individual. – Békéscsaba: [3] in an oxbow lake, “Gerlai-holtág”, 46.67280° N, 21.17679° E, 3 individuals; [4] 46.67367° N, 21.17563° E, several individuals with approximately 1 m² cover, 22. 09. 2022, Sz. Kis & A. Molnár V., photodocumented, Fig. 6.

Eichhornia crassipes (syn.: *Pontederia crassipes* Mart., Pontederiaceae) is a free-floating, perennial aquatic species native to the Brazilian Amazon (Cordeiro et al. 2020). Due to its rapid growth rate, both vegetative and sexual reproduction, and its ability to adapt to a wide range of nutrient and environmental conditions, water hyacinth has become one of the most widespread and problematic invasive aquatic weeds globally (Villamagna & Murphy 2010).

This species is rarely observed in Hungary. Király (2009) describes it as an aquarium plant that may escape cultivation but is not winter hardy. The species is not included in the book on invasive plant species in Hungary (Csiszár 2012). According to Lukács et al. (2016), it has been recorded only once in Hungary, in thermal water, in 1950. Csiky et al. (2023) categorised the species as a deliberately introduced and naturalised alien in the Hungarian flora. In recent years, it has been reported from only one location in Hungary: near Székesfehérvár, where it was observed by Károly Gergely Kovács in 2015 (Molnár et al. 2017).

It occurs in slow-flowing, slightly alkaline, low-conductivity, high-oxygen water that did not freeze permanently during the mild winter of 2022/2023 (Tab 1.).

The origin of these plants remains highly uncertain, as does the presence of the New World tropical species *Pistia stratiotes* L., which has been found at all of the four newly identified sites of *Eichhornia crassipes*. Thermal spas and baths are located within Békés, Békéscsaba, and Gyula, and their outflowing waters may facilitate the establishment and potential survival of aquatic plants of tropical origin in the canal (e.g. *Cabomba caroliniana* A. Gray, see Takács et al. 2025).

Tab 1. Water chemistry parameters measured with a Hach HQ40D multimeter at localities of *Eichhornia crassipes* near Békéscsaba.

ID	pH	Conductivity (µS/cm)	O ² -content (mg/L)	Temperature of water (°C)	
				13. 01. 2023	09. 02. 2023
[1]	8.68	684	11.65	6.7	1.8
[3]	8.4	713	9.88	6.7	2.3



Fig. 6 *Eichhornia crassipes* as a casual alien species in the Élővíz-csatorna and Gerlai-holtág near Békéscsaba, Southeastern Hungary. Photographed by Sz. Kis.

Attila Molnár V. (report 230)

Hungary

230. *Neobotrydium pumilio* (R.Br.) M.L. Zhang & G.L. Chu: W Hungary, Veszprém County, Veszprém, Cholnoky Jenő street, 265 m a.s.l., 47.086442° N, 17.921415° E, 08. 07. 2024, A. Molnár V., photodocumented, Fig. 7.

Neobotrydium pumilio, an annual plant species belonging to the Chenopodiaceae family, is native to Australia and has become an alien species on all continents except Antarctica (GBIF). In addition to two unconfirmed occurrences in Hungary spanning several decades (Győr: Polgár 1925; Gárdony: Priszter 1965), the species has recently been recorded at four additional locations (Budapest: Lengyel 2013; Molnár & Juhász 2016; Bánk & Nagykovács: iNaturalist). The newly documented location is situated approximately 53 and 66 km from the nearest previously known sites (Gárdony & Győr, respectively).

Approximately 15 specimens were observed in a pot of *Chamaerops humilis* L., and eight individuals of *N. pumilio* were found in the gaps between paving stones at a street-side, unfenced garden store. Recent research indicates an increasing

recognition of the role that the trade in ornamental plants (Takács et al. 2020; Kovács et al. 2023; Molnár et al. 2024) and potting substrates (Sonkoly et al. 2022) play in the spread of alien species. This case provides further evidence of the unintentional and incidental distribution of alien species through the trade of horticultural ornamentals.



Fig. 7 *Neobotrydium pumilio* as casual alien species at Cholnoky street in Veszprém, Western Hungary. A flowering stem of the species (left), pot of *Chamaerops humilis* from which the plant escaped (right). Photographed by A. Molnár V.

Štefan Týr & Pavol Eliáš Jr. (report 231)

Slovakia

231. *Bromus secalinus* L.: Ipeľsko-rimavská brázda region, Dolné Semerovce, hundreds of individuals at several places in a cereal field around 2 km NW from the village near the road no. 75, 210 m, 48°07'43.1"N, 18°49'17.7"E, 7878d, 1. 6. 2024, Š. Týr, NI. – Ipeľsko-rimavská brázda region, Tupá, cereal field near gas station Dalioil on E77 road, hundreds of individuals, 120 m, 48°06'14.3"N, 18°53'28.6"E, 7879c, 1. 6. 2024, Š. Týr, observation.

Rare segetal weed of the steppes of the Middle East, it reached Central Europe in the Eneolithic period. However, in the second half of the 20th century a dramatic retreat throughout Central Europe started. The cause was a change in agrotechnical

procedures, primarily the excessive use of herbicides (Lososová & Šumberová 2005). Today, it was sporadically recorded especially in the cold and moderate-cold regions in the Czech Republic and Slovakia (Kolářová et al. 2023), e.g. in the Biele Karpaty Mts, Orava region (both NW Slovakia) as well as Pieniny region (NE Slovakia) (Devánová et al. 2006; Eliáš 2006b; Májeková 2009). Our data suggest that it may also penetrate more southern areas, and its incidence may have an increasing trend, as observed in Poland (Korniak & Dynowski 2011).

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