

New floristic records from Central Europe 8 (reports 109-121)

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Abstract: The presented eighth part of the series includes thirteen new chorological records of vascular plants, one from Hungary, six from Poland and six from Slovakia. In Hungary, *Ventenata dubia* is reported. In Poland, two native taxa *Bolboschoenus planiculmis* and *Najas marina* subsp. *marina* and four alien taxa *Buddleja davidii*, *Lupinus ehrenbergii* var. *ehrenbergii*, *Miscanthus sacchariflorus* and *Sedum sarmentosum* are reported. In Slovakia, two native taxa *Taraxacum paucilobum* with distribution map and *Cotoneaster integerrimus* are reported as well as four alien taxa *Azolla filiculoides*, *Eichhornia crassipes*, *Euphorbia prostrata* and *Pistia stratioites*.

Keywords: chorology, vascular plants, new findings, Hungary, Poland, Slovakia, 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 (2021+).

The publication includes the contributions by M. Dudáš (109), P. Eliáš jun., Ľ. Ďurišová & S. Kšiňan (110-112), R. Hrivnák (113), M. Malovcová-Staníková (114-115) and A. Pliszko & A. Górecki (116-121) arranged alphabetically.

Matej Dudáš (report 109)

SK

109. *Taraxacum paucilobum* Hudziok (sect. *Palustria*): the Slanské vrchy Mts., Zlatá Baňa, saddle Temný les, waterlogged middle grassy belt of field road, SE from saddle on east slope, 655 m, 48°56'17.4"N 21°26'01.6"E, 7094d, 2. 6. 2021, M. Dudáš, KO 36089-36090, rev. J. Štěpánek no det. 36219.

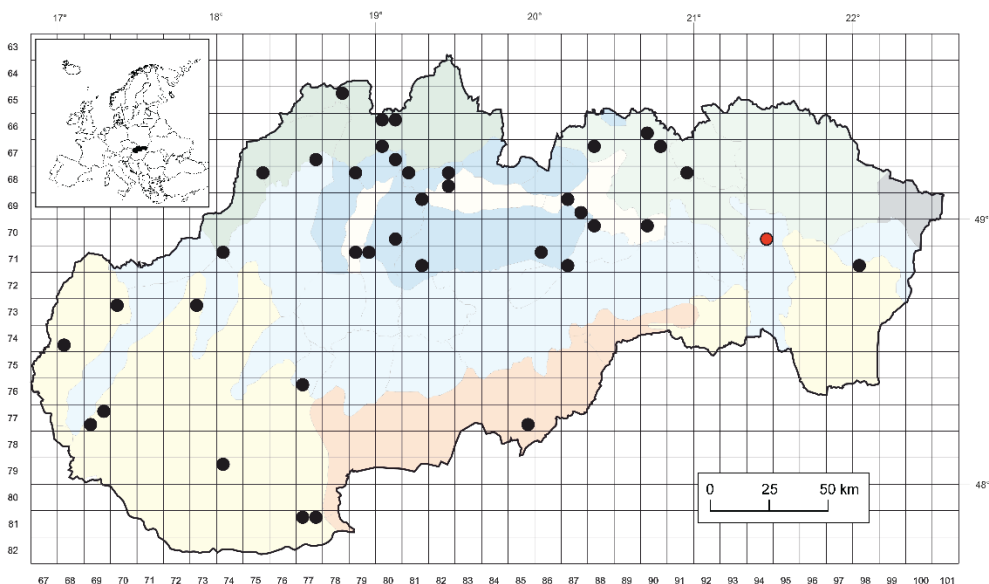


Fig. 1 Distribution of *Taraxacum paucilobum* in Slovakia. Black dots - data published by Kirschner & Štěpánek (1998) and Očka & Škovirová (2020), red dot - new locality. Coloured basemap shows phytogeographical division of Slovakia according to Futák (1984).

Taraxacum paucilobum is a typical Central European element. It occurs in Poland, Germany, Austria, Hungary and Czechia and rarely reaches northern parts of the Adriatic region and the northernmost Balkans (Bosnia and Herzegovina, Croatia and Romania). Its distribution in Slovakia (Fig. 1) is scattered in northern parts and rare in SW part of the territory. It does not tolerate taller vegetation and prefers a grassy track habitat (Kirschner & Štěpánek 1998). The latest data come from Velká Fatra Mts. (Očka & Škovirová 2020). In eastern Slovakia it is very rare. The newly found locality consists of several tens of flowering plants growing in the waterlogged middle grassy belt of a field road. This vegetation is characterized by the following phytosociological relevé (1).

Relevé 1. The locality characterised formerly, 4×1 m², 655 m a.s.l., elev. -, exp. SE, E₁: 95 %, E₀: 5 % (undetermined).

E₁: *Sysirinchium montanum* 2m, *Lotus corniculatus* 1, *Plantago lanceolata* 1, *Taraxacum paucilobum* 1, *Avenula pubescens* +, *Cerastium* sp. +, *Leontodon hispidus* +, *Pimpinella saxifraga* +, *Polygala comosa* +, *Taraxacum* sect. *Ruderalia* +, *Trifolium repens* +, *Trisetum flavescens* +, *Dactylis glomerata* r, *Holcus lanatus* r, *Ranunculus acris* r.

Pavol Eliáš jun., Ľuba Ďurišová & Samuel Kšiňan (reports 110-112)

HU

110. *Ventenata dubia* (Leers.) Cossi: Börzsöny, Kóspalag, dry grassland in elevation point 575 m under Nagy Sas Hegy hill, 570 m, 47°53'46.0"N 18°53'42.2"E, 4. 6. 2018, P. Eliáš jun., Ľ. Ďurišová & S. Kšiňan, NI.

Ventenata dubia (syn. *Avena dubia* Leers) is distributed from North Africa and southwestern and southern Europe across Western, Central, South-Eastern, and Eastern Europe to the Caucasus, Turkey, Kazakhstan and Iran (Clayton et al. 2018; Alomran et al. 2019). In Hungary, it is relatively common, especially in the northern and eastern parts of the territory (Bartha et al. 2015). In Börzsöny Mts., several data were published (Bánkuti 1999; Bartha et al. l. c.). Our finding complements the existing knowledge about the occurrence of this species in the mentioned area.

SK

111. *Cotoneaster integerrimus* Medic: Západné Beskydy Mts., Horný Vadičov, NW edge of the village above the road to the ski resort SunSnow, ca 570 m, 49°16'58.4"N 18°53'35.7"E, 6779a, 12. 8. 2021, P. Eliáš jun. & Ľ. Ďurišová, NI.

A species with a large distribution range covering almost all of Europe (in the north to southern Scandinavia and Finland, in the south extends to Spain, Italy, the Balkans, and Crimea), Asia Minor, the Caucasus, and Siberia (Kovanda 1992). *Cotoneaster integerrimus* is distributed in mountain regions of Slovakia, the center of occurrence is located in the central part of the Western Carpathians (the Malá and the Veľká Fatra Mts., the Nízke Tatry Mts., the Vysoké Tatry Mts., the Pieniny Region). In NW Slovakia, only a single locality is reported near Zázrivá village (Baranec 1992).

112. *Euphorbia prostrata* Aiton: Šarišská vrchovina hills, Prešov, in the joints of the pavement at the cathedral of St. Nicholas, 258 m, 48°59'51.9"N 21°14'24.6"E, 7093a, 8. 7. 2019, P. Eliáš jun., NI.

The species is native in the Americas and it was recorded in Europe since 1806. Currently, *Euphorbia prostrata* is reported as alien nor in Europe, but also in Africa, Asia, and Australia (Bátori et al. 2012). In Slovakia, only two localities are known so far – Nitra and Banská Bystrica (Király et al. 2014; Eliáš sen. 2019). The species was

found also in neighbouring countries – in SE Hungary (Bátori et al. 2012) and NE Austria (Fischer et al. 2008).

Richard Hrivnák (report 113)

SK

113. *Azolla filiculoides* Lam.: the Podunajská rovina Lowland, Dolný Bar village, north-east from the village, a nameless canal near the crossing of the way between Dolný Bar and Trhová Hradská villages and the canal Gabčíkovo–Topoľníky near the system of the water reservoirs, 107 m, 47°58'26.48"N 17°42'39.11"E, 8072a, 23. 6. 2020, R. Hrivnák

Alien aquatic plant known for a relatively long-time from Slovakia (see Hejný 1958; Hrivnák et al. 2019b) with the occurrence strictly in south-western Slovakia (e.g. Hejný 1958; Mutkovič 1979; Feráková 1997; Hrivnák et al. 2007). Although the species is recorded in nine Central European Flora Mapping System grid cells within Slovakia (Hrivnák et al. 2019b), phytosociological plots with the dominance of the species are rare. There are only few relevés (with areas < 1 m²) recorded by L. Mucina from the Váh River oxbow near the Piešťany town (Valachovič et al. 1995; Hrivnák et al. 2019a). The species grew in the new locality in the canal with a stagnant/very slow flowing water. Its depth was 30–100 cm, water temperature 22 °C, reaction 7.3 and conductivity 689 µS/cm. The species composition is documented by the following relevé (2).

Relevé 2. Locality (see above), area of the relevé: 16 m², total cover: 100%, E₁: cover 100%, R. Hrivnák.

E₁: *Azolla filiculoides* 5, *Ceratophyllum demersum* 1, *Lemna minor* +, *Spirodela polyrhiza* +.

Miroslava Malovcová-Staníková (reports 114-115)

SK

114. *Eichhornia crassipes* (Mart.) Solms: the Podunajská nížina Lowland, the Trnavská pahorkatina hilly area, Trakovice, left bank of the Dudváh River, water pumping station, 3 plants, 150 m, 48°26'18.9"N 17°42'58.1"E, 7572c, 26. 9. 2021, M. Malovcová, photodocumentation.

Alien aquatic plant, reported in Slovakia in 2000 for the first time (Ružičková 2000). Only several findings are known from the Podunajská nížina Lowland in the rivers Čierna Voda and Malý Dunaj (Ružičková et al. 2013; Plachá et al. 2015), one from the foothills of the Biele Karpaty Mts. in the stream Bolešovský potok (Bagin 2015) and on two sites in the Východoslovenská nížina Lowland in the Udoč River and in the canal Severný Radský kanál (Plachá et al. 2015). Casual neophyte in Slovakia (Medvecká et al. 2012).

115. *Pistia stratiotes* L.: the Podunajská nížina Lowland, the Trnavská pahorkatina hilly area, Trakovice, left bank of the Dudvák River, water pumping station, 35 plants, 150 m, 48°26'18.9"N 17°42'58.1"E, 7572c, 26. 9. 2021, M. Malovcová, photodocumentation.

Alien aquatic plant recorded on several sites in western Slovakia in the Podunajská nížina Lowland (Hrivnák 2020). Casual neophyte in Slovakia (Medvecká et al. 2012).

Artur Pliszko & Artur Górecki (reports 116-121)

PL

116. *Bolboschoenus planiculmis* (F. Schmidt) T.V. Egorova: southern Poland, Lesser Poland Province, Brzegi, a few thousands of shoots in three small and shallow artificial water bodies within the ruderal ground of the Brzegi mine, 199 m, 50°1'39.30"N 20°4'26.64"E, 30. 6. 2021, 28. 8. 2021, A. Pliszko & A. Górecki, KRA0591942, 0591943, Fig. 2.

Bolboschoenus planiculmis is a perennial plant native to Eurasia (Hroudová et al. 2007). It is found in the habitats with fluctuating water levels, such as shallow fishponds, lakes, river banks, ditches, and temporarily flooded depressions (Hroudová et al. 2005). In Poland, it is a rare native species (Hroudová et al. 2005). This is the second locality of the species in the Lesser Poland Province.

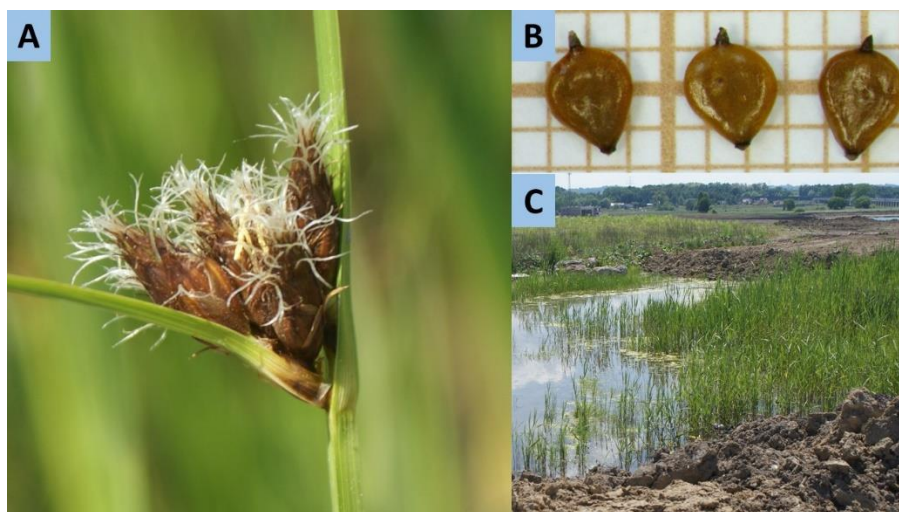


Fig. 2 *Bolboschoenus planiculmis* from the new locality in Brzegi, southern Poland: A – inflorescence, B – fruits, C – habitat. Photographed by A. Pliszko & A. Górecki.

117. *Buddleja davidii* Franch.: southern Poland, Lesser Poland Province, Kraków, Kalwaryjska Street, one flowering specimen in the gap between the pavement tiles, near the bollard, 193 m, 50°2'25.92"N 19°56'33.66"E, 8. 9. 2021, A. Pliszko, KRA0591984, Fig. 3A. – Kraków, Przemiarki Street, one flowering specimen in the gap

between the pavement tiles, near the fence, 233 m, 50°1'19.62"N 19°54'7.98"E, 30. 9. 2021, A. Górecki, Fig. 3B.

Buddleja davidii is a semi-deciduous shrub native to central and western China. It was introduced to North America, South America, Europe, Africa, and New Zealand as an ornamental plant (Tallent-Halsell & Watt 2009). The naturalization and invasion of *B. davidii* have been confirmed in many European countries (Ebeling et al. 2008; Randall 2017). In Poland, it is a locally established alien species treated as potentially invasive in semi-natural dry grasslands and scrubland facies on calcareous substrates (Tokarska-Guzik et al. 2012). These are the next spontaneous occurrences of *B. davidii* in Kraków, compared with the data provided by Guzik (2006). Further studies are needed to recognize the distribution and the impact of the species in Poland.



Fig. 3 *Buddleja davidii* in the new localities at the Kalwaryjska Street (A) and Przemiarcki Street (B) in Kraków, southern Poland. Photographed by A. Pliszko & A. Górecki.



Fig. 4 *Miscanthus sacchariflorus* in the new locality in Kraków, southern Poland: A – upper parts of the plant, B – habitat. Photographed by A. Pliszko.

118. *Lupinus ehrenbergii* var. *ehrenbergii* Schldl.: southern Poland, Lesser Poland Province, Kraków, two flowering and fruiting specimens on a soil heap near the construction site, 226 m, 50°5'2.04"N 19°53'21.78"E, 8. 10. 2020, A. Pliszko & A. Górecki, KRA0591944, 0591945, 0591946.

Lupinus ehrenbergii var. *ehrenbergii* is an annual or perennial herbaceous plant native to Mexico, Guatemala, and Honduras (Plants of the World Online 2021a). It was introduced as an ornamental plant to North America, Europe, Africa, and Asia. It is naturalized in Malawi, Tanzania and New Guinea (Randall 2017; Plants of the World Online 2021a). It is also known under its synonymous name *L. hartwegii* Lindl. (Standley & Steyermark 1946; Plants of the World Online 2021a). However, some authors treat *L. ehrenbergii* and *L. hartwegii* as synonyms of *L. mexicanus* Cerv. ex Lag. (Wolko et al. 2011; Randall 2017). In Poland, *L. ehrenbergii* var. *ehrenbergii* (known as *L. hartwegii*) is cultivated in gardens, flowerbeds and urban meadows (https://www.atlas-roslin.pl/pelna/gatunki/Lupinus_hartwegii.htm). This is the first record of *L. ehrenbergii* var. *ehrenbergii* outside of the cultivation in Poland. Currently, it should be classified as a casual alien taxon in the Polish flora.

119. *Miscanthus sacchariflorus* (Maxim.) Benth. & Hook. f. ex Franch.: southern Poland, Lesser Poland Province, Kraków, several dozen flowering shoots on the edge of ruderal thickets, between the road and railway track, 197 m, 50°1'3.06"N 20°4'3.54"E, 8. 9. 2021, A. Pliszko, KRA0591947, 0591948, 0591949. Fig. 4.

Miscanthus sacchariflorus is a perennial plant native to Eastern Asia. It was introduced as an ornamental and energy plant to North America and Europe where is also naturalized (Clifton-Brown et al. 2008; Randall 2017). In Poland, it is a rare established alien species with several localities scattered throughout the country (Podlaska & Proćków 2017; Zajac & Zajac 2019). The plant is increasingly escaping from cultivation and appearing in anthropogenic habitats or even entering semi-natural habitats (Łuczaj 2011; Pliszko 2016; Podlaska & Proćków 2017). This is the first spontaneous occurrence of *M. sacchariflorus* in Kraków.

120. *Najas marina* subsp. *marina* L.: southern Poland, Lesser Poland Province, Kraków, Bagry Lake, several clumps of generative specimens in an artificial lake, 199 m, 50°1'51.36"N 19°59'28.38"E, 25. 8. 2021, A. Pliszko & A. Górecki, KRA0591983, Fig. 5A.

Najas marina subsp. *marina* is an annual aquatic plant with cosmopolitan native range, including the Americas, Europe, Asia, Africa, and Australia (Plants of the World Online 2021b). It can be found in various freshwater and brackish aquatic habitats (Triest 1988). In Poland, it is a native species quite commonly distributed in the northern part of the country and rarely distributed in the southern part of the country (Zajac & Zajac 2001; Klich & Stachurska-Swakoń 2020). Moreover, it is treated as a near threatened taxon nationwide (Kaźmierczakowa et al. 2016). Since the Bagry Lake in Kraków was created in a former sand mine, this record confirms the tendency of *N. marina* subsp. *marina* to occur in anthropogenic aquatic habitats,

observed in the last years in Poland (Panek 2013; Halabowski et al. 2018; Klich & Stachurska-Swakoń 2020).

121. *Sedum sarmentosum* Bunge: southern Poland, Lesser Poland Province, Kraków, three flowering and ten vegetative specimens as weeds in a flowerbed, 235 m, 50°1'13.62"N 19°54'6.36"E, 13. 6. 2021, A. Górecki & A. Pliszko, KRA0591941, Fig. 5B.

Sedum sarmentosum is a perennial herbaceous plant native to Eastern Asia (China, Japan, Korea, Thailand and Vietnam). It was introduced to Europe and North America as an ornamental and medicinal plant (Plants of the World Online 2021c). It is usually found in rocky and sandy habitats. In Europe, it has been naturalized in Spain, Belgium, Switzerland, Austria, Montenegro, Croatia, Italy, Germany, Czechia and Slovakia (Sîrbu et al. 2011; Randall 2017). In Poland, *S. sarmentosum* is rarely cultivated as an ornamental plant and sometimes escapes from the places of cultivation (Rutkowski 2004). This is the first spontaneous occurrence of *S. sarmentosum* in Kraków. The plant escaped from flower boxes located on the balcony of one of the apartments to the nearby located flowerbed. Currently, it should be treated as a casual alien in Kraków and Poland.



Fig. 5 *Najas marina* subsp. *marina* (A) and *Sedum sarmentosum* (B) from the new localities in Kraków, southern Poland. Photographed by A. Pliszko and A. Górecki.

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