



Inventory of the urban flora of Budapest (Hungary) highlighting new and noteworthy floristic records

Attila Rigó^{‡,§}, Ákos Malatinszky[|], Zoltán Barina[¶]

[‡] Doctoral School of Environmental Sciences, Hungarian University of Agriculture & Life Sciences, Páter Károly u. 1, 2100, Gödöllő, Hungary

[§] Experimental Vegetation Ecology Research Group, Institute of Ecology and Botany, Centre for Ecological Research, Alkotmány út 4, 2163, Vácrátót, Hungary

[|] Institute for Wildlife Management and Nature Conservation, Hungarian University of Agriculture and Life Sciences, Páter Károly u. 1, 2100, Gödöllő, Hungary

[¶] H-1095, Ipar utca 3, Budapest, Hungary

Corresponding author: Attila Rigó (rigo.attila@ecolres.hu)

Academic editor: Giannantonio Domina

Received: 02 Aug 2023 | Accepted: 13 Oct 2023 | Published: 27 Nov 2023

Citation: Rigó A, Malatinszky Á, Barina Z (2023) Inventory of the urban flora of Budapest (Hungary) highlighting new and noteworthy floristic records. Biodiversity Data Journal 11: e110450.

<https://doi.org/10.3897/BDJ.11.e110450>

Abstract

Background

The systematic urban floristic research of Budapest was started in 2018 by the authors with detailed methodology. One scope of the research was to gain knowledge on the plant taxa appearing in Budapest and to compile the inventory of the urban flora of Budapest.

New information

We have provided the inventory of the urban flora of Budapest, which includes distribution data for all 973 taxa found in Budapest between May 2018 and May 2023. We also provided new detailed occurrence data for 49 species in Budapest. Seven of them are new to the adventive flora of Hungary (*Campanula portenschlagiana* Roem. & Schult.,

Clinopodium nepeta (L.) Kuntze, *Chasmanthium latifolium* (Michx.) H.O.Yates, *Cyrtomium fortunei* J.Sm., *Linaria maroccana* Hook.f., *Talinum paniculatum* (Jacq.) Gaertn.), three were rediscovered in Hungary (*Glebionis coronaria* (L.) Cass. ex Spach, *Lagenaria siceraria* (Molina) Standl., *Sisymbrium irio* L.) and 18 were recorded for the first time in Budapest. We also provided data for two data-poor (*Artemisia scoparia* Waldst. & Kit., *Polygonum rurivagum* Jord. ex Boreau) species and we documented the major expansion of six species.

Keywords

adventive, invasive, secondary habitats, occurrence records

Introduction

Scientific interest in urban ecological research, including urban floristic research, has increased in the past decades. This can be due to several reasons, one of which is the fact that urban areas are often invasion hot spots (Gaertner et al. 2017). Furthermore, spontaneously occurring plants (and other organisms) in cities pose an obvious risk to human health (Potgieter et al. 2017). In addition to these, cities can also be interesting from a taxonomic point of view, since recently more and more taxa are being described from urban environments, for example, *Stellaria ruderalis* M. Lepší, P. Lepší, Z. Kaplan & P. Koutecký (Lepší et al. 2019). There were many examples for urban floristic research around the world (e.g. Tait et al. 2005, Zhao et al. 2009, Monalisa-Francisco and Ramos 2019 and Sogbossi et al. 2020). In the European context, many cities were also the subject of floristic surveys in recent decades. The most relevant of these are the floristic studies of Central European (e.g. Chocholoušková and Pyšek 2003, Feráková and Jarolímek 2010 and Jovanović et al. 2014) and Mediterranean cities (e.g. Celesti-Grapow et al. 2013, Stešević et al. 2014 and Salinitro et al. 2018). In addition, several comparative works were published on the flora of Europe's major cities (Pyšek 1998, Lososová et al. 2011, La Sorte et al. 2014 and Kalusová et al. 2019). In Hungary, the floristic evaluation of Pécs (southern Hungary) was carried out by Wirth et al. (2020c) and Wirth et al. 2020d.

The research of the flora of Budapest has a long history. Sadler (1840) provided the complete flora of Pest-Pilis-Solt County of historical Hungary, where scattered data were provided on the built-up urban areas of Budapest. Borbás (1879) specifically provided the floristic evaluation of Budapest and its surroundings. In the 20th century, mainly descriptive and educational works were published about the flora of Budapest (Pénzes 1942, Péntzes and Csízy 1956 and Zólyomi 1958). At the end of the century, however, an inventory of Budapest's flowering plants was published (Hegedűs 1994). Most recently, Somlyay (2011), Somlyay et al. (2016) and Somlyay and Csábi (2019) researched the natural vegetation cover of Budapest and its surroundings. Rigó and Barina (2020) started the systematic, habitat-based floristic research of the urban built-up areas of Budapest in 2018.

Materials and methods

Territorial delimitation

The research area was Budapest, the capital of Hungary. The city is located in Central Hungary, between northern latitude 47.613437° and 47.349269° and eastern longitude 18.926381° and 19.334538°. The size of the city is about 525 km², of which 388 km² is the built-up interior area (Hungarian Central Statistical Office 2023). The altitude of the city varies from 95 m to 527 m. Budapest is crossed by the River Danube and surrounded by the Buda Mountains and the Pest plains. Budapest is divided into 23 administrative districts, six of which form the city core, nine districts are the inner districts surrounding the city core and the rest are the outer districts. In 2018, the city had approx. 1.75 million inhabitants (Hungarian Central Statistical Office 2023). The study was restricted to the secondary habitats of the urban built-up areas of Budapest, natural and semi-natural habitats were not included in the research.

Floristic procedures

Within the territorial units, we prepared a complete list of species for each of the distinguishable urban (micro-)habitats (Rigó and Barina 2020). We covered 1,613 street sections and squares in all districts of Budapest and registered a taxon list in each of them. As a result, we compiled an inventory of the urban flora of Budapest. The inventory is solely based on our recent data (2018-2023). We included the species name, residence status and distribution (in which districts of Budapest it occurred) for each species.

In the case of new, rare and noteworthy findings, we recorded and added the following data: scientific name, family, continent, country, county, municipality (= district), locality (= name of the public place), decimal latitude, decimal longitude, event date (= date of observation), habitat, individual count (= approximate number of the specimens), reproductive condition, recorder, identifier, occurrenceID. We also added notes on the origin, distribution, residence time and invasion potential, if relevant.

Nomenclature and classification follows World Flora Online (2023). We used Csiky et al. (2023) to determine the residence time of alien taxa.

Data resources

We used data from Suppl. material 1 for listing new and noteworthy floristic data in the 'Taxon Treatment' section and used Suppl. materials 2, 3 for the inventory of the secondary habitats of the urban, built-up areas of Budapest.

Taxon treatments

Achillea filipendulina Lam. 1783

Materials

- a. scientificName: *Achillea filipendulina*; family: Asteraceae; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest I.; locality: Hunyadi János road; decimalLatitude: 47.500629; decimalLongitude: 19.036963; eventDate: 29/04/2022; habitat: flower bed; individualCount: 20; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 1E05CFC0-22FF-5306-8C50-639A9EFDDE79
- b. scientificName: *Achillea filipendulina*; family: Asteraceae; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Közraktár street; decimalLatitude: 47.481188; decimalLongitude: 19.065478; eventDate: 23/05/2022; habitat: crevices of pavement; individualCount: 3; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: DCD6088C-CE2B-5BD0-A4E7-F021E9C2EAE9
- c. scientificName: *Achillea filipendulina*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Nehru park; decimalLatitude: 47.480913; decimalLongitude: 19.064301; eventDate: 23/05/2022; habitat: flower beds and crevices of pavement; individualCount: 15; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 5E505BAF-5C43-52BF-BCAE-7F8E6F3489C6
- d. scientificName: *Achillea filipendulina*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Corvin alley; decimalLatitude: 47.486356; decimalLongitude: 19.071072; eventDate: 19/06/2022; habitat: crevices of pavement; individualCount: 2; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: B195FC41-F6B6-520A-9B99-98FA2298958F
- e. scientificName: *Achillea filipendulina*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Millenáris park; decimalLatitude: 47.511024; decimalLongitude: 19.025587; eventDate: 06/07/2022; habitat: crevices of pavement; individualCount: 20; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: BDD44849-A1A5-5240-AAFF-4CD702CDEC17
- f. scientificName: *Achillea filipendulina*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Keszeg street; decimalLatitude: 47.499807; decimalLongitude: 19.282639; eventDate: 24/07/2022; habitat: crevices of pavement; individualCount: 3; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 0CFF4A48-21EE-5D9D-8A57-E4001E3F154A
- g. scientificName: *Achillea filipendulina*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIII.; locality: Schulek Frigyes promenade; decimalLatitude: 47.535881; decimalLongitude: 19.052308; eventDate: 27/10/2022; habitat: crevices of pavement; individualCount: 5; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: B67E5638-0CAF-599C-9FFB-56037BEF59C2
- h. scientificName: *Achillea filipendulina*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Angyal

- István park; decimalLatitude: 47.485695; decimalLongitude: 19.069504; eventDate: 24/11/2022; habitat: crevices of pavement; individualCount: 6; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: C96F3579-0DBF-5469-8A2F-504183EF6D21
- i. scientificName: *Achillea filipendulina*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Nádasdy street; decimalLatitude: 47.470380; decimalLongitude: 19.080150; eventDate: 08/10/2021; habitat: gravelly vacant ground plot; individualCount: 30; reproductiveCondition: in bloom; recordedBy: Attila Rigó, Ákos Malatinszky; identifiedBy: Attila Rigó; occurrenceID: 28582A6E-F40B-5B61-A52E-D52D39829182
- j. scientificName: *Achillea filipendulina*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Rákóczi street; decimalLatitude: 47.499339; decimalLongitude: 19.079543; eventDate: 15/09/2022; habitat: crevices of road pavement; individualCount: 3; reproductiveCondition: in bloom; recordedBy: Zoltán Barina; identifiedBy: Zoltán Barina; occurrenceID: 9E55C8AA-CA66-5BC9-9909-1D04821AFD32
- k. scientificName: *Achillea filipendulina*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest I.; locality: Friedrich Born quay; decimalLatitude: 47.495136; decimalLongitude: 19.043271; eventDate: 30/05/2023; habitat: crevices of road pavement; individualCount: 3; reproductiveCondition: in bloom; recordedBy: Zoltán Barina; identifiedBy: Zoltán Barina; occurrenceID: 57833445-6E5C-5BBF-9E75-BB155B13C95A

Notes

A plant of south-western and central Asian origin (Liu et al. 2020). The species occurs in several European countries and the USA as an alien escaping from cultivation (Soriano 2014, Wirth et al. 2020a and Eliáš Jr. et al. 2023). These are the first records of the species from Budapest.

Allium ramosum L. 1753

Materials

- a. scientificName: *Allium ramosum* s.l.; family: Amaryllidaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XXI.; locality: Szent Imre square; decimalLatitude: 47.322186; decimalLongitude: 19.069610; eventDate: 04/09/2022; habitat: amenity grassland; individualCount: 12; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 7D863E20-5DC6-5BF1-BB1E-6BF347D7D451
- b. scientificName: *Allium ramosum* s.l.; family: Amaryllidaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Csíkihegyek street; decimalLatitude: 47.469866; decimalLongitude: 18.995671; eventDate: 18/09/2022; habitat: crevices of pavement; individualCount: 10; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 7087E948-FA32-55CA-8FA2-B56144712F83
- c. scientificName: *Allium ramosum* s.l.; family: Amaryllidaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Haller street; decimalLatitude: 47.478302; decimalLongitude: 19.086394; eventDate: 25/09/2022; habitat: crevices of pavement; individualCount: 5;

reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó;
occurrenceID: 84290FF1-105D-5606-A99F-800D55A2AB0D

Notes

Asian species sometimes cultivated as a vegetable, European introductions are somewhat neglected (Seregin and Korniak 2013). Recently, some subsponaneous occurrences were reported from Pécs (southern Hungary) (Wirth et al. 2020a). These are the first published records of the species from Budapest.

Artemisia scoparia Waldst. & Kit. 1801

Material

- a. scientificName: *Artemisia scoparia*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Kvassay Jenő road; decimalLatitude: 47.465895; decimalLongitude: 19.075075; eventDate: 26/09/2018; habitat: amenity grassland and urban hedges; individualCount: 15; reproductiveCondition: fruit-bearing; recordedBy: Zoltán Barina; identifiedBy: Zoltán Barina; occurrenceID: CF1B3970-08BA-5CEA-8E96-7BE4292B5062

Notes

This pioneer is native to Hungary and can be found in sandy areas, but had few confirmed records from the country (Király and Király 2018). It had not been found in urban environments before.

Begonia cucullata Willd. 1805

Material

- a. scientificName: *Begonia cucullata*; family: Begoniaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Regős street; decimalLatitude: 47.468795; decimalLongitude: 19.002185; eventDate: 18/09/2022; habitat: crevices in pavement; individualCount: 5; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: EFA2F61A-06CD-5BD1-B5A3-A19A17DE8FBD

Notes

A widely cultivated ornamental of South American origin that became naturalised and even invasive in tropical and subtropical regions (Lim 2014). The species only appears as a casual in Europe (e.g. Verloove 2006). There were some recent records of the species from Hungary (Rigó 2019, Rigó and Barina 2020 and Wirth et al. 2020a).

Borago officinalis* L. 1753*Material**

- a. scientificName: *Borago officinalis*; family: Boraginaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Hímz6 street; decimalLatitude: 47.595968; decimalLongitude: 19.059515; eventDate: 23/10/2022; habitat: crevice of pavement; individualCount: 1; reproductiveCondition: in bloom; recordedBy: Attila Rig6; identifiedBy: Attila Rig6; occurrenceID: 564ABCC7-0422-5485-BFA2-FA6914507104

Notes

An important medicinal plant widely cultivated in the Mediterranean that originates from Syria (Gupta and Singh 2010). The plant has very few records from Hungary (e.g. Haszonits et al. 2021). A rare escape from cultivation.

Bromus catharticus* Vahl 1791*Materials**

- a. scientificName: *Bromus catharticus*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Holdudvar park; decimalLatitude: 47.545226; decimalLongitude: 19.031976; eventDate: 23/09/2022; habitat: amenity grassland; individualCount: 1; reproductiveCondition: in bloom; recordedBy: Attila Rig6; identifiedBy: Attila Rig6; occurrenceID: 5D6425E3-3BC6-5E8E-823C-5D368BC5233A
- b. scientificName: *Bromus catharticus*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XV.; locality: G6bor 6ron street; decimalLatitude: 47.548715; decimalLongitude: 19.121553; eventDate: 05/11/2022; habitat: road verge; individualCount: 30; reproductiveCondition: in bloom; recordedBy: Attila Rig6; identifiedBy: Attila Rig6; occurrenceID: 0A3D6474-F82C-53E2-A6E6-09ACE0F2B56C
- c. scientificName: *Bromus catharticus*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Gy6r6 street; decimalLatitude: 47.598651; decimalLongitude: 19.059620; eventDate: 31/05/2023; habitat: crevice of pavement; individualCount: 1; reproductiveCondition: in bloom; recordedBy: Attila Rig6; identifiedBy: Attila Rig6; occurrenceID: BB29B5F1-7805-5C7F-A6DB-D04A84ACBA3E

Notes

Native to South America and introduced as a winter forage worldwide (Hamzeh'ee et al. 2007). In Hungary, this species has very few records (Barina 2006, Kov6cs and Mesterh6zy 2015, Kir6ly and Kir6ly 2018 and Moln6r et al. 2019). It had not been found in Budapest before.

Campanula portenschlagiana Roem. & Schult. 1819

Material

- a. scientificName: *Campanula portenschlagiana*; family: Campanulaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XII.; locality: Avar street; decimalLatitude: 47.492147; decimalLongitude: 19.027990; eventDate: 13/05/2022; habitat: crack at the base of a building; individualCount: 3; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 6CEDDF4D-1D47-5012-8DCB-57122450D2D2

Notes

A lesser-known rock garden plant in Hungary, which superficially resembles *Campanula poscharskyana* Degen (Dunkel 2006). Naturalised in Belgium (Verloove 2006). This is the first record of the species from Hungary.

Catapodium rigidum (L.) C.E.Hubb. 1953

Material

- a. scientificName: *Catapodium rigidum*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Gyűrű street; decimalLatitude: 47.598549; decimalLongitude: 19.060334; eventDate: 31/05/2023; habitat: small trampled lawn patch and crevices of pavement; individualCount: 400; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: E462FC53-17F9-5261-91C6-A50EAF89A1F7

Notes

Native to Europe and the Mediterranean, while it appears as an alien in Australia, Africa, Asia, South and North America (Bhat et al. 2021). It is not native to Hungary, but there had been two previous records from western Hungary (Solymosi 2008 and Schmidt 2019). The population found in Budapest is its north-easternmost recorded occurrence in Hungary.

Cenchrus alopecuroides (L.) Thunb. 1794

Materials

- a. scientificName: *Cenchrus alopecuroides*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: ELTE campus; decimalLatitude: 47.473569; decimalLongitude: 19.060760; eventDate: 13/08/2022; habitat: lawn; individualCount: 8; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: B6FDE991-C377-5705-A62B-9625811D23AC
- b. scientificName: *Cenchrus alopecuroides*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XV.; locality: Kinizsi street; decimalLatitude: 47.546916; decimalLongitude: 19.112470; eventDate:

05/11/2022; habitat: crevices of pavement; individualCount: 1; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 7B54E486-AF2A-5454-8DCC-C6A31E3F0A51

Notes

A perennial ornamental grass that originates from Asia and Australia which was introduced worldwide and became naturalised in the USA (Deme et al. 2019). In Hungary, the species was first recorded in 2019 and its records are increasing (Deme et al. 2019 and Schmidt and Haszonits 2021).

Chasmanthium latifolium (Michx.) H.O.Yates 1966

Material

- a. scientificName: *Chasmanthium latifolium*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Mindszenty József square; decimalLatitude: 47.491792; decimalLongitude: 19.075540; eventDate: 10/10/2021; habitat: urban hedge; individualCount: 6; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 0A07816F-598B-5200-95CF-E94B6AAC039E

Notes

A riparian plant endemic to the south-eastern part of the USA (Sanchez-Ken and Clark 2023) and used as an ornamental plant in other parts of the world (Chelariu 2017). This is its first documented escape from cultivation in Hungary.

Clinopodium nepeta (L.) Kuntze 1891

Materials

- a. scientificName: *Clinopodium nepeta*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Margaret Island; locality: ruins of the Dominican nunnery; decimalLatitude: 47.529275; decimalLongitude: 19.051076; eventDate: 25/06/2019; habitat: on disturbed ground; individualCount: 6; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 2B8DCA19-04BA-5987-8191-06A0230BB283
- b. scientificName: *Clinopodium nepeta*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Likőr street; decimalLatitude: 47.477753; decimalLongitude: 19.072751; eventDate: 31/07/2022; habitat: crevices of pavement; individualCount: 2; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 11BD2AA6-804F-5F62-B2EC-1E735DA79908
- c. scientificName: *Clinopodium nepeta*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Bogdáni road; decimalLatitude: 47.549862; decimalLongitude: 19.046616; eventDate: 29/09/2022; habitat: crack at the base of an industrial building; individualCount: 3;

reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: C93BD580-B690-5877-9D7D-FC6A5C1ACD36

Notes

Ornamental and medicinal plant that originates from the Mediterranean and is rarely cultivated worldwide; sometimes it escapes from cultivation (González-Gallegos et al. 2017). These are its first records from Hungary.

Cyperus eragrostis Lam. 1791

Materials

- a. scientificName: *Cyperus eragrostis*; family: Cyperaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Ágoston street; decimalLatitude: 47.545764; decimalLongitude: 19.031707; eventDate: 23/09/2022; habitat: irrigated lawn in residential area; individualCount: 4; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó, Ákos Malatinszky; identifiedBy: Attila Rigó; occurrenceID: 86215EC2-B0FC-5239-BCB2-94576C287559
- b. scientificName: *Cyperus eragrostis*; family: Cyperaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: ELTE Botanical Garden; decimalLatitude: 47.485348; decimalLongitude: 19.084849; eventDate: 26/10/2022; habitat: flower pot in botanical garden; individualCount: 3; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 886EA755-6A31-53BA-B1FF-ACBF05618556
- c. scientificName: *Cyperus eragrostis*; family: Cyperaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest X.; locality: Kőbányai road; decimalLatitude: 47.483073; decimalLongitude: 19.117633; eventDate: 28/10/2022; habitat: flower pot in garden store; individualCount: 2; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 561D2ED8-0B11-5534-9204-79FC7897BC51

Notes

Native to South America, but occurs in southern, western and central Europe, North Africa and North America as an alien introduced as an ornamental (Mokni and Verloove 2021), with some recent Hungarian records (Mesterházy 2021). These are the first records of the plant from Budapest. Aside from these records, the authors found a small population at the bank of the Danube, north of Budapest. The plant might become invasive.

Cyrtomium falcatum (L.f.) C.Presl 1836

Material

- a. scientificName: *Cyrtomium falcatum*; family: Dryopteridaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XXI.; locality: Vegyigépgyár street; decimalLatitude: 47.426498; decimalLongitude: 19.054428; eventDate: 21/10/2022; habitat: mortar of old brick wall of an industrial building;

individualCount: 1; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó;
 identifiedBy: Attila Rigó; occurrenceID: A8E1477E-E92A-5D34-8FDB-0C7A79FB8B57

Notes

This species is an evergreen ornamental fern native to East Asia and introduced to North America and Europe (Maslo 2022). It is considered potentially invasive in South Africa (McCulloch-Jones et al. 2021). The first report from Hungary was by Tamás et al. (2017). This is its second record from Hungary.

Cyrtomium fortunei J.Sm. 1866

Material

- a. scientificName: *Cyrtomium fortunei*; family: Dryopteridaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VII.; locality: Pétery Sándor Hospital; decimalLatitude: 47.502904; decimalLongitude: 19.079430; eventDate: 04/11/2022; habitat: mortar of old brick wall of a hospital building; individualCount: 1; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: A5E062AF-E26B-5236-BB1E-732C75989D46

Notes

An East Asian fern that is cultivated as an ornamental and occurs as a garden escapee in European countries, recently reported from Slovenia (Jogan et al. 2022). This is the first record of the plant from Hungary.

Datura innoxia Mill. 1768

Material

- a. scientificName: *Datura innoxia*; family: Solanaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IV.; locality: Rózsa street; decimalLatitude: 47.564219; decimalLongitude: 19.099698; eventDate: 12/10/2022; habitat: cracks at the base of a wall; individualCount: 4; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 74E672F1-4917-58AA-8C6F-FD88D0D8C9CE

Notes

Native to Central and South America and planted as a rare ornamental and medicinal plant in Europe, which occasionally escapes from cultivation (Maslo and Šarić 2019). In Hungary, it has few confirmed records and is usually intermixed with *Datura wrightii* Regel (Király et al. 2009), which is more abundant in Budapest in our opinion.

Datura wrightii Regel 1859

Materials

- a. scientificName: *Datura wrightii*; family: Solanaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Orczy square; decimalLatitude: 47.489043; decimalLongitude: 19.091997; eventDate: 01/10/2018; habitat: amenity grassland; individualCount: 1; reproductiveCondition: in bloom; recordedBy: Zoltán Barina; identifiedBy: Attila Rigó; occurrenceID: FC97A977-D1C4-5D4B-AD3F-5620347D2B3E
- b. scientificName: *Datura wrightii*; family: Solanaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIII.; locality: Vág street; decimalLatitude: 47.524098; decimalLongitude: 19.057650; eventDate: 03/11/2018; habitat: front garden; individualCount: 3; reproductiveCondition: in bloom; recordedBy: Zoltán Barina; identifiedBy: Attila Rigó; occurrenceID: 13AEC779-6638-5880-8263-69178E4EEF79
- c. scientificName: *Datura wrightii*; family: Solanaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XXI.; locality: Szent Imre square; decimalLatitude: 47.432132; decimalLongitude: 19.068959; eventDate: 04/09/2022; habitat: road verge and crevices of pavement; individualCount: 3; reproductiveCondition: in bloom; recordedBy: Attila Rigó, Ákos Malatinszky; identifiedBy: Attila Rigó; occurrenceID: 60A340CC-55C1-5FDE-85FE-7F019CD77111
- d. scientificName: *Datura wrightii*; family: Solanaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XXI.; locality: Templom street; decimalLatitude: 47.432934; decimalLongitude: 19.062990; eventDate: 04/09/2022; habitat: road verge and crevices of pavement; individualCount: 8; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 7695FDE6-7CBC-5915-8076-94781D598A2B
- e. scientificName: *Datura wrightii*; family: Solanaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XXII.; locality: Vár street; decimalLatitude: 47.424662; decimalLongitude: 19.037695; eventDate: 11/09/2022; habitat: road verge and crevices of pavement; individualCount: 2; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 8D71076D-0918-5A43-B445-895677F6FEF7
- f. scientificName: *Datura wrightii*; family: Solanaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Csíkihegyek street; decimalLatitude: 47.470830; decimalLongitude: 18.994885; eventDate: 18/09/2022; habitat: crevices of pavement; individualCount: 10; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: E7082AD4-4BCA-542A-8B33-DF259A6D5BFC
- g. scientificName: *Datura wrightii*; family: Solanaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Haller street; decimalLatitude: 47.477706; decimalLongitude: 19.084978; eventDate: 25/09/2022; habitat: crack at the base of a building; individualCount: 1; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: E7206307-0246-5FE9-965A-818908B7803C
- h. scientificName: *Datura wrightii*; family: Solanaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XV.; locality: M3 motorway; decimalLatitude: 47.549794; decimalLongitude: 19.122221; eventDate: 07/11/2022; habitat: disturbed ground; individualCount: 5; reproductiveCondition: fruit-

bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 3CBA7808-619E-5AF6-8C6E-2F70B4DCC77C

Description

A somewhat neglected ornamental and medicinal plant of Central American origin, which is planted occasionally in Europe (Verloove 2008). Invasive in some parts of southern Europe (Verloove 2008) and has recently become invasive in Romania (Niculescu 2022). In Hungary, it has very few records and appears as a locally naturalised alien (Király et al. 2009). Very much resembles *Datura innoxia* Mill. and is distinguished, based on stem indumentum (Király et al. 2009).

Digitaria ciliaris (Retz.) Koeler 1802

Materials

- a. scientificName: *Digitaria ciliaris*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Corvin alley; decimalLatitude: 47.486308; decimalLongitude: 19.071415; eventDate: 19/06/2022; habitat: crack at the base of a wall; individualCount: 30; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 8AA8BBF4-C9CB-5147-B812-CF7D31A44550
- b. scientificName: *Digitaria ciliaris*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Rét street; decimalLatitude: 47.513422; decimalLongitude: 19.024173; eventDate: 06/07/2022; habitat: crevices of pavement; individualCount: 20; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: F64B63C4-269D-5A12-BD0A-5EA5FF9DD99B

Notes

A rather rare and neglected weed of the Hungarian flora (Király 2009). New to Budapest.

Eclipta prostrata (L.) L. 1771

Materials

- a. scientificName: *Eclipta prostrata*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Árpád street; decimalLatitude: 47.590467; decimalLongitude: 19.051000; eventDate: 28/09/2022; habitat: flower boxes in a garden store; individualCount: 5; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: C0C595D9-D32F-5624-AAC5-DF44DD4B26DF
- b. scientificName: *Eclipta prostrata*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Zilah street; decimalLatitude: 47.515390; decimalLongitude: 19.010740; eventDate: 22/10/2022; habitat: crevices of pavement in a garden store; individualCount: 8;

reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 6DEDE7AC-AB34-50C3-9A9B-DAEF209A7A18

Notes

Native to Asia, but introduced as a medicinal plant throughout subtropical and tropical regions (Duc et al. 2021) and spreading as an alien weed in Europe as well (Jeričević and Jeričević 2017). In Hungary, many of its records are from garden stores (Takács et al. 2020), but a population was discovered on the shore of the Danube (Mesterházy 2021). New to Budapest.

Eragrostis spectabilis (Pursh) Steud. 1840

Material

- a. scientificName: *Eragrostis spectabilis*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Margit boulevard; decimalLatitude: 47.509142; decimalLongitude: 19.027732; eventDate: 01/09/2022; habitat: crevices of pavement; individualCount: 10; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 6FF399E9-40A9-59AE-9546-B32AA41C7696

Notes

A perennial grass native to North America which is used as an ornamental in Europe and Asia. Some studies suggest that it could potentially become invasive (Qin and Wu 2013 and Wirth et al. 2020a). This species had only been recorded once in Hungary, with one specimen found in a flower bed near the parent plants at Pécs (S Hungary) (Wirth et al. 2020a). In the new locality in Budapest, we could not find the propagule source nearby.

Eragrostis virescens J.Presl 1830

Materials

- a. scientificName: *Eragrostis virescens*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest I.; locality: Döbrentei square; decimalLatitude: 47.490624; decimalLongitude: 19.045969; eventDate: 05/09/2022; habitat: flower bed; individualCount: 2; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó, Ákos Malatinszky; identifiedBy: Attila Rigó; occurrenceID: 274CA359-66DF-58EF-88E4-B0B17BAC5A66
- b. scientificName: *Eragrostis virescens*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Városliget; decimalLatitude: 47.512438; decimalLongitude: 19.082074; eventDate: 14/09/2022; habitat: flower bed; individualCount: 8; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: F3B40299-BBDD-5B21-B46A-4C09406E4F07

Notes

Native to North, Central and South America and introduced to Europe, South Africa and Australia. The first record of this species in Hungary was published in 1929 by Antal Péntzes (as *E. neo-mexicana* Vasey) and, recently, some small populations were found in the country (Király et al. 2019 and Rigó and Barina 2020).

Erigeron sumatrensis Retz. 1788

Materials

- a. scientificName: *Erigeron sumatrensis*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Vízimolnár street; decimalLatitude: 47.568365; decimalLongitude: 19.053618; eventDate: 15/07/2022; habitat: lawn in residential area; individualCount: 2; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 6C528509-4B29-51A1-A7B6-21EEB95D87EE
- b. scientificName: *Erigeron sumatrensis*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Zalán street; decimalLatitude: 47.504394; decimalLongitude: 19.142996; eventDate: 30/07/2022; habitat: crevices of pavement in a garden store; individualCount: 2; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 77E0A6C6-B508-5A9C-9BA6-5880AF0501F0
- c. scientificName: *Erigeron sumatrensis*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XXI.; locality: Célgép street; decimalLatitude: 47.420865; decimalLongitude: 19.054745; eventDate: 04/09/2022; habitat: road verge; individualCount: 8; reproductiveCondition: fruit bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 92E274D0-CE98-50CC-AC50-86F76675C797
- d. scientificName: *Erigeron sumatrensis*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Törökugrató street; decimalLatitude: 47.469426; decimalLongitude: 18.999988; eventDate: 18/09/2022; habitat: crevices of pavement; individualCount: 2; reproductiveCondition: fruit bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 9F990E79-2524-5C22-9F17-BB33FCA13889
- e. scientificName: *Erigeron sumatrensis*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Holdudvar park; decimalLatitude: 47.545814; decimalLongitude: 19.031568; eventDate: 23/09/2022; habitat: lawn in residential area; individualCount: 3; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: FD5449EF-F986-5C0B-B702-15E45335DE48
- f. scientificName: *Erigeron sumatrensis*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Szent István Hospital; decimalLatitude: 47.477145; decimalLongitude: 19.088545; eventDate: 25/09/2022; habitat: crack at the base of a hospital building; individualCount: 4; reproductiveCondition: fruit bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: AB6003CB-E406-5754-8CF8-CC0C7F17C658
- g. scientificName: *Erigeron sumatrensis*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Árpád street; decimalLatitude: 47.590993; decimalLongitude: 19.052483; eventDate:

- 28/09/2022; habitat: gravelly places, lawns, crevices of road pavement and flower beds in a garden store; individualCount: 120; reproductiveCondition: fruit bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 2D09D538-ABF9-5BEE-B899-DB0D4189FA68
- h. scientificName: *Erigeron sumatrensis*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Illatos road; decimalLatitude: 47.454848; decimalLongitude: 19.098770; eventDate: 24/10/2022; habitat: disturbed road slope; individualCount: 70; reproductiveCondition: fruit bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 94E1C16B-7351-5750-AB5C-8426EEBD9EAC
- i. scientificName: *Erigeron sumatrensis*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Soroksári road; decimalLatitude: 47.468196; decimalLongitude: 19.075402; eventDate: 24/10/2022; habitat: crevices of road pavement; individualCount: 2; reproductiveCondition: fruit bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: BE6F4F51-296A-5772-AB40-E0BFD6E493DF
- j. scientificName: *Erigeron sumatrensis*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XV.; locality: Alag street; decimalLatitude: 47.580112; decimalLongitude: 19.119699; eventDate: 09/11/2022; habitat: road verge; individualCount: 3; reproductiveCondition: fruit bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 29BA6892-FF8E-5FD9-9ABD-0E88B24EF9EE
- k. scientificName: *Erigeron sumatrensis*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Bartók Béla road; decimalLatitude: 47.471007; decimalLongitude: 19.028059; eventDate: 17/11/2022; habitat: crack at the base of a building; individualCount: 4; reproductiveCondition: fruit bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: E886FAA5-FF7A-5CCF-8324-68A2EE6A7B43

Notes

A thermophilous weed native to South America spreading in warm regions and introduced in many European countries (Maslo and Šarić 2021). In Hungary, it was first found in Pécs (southern Hungary) (Wirth and Csiky 2020). New to Budapest. The plant has some large populations in Budapest, which suggests that it has become locally naturalised.

Euphorbia prostrata Aiton 1789

Materials

- a. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Rákóczi square; decimalLatitude: 47.493036; decimalLongitude: 19.072113; eventDate: 17/06/2022; habitat: flower bed; individualCount: 20; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 652EF125-FA6D-541B-A447-E9C64944742F
- b. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Millenáris park; decimalLatitude: 47.509776; decimalLongitude: 19.027559;

- eventDate: 06/07/2022; habitat: flower bed; individualCount: 150; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 55E03241-25C8-57DA-9BBF-A8F642C8E362
- c. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XV.; locality: Pólus Center; decimalLatitude: 47.552816; decimalLongitude: 19.141799; eventDate: 10/07/2022; habitat: flower beds and flower boxes; individualCount: 150; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 60EE153E-4EF9-540A-801A-52D9F1870EF8
- d. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Zalán street; decimalLatitude: 47.504579; decimalLongitude: 19.143785; eventDate: 31/07/2022; habitat: crevices in pavement and flower boxes in a garden store; individualCount: 100; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 55308800-B141-53A3-84D8-BD4D0AE3877F
- e. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Múzeumkert; decimalLatitude: 47.491698; decimalLongitude: 19.061867; eventDate: 10/08/2022; habitat: planting pit for trees and lawn; individualCount: 30; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó, Ákos Malatinszky; identifiedBy: Attila Rigó; occurrenceID: 5615DFC2-BCAB-5ABB-9E45-82367222AE1F
- f. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: ELTE campus; decimalLatitude: 47.473115; decimalLongitude: 19.060514; eventDate: 13/08/2022; habitat: crevices in pavement; individualCount: 20; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: E888BC3E-53DD-513E-8F46-65FE910505A8
- g. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Infopark promenade; decimalLatitude: 47.470581; decimalLongitude: 19.060040; eventDate: 13/08/2022; habitat: lawn and crevices of road pavement; individualCount: 20; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 1183045E-2D93-5AA7-8B37-220105A870FD
- h. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IV.; locality: Árpád street; decimalLatitude: 47.560381; decimalLongitude: 19.083281; eventDate: 06/09/2022; habitat: flower bed; individualCount: 20; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 032B26D4-2AD8-53F0-9B9B-9DFE88352F54
- i. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XVI.; locality: Lassú street; decimalLatitude: 47.521718; decimalLongitude: 19.222590; eventDate: 07/09/2022; habitat: crevices in pavement; individualCount: 10; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 034B71D9-4402-58C0-A8AE-CA3EDD19378B
- j. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XVI.; locality: Levedi street; decimalLatitude: 47.529780; decimalLongitude: 19.214648; eventDate: 07/09/2022; habitat: front garden; individualCount: 20; reproductiveCondition:

- fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: A0C15287-E067-5BD0-B71A-0AEF5734916A
- k. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Termál street; decimalLatitude: 47.520949; decimalLongitude: 19.126483; eventDate: 10/09/2022; habitat: crevices in pavement; individualCount: 5; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: F55ED372-E798-584E-B768-BA437A52120C
- l. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Árpád street; decimalLatitude: 47.591159; decimalLongitude: 19.052656; eventDate: 28/09/2022; habitat: lawn, crevices of pavement, disturbed ground, flower boxes; individualCount: 300; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 70034AAA-1535-5886-98D7-2FF07C4C68D0
- m. scientificName: *Euphorbia prostrata*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VI.; locality: Millenium roof garden; decimalLatitude: 47.512361; decimalLongitude: 19.059076; eventDate: 17/10/2022; habitat: crevices in pavement; individualCount: 30; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 5ABBEEF3-411E-5E59-98F6-4C817EB6B9BE

Notes

Originates from North America, but a widespread alien throughout the world, especially as an urban weed (Molnár et al. 2020). First found in Hungary near Szeged (southern Hungary) (Bátori et al. 2012), but recently it was found in the urban flora of many Hungarian cities and towns. Widespread in Budapest. Studies suggest that this species is a stowaway of the ornamental plant trade (Molnár et al. 2020).

Euphorbia serpens Kunth 1817

Materials

- a. scientificName: *Euphorbia serpens*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Ezüsthegy street; decimalLatitude: 47.601214; decimalLongitude: 19.047174; eventDate: 07/07/2022; habitat: crevices of pavement; individualCount: 40; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: D3B1BBF3-5182-5955-845E-B19A8FCFACF4
- b. scientificName: *Euphorbia serpens*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Frigyes street; decimalLatitude: 47.593848; decimalLongitude: 19.064482; eventDate: 19/07/2022; habitat: crevices of pavement; individualCount: 80; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: E92BE988-D189-5525-AFC6-5B9B4A5B031F
- c. scientificName: *Euphorbia serpens*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Zalán street; decimalLatitude: 47.504507; decimalLongitude: 19.143548; eventDate: 31/07/2022; habitat: crevices of pavement in garden store; individualCount:

40; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: C78A5521-7AA0-5CD3-AEA2-AF1983142187

- d. scientificName: *Euphorbia serpens*; family: Euphorbiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Árpád street; decimalLatitude: 47.590572; decimalLongitude: 19.051222; eventDate: 28/09/2022; habitat: crevices of pavement in garden store; individualCount: 100; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: A4B83F46-9431-5A0B-86E1-21713CC601A7

Notes

Native to North America, but a widespread urbanophil alien throughout the world (Takács et al. 2020). In Hungary, it was first found in 2013 in Veszprém (western Hungary) (Wolf and Király 2014). Occurs rarely in the urban flora of Budapest, especially in garden stores. Studies suggest that this species is a stowaway of the ornamental plant trade (Takács et al. 2020).

Ficus carica L. 1753

Material

- a. scientificName: *Ficus carica*; family: Moraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Szindbád street; decimalLatitude: 47.594881; decimalLongitude: 19.050861; eventDate: 24/10/2019; habitat: crack in road pavement; individualCount: 1; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 9533AAE4-61EE-5E97-983D-79DDD91A2609

Notes

Native to Southeast Asia and the eastern Mediterranean and cultivated worldwide for its fruit and as a medicinal and ornamental plant (Mawa et al. 2013). In Hungary, it became locally naturalised in the area of Pécs (southern Hungary) and is spreading to the north (Wirth et al. 2020b). This is its first documented spontaneous occurrence in Budapest.

Glebionis coronaria (L.) Cass. ex Spach 1841

Material

- a. scientificName: *Glebionis coronaria*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VI.; locality: Eiffel square; decimalLatitude: 47.510399; decimalLongitude: 19.059088; eventDate: 29/08/2019; habitat: disturbed ground; individualCount: 1; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 5C99E75A-E334-529A-864E-6EEC0020FE50

Notes

A Mediterranean plant used as a vegetable, a medicinal plant and an ornamental plant, which became naturalised in almost every continent (Ivashchenko 2019). It had no recent records from Hungary.

Heliopsis helianthoides Sweet 1826

Materials

- a. scientificName: *Heliopsis helianthoides*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XVIII.; locality: Szövet street; decimalLatitude: 47.398211; decimalLongitude: 19.189528; eventDate: 11/07/2022; habitat: crack at the base of a wall; individualCount: 3; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: EC744421-360F-5873-AAC5-24758CAD0711
- b. scientificName: *Heliopsis helianthoides*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XVII.; locality: Lemberg street; decimalLatitude: 47.483932; decimalLongitude: 19.278160; eventDate: 24/07/2022; habitat: crack at the base of a wall; individualCount: 12; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: E3221C9F-EC64-579E-883B-34E14E15129E
- c. scientificName: *Heliopsis helianthoides*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XVII.; locality: Nyitány street; decimalLatitude: 47.484500; decimalLongitude: 19.286216; eventDate: 24/07/2022; habitat: road verge, crevices of pavement; individualCount: 2; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 19B9753B-AE42-58B3-8AFB-1A8E5F7CFDB5
- d. scientificName: *Heliopsis helianthoides*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Gödöllői street; decimalLatitude: 47.520879; decimalLongitude: 19.141696; eventDate: 10/09/2022; habitat: crevices of pavement, urban hedge; individualCount: 2; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: FC593684-8B53-56FE-9984-7FB18F75019F
- e. scientificName: *Heliopsis helianthoides*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIX.; locality: Corvin boulevard; decimalLatitude: 47.458214; decimalLongitude: 19.124556; eventDate: 17/09/2022; habitat: dried-up ditch; individualCount: 15; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 949D8E52-6A24-5820-A0A7-2137DB6486F6
- f. scientificName: *Heliopsis helianthoides*; family: Asteraceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIX.; locality: Hunyadi street; decimalLatitude: 47.448518; decimalLongitude: 19.130056; eventDate: 17/09/2022; habitat: crack at the base of a wall, crevices of pavement; individualCount: 10; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: DA6B8FF4-100D-5D4D-89DC-EB5BC4A5AA28

Notes

Native to North America and cultivated as an ornamental in Europe. It occurs as a casual alien in European countries (Nāburga and Evarts-Bunders 2019). Missing from the most recent alien list of Hungary (Csiky et al. 2023), but has some records from the country (András Schmotzer ex litt.). New to Budapest.

Lagenaria siceraria* (Molina) Standl. 1930*Material**

- a. scientificName: *Lagenaria siceraria*; family: Cucurbitaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Mesterházi street; decimalLatitude: 47.451981; decimalLongitude: 19.041545; eventDate: 22/10/2022; habitat: gravelly road verge; individualCount: 3; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 7D64ADCF-67CD-58A8-BB8C-6B15C7BF7642

Notes

Native to tropical Africa and cultivated as a vegetable in tropical and subtropical regions and sometimes in temperate regions, but only recently recorded as a casual garden escapee (Gudžinskas 2017). Balogh et al. (2004) listed it as a casual neophyte in Hungary, but it had no recent records from the country.

Lepidium didymum* L. 1767*Materials**

- a. scientificName: *Lepidium didymum*; family: Brassicaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: roof of the Museum of Ethnography; decimalLatitude: 47.510830; decimalLongitude: 19.082220; eventDate: 02/06/2022; habitat: gravelly flower bed; individualCount: 2; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 1B19905B-5287-5993-A5B8-014B7E50D4EC
- b. scientificName: *Lepidium didymum*; family: Brassicaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Zalán street; decimalLatitude: 47.504850; decimalLongitude: 19.144037; eventDate: 10/06/2022; habitat: irrigated flower pot in gardening store; individualCount: 4; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: F562EA7E-4A84-5C9D-8C31-CB610E59F7C3

Notes

A plant of uncertain origin which is a widespread weed in western and southern Europe, but a rare casual alien in Central Europe (Schmidt 2020). There are very few recent records of this species from Hungary. New to Budapest.

***Linaria maroccana* Hook.f. 1872**

Materials

- a. scientificName: *Linaria maroccana*; family: Plantaginaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Villám street; decimalLatitude: 47.479347; decimalLongitude: 19.099769; eventDate: 27/06/2019; habitat: crack in road pavement; individualCount: 1; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 7D312410-B935-55B7-B40C-47A4E71B8FB4
- b. scientificName: *Linaria maroccana*; family: Plantaginaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VI.; locality: Eiffel square; decimalLatitude: 47.510399; decimalLongitude: 19.059088; eventDate: 29/08/2019; habitat: disturbed ground; individualCount: 4; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: A283E098-1676-5BD5-A42E-574203500A51

Notes

An endemic plant of Morocco that is cultivated as an ornamental in many countries (Verloove and Sánchez Gullón 2012). Appears as a casual alien in Europe, for example, Spain (Verloove and Sánchez Gullón 2012) and Czechia (Kocián 2014), but also in North America (Poindexter et al. 2011). New casual alien to Hungary.

***Matthiola longipetala* subsp. *bicornis* Ball 1963**

Material

- a. scientificName: *Matthiola Matthiola longipetala* subsp. *bicornis*; family: Brassicaceae; taxonRank: subspecies; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VII.; locality: Verseny street; decimalLatitude: 47.501992; decimalLongitude: 19.089403; eventDate: 30/05/2022; habitat: disturbed ground in vacant ground-plot; individualCount: 2; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 9A13D87F-E2EC-5C14-9CD3-493016032D53

Notes

Native to the Mediterranean and used as an ornamental (Király 2009). An occasional garden escapee in Europe, for example, Ukraine (Mosyakin and Yavorska 2002). It has two recent records from Hungary (Schmotzer 2015 and Király and Király 2018). New to Budapest.

***Nassella tenuissima* (Trin.) Barkworth 1990**

Materials

- a. scientificName: *Nassella tenuissima*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Zalán street; decimalLatitude: 47.504780; decimalLongitude: 19.145875; eventDate:

- 10/06/2022; habitat: crevices in pavement; individualCount: 2; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 6969F020-1A53-5927-BDFC-8299D9D0CA0E
- b. scientificName: *Nassella tenuissima*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIII.; locality: Szent István park; decimalLatitude: 47.518783; decimalLongitude: 19.050875; eventDate: 24/06/2022; habitat: crevices in pavement; individualCount: 6; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 9842E4E3-DE07-5E26-8897-60E6651A2EB3
- c. scientificName: *Nassella tenuissima*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Szabó Magda promenade; decimalLatitude: 47.509689; decimalLongitude: 19.028398; eventDate: 05/10/2022; habitat: crevices in pavement; individualCount: 1; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 307ABFFB-ED7B-51D0-841A-4AEA9ACA01C9
- d. scientificName: *Nassella tenuissima*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest I.; locality: Batthány square; decimalLatitude: 47.506133; decimalLongitude: 19.038567; eventDate: 17/11/2022; habitat: crevices in pavement; individualCount: 5; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: A19B6A06-34DF-54F5-9450-D2F6FFE865FF

Notes

A grass native to North America that is used as an ornamental worldwide. Naturalised in New Zealand, Australia and South Africa. According to recent reports, it has become a casual alien in western Europe (Álvarez et al. 2016). In recent years, this plant was found in Hungary as a casual alien as well (Wirth et al. 2020a and Molnár et al. 2022). New to Budapest.

Nepeta racemosa Bergmans ex Stearn 1939

Materials

- a. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Balogh street; decimalLatitude: 47.479351; decimalLongitude: 19.042380; eventDate: 29/03/2022; habitat: crevices in pavement; individualCount: 3; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 3BF389BB-6E45-5AB1-89E8-20DB1C883608
- b. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XII.; locality: Győri road; decimalLatitude: 47.493967; decimalLongitude: 19.026843; eventDate: 13/05/2022; habitat: lawn; individualCount: 6; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: E21F524B-8D39-507E-8BA9-6A1A7701E3A6
- c. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIII.; locality: Árpád bridge; decimalLatitude: 47.532775; decimalLongitude: 19.065995; eventDate: 20/05/2022; habitat: lawn; individualCount: 12; reproductiveCondition: fruit-bearing;

- recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: C1330943-39DE-5569-9746-ECC050D76644
- d. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Mansfeld Péter park; decimalLatitude: 47.516809; decimalLongitude: 19.032353; eventDate: 27/05/2022; habitat: lawn, crevices in road pavement; individualCount: 40; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 9C52599D-5CC5-5C75-9504-D7C71BA942E9
- e. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest V.; locality: Erzsébet square; decimalLatitude: 47.498292; decimalLongitude: 19.051708; eventDate: 04/06/2022; habitat: crevices in pavement; individualCount: 12; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 19675DEE-17D1-5D84-93B0-39ABB5DC9486
- f. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest V.; locality: Kossuth square; decimalLatitude: 47.505951; decimalLongitude: 19.046678; eventDate: 04/06/2022; habitat: flower bed; individualCount: 10; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 03A476A7-93A2-534D-96E6-66AA50323701
- g. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Örs Vezér square; decimalLatitude: 47.504781; decimalLongitude: 19.138095; eventDate: 10/06/2022; habitat: urban hedge, flower bed; individualCount: 30; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 6274AA8F-1134-5908-A8CB-5A74E81F9E2C
- h. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Temető street; decimalLatitude: 47.566199; decimalLongitude: 18.956917; eventDate: 12/06/2022; habitat: crevices in pavement; individualCount: 5; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: F7E60954-EF29-56ED-881F-3B798061615A
- i. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIII.; locality: Béke square; decimalLatitude: 47.530358; decimalLongitude: 19.082712; eventDate: 13/06/2022; habitat: crevices in pavement; individualCount: 12; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 1E6A7DE7-7B5A-54A4-8297-162C073B367B
- j. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIII.; locality: Pozsonyi road; decimalLatitude: 47.514414; decimalLongitude: 19.048822; eventDate: 24/06/2022; habitat: flower bed; individualCount: 10; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 3C98F0BD-0AA8-5CE3-AB18-762234B85C95
- k. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IV.; locality: Wolfner street; decimalLatitude: 47.563286; decimalLongitude: 19.079628; eventDate: 06/09/2022; habitat: crevices in pavement; individualCount: 3; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: B624C06B-39C4-5E87-92B4-A905ACCC5CA1

- I. scientificName: *Nepeta racemosa*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XVI.; locality: Cica street; decimalLatitude: 47.526713; decimalLongitude: 19.223969; eventDate: 07/09/2022; habitat: dried-up ditch, road verge; individualCount: 12; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: A498704E-EF0C-56C0-860E-291F76AE38C5

Notes

An ornamental and medicinal plant that originates from the Caucasus. It has some old and recent records from Hungary (Király and Király 2018). Balogh et al. (2004) lists this species as a casual neophyte, but it is missing from the list of Csiky et al. (2023). We suggest that this plant is locally naturalised in Budapest. *Nepeta faassenii* Bergmans ex Stearn in Rigó and Barina (2020) was erroneously reported, all of its records refer to *Nepeta racemosa* Bergmans ex Stearn.

Nicotiana alata Link & Otto 1830

Material

- a. scientificName: *Nicotiana alata*; family: Solanaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Szent István Hospital; decimalLatitude: 47.477710; decimalLongitude: 19.088893; eventDate: 25/09/2022; habitat: flower bed; individualCount: 13; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 0CF8F9F7-C4B1-5BE5-92BB-075E45375BD8

Notes

A South American plant that is cultivated as an ornamental (Király 2009). It appears as an ephemeral casual alien in some European countries, for example, Romania (Anastasiu et al. 2009). Balogh et al. (2004) and Csiky et al. (2023) list it as a casual alien. This species has two recent records from Hungary (Wirth et al. 2020a), neither of which is from Budapest.

Nicotiana sylvestris Speng. 1898

Material

- a. scientificName: *Nicotiana sylvestris*; family: Solanaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XXI.; locality: Vasút street; decimalLatitude: 47.425845; decimalLongitude: 19.062677; eventDate: 16/09/2022; habitat: disturbed ground; individualCount: 1; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 166C8F00-EFCD-5289-916F-B51061D86C43

Notes

A rare ornamental plant of South American origin (Sierra et al. 2013). It appears as a casual alien in Belgium (Verloove 2006). New to the flora of Hungary. Probably an ephemeral alien.

Panicum riparium H.Scholz 2002

Materials

- a. scientificName: *Panicum riparium*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Kunigunda road; decimalLatitude: 47.564684; decimalLongitude: 19.036358; eventDate: 02/09/2022; habitat: dried-up ditch; individualCount: 3; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 8A24FDAB-DD17-5BA9-9420-6A1D6C3D917B
- b. scientificName: *Panicum riparium*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Gazdagréti road; decimalLatitude: 47.473155; decimalLongitude: 18.99201; eventDate: 18/09/2022; habitat: crevices of pavement; individualCount: 20; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: F25194E2-CAED-5467-B9D7-47249F1B58E6

Notes

An overlooked, long established, but data-poor taxon described from Europe by H. Scholz in 2002, but it originates from North America. Recently, it was recognised and recorded from Central European countries (Scholz 2002 and Király and Alegro 2015). It had some previous records from Hungary (e.g. Schmidt 2015) and one record from Budapest (Dávid Schmidt ined.).

Panicum virgatum L. 1753

Materials

- a. scientificName: *Panicum virgatum*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Holdudvar park; decimalLatitude: 47.546522; decimalLongitude: 19.030164; eventDate: 23/09/2022; habitat: crack at the base of a wall, lawn; individualCount: 2; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 7FF2EFD8-F686-56AD-B140-2F2C74B13578
- b. scientificName: *Panicum virgatum*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Kvassay bridge; decimalLatitude: 47.480768; decimalLongitude: 19.072170; eventDate: 01/10/2022; habitat: crevices of road pavement; individualCount: 1; reproductiveCondition: in bloom; recordedBy: Zoltán Barina; identifiedBy: Zoltán Barina; occurrenceID: 808EE2B3-E3C0-5AE5-8F9C-FC8FAECB740F

Notes

A large perennial grass native to North America which is used as an ornamental in several countries and appears as a garden escapee in many European countries (Eliáš Jr. et al. 2023). In Slovakia, the species is naturalised and could potentially become invasive (Eliáš Jr. et al. 2023). In Hungary, it had one previous record (Wirth et al. 2020a). New to Budapest.

Perovskia atriplicifolia Benth. 1848

Materials

- a. scientificName: *Perovskia atriplicifolia*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest V.; locality: Erzsébet square; decimalLatitude: 47.498473; decimalLongitude: 19.051634; eventDate: 04/06/2022; habitat: crevices of pavement, front garden; individualCount: 20; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: BFC960E9-035B-513C-8C2E-D26D11DC1E77
- b. scientificName: *Perovskia atriplicifolia*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIII.; locality: Gömb street; decimalLatitude: 47.532243; decimalLongitude: 19.073084; eventDate: 13/06/2022; habitat: front garden; individualCount: 3; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó, Ákos Malatinszky; identifiedBy: Attila Rigó; occurrenceID: A7744EC1-A858-5832-8A82-EEF0360F6DB3
- c. scientificName: *Perovskia atriplicifolia*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: II. János Pál Pápa square; decimalLatitude: 47.497110; decimalLongitude: 19.078076; eventDate: 17/06/2022; habitat: lawn, flower bed; individualCount: 20; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 0A030E54-61C1-50AC-BB85-56F812586F49
- d. scientificName: *Perovskia atriplicifolia*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Bukarest street; decimalLatitude: 47.474532; decimalLongitude: 19.040319; eventDate: 22/06/2022; habitat: front garden; individualCount: 5; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: CE9B1F25-EBE0-5155-994C-BFDF9B89542A
- e. scientificName: *Perovskia atriplicifolia*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Aranka street; decimalLatitude: 47.514517; decimalLongitude: 19.021874; eventDate: 06/07/2022; habitat: flower bed; individualCount: 3; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 9BA02F4D-A6E6-5A9B-AFE7-5BB4FF923D7E
- f. scientificName: *Perovskia atriplicifolia*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Millenáris park; decimalLatitude: 47.510363; decimalLongitude: 19.026510; eventDate: 06/07/2022; habitat: flower bed; individualCount: 20; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 22812CF3-8058-5F7F-92C2-00E9C21ABFA3
- g. scientificName: *Perovskia atriplicifolia*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XXI.; locality: Szent

- Imre tér; decimalLatitude: 47.431425; decimalLongitude: 19.068341; eventDate: 04/09/2022; habitat: urban hedge; individualCount: 5; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 9990069D-0561-599A-B807-817E3CD7936C
- h. scientificName: *Perovskia atriplicifolia*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Patakpart park; decimalLatitude: 47.522839; decimalLongitude: 19.128744; eventDate: 10/09/2022; habitat: disturbed ground, flower bed; individualCount: 10; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 9C25CFE3-F735-52FD-B7F5-A2D0E9021142
- i. scientificName: *Perovskia atriplicifolia*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Ratkóc street; decimalLatitude: 47.471512; decimalLongitude: 19.003734; eventDate: 18/09/2022; habitat: urban hedge; individualCount: 12; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 29676F87-FE72-51D1-8FB2-6F25D87F5B7E
- j. scientificName: *Perovskia atriplicifolia*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Holdudvar park; decimalLatitude: 47.545750; decimalLongitude: 19.031604; eventDate: 23/09/2022; habitat: crevices of pavement, front garden; individualCount: 30; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 000AE938-60D3-5261-A606-FB83BFEDB55
- k. scientificName: *Perovskia atriplicifolia*; family: Lamiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Kőbányai road; decimalLatitude: 47.484173; decimalLongitude: 19.115278; eventDate: 28/10/2022; habitat: crevices of pavement; individualCount: 30; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 197B5424-E760-5442-B7DD-63BF18E82326

Notes

An ornamental plant of Asian origin that appears as an alien in some European countries (Gilli et al. 2019). It had some previous records from Hungary (Szabó and Horváth 2005). We suggest that this species is locally naturalised in Budapest.

Persicaria orientalis (L.) Spach 1841

Material

- a. scientificName: *Persicaria orientalis*; family: Polygonaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XVI.; locality: Tabódy Ida square; decimalLatitude: 47.518890; decimalLongitude: 19.230594; eventDate: 07/09/2022; habitat: crevices of pavement; individualCount: 2; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 3FFEB232-3880-5BD8-9AD0-BA0C2A421391

Notes

Ornamental plant that originates from East Asia and appears as an alien invasive in many countries (Güneş Özkan and Yazlik 2020). In Hungary, it only has casual occurrences (Csiky et al. 2018 and Haszonits et al. 2021). New to Budapest.

Polygonum rurivagum* Jord. ex Boreau 1857*Material**

- a. scientificName: *Polygonum rurivagum*; family: Polygonaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IV.; locality: Szent István square; decimalLatitude: 47.562156; decimalLongitude: 19.088614; eventDate: 06/09/2022; habitat: flower bed; individualCount: 18; reproductiveCondition: in bloom; recordedBy: Attila Rigó, Ákos Malatinszky; identifiedBy: Attila Rigó; occurrenceID: F4222A30-BCD4-518F-8A92-ECE5C5C6E6D0

Notes

An archaeophyte that belongs to the *Polygonum aviculare* L. complex (Király 2009). The species is data-poor in Hungary and has only one recent published record (Molnár et al. 2018).

Polypogon viridis* (Gouan) Breistr. 1966*Material**

- a. scientificName: *Polypogon viridis*; family: Poaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Zilah street; decimalLatitude: 47.515377; decimalLongitude: 19.010235; eventDate: 22/10/2022; habitat: flower bed in a garden store; individualCount: 8; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: BB81364B-1C81-51AD-95C5-A4BBB7F0CA37

Description

Native to the Mediterranean and was reported from many European countries as an alien. First found in Hungary in 2019 in many localities in the western part of the country (Wirth 2019). New to Budapest.

Polystichum setiferum* Rosendahl 1916*Material**

- a. scientificName: *Polystichum setiferum*; family: Dryopteridaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XXI.; locality: Hőerőmű street; decimalLatitude: 47.426974; decimalLongitude: 19.056444; eventDate: 16/09/2022; habitat: manhole under the influence of a broken drainage pipe;

individualCount: 1; reproductiveCondition: spore bearing; recordedBy: Attila Rigó;
 identifiedBy: Attila Rigó; occurrenceID: 33E004CC-6D7A-5033-AA99-B29C42F60C58

Notes

A native, but rare and protected fern in Hungary, with localities mainly in the western part of the country (Király 2009). The occurrence of this species in an urban environment is noteworthy.

Pteridium aquilinum (L.) Kuhn 1879

Material

- a. scientificName: *Pteridium aquilinum*; family: Dennstaedtiaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Botond street; decimalLatitude: 47.5797433; decimalLongitude: 19.044764; eventDate: 22/09/2022; habitat: crack at the base of a wall; individualCount: 1; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 43579498-892D-551E-B632-A165BCEA9422

Notes

A native fern in Hungary that occurs rarely in urban environments. It has some previous records from Budapest (Tamás et al. 2017).

Sagina apetala Ard. 1764

Materials

- a. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest I.; locality: Kosciuskó Tádé street; decimalLatitude: 47.499133; decimalLongitude: 19.026057; eventDate: 13/05/2022; habitat: crevices of pavement; individualCount: 5; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 2E18CB62-4E22-5250-A7D7-102CF5FF39D0
- b. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Kelenföldi road; decimalLatitude: 47.468687; decimalLongitude: 19.023522; eventDate: 21/05/2022; habitat: crevices of pavement; individualCount: 20; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 69E2AC98-93A5-515E-84ED-8A661DD22D94
- c. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Közraktár street; decimalLatitude: 47.483969; decimalLongitude: 19.060879; eventDate: 23/05/2022; habitat: crevices of pavement; individualCount: 15; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: CB27F7FC-BBE5-5174-BB44-8671D250879F
- d. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest IX.; locality: Kinizsi

- street; decimalLatitude: 47.483817; decimalLongitude: 19.062278; eventDate: 23/05/2022; habitat: crevices of pavement; individualCount: 15; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 11FD98A7-61B2-5E4D-BD66-B8EB485EF1E4
- e. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Salgótarjáni street; decimalLatitude: 47.491166; decimalLongitude: 19.095814; eventDate: 30/05/2022; habitat: crevices of pavement; individualCount: 10; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 0D619337-97B5-595E-81D5-D06A03453218
- f. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VII.; locality: Herzl Tivadar park; decimalLatitude: 47.495876; decimalLongitude: 19.059922; eventDate: 02/06/2022; habitat: crevices of pavement; individualCount: 60; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 40451456-488D-5D0E-A90C-B5A1617293B0
- g. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIV.; locality: Hősök square; decimalLatitude: 47.514753; decimalLongitude: 19.078455; eventDate: 02/06/2022; habitat: crevices of pavement; individualCount: 10; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 77B90D52-B75C-52D3-A034-A84FAAE1A3DB
- h. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Savoya park; decimalLatitude: 47.436168; decimalLongitude: 19.040259; eventDate: 03/06/2022; habitat: crevices of pavement; individualCount: 30; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: F2E02297-6833-5F94-97B1-38FC0346B8E1
- i. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Fehérvári road; decimalLatitude: 47.440370; decimalLongitude: 19.036607; eventDate: 03/06/2022; habitat: crevices of pavement; individualCount: 3; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: AAB4C2EA-D80B-5C01-947C-F8BF4A5B3136
- j. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Gellért square; decimalLatitude: 47.483955; decimalLongitude: 19.053079; eventDate: 03/06/2022; habitat: crevices of pavement; individualCount: 5; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: E2C4753C-C79B-555D-90B5-3BD39FEF6EFF
- k. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VI.; locality: Westend rooftop; decimalLatitude: 47.512864; decimalLongitude: 19.058991; eventDate: 04/06/2022; habitat: crevices of pavement; individualCount: 30; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: A72476D3-F445-59F3-958B-C98B1CCF1395
- l. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VI.; locality: Eiffel square; decimalLatitude: 47.509606; decimalLongitude: 19.057631; eventDate: 04/06/2022; habitat: crevices of pavement; individualCount: 30; reproductiveCondition:

- fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: CAF3709A-A2FE-5C17-969B-709898CFF9D4
- m. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Temető street; decimalLatitude: 47.566211; decimalLongitude: 18.956976; eventDate: 12/06/2022; habitat: crevices of pavement; individualCount: 10; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: AA279DE1-87DE-5382-845D-5F6B2E485431
- n. scientificName: *Sagina apetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Placid atya park; decimalLatitude: 47.478078; decimalLongitude: 19.041953; eventDate: 22/06/2022; habitat: crevices of pavement; individualCount: 30; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: AE2B7154-01C9-53F9-B81C-E6EED8F33859

Notes

A native weed in Hungary which is currently expanding its range mainly in urban areas (Schmidt 2019). Recently found in many Hungarian towns and cities and had one record from Budapest (Dávid Schmidt ined.). We found that this species is widespread in the urban areas of Budapest.

Sagina micropetala Rauschert 1969

Material

- a. scientificName: *Sagina micropetala*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Gyűrű street; decimalLatitude: 47.598048; decimalLongitude: 19.060886; eventDate: 31/05/2023; habitat: crevices of pavement; individualCount: 20; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 861CB4B5-F06E-545D-AE62-CBEE31045434

Notes

A native weed in Hungary (Király 2009) with very few recent records (Mesterházy and Kulcsár 2015). This is the first published occurrence of this species in an urban environment, although it had been found in Budapest before (Tamás Rédei ex litt.).

Saponaria ocymoides L. 1753

Material

- a. scientificName: *Saponaria ocymoides*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.; locality: Ármány street; decimalLatitude: 47.593588; decimalLongitude: 19.060615; eventDate: 24/04/2020; habitat: crevices of pavement; individualCount: 10; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó, Ákos Malatinszky; occurrenceID: E3C04068-6A6A-5F51-A71D-A4E04161E1E1

Notes

A European-Mediterranean species that is used as an ornamental in other parts of Europe. Occurs as a rare casual alien in the Czechia and Belgium (Verloove 2006 and Pyšek et al. 2022). In Hungary, it has one recent record (Wirth et al. 2020a).

Sisymbrium irio* L. 1753*Material**

- a. scientificName: *Sisymbrium irio*; family: Brassicaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIII.; locality: Lehel street; decimalLatitude: 47.517988; decimalLongitude: 19.063308; eventDate: 16/05/2022; habitat: road crevices, urban hedges, lawns; individualCount: 70; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó, Ákos Malatinszky; identifiedBy: Attila Rigó; occurrenceID: B500D70F-CB30-5131-9D46-4BB34CD3BE68

Notes

A Mediterranean weed that is naturalised worldwide (Kim et al. 2021). It had some previous records from Hungary, but was labelled extinct (Soó 1968). We suggest that this species is locally naturalised in Budapest.

Talinum paniculatum* (Jacq.) Gaertn. 1791*Material**

- a. scientificName: *Talinum paniculatum*; family: Talinaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XI.; locality: Csikihegyek street; decimalLatitude: 47.472860; decimalLongitude: 18.996353; eventDate: 28/09/2022; habitat: crevices of road pavement; individualCount: 4; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: B856A021-BC61-500A-A8DD-964A875FBEAF

Notes

Native to tropical America, used as an ornamental and became naturalised and invasive in large parts of the tropical and subtropical regions (Walthers et al. 2011). It appears as a rare casual alien in temperate regions, for example, in Italy (Spampinato et al. 2022) and Ukraine (Shynder et al. 2022). New to the adventive flora of Hungary.

Vaccaria hispanica* (Mill.) Rauschert 1965*Material**

- a. scientificName: *Vaccaria hispanica*; family: Caryophyllaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIII.; locality: Szabolcs street; decimalLatitude: 47.516879; decimalLongitude: 19.067071; eventDate: 16/05/2022; habitat: crack at the base of a building; individualCount: 1;

reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 427B4DAC-48E5-52C2-A236-C506A2FAB36A

Notes

A rare archaeophyte in Hungary with a decreasing number of localities (Király 2009 and Csiky et al. 2023). Its presence in an urban environment is noteworthy.

Verbena bonariensis L. 1753

Materials

- a. scientificName: *Verbena bonariensis*; family: Verbenaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest I.; locality: Márvány street; decimalLatitude: 47.495629; decimalLongitude: 19.027060; eventDate: 13/05/2022; habitat: crevices of pavement; individualCount: 2; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 3E56C475-A72A-5AEF-AD5C-D786EB03D04A
- b. scientificName: *Verbena bonariensis*; family: Verbenaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Vásár street; decimalLatitude: 47.493412; decimalLongitude: 19.073037; eventDate: 17/06/2022; habitat: crevices of pavement; individualCount: 2; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 948B72B4-C54C-5AA8-90B0-D57B98A2D146
- c. scientificName: *Verbena bonariensis*; family: Verbenaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Corvin alley; decimalLatitude: 47.485875; decimalLongitude: 19.071200; eventDate: 19/06/2022; habitat: crevices of pavement; individualCount: 3; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: D790E8A0-AEA7-5488-B3AF-CEC0879CA608
- d. scientificName: *Verbena bonariensis*; family: Verbenaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest V.; locality: Jászai Mari square; decimalLatitude: 47.513003; decimalLongitude: 19.047315; eventDate: 24/06/2022; habitat: crevices of pavement; individualCount: 5; reproductiveCondition: non-reproductive; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 431AD51B-0633-5A85-8074-F818B07CCB4F
- e. scientificName: *Verbena bonariensis*; family: Verbenaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest XIII.; locality: Jászai Mari square; decimalLatitude: 47.513694; decimalLongitude: 19.047731; eventDate: 24/06/2022; habitat: crevices of pavement; individualCount: 7; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 01A7B72D-A253-532C-8554-918C832A6A24
- f. scientificName: *Verbena bonariensis*; family: Verbenaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest VIII.; locality: Mikszáth Kálmán square; decimalLatitude: 47.489953; decimalLongitude: 19.066680; eventDate: 10/08/2022; habitat: crevices of pavement; individualCount: 4; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: E9A99FF0-E41E-5429-9C59-B73ADDF9605C
- g. scientificName: *Verbena bonariensis*; family: Verbenaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest III.;

locality: Árpád street; decimalLatitude: 47.590743; decimalLongitude: 19.051335; eventDate: 28/09/2022; habitat: disturbed ground in a garden store; individualCount: 10; reproductiveCondition: in bloom; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 493DC7FB-1E1D-54F5-A115-FB5286B017EB

- h. scientificName: *Verbena bonariensis*; family: Verbenaceae; taxonRank: species; continent: Europe; country: Hungary; county: Budapest; municipality: Budapest II.; locality: Szabó Magda promenade; decimalLatitude: 47.510143; decimalLongitude: 19.026267; eventDate: 05/10/2022; habitat: crevices of pavement; individualCount: 3; reproductiveCondition: fruit-bearing; recordedBy: Attila Rigó; identifiedBy: Attila Rigó; occurrenceID: 7A3945FC-FDBF-5FCD-8AA1-4C64E272595F

Notes

Native to South America and used as an ornamental worldwide. Appears as a casual and as a naturalised alien in many countries worldwide (Galasso et al. 2019). This species has few recent casual occurrences in Hungary (Wirth et al. 2020a). New to Budapest.

Analysis

We found 973 spontaneously or subsponaneously occurring plant taxa in the artificial secondary habitats in the built-up parts of Budapest between 2018 and 2023 (Table 1, Suppl. materials 2, 3). A total of 47% of them were native, 19% of them were archaeophyte and 28% of them were neophyte, while the status of 6% of them is questionable.

Table 1.

Inventory of the flora of secondary habitats in the urban, built-up areas of Budapest (Hungary). Summary: Taxon = scientific name of the taxon; Residency status = residency status of the taxon according to Csiky et al. (2023) (abbreviations: ntv = native, arc = archaeophyte, neo = neophyte); Distribution = list of the districts of Budapest where the taxon occurs, districts are indicated by Roman numerals (from I. to XXIII.).

Taxon	Residency status	Distribution
<i>Abies concolor</i> (Gordon) Lindl. ex. Hildebr.	neo	II.
<i>Abutilon theophrasti</i> Medik.	arc	III. VI.
<i>Acer campestre</i> L.	ntv	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XIX. XX. XXI. XXII. XIII.
<i>Acer negundo</i> L.	neo	I. II. III. IV. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XX. XXI. XXIII.
<i>Acer platanoides</i> L.	ntv	I. II. III. IV. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XX. XXI. XXII.
<i>Acer pseudoplatanus</i> L.	ntv	I. II. III. IV. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XIX. XX. XXII.
<i>Acer saccharinum</i> L.	neo	III. IV. VIII. IX. XI. XIII. XIV. XVII. XX. XXI.

Taxon	Residency status	Distribution
<i>Acer tataricum</i> L.	ntv	XI. XXII.
<i>Achillea collina</i> (Becker ex Rchb.f.) Heimerl	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Achillea filipendulina</i> Lam.	neo	I. II. VIII. IX. XIII. XIV.
<i>Achillea nobilis</i> L.	ntv	XV.
<i>Achillea pannonica</i> Scheele	ntv	II. XI. XIV. XV.
<i>Achnatherum virescens</i> (Trin.) Banfi, Galasso & Bartolucci	ntv	III. XII.
<i>Adiantum capillus-veneris</i> L.	neo	IX. XII.
<i>Adonis aestivalis</i> L.	arc	XI.
<i>Adonis vernalis</i> L.	ntv	XI.
<i>Aegilops cylindrica</i> Host	ntv	III. XI. XIII. XX.
<i>Aesculus hippocastanum</i> L.	neo	I. III. XI. XII. XVI. XVII. XIX.
<i>Aethionema saxatile</i> (L.) W.T.Aiton	ntv	III.
<i>Aethusa cynapium</i> L.	ntv/arc	XII.
<i>Ageratum houstonianum</i> Mill.	neo	XXII.
<i>Agrimonia eupatoria</i> L.	ntv	I. II. III. X. XI. XIII.
<i>Agropyron cristatum</i> (L.) Gaertn.	ntv	IX.
<i>Agrostis capillaris</i> L.	ntv	III. XVI.
<i>Agrostis stolonifera</i> L.	ntv	III. VI. IX. XIV.
<i>Ailanthus altissima</i> (Mill.) Swingle	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Ajuga chamaepitys</i> (L.) Schreb.	arc	II. XII. XIII. XIV. XXIII.
<i>Ajuga genevensis</i> L.	ntv	II.
<i>Ajuga reptans</i> L.	ntv	III. XIII. XV. XVI.
<i>Albizia julibrissin</i> Durazz.	neo	XI. XVI. XXII.
<i>Alcea rosea</i> L.	neo	III. IV. IX. XI. XII. XV. XVII. XXII.
<i>Alisma plantago-aquatica</i> L.	ntv	XVII.
<i>Alkekengi officinarum</i> Moench	arc	VIII.
<i>Alliaria petiolata</i> (M.Bieb.) Cavara & Grande	ntv	I. II. III. V. VIII. XI. XII. XIII. XIV. XV.
<i>Allium ramosum</i> L.	neo	IX. XI. XXI.
<i>Allium schoenoprasum</i> L.	neo	XII.
<i>Allium scorodoprasum</i> L.	arc	II. XII. XX.
<i>Allium vineale</i> L.	ntv	II. IX.
<i>Alopecurus myosuroides</i> Huds.	arc	VI. XIII.

Taxon	Residency status	Distribution
<i>Althaea cannabina</i> L.	arc/neo	XI.
<i>Althaea officinalis</i> L.	arc	III.
<i>Alyssum alyssoides</i> L.	ntv	XIII.
<i>Alyssum montanum</i> L.	ntv	XI.
<i>Amaranthus albus</i> L.	neo	II. IV. V. VIII. IX. X. XI. XII. XIII. XIV. XV. XX. XXI.
<i>Amaranthus blitoides</i> S.Watson	arc	II. IV. V. VII. VIII. IX. X. XII. XIII.
<i>Amaranthus blitum</i> L.	neo	I. II. III. IV. V. VI. VII. VIII. IX. XI. XIII. XIV. XV. XX. XXI.
<i>Amaranthus blitum</i> subsp. <i>emarginatus</i> (Salzm. ex Uline & W.L.Bray) Carretero, Muñoz Garm. & Pedrol	neo	IX.
<i>Amaranthus cruentus</i> L.	neo	I.
<i>Amaranthus deflexus</i> L.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Amaranthus hybridus</i> L.	neo	IX.
<i>Amaranthus hypochondriacus</i> L.	neo	IX. XI.
<i>Amaranthus powellii</i> S.Watson	neo	I. II. III. IV. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Amaranthus retroflexus</i> L.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Ambrosia artemisiifolia</i> L.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Amorpha fruticosa</i> L.	neo	II. III. IV. V. XI. XIII. XIX. XXI.
<i>Anchusa officinalis</i> L.	ntv	I. II. III. IV. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXIII.
<i>Anemone sylvestris</i> L.	ntv	XIII.
<i>Anethum graveolens</i> L.	arc	VIII.
<i>Anthemis arvensis</i> L.	arc	III.
<i>Anthemis ruthenica</i> M.Bieb.	ntv/arc	VI. IX. XI. XIII. XX.
<i>Anthriscus caucalis</i> M.Bieb.	arc	VI. VIII. IX. X. XI. XIII. XV.
<i>Anthriscus cerefolium</i> Hoffm.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX. XXI.
<i>Anthriscus sylvestris</i> (L.) Hoffm.	ntv	III. IX. XII.
<i>Anthyllis vulneraria</i> L.	ntv	IX.
<i>Antirrhinum majus</i> L.	neo	II. III. VIII. IX. XI. XIV. XV. XVI.
<i>Apera spica-venti</i> (L.) P.Beauv.	arc	II. V. VI. VIII. XI. XIII. XIV. XV. XVII. XX. XXIII.

Taxon	Residency status	Distribution
<i>Aphanes arvensis</i> L.	arc	III. XIV.
<i>Apium graveolens</i> L.	arc	IX.
<i>Apium repens</i> (Jacq.) Lag.	ntv	XIII.
<i>Aquilegia vulgaris</i> L.	ntv	IV. XI. XII. XV. XXI. XXII.
<i>Arabidopsis arenosa</i> (L.) Lawalrée	ntv	I.
<i>Arabidopsis thaliana</i> (L.) Heynh.	ntv	I. II. III. VII. IX. XII. XIII. XIV. XVI.
<i>Arctium lappa</i> L.	arc	I. III. XI. XII. XIII. XIV. XVII.
<i>Arctium minus</i> Schkuhr	arc	III. IX. XII.
<i>Arctium tomentosum</i> Mill.	ntv	I. II. III. IV. VI. VIII. XI. XII. XIV. XX. XXII.
<i>Arenaria serpyllifolia</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX. XXI. XXII. XXIII.
<i>Aristolochia clematitis</i> L.	arc	III. XI. XXI.
<i>Armoracia rusticana</i> G.Gaertn., B.Mey. & Scherb.	arc	XIII.
<i>Arrhenatherum elatius</i> (L.) P.Beauv. ex J.Presl & C.Presl	ntv	I. II. III. VIII. IX. X. XI. XII. XIII. XIV. XV. XVII. XIX. XXI. XXIII.
<i>Artemisia absinthium</i> L.	arc	VIII. X. XI. XIV. XV. XXI.
<i>Artemisia alba</i> Turra	ntv	XI.
<i>Artemisia annua</i> L.	neo	II. III. IV. VII. VIII. IX. XIII.
<i>Artemisia campestris</i> L.	ntv	IX. XXI.
<i>Artemisia dracunculus</i> L.	arc	XV.
<i>Artemisia pontica</i> L.	ntv	VIII. IX. X. XI. XIII. XV.
<i>Artemisia scoparia</i> Waldst. & Kit.	ntv	IX.
<i>Artemisia verlotiorum</i> Lamotte	neo	XI.
<i>Artemisia vulgaris</i> L.	ntv	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXII. XXIII.
<i>Arum orientale</i> M.Bieb.	ntv	XII.
<i>Arundo donax</i> L.	arc	XV.
<i>Asarina procumbens</i> Mill.	neo	I.
<i>Asclepias syriaca</i> L.	neo	II. III. IV. VI. VIII. IX. X. XI. XII. XIV. XV. XVI. XVII. XIX. XXI. XXIII.
<i>Asparagus officinalis</i> L.	ntv	IX.
<i>Asparagus verticillatus</i> L.	neo	III.
<i>Asperugo procumbens</i> L.	arc	III. XI. XIII. XV.
<i>Asplenium adiantum-nigrum</i> L.	ntv	VI. VIII. IX. XI. XII. XXI.
<i>Asplenium ruta-muraria</i> L.	ntv	I. II. III. V. VIII. IX. XI. XII.
<i>Asplenium scolopendrium</i> L.	ntv	VIII. IX. XII. XXI.
<i>Asplenium trichomanes</i> L.	ntv	I. VI. VIII. XII.

Taxon	Residency status	Distribution
<i>Astragalus asper</i> Jacq.	ntv	XI.
<i>Astragalus cicer</i> L.	ntv	III. XI. XIII. XIV. XVI. XXI.
<i>Astragalus glycyphyllos</i> L.	ntv	II. XII. XIII.
<i>Astragalus onobrychis</i> L.	ntv	IV. XI. XXI.
<i>Athyrium filix-femina</i> (L.) Roth	ntv	XI.
<i>Atriplex littoralis</i> L.	ntv	III.
<i>Atriplex oblongifolia</i> Waldst. & Kit.	ntv	I. II.
<i>Atriplex patula</i> L.	arc	I. II. III. IV. VIII. IX. X. XI. XII. XIII. XV. XVI. XIX. XX. XXI. XXII. XXIII.
<i>Atriplex prostrata</i> Boucher ex DC.	ntv	II. III. VIII. XI. XII. XIII. XVII. XXIII.
<i>Atriplex sagittata</i> Borkh.	arc	IX.
<i>Atriplex tatarica</i> L.	arc	I. II. III. IV. VIII. IX. X. XI. XII. XIII. XIV. XV. XX. XXI. XXII. XXIII.
<i>Avena fatua</i> L.	arc	XIV.
<i>Avena sativa</i> L.	arc	VI. XI.
<i>Azolla filiculoides</i> Lam.	neo	IX.
<i>Ballota nigra</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Bassia scoparia</i> (L.) A.J.Scott	arc/neo	V. VI. VIII. IX. X. XI. XIV. XVI. XX. XXI. XXIII.
<i>Begonia cucullata</i> Willd.	neo	XI. XIII.
<i>Bellis perennis</i> L.	ntv/arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Berberis aquifolium</i> Pursh	neo	I. II. III. IV. V. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XX. XXI.
<i>Berberis julianae</i> C.K.Schneid.	neo	I. III. V. VII. XI.
<i>Berberis thunbergii</i> DC.	neo	III.
<i>Berberis vulgaris</i> L.	ntv	I. II. V. VIII. XI. XII. XVI. XX.
<i>Berteroa incana</i> (L.) DC.	ntv/arc	III. IV. IX. X. XI. XIV. XV. XVII. XXI.
<i>Berula erecta</i> (Huds.) Coville	ntv	XVII.
<i>Betonica officinalis</i> L.	ntv	XI.
<i>Betula pendula</i> Roth	ntv	II. III. IV. IX. X. XI. XIII.
<i>Bidens cernua</i> L.	ntv	XXI.
<i>Bidens frondosa</i> L.	neo	XIV. XXI.
<i>Borago officinalis</i> L.	neo	III.
<i>Bothriochloa ischaemum</i> (L.) Keng	ntv	III. IV. XI. XII. XIV. XVI. XX. XXI. XXIII.

Taxon	Residency status	Distribution
<i>Brachypodium sylvaticum</i> (Huds.) P.Beauv.	ntv	I. III. XI. XII. XXI.
<i>Brassica elongata</i> Ehrh.	ntv/arc	III.
<i>Brassica napus</i> L.	arc	XXI.
<i>Brassica rapa</i> L.	neo	VI. VIII. IX. X. XI. XII. XIV. XXI.
<i>Brassica rapa</i> var. <i>oleifera</i> DC.	neo	VIII.
<i>Bromus catharticus</i> Vahl	neo	III. XV.
<i>Bromus commutatus</i> Schrad.	ntv	II. III.
<i>Bromus erectus</i> Huds.	ntv	XI. XII.
<i>Bromus hordeaceus</i> L.	ntv/arc	II. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX.
<i>Bromus inermis</i> Leyss.	ntv	I. III. VIII. IX. X. XI. XII. XIV. XXI. XXIII.
<i>Bromus japonicus</i> Hoult.	arc	III. IV. V. VI. XI. XIV. XX.
<i>Bromus squarrosus</i> L.	ntv	VIII. IX. XI. XIII.
<i>Bromus sterilis</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Bromus tectorum</i> L.	arc	I. II. III. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI.
<i>Broussonetia papyrifera</i> (L.) Vent.	neo	I. II. V. VI. XI. XIII. XIV. XX. XXI.
<i>Brunnera macrophylla</i> (Adams) I.M.Johnst.	neo	I. II. III. IV. V. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XXII.
<i>Bryonia alba</i> L.	ntv/arc	II. III. XI. XII. XV. XXI.
<i>Buddleja davidii</i> Franch.	neo	II. IX. X. XII. XVI. XXI.
<i>Buglossoides arvensis</i> (L.) I.M.Johnst.	ntv	I. III. VI. XI. XIII. XIV. XV. XVI.
<i>Bunias orientalis</i> L.	neo	III. XI.
<i>Bupleurum falcatum</i> L.	ntv	XII.
<i>Butomus umbellatus</i> L.	ntv	XIV.
<i>Buxus sempervirens</i> L.	neo	III. XI.
<i>Calendula officinalis</i> L.	arc	I. III. IX. XI. XIII. XV. XIX.
<i>Calepina irregularis</i> Thell.	arc	I. III.
<i>Calystegia sepium</i> (L.) R.Br.	ntv	I. II. III. V. VIII. IX. X. XI. XII. XIII. XVII. XXII. XXIII.
<i>Camelina microcarpa</i> Andr. ex DC.	arc	XII.
<i>Campanula bononiensis</i> L.	ntv	XII.
<i>Campanula carpatica</i> Jacq.	neo	IX.
<i>Campanula glomerata</i> L.	ntv	XII.
<i>Campanula persicifolia</i> L.	ntv	III. XI. XVI.
<i>Campanula portenschlagiana</i> Roem. & Schult.	neo	XII.

Taxon	Residency status	Distribution
<i>Campanula poscharskyana</i> Degen	neo	III. XI. XII. XIX.
<i>Campanula rapunculoides</i> L.	ntv	I. II. III. XI. XII. XIV. XV. XVI. XVII. XXII.
<i>Campanula trachelium</i> L.	ntv	XII.
<i>Campsis radicans</i> (L.) Bureau	neo	I. II. III. VI. VIII. IX. XI. XIV. XV. XVI. XVII. XX. XXI. XXII.
<i>Cannabis sativa</i> L.	arc	II. V. VII. VIII. IX. XIII. XIV. XX.
<i>Capsella bursa-pastoris</i> Medik.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX. XXI. XXII.
<i>Capsicum annuum</i> L.	neo	VI. XI.
<i>Cardamine bulbifera</i> Crantz	ntv	II. XII.
<i>Cardamine hirsuta</i> L.	ntv	I. II. III. V. VIII. IX. XI. XII. XIII. XIV. XV. XVI.
<i>Cardamine occulta</i> Hornem.	neo	XIV.
<i>Carduus acanthoides</i> L.	arc	I. II. III. IV. V. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXIII.
<i>Carduus nutans</i> L.	arc	III. VIII. IX. X. XI. XXIII.
<i>Carex acuta</i> L.	ntv	XX.
<i>Carex acutiformis</i> Ehrh.	ntv	IV. XXIII.
<i>Carex caryophyllea</i> Latourr.	ntv	III.
<i>Carex divulsa</i> Stokes	ntv	XI.
<i>Carex hirta</i> L.	ntv	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XV. XX. XXI. XXIII.
<i>Carex leersii</i> F.W.Schultz	ntv	II.
<i>Carex pairae</i> F.W.Schultz	ntv	XII.
<i>Carex pilosa</i> Scop.	ntv	XII.
<i>Carex praecox</i> Schreb.	ntv	IV. IX. X. XII. XIV. XVI. XXI.
<i>Carex spicata</i> Huds.	ntv	II. XII. XIII. XIV. XV.
<i>Carex stenophylla</i> Wahlenb.	ntv	IX.
<i>Carlina vulgaris</i> L.	ntv	III. IV. IX.
<i>Carpinus betulus</i> L.	ntv	III. IX. XII.
<i>Caryopteris</i> × <i>clandonensis</i> A.Simmonds	neo	III.
<i>Catalpa bignonioides</i> Walter	neo	IX. XVII.
<i>Catapodium rigidum</i> (L.) C.E.Hubb.	neo	III.
<i>Catharanthus roseus</i> (L.) G.Don	neo	XI.
<i>Celosia argentea</i> L.	neo	IX.
<i>Celtis australis</i> L.	neo	XIX.

Taxon	Residency status	Distribution
<i>Celtis occidentalis</i> L.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Cenchrus alopecuroides</i> (L.) Thunb.	neo	VIII. IX. XI. XV. XXI.
<i>Cenchrus incertus</i> M.A.Curtis	neo	IV. IX. XIV. XXI.
<i>Centaurea arenaria</i> M.Bieb.	ntv	XV.
<i>Centaurea cyanus</i> L.	arc	IX. XIII.
<i>Centaurea jacea</i> subsp. <i>angustifolia</i> (DC.)	ntv	II. III. IX. X. XI. XII. XIV. XV. XVI. XXII.
<i>Centaurea scabiosa</i> subsp. <i>sadleriana</i> (Janka) Asch. & Graebn.	ntv	I. III. VIII. XI. XII. XIII. XV. XXI. XXIII.
<i>Centaurea stoebe</i> L.	ntv/arc	I. II. III. IV. VIII. IX. X. XI. XII. XIV. XV. XX. XXI. XXIII.
<i>Centaurea triumfettii</i> All.	ntv	XI.
<i>Cerastium brachypetalum</i> Pers.	ntv	III.
<i>Cerastium fontanum</i> subsp. <i>vulgare</i> (Hartm.) Greuter & Burdet	ntv	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XXIII.
<i>Cerastium glomeratum</i> Thuill.	ntv	III.
<i>Cerastium pumilum</i> Curtis	ntv	III. XV. XVI.
<i>Cerastium pumilum</i> var. <i>glutinosum</i> (Fries) E.Rico	ntv	XIV.
<i>Cerastium semidecandrum</i> L.	ntv	XI. XIII.
<i>Cerastium tomentosum</i> L.	neo	III. XI. XII. XV.
<i>Ceratocephala testiculata</i> (Crantz) Besser	arc	XI.
<i>Ceratostigma plumbaginoides</i> Bunge	neo	XV. XXII.
<i>Cercis siliquastrum</i> L.	neo	I. II. V. VIII. IX. XI. XII. XIII. XIV.
<i>Cerintho minor</i> L.	ntv	XII.
<i>Chaenorhinum minus</i> (L.) Lange	arc	II. V. VIII. IX. XI. XII. XIII. XIV. XV.
<i>Chaerophyllum aromaticum</i> L.	ntv	XII.
<i>Chaerophyllum temulum</i> L.	ntv	XI. XII.
<i>Chamaecytisus austriacus</i> (L.) Link	ntv	XI. XII.
<i>Chasmanthium latifolium</i> (Michx.) H.O.Yates	neo	VIII.
<i>Chelidonium majus</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Chenopodium album</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Chenopodium ficifolium</i> Sm.	arc	XIII.
<i>Chenopodium glaucum</i> L.	ntv/arc	II. III. IV. V. VIII. XI. XIII. XIV. XXIII.

Taxon	Residency status	Distribution
<i>Chenopodium hybridum</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XX. XXI. XXII. XXIII.
<i>Chenopodium murale</i> L.	arc	II. VIII. XI. XIII. XIV.
<i>Chenopodium opulifolium</i> Schrad. ex W.D.J.Koch & Ziz	ntv	I. III. V. VIII. IX. X. XI. XII. XIII. XVI. XX. XXI. XXII. XXIII.
<i>Chenopodium polyspermum</i> L.	ntv	XIV.
<i>Chenopodium rubrum</i> L.	ntv	IV.
<i>Chenopodium strictum</i> Roth	arc/neo	II. III. IV. VIII. IX. X. XI. XIV. XV. XVI. XIX. XX.
<i>Chenopodium urbicum</i> L.	arc	VIII.
<i>Chenopodium vulvaria</i> L.	ntv/arc	I. II. III. V. VI. VII. VIII. IX. XI. XII. XIII. XXII.
<i>Chondrilla juncea</i> L.	ntv	I. II. III. IV. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XIX. XX. XXI. XXII. XXIII.
<i>Chorispora tenella</i> DC.	neo	VIII. IX.
<i>Cichorium intybus</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Cirsium arvense</i> (L.) Scop.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XX. XXI. XXII. XXIII.
<i>Cirsium eriophorum</i> Scop.	ntv	XI.
<i>Cirsium vulgare</i> (Savi) Ten.	ntv/arc	II. III. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XVI. XXI. XXIII.
<i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai	arc	II. VIII. IX. X. XIII. XV. XVI. XVII. XIX. XXII.
<i>Clematis vitalba</i> L.	ntv	I. II. III. V. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XX. XXI. XXII. XXIII.
<i>Clerodendrum bungei</i> Steud.	neo	XVI.
<i>Clinopodium acinos</i> Kuntze	ntv	III. XI. XXI.
<i>Clinopodium nepeta</i> (L.) Kuntze	neo	III. IX. XIII.
<i>Clinopodium vulgare</i> L.	ntv	II. III.
<i>Colutea arborescens</i> L.	ntv	IV. IX.
<i>Commelina communis</i> L.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XIII. XIV. XV. XVI. XIX. XX. XXI. XXII.
<i>Conium maculatum</i> L.	arc	I. III. VI. XV. XXI.
<i>Convallaria majalis</i> L.	ntv	I. II. III. VIII. IX. XI. XIV. XV. XVI. XIX. XX. XXII.
<i>Convolvulus arvensis</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.

Taxon	Residency status	Distribution
<i>Coreopsis lanceolata</i> L.	neo	III.
<i>Coriandrum sativum</i> L.	arc	II. VII. XIV.
<i>Corispermum nitidum</i> Kit. ex Schult.	ntv	XI.
<i>Cornus mas</i> L.	ntv	XII.
<i>Cornus sanguinea</i> L.	ntv	I. II. III. IV. V. VI. VIII. XI. XII. XIII. XV. XVI. XIX. XX. XXI. XXII. XXIII.
<i>Coronilla varia</i> L.	ntv	I. II. III. IV. VI. IX. X. XI. XII. XIII. XIV. XV. XVI. XXI. XXIII.
<i>Corydalis cava</i> (L.) Schweigg. & Körte	ntv	I. XI. XII.
<i>Corydalis solida</i> (L.) Clairv.	ntv	XI. XII. XV.
<i>Corylus avellana</i> L.	ntv	II. III. V. XI. XII. XIII. XV. XVI.
<i>Corylus colurna</i> L.	neo	I. II. III. VIII. XII.
<i>Cosmos bipinnatus</i> Cav.	neo	III. XI. XV. XVI. XXI. XXII.
<i>Cotinus coggygria</i> Scop.	ntv	III. XI. XII. XX.
<i>Cotoneaster hjelmqvistii</i> Flinck & B.Hylmö	neo	XI.
<i>Cotoneaster horizontalis</i> Decne.	neo	I. II. III. VIII. IX. XI. XII. XVI. XIX. XXII.
<i>Cotoneaster multiflorus</i> Bunge	neo	XI.
<i>Cotoneaster niger</i> (Wahlb.) Fr.	ntv	I.
<i>Cotoneaster nitens</i> Rehder & E.H.Wilson	neo	XIX.
<i>Cotoneaster salicifolius</i> Franch.	neo	I. III. V.
<i>Crataegus laevigata</i> (Poir.) DC.	ntv	III.
<i>Crataegus monogyna</i> Jacq.	ntv	I. II. III. IV. V. IX. X. XI. XII. XIII. XV. XX. XXI. XXII. XXIII.
<i>Crepis biennis</i> L.	ntv	II. III.
<i>Crepis capillaris</i> (L.) Wallr.	arc	XXI.
<i>Crepis foetida</i> subsp. <i>rhoeadifolia</i> (M.Bieb.) Celak.	ntv/arc	II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XX. XXI. XXII. XXIII.
<i>Crepis pulchra</i> L.	ntv	I. V. XIV.
<i>Crepis setosa</i> Haller f.	ntv	VIII. XI. XIV. XX.
<i>Crepis tectorum</i> L.	arc	V. VI. VIII. IX. X. XI. XIII. XIV. XXI.
<i>Crocus vernus</i> (L.) Hill	neo	IV.
<i>Cucumis sativus</i> L.	arc	XI.
<i>Cucurbita pepo</i> L.	neo	XIII.
<i>Cuscuta campestris</i> Yunck.	neo	III. IX. X. XI. XII. XIV. XV. XX. XXI. XXII.
<i>Cuscuta europaea</i> L.	ntv	VIII. IX.
<i>Cymbalaria muralis</i> G.Gaertn., B.Mey. & Scherb.	neo	I. II. V. VI. VII. VIII. IX. XI. XII. XIII. XIV. XX.

Taxon	Residency status	Distribution
<i>Cynodon dactylon</i> (L.) Pers.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Cynoglossum officinale</i> L.	ntv	IV. VII.
<i>Cyperus alternifolius</i> L.	neo	XIV.
<i>Cyperus eragrostis</i> Lam.	neo	III. VIII. X.
<i>Cyperus fuscus</i> L.	ntv	III. IV. XXI.
<i>Cyperus glomeratus</i> L.	ntv	II. III. XII. XIV.
<i>Cyperus michelianus</i> (L.) Delile	ntv	IV. XXI.
<i>Cyrtomium falcatum</i> (L.f.) C.Presl	neo	XXI.
<i>Cyrtomium fortunei</i> J.Sm.	neo	VII.
<i>Cystopteris fragilis</i> (L.) Bernh.	ntv	VI.
<i>Dactylis glomerata</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Dactylis glomerata</i> subsp. <i>lobata</i> (Drejer) H.Lindb.	ntv	I. XII.
<i>Datura innoxia</i> Mill.	neo	IV.
<i>Datura stramonium</i> L.	arc	I. III. IV. V. VII. VIII. IX. X. XI. XIII. XIV. XV. XX. XXI. XXIII.
<i>Datura wrightii</i> Regel	neo	VIII. IX. XI. XIII. XV. XXI. XXII.
<i>Daucus carota</i> L.	arc	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XXI. XXII. XXIII.
<i>Delphinium ajacis</i> L.	arc	II. III. IX. XI. XV. XVI.
<i>Delphinium consolida</i> L.	arc/neo	II. III. V. VIII. IX. XI. XIII. XIV. XX. XXI. XXII.
<i>Deschampsia caespitosa</i> P.Beauv.	ntv	IV.
<i>Descurainia sophia</i> (L.) Webb ex Prantl	arc	I. II. III. V. VI. VII. VIII. IX. XI. XIII. XIV. XV. XVI. XX. XXIII.
<i>Deutzia scabra</i> Thunb.	neo	I. III.
<i>Dianthus giganteiformis</i> subsp. <i>pontederae</i> (A.Kern.) Soó	ntv	XI. XII.
<i>Digitaria ciliaris</i> (Retz.) Koeler	arc	II. VIII.
<i>Digitaria sanguinalis</i> (L.) Scop.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Dioscorea polystachya</i> Turcz.	neo	I.
<i>Diplotaxis muralis</i> DC.	arc	I. II. III. IV. VIII. IX. X. XI. XII. XIII. XIV. XX. XXI. XXIII.
<i>Diplotaxis tenuifolia</i> (L.) DC.	arc	I. II. III. IV. VIII. XI. XII. XIII. XIV. XV. XVI. XIX. XX. XXI. XXII.

Taxon	Residency status	Distribution
<i>Draba nemorosa</i> L.	ntv	XXIII.
<i>Draba verna</i> L.	ntv	I. II. III. IV. IX. XI. XIII. XIV. XV. XVI.
<i>Dryopteris carthusiana</i> (Vill.) H.P.Fuchs	ntv	IX.
<i>Dryopteris filix-mas</i> (L.) Schott	ntv	III. V. VI. VIII. IX. X. XI. XII. XIII. XV.
<i>Duchesnea indica</i> (Andrews) Teschem.	neo	I. II. III. IV. V. VI. VIII. IX. XI. XII. XIII. XVI. XXII.
<i>Dysphania ambrosioides</i> (L.) Mosyakin & Clemants	neo	XIII.
<i>Dysphania aristata</i> (L.) Mosyakin & Clemants	neo	II.
<i>Dysphania botrys</i> (L.) Mosyakin & Clemants	arc	I. XIV.
<i>Dysphania pumilio</i> (R.Br.) Mosyakin & Clemants	neo	IV. VIII. IX.
<i>Echinochloa crus-galli</i> (L.) P.Beauv.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XX. XXI. XXII. XXIII.
<i>Echinops sphaerocephalus</i> L.	ntv	I. II. III. V. VII. VIII. XI. XII. XIII. XVII.
<i>Echium vulgare</i> L.	arc	I. II. III. IV. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVII. XX. XXI. XXIII.
<i>Eclipta prostrata</i> (L.) L.	neo	II. III.
<i>Elaeagnus angustifolia</i> L.	neo	III. IV. VIII. IX. X. XI. XII. XV. XVI. XXI. XXIII.
<i>Eleusine indica</i> (L.) Gaertn.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII.
<i>Elymus hispidus</i> (Opiz) Melderis	ntv	III.
<i>Elymus repens</i> (L.) Gould	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Epilobium angustifolium</i> L.	ntv	IX.
<i>Epilobium ciliatum</i> Raf.	neo	XIV.
<i>Epilobium dodonaei</i> Vill.	ntv	XIII.
<i>Epilobium hirsutum</i> L.	ntv	II. XVII. XXIII.
<i>Epilobium parviflorum</i> (Schreb.) Schreb.	ntv	I. III. V. VIII. IX. XIV. XXI.
<i>Epilobium tetragonum</i> L.	ntv	II. IV. V. VIII. IX. X. XI. XII. XIV. XV. XXI.
<i>Epimedium alpinum</i> L.	neo	VIII.
<i>Epipactis helleborine</i> (L.) Crantz	ntv	IV.
<i>Equisetum arvense</i> L.	ntv	III. V. VI. XI. XXIII.
<i>Equisetum hyemale</i> L.	ntv	III. VIII.
<i>Equisetum moorei</i> Newman	ntv	III.
<i>Equisetum ramosissimum</i> Desf.	ntv	II. III. VIII. IX. XI. XIII. XIV. XX. XXI. XXIII.

Taxon	Residency status	Distribution
<i>Eragrostis minor</i> Host	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Eragrostis pilosa</i> (L.) P.Beauv.	arc	III. VIII. IX. XIV. XV.
<i>Eragrostis spectabilis</i> (Pursh) Steud.	neo	II.
<i>Eragrostis virescens</i> J.Presl	neo	I. XIV.
<i>Eranthis hyemalis</i> Salisb.	arc/neo	III. XII. XV.
<i>Erigeron acris</i> L.	ntv	XXIII.
<i>Erigeron annuus</i> (L.) Pers.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Erigeron canadensis</i> L.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Erigeron sumatrensis</i> Retz.	neo	III. IX. XI. XIV. XV. XXI.
<i>Erodium cicutarium</i> (L.) L'Hér.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Eruca vesicaria</i> (L.) Cav.	neo	XIII.
<i>Eryngium campestre</i> L.	ntv	II. III. VIII. XI. XII. XIV. XX. XXI. XXIII.
<i>Erysimum diffusum</i> Ehrh.	arc	VI. XIII.
<i>Erysimum odoratum</i> Ehrh.	ntv	VIII. XI. XII.
<i>Erysimum repandum</i> L.	arc	XII.
<i>Eschscholzia californica</i> Cham.	neo	V. XIV.
<i>Euonymus europaeus</i> L.	ntv	II. IV. VIII. XI. XII. XIII. XIX. XXII.
<i>Euonymus japonicus</i> Thunb.	neo	III. IV. XXII.
<i>Euonymus verrucosus</i> Scop.	ntv	XI. XII.
<i>Eupatorium cannabinum</i> L.	ntv	II. IV. VIII. XIII.
<i>Euphorbia amygdaloides</i> L.	ntv	XVI.
<i>Euphorbia cyparissias</i> L.	ntv/arc	III. IV. IX. XI. XII. XIII. XIV. XV. XIX. XXI. XXIII.
<i>Euphorbia esula</i> L.	ntv/arc	III. XII. XXI. XXIII.
<i>Euphorbia falcata</i> L.	arc/neo	IX. XII. XIV.
<i>Euphorbia glareosa</i> Pall. ex M.Bieb.	ntv	XI.
<i>Euphorbia helioscopia</i> L.	arc	III. VI. VIII. XI. XIV. XV.
<i>Euphorbia humifusa</i> Willd.	neo	XI.
<i>Euphorbia lathyris</i> L.	arc	II. III. IX. XI. XII. XIII. XIV. XV. XVI. XIX. XXII.

Taxon	Residency status	Distribution
<i>Euphorbia maculata</i> L.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Euphorbia marginata</i> Pursh	neo	III. XV. XVI. XXI.
<i>Euphorbia myrsinites</i> L.	neo	III. XI. XII. XIV. XVI. XXII.
<i>Euphorbia peplus</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXII. XXIII.
<i>Euphorbia prostrata</i> Aiton	neo	II. III. IV. VI. VIII. IX. XI. XIV. XV. XVI.
<i>Euphorbia salicifolia</i> Host	ntv	XI.
<i>Euphorbia serpens</i> Kunth	neo	III. XIV.
<i>Euphorbia taurinensis</i> All.	arc	VIII. XI. XII. XIII. XIV.
<i>Euphorbia virgata</i> Waldst. & Kit.	ntv	XI.
<i>Fagopyrum esculentum</i> Moench	neo	IV. IX. XIV.
<i>Falcaria vulgaris</i> Bernh.	ntv	I. II. III. VIII. IX. X. XI. XII. XIII. XV. XVI. XX. XXI.
<i>Fallopia aubertii</i> (L.Henry) Holub	neo	XXII.
<i>Fallopia baldschuanica</i> (Regel) Holub	neo	I. XI. XII. XIV. XIX.
<i>Fallopia convolvulus</i> (L.) Á.Löve	arc	I. II. III. IV. V. VII. VIII. IX. X. XI. XII. XIII. XIV. XVI. XVII. XIX. XX. XXI. XXIII.
<i>Fallopia dumetorum</i> (L.) Holub	arc	III. XII. XV.
<i>Festuca pseudovina</i> Hack. ex Wiesb.	ntv	III. VIII. IX. X. XI. XIV. XXIII.
<i>Festuca rubra</i> L.	ntv	II. III. VI. VIII. IX. X. XI. XII. XIV. XVII.
<i>Festuca rupicola</i> Heuff.	ntv	III. IV. IX. X. XI. XIII. XX. XXI. XXIII.
<i>Festuca valesiaca</i> Schleich. ex Gaudin	ntv	II. IX. X. XI. XVI.
<i>Ficus carica</i> L.	arc/neo	III.
<i>Filago germanica</i> (L.) Huds.	ntv	XIV.
<i>Forsythia intermedia</i> Zabel	neo	XV.
<i>Fragaria ananassa</i> (Duchesne ex Weston) Duchesne ex Rozier	neo	II. XX.
<i>Fragaria vesca</i> L.	ntv	II. VIII. XI. XII.
<i>Fragaria viridis</i> Weston	ntv	II.
<i>Fraxinus angustifolia</i> Vahl	ntv	I. III. VIII. X. XIII.
<i>Fraxinus excelsior</i> L.	ntv	I. II. III. V. VI. VIII. IX. XI. XII. XIII.
<i>Fraxinus ornus</i> L.	ntv	I. II. III. VIII. XI. XII. XIII. XIV. XV.
<i>Fraxinus pennsylvanica</i> Marshall	neo	II. IV. V. VIII. IX. X. XI. XIII. XX. XXI.
<i>Fumaria schleicheri</i> Soy.-Will.	arc	II. XI. XII. XIV.
<i>Fumaria vaillantii</i> Loisel.	arc	I. II. III. VI. VIII. IX. XI. XII. XIV. XV. XX.

Taxon	Residency status	Distribution
<i>Gagea pratensis</i> (Pers.) Dumort.	ntv	XV.
<i>Gagea villosa</i> (M.Bieb.) Sweet	ntv	I. XI.
<i>Gaillardia grandiflora</i> Hort. ex Van Houtte	neo	XVI.
<i>Galanthus elwesii</i> Hook.f.	neo	XI. XII. XV.
<i>Galanthus nivalis</i> L.	ntv	III. VIII. XV.
<i>Galinsoga parviflora</i> Cav.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XIX. XX. XXI.
<i>Galinsoga quadriradiata</i> Ruiz & Pav.	neo	I. II. V. VIII. IX. XI. XIII. XIV.
<i>Galium album</i> Mill.	ntv	II.
<i>Galium aparine</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX. XXI. XXII. XXIII.
<i>Galium glaucum</i> L.	ntv	XI.
<i>Galium mollugo</i> L.	ntv	II. III. IV. V. VI. IX. X. XI. XII. XIII. XV. XVII. XX. XXIII.
<i>Galium palustre</i> L.	ntv	VI.
<i>Galium spurium</i> L.	arc	VIII.
<i>Galium verum</i> L.	ntv	III. IX. XI. XIV. XXIII.
<i>Gazania rigens</i> (L.) Gaertn.	neo	IV.
<i>Geranium macrorrhizum</i> L.	neo	III. IX. XIII. XV.
<i>Geranium molle</i> L.	arc	XI. XVI.
<i>Geranium purpureum</i> Vill.	neo	III. VIII. X. XIV.
<i>Geranium pusillum</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Geranium pyrenaicum</i> Burm.f.	neo	II. III. XII. XV. XX.
<i>Geranium robertianum</i> L.	ntv/arc	VII. IX. X. XI. XII. XIII.
<i>Geranium rotundifolium</i> L.	ntv	VIII. XI.
<i>Geranium sanguineum</i> L.	ntv	IX.
<i>Geranium sibiricum</i> L.	neo	VIII.
<i>Geum coccineum</i> Sm.	neo	XXI.
<i>Geum urbanum</i> L.	ntv	I. II. III. IV. V. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XX. XXI. XXII.
<i>Ginkgo biloba</i> L.	neo	VIII. XIII.
<i>Glebionis coronaria</i> (L.) Cass. ex Spach	neo	VI.
<i>Glechoma hederacea</i> L.	ntv	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXII. XXIII.
<i>Glechoma hirsuta</i> Waldst. & Kit.	ntv	XI.

Taxon	Residency status	Distribution
<i>Gleditsia triacanthos</i> L.	neo	II. III. IV. V. VIII. IX. X. XI. XII. XIII. XIV. XIX. XX. XXI. XXII.
<i>Glyceria maxima</i> (Hartm.) Holmb.	ntv	XX.
<i>Gnaphalium uliginosum</i> L.	ntv	IX.
<i>Gymnocarpium robertianum</i> (Hoffm.) Newman	ntv	IV. V. IX. XII. XIII.
<i>Gypsophila paniculata</i> L.	ntv	IV. IX. XIII. XV.
<i>Hedera helix</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Helianthemum ovatum</i> Dunal	ntv	II. XII.
<i>Helianthus annuus</i> L.	neo	III. V. IX. XVI. XXI.
<i>Helianthus tuberosus</i> L.	neo	II. III. XI. XIII. XIV. XV. XIX. XXII.
<i>Heliopsis helianthoides</i> Sweet	neo	XIV. XVII. XVIII. XIX.
<i>Heliotropium europaeum</i> L.	arc	IV. XIX.
<i>Helminthotheca echioides</i> (L.) Holub	arc/neo	III.
<i>Hemerocallis fulva</i> (L.) L.	neo	III. XII. XV. XVI.
<i>Heracleum sphondylium</i> L.	ntv	II. XII.
<i>Herniaria glabra</i> L.	ntv	VIII.
<i>Herniaria hirsuta</i> L.	arc	II. III. VIII. XIV.
<i>Hibiscus syriacus</i> L.	neo	I. IV. V. VIII. IX. XI. XIII. XIV. XV. XVI. XIX. XXII.
<i>Hibiscus trionum</i> L.	arc	II. III. IV. VI. VIII. IX. X. XI. XIV. XV. XXI.
<i>Hieracium murorum</i> L.	ntv	XII.
<i>Hieracium sabaudum</i> L.	ntv	I. III. XI. XII.
<i>Hieracium umbellatum</i> L.	ntv	III. XII.
<i>Hippophae rhamnoides</i> L.	ntv	XI. XIV.
<i>Holcus lanatus</i> L.	ntv	III. XI. XIV.
<i>Holosteum umbellatum</i> L.	ntv	I. III. IX. X. XI. XII. XIII. XIV. XV. XVI.
<i>Hordelymus europaeus</i> (L.) Jess. ex Harz	ntv	XII.
<i>Hordeum murinum</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Hordeum vulgare</i> L.	arc	II. V. VI. VIII. XIII. XX.
<i>Hornungia petraea</i> Rchb.	ntv	V.
<i>Hosta plantaginea</i> (Lam.) Asch.	neo	XVI.
<i>Humulus lupulus</i> L.	ntv	I. II. III. IV. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXII. XXIII.
<i>Hyacinthus orientalis</i> L.	neo	XV.

Taxon	Residency status	Distribution
<i>Hylotelephium spectabile</i> (Boreau) H.Ohba	neo	XII. XIII.
<i>Hylotelephium telephium</i> (L.) H.Ohba	ntv	XI. XV.
<i>Hyoscyamus niger</i> L.	arc	XIV.
<i>Hypericum calycinum</i> L.	neo	VIII. XI. XIV. XV.
<i>Hypericum perforatum</i> L.	ntv	I. II. III. IV. IX. X. XI. XII. XIV. XVI. XX. XXI. XXIII.
<i>Hypochaeris radicata</i> L.	ntv	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Hyssopus officinalis</i> L.	neo	II.
<i>Iberis sempervirens</i> L.	neo	XV.
<i>Impatiens balfourii</i> Hook.f.	neo	III. XVI. XXI.
<i>Impatiens balsamina</i> L.	neo	XI.
<i>Impatiens parviflora</i> DC.	neo	XII.
<i>Impatiens walleriana</i> Hook.f.	neo	VIII. IX.
<i>Inula britannica</i> L.	ntv	III. V. VIII. IX. X. XI. XIII. XIV. XXIII.
<i>Inula conyza</i> DC.	ntv	III. XII. XXI.
<i>Inula oculus-christi</i> L.	ntv	XI.
<i>Ipomoea purpurea</i> (L.) Roth	neo	I. II. IV. VIII. X. XI. XIII. XV. XIX. XXII.
<i>Iris germanica</i> L.	arc	III. XI. XV. XVI.
<i>Iris pseudacorus</i> L.	ntv	IX.
<i>Isatis tinctoria</i> L.	arc	III.
<i>Jacobaea vulgaris</i> Gaertn.	ntv	III. IV. IX. XIV. XXI. XXII. XXIII.
<i>Jasminum nudiflorum</i> Lindl.	neo	III. VIII.
<i>Juglans regia</i> L.	arc	I. II. III. IV. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XXI. XXII. XXIII.
<i>Juncus articulatus</i> L.	ntv	XIV. XXIII.
<i>Juncus bufonius</i> L.	ntv	VIII.
<i>Juncus compressus</i> Jacq.	ntv	III. IV. VIII. IX. XI. XII. XIII. XIV. XX.
<i>Juncus effusus</i> L.	ntv	VIII.
<i>Juncus inflexus</i> L.	ntv	XI.
<i>Juniperus virginiana</i> L.	neo	XII. XV.
<i>Kickxia elatine</i> (L.) Dumort.	arc	XI.
<i>Kickxia spuria</i> (L.) Dumort.	arc	IV.
<i>Knautia arvensis</i> (L.) Coult.	ntv	III. XI.
<i>Koeleria cristata</i> Pers.	ntv	X. XI.

Taxon	Residency status	Distribution
<i>Koeleruteria paniculata</i> Laxm.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXIII.
<i>Laburnum anagyroides</i> Medik.	arc/neo	II. XII.
<i>Lactuca muralis</i> (L.) Gaertn.	ntv	V. XII. XIII.
<i>Lactuca saligna</i> L.	ntv/arc	III. IV. VIII. XIII. XIV. XV. XVII. XX. XXII.
<i>Lactuca serriola</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Lagenaria siceraria</i> (Molina) Standl.	neo	XI.
<i>Lamium amplexicaule</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX. XXI. XXIII.
<i>Lamium galeobdolon</i> (L.) L.	ntv	XII.
<i>Lamium galeobdolon</i> subsp. <i>argentatum</i> (Smejkal) J.Duvign.	neo	XII.
<i>Lamium maculatum</i> L.	ntv	XI. XII. XV.
<i>Lamium purpureum</i> L.	arc	I. II. III. VII. VIII. IX. XI. XII. XIII. XIV. XV. XVI.
<i>Lappula squarrosa</i> Dumort.	arc	II. VIII. IX. XIII.
<i>Lapsana communis</i> L.	ntv	I. II. VIII. XI. XII. XIII.
<i>Lathyrus latifolius</i> L.	ntv	XII.
<i>Lathyrus tuberosus</i> L.	arc	I. II. V. IX. XI. XII. XIV. XV. XXIII.
<i>Lavandula angustifolia</i> Mill.	neo	III. XVI.
<i>Lemna minor</i> L.	ntv	XVII.
<i>Leontodon hispidus</i> L.	ntv	I. II. III. XI. XII. XIII. XIV. XV.
<i>Leontodon saxatilis</i> Lam.	ntv	I. II. III. IV. V. XI. XIII. XIV. XXIII.
<i>Leopoldia comosa</i> (L.) Parl.	ntv/arc	IX.
<i>Lepidium campestre</i> (L.) W.T.Aiton	ntv/arc	III. IX. XI. XII.
<i>Lepidium densiflorum</i> Schrad.	neo	II. VII. VIII. IX. XI. XIII. XIV. XX.
<i>Lepidium didymum</i> L.	neo	XIV.
<i>Lepidium draba</i> L.	ntv/arc	I. II. III. IV. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX. XXI. XXII. XXIII.
<i>Lepidium perfoliatum</i> L.	arc	XIV.
<i>Lepidium ruderales</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XXII.
<i>Lepidium virginicum</i> L.	neo	III. IV. VI. XXI.
<i>Leucantherum adustum</i> subsp. <i>margaritae</i> (Gáyer) Holub	ntv	XVI.
<i>Leymus arenarius</i> (L.) Hochst.	neo	I. III. XIX.

Taxon	Residency status	Distribution
<i>Ligustrum ovalifolium</i> Hassk.	neo	XVI. XIX.
<i>Ligustrum vulgare</i> L.	ntv	I. II. III. V. VI. VII. VIII. IX. XI. XII. XV. XVI. XIX. XX. XXI.
<i>Limonium gmelinii</i> Kuntze	ntv	III. XI.
<i>Linaria genistifolia</i> (L.) Mill.	ntv	I. X. XI. XII. XXI. XXIII.
<i>Linaria maroccana</i> Hook.f.	neo	VI. VIII.
<i>Linaria vulgaris</i> Mill.	ntv	I. III. IV. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVII. XXI. XXII. XXIII.
<i>Linum austriacum</i> L.	ntv	III. VI. IX. XI. XV. XVI.
<i>Linum perenne</i> L.	ntv	VIII. IX. X.
<i>Lithospermum officinale</i> L.	ntv	IX.
<i>Lobularia maritima</i> (L.) Desv.	neo	V. VIII. IX. XI. XIII. XIV. XV. XIX. XX. XXII.
<i>Lolium multiflorum</i> Lam.	arc/neo	II. III. XI. XIV. XXI.
<i>Lolium perenne</i> L.	ntv/arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Lolium pratense</i> (Huds.) Darbysh.	ntv	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XXI. XXII. XXIII.
<i>Lonicera japonica</i> Thunb.	neo	III. XIV.
<i>Lonicera maackii</i> (Rupr.) Maxim.	neo	XI.
<i>Lonicera nitida</i> E.H.Wilson	neo	I. II. III. VIII. XI. XII. XIII. XV.
<i>Lonicera tatarica</i> L.	neo	V. VI. XI.
<i>Lonicera xylosteum</i> L.	ntv	I. II. VI. X. XI. XII. XIII. XIV. XVI.
<i>Lotus borbasii</i> Ujhelyi	ntv	XI.
<i>Lotus corniculatus</i> L.	ntv	I. II. III. IV. IX. XI. XII. XIII. XIV. XV. XX. XXI. XXII. XXIII.
<i>Lotus maritimus</i> L.	ntv	XV.
<i>Lotus tenuis</i> Waldst. & Kit.	ntv	II. III. XI.
<i>Lunaria annua</i> L.	arc/neo	IX. XII. XV.
<i>Lycium barbarum</i> L.	arc	I. II. III. IV. VIII. IX. X. XI. XII. XIII. XIV. XIX. XXI. XXII. XXIII.
<i>Lycopus europaeus</i> L.	ntv	XVII. XXI.
<i>Lysimachia arvensis</i> (L.) U.Manns & Anderb.	arc	II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XXII. XXIII.
<i>Lysimachia ciliata</i> L.	neo	II.
<i>Lysimachia nummularia</i> L.	ntv	II. III. IV. VIII. IX. XI. XII. XVI.
<i>Lysimachia punctata</i> L.	ntv	I. XX.
<i>Lysimachia vulgaris</i> L.	ntv	III.

Taxon	Residency status	Distribution
<i>Lythrum salicaria</i> L.	ntv	II. III. IX.
<i>Macleaya cordata</i> (Willd.) R.Br.	neo	XI.
<i>Maclura pomifera</i> (Raf.) C.K.Schneid.	neo	V. XI.
<i>Malus domestica</i> (Suckow) Borkh.	arc	I. IX. X.
<i>Malus sylvestris</i> (L.) Mill.	ntv	IV.
<i>Malva neglecta</i> Wallr.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Malva sylvestris</i> L.	arc	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXII. XXIII.
<i>Marrubium peregrinum</i> L.	arc	XXII.
<i>Matricaria chamomilla</i> L.	ntv	II. IX. XI. XIV. XXI.
<i>Matricaria discoidea</i> DC.	neo	II. V. XII. XIII. XIV. XV.
<i>Matthiola longipetala</i> subsp. <i>bicornis</i> Ball	neo	VII.
<i>Medicago falcata</i> L.	ntv	II. III. IX. X. XI. XII. XIII. XIV. XV. XVI. XIX. XXI. XXII. XXIII.
<i>Medicago lupulina</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Medicago minima</i> (L.) L.	ntv	II. IV. VI. VIII. X. XI. XII. XIII. XIV. XV.
<i>Medicago monspeliaca</i> (L.) Trautv.	ntv	III. XIV.
<i>Medicago sativa</i> L.	arc	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XIX. XX. XXI. XXII. XXIII.
<i>Medicago varia</i> Martyn	arc	II. III. XI. XII. XIII. XIV. XV.
<i>Melampyrum nemorosum</i> L.	ntv	XI.
<i>Melica ciliata</i> L.	ntv	I. IX.
<i>Melica transsilvanica</i> Schur	ntv	I. IV. XI. XII. XIII. XIV. XIX. XXIII.
<i>Melica uniflora</i> Retz.	ntv	XII.
<i>Melilotus albus</i> Medik.	arc	V. VIII. XIV. XX.
<i>Melilotus officinalis</i> (L.) Pall.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXIII.
<i>Melissa officinalis</i> L.	arc	I. II. XI. XII. XIV. XV. XVI. XIX. XXII.
<i>Mentha aquatica</i> L.	ntv	II. V. VIII. XI. XIII. XIX. XXI. XXIII.
<i>Mentha longifolia</i> (L.) L.	ntv	II. VIII. XIII. XIV. XX. XXII.
<i>Mentha pulegium</i> L.	ntv	V.
<i>Mentha spicata</i> L.	neo	III. VIII. IX. XI. XIII. XV. XVI. XXII.
<i>Mercurialis annua</i> L.	arc	II. III. VI. IX. X. XI. XII. XXII.
<i>Mercurialis perennis</i> L.	ntv	III. XII.

Taxon	Residency status	Distribution
<i>Minuartia glomerata</i> (M.Bieb.) Degen	ntv	V. XI.
<i>Mirabilis jalapa</i> L.	neo	III. XI. XII. XV. XVI.
<i>Miscanthus sinensis</i> Andersson	neo	VIII. IX. XX.
<i>Morus alba</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Morus nigra</i> L.	arc	XI. XV. XVII.
<i>Muscari neglectum</i> Guss. ex Ten.	ntv/arc	I. II. III. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII.
<i>Myosotis arvensis</i> Hill	arc	II. VI. IX.
<i>Myosotis stricta</i> Link ex Roem. & Schult.	ntv	X.
<i>Nassella tenuissima</i> (Trin.) Barkworth	neo	I. II. XIII. XIV.
<i>Nepeta cataria</i> L.	arc	IX.
<i>Nepeta racemosa</i> Lam.	neo	II. IV. V. IX. XI. XII. XIII. XIV. XVI.
<i>Nicotiana alata</i> Link & Otto	neo	IX.
<i>Nicotiana sylvestris</i> Speg.	neo	XXI.
<i>Nonea lutea</i> DC.	neo	VIII.
<i>Odontites vernus</i> (Bellardi) Dumort.	ntv	X.
<i>Oenothera biennis</i> L.	neo	I. IV. VIII. IX. X. XI. XIII. XXI. XXIII.
<i>Oenothera gaura</i> W.L. Wagner & Hoch	neo	XIV.
<i>Oenothera glazioviana</i> Micheli	neo	XV.
<i>Ononis spinosa</i> L.	ntv	XXI.
<i>Onopordum acanthium</i> L.	arc	III. X. XI. XIV. XV. XX. XXI. XXIII.
<i>Origanum vulgare</i> L.	ntv	II. III. IX. X.
<i>Orlaya grandiflora</i> (L.) Hoffm.	arc	V.
<i>Ornithogalum boucheanum</i> (Kunth) Asch.	ntv	XV.
<i>Ornithogalum refractum</i> Kit. ex Schtdl.	ntv/arc	I. XI. XV. XVI.
<i>Ornithogalum umbellatum</i> L.	ntv/arc	XVI.
<i>Oxalis corniculata</i> L.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XX. XXI. XXII. XXIII.
<i>Oxalis dillenii</i> Jacq.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Oxybaphus nyctagineus</i> (Michx.) Sweet	neo	III. IV. V. VI. VIII. IX. X. XIII. XIV. XV. XX. XXI.
<i>Pachysandra terminalis</i> Siebold & Zucc.	neo	I.
<i>Panicum capillare</i> L.	neo	I. III. VIII. IX. XI. XXI. XXIII.

Taxon	Residency status	Distribution
<i>Panicum miliaceum</i> L.	arc	VIII. XIX.
<i>Panicum miliaceum</i> subsp. <i>ruderales</i> (Kitag.) Tzvelev	neo	XIX.
<i>Panicum riparium</i> H.Scholz	neo	III. XI.
<i>Panicum virgatum</i> L.	neo	III. IX.
<i>Papaver dubium</i> L.	arc	I. II. III. V. VI. XI. XIII. XIV. XV.
<i>Papaver rhoeas</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX.
<i>Papaver somniferum</i> L.	arc	II. III.
<i>Parietaria judaica</i> L.	neo	II. VIII.
<i>Parietaria officinalis</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. XI. XII. XIII. XIV. XX. XXI. XXII.
<i>Parthenocissus inserta</i> (A.Kern.) Fritsch	neo	I. II. III. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX. XXI. XXII.
<i>Parthenocissus tricuspidata</i> Planch.	neo	I. III. XI. XIII.
<i>Pastinaca sativa</i> L.	ntv	III. XI. XII. XIII. XV. XVII. XXIII.
<i>Paulownia tomentosa</i> (Thunb.) Steud.	neo	II. IV. V. VIII. X. XI. XIX.
<i>Perilla frutescens</i> (L.) Britton	neo	VIII. XIX.
<i>Periploca graeca</i> L.	neo	I. V. IX. XI. XII. XV.
<i>Perovskia atriplicifolia</i> Benth.	neo	II. III. V. VIII. XI. XIII. XIV. XXI.
<i>Persicaria amphibia</i> (L.) Delarbre	ntv	X.
<i>Persicaria dubia</i> Fourr.	ntv	XIII. XIV.
<i>Persicaria hydropiper</i> (L.) Delarbre	ntv	III.
<i>Persicaria lapathifolia</i> (L.) Delarbre	arc	II. V. VI. VII. VIII. IX. XII. XIII. XV. XVII. XXIII.
<i>Persicaria maculosa</i> Gray	arc	II. III. IV. VI. VII. VIII. XI. XII. XIII. XIV. XV. XVI. XXI. XXII.
<i>Persicaria minor</i> Opiz	ntv	XVII.
<i>Persicaria orientalis</i> (L.) Spach	neo	XVI.
<i>Petrorhagia prolifera</i> (L.) P.W.Ball & Heywood	ntv	IV. IX. X. XI. XV. XX. XXI.
<i>Petrorhagia saxifraga</i> Link	ntv	X. XV.
<i>Petrosedum rupestre</i> (L.) P.V.Heath	neo	I. II. III. VIII. IX. XI. XV.
<i>Petroselinum crispum</i> (Mill.) Fuss	arc/neo	IX. XI.
<i>Petunia hybrida</i> E.Vilm.	neo	I. IV. V. VIII. IX. XI. XIII. XIV. XV. XIX. XX.
<i>Peucedanum alsaticum</i> L.	ntv	III.
<i>Peucedanum cervaria</i> (L.) Lapeyr.	ntv	III.
<i>Peucedanum oreoselinum</i> Moench	ntv	IV.
<i>Phalaris arundinacea</i> L.	ntv	IX.

Taxon	Residency status	Distribution
<i>Phalaris canariensis</i> L.	neo	III.
<i>Phedimus kamschaticus</i> (Fisch. & C.A.Mey.) 't Hart	neo	XIV.
<i>Philadelphus coronarius</i> L.	neo	XI. XII. XV.
<i>Phleum phleoides</i> (L.) H.Karst.	ntv	III.
<i>Phleum pratense</i> L.	ntv	XXIII.
<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	ntv	II. III. IV. VIII. IX. X. XI. XIII. XIV. XX. XXI. XXIII.
<i>Physalis peruviana</i> L.	neo	XIX. XXII.
<i>Phytolacca americana</i> L.	neo	II. VIII. IX. XIII. XVI. XXII.
<i>Phytolacca esculenta</i> Van Houtte	neo	I. III. IV. V. VI. VII. VIII. IX. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XXI.
<i>Picea abies</i> (L.) H.Karst.	ntv/arc	III. IX. XII.
<i>Picris hieracioides</i> Sm.	arc	II. III. IV. V. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XXI. XXII. XXIII.
<i>Pilea microphylla</i> (L.) Liebm.	neo	IX.
<i>Pilosella bauhini</i> (Schult.) Arv.-Touv.	ntv	III. IV. IX. XII. XIII. XV. XXIII.
<i>Pilosella caespitosa</i> (Dumort.) P.D.Sell & C.West	ntv	XIV.
<i>Pilosella officinarum</i> Vaill.	ntv	II. III. IV. VI. IX. XI. XII. XIII. XIV. XV. XXI. XXII. XXIII.
<i>Pilosella piloselloides</i> (Vill.) Soják	ntv	XI.
<i>Pimpinella saxifraga</i> L.	ntv	I. V. VIII. IX. XII. XIII. XV. XVI.
<i>Pinus nigra</i> J.F.Arnold	neo	IX. XII.
<i>Pinus sylvestris</i> L.	ntv	IV.
<i>Plantago altissima</i> L.	ntv	III.
<i>Plantago coronopus</i> L.	neo	VII.
<i>Plantago indica</i> L.	ntv	IV. IX. XIII. XX.
<i>Plantago lanceolata</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Plantago major</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Plantago maritima</i> L.	ntv	XI.
<i>Plantago media</i> L.	ntv	II. VIII. XII.
<i>Platanus acerifolia</i> (Aiton) Willd.	neo	I. V. VI. VIII. IX. X. XI. XIII. XIV. XIX.
<i>Platycladus orientalis</i> (L.) Franco	neo	III. IX. XII. XV. XXII.
<i>Platycodon grandiflorus</i> A.DC.	neo	XXI.
<i>Poa angustifolia</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXIII.

Taxon	Residency status	Distribution
<i>Poa annua</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX. XXI. XXII. XXIII.
<i>Poa bulbosa</i> L.	ntv	I. II. III. VI. VIII. XI. XIII. XIV. XV. XVI. XVII.
<i>Poa compressa</i> L.	ntv	II. III. IV. IX. X. XI. XII. XIV. XX.
<i>Poa nemoralis</i> L.	ntv	II. XI. XII.
<i>Poa palustris</i> L.	ntv	III.
<i>Poa pratensis</i> L.	ntv	I. II. III. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXIII.
<i>Poa trivialis</i> L.	ntv	II.
<i>Podospermum canum</i> C.A.Mey.	ntv	IV. IX. XI. XXIII.
<i>Polycarpon tetraphyllum</i> (L.) L.	neo	III. VII. VIII. XIV. XV.
<i>Polygonatum latifolium</i> (Jacq.) Desf.	ntv	II. XII.
<i>Polygonatum odoratum</i> (Mill.) Druce	ntv	XV. XVI.
<i>Polygonum aviculare</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Polygonum rurivagum</i> Jord. ex Boreau	arc	IV.
<i>Polypodium vulgare</i> L.	ntv	VIII.
<i>Polypogon viridis</i> (Gouan) Breistr.	neo	II.
<i>Polystichum aculeatum</i> (L.) Roth	ntv	VIII. XI. XXI.
<i>Polystichum setiferum</i> Rosendahl	ntv	XXI.
<i>Populus alba</i> L.	ntv	I. II. III. IV. V. VIII. IX. X. XI. XIII. XVI. XIX. XXI. XXII. XXIII.
<i>Populus canescens</i> (Aiton) Sm.	ntv	I. III. VI. XI. XIII. XIV. XV. XX.
<i>Populus euramericana</i> (Dode) Guinier	neo	III. XVI.
<i>Populus nigra</i> L.	ntv	I. II. III. IV. V. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX. XXI. XXII. XXIII.
<i>Populus simonii</i> Carrière	neo	VIII. X. XI. XIII.
<i>Populus tremula</i> L.	ntv	X. XIII.
<i>Portulaca grandiflora</i> Hook.	neo	I. III. VIII. IX. X. XIII. XIV. XV. XVI. XX. XXII.
<i>Portulaca oleracea</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Potentilla anserina</i> L.	arc	V. VI. IX. X. XII. XIII. XIV. XXI. XXIII.
<i>Potentilla argentea</i> L.	ntv	I. II. III. IV. V. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Potentilla incana</i> G.Gaertn., B.Mey. & Scherb.	ntv	VIII.

Taxon	Residency status	Distribution
<i>Potentilla recta</i> L.	ntv	II. III. XI. XII. XIV. XVI. XXI.
<i>Potentilla reptans</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XX. XXI. XXII. XXIII.
<i>Potentilla supina</i> L.	ntv	I. III. IV. V. VI. VIII. IX. XI. XIII. XIV. XV.
<i>Primula veris</i> L.	ntv	II. XII.
<i>Primula vulgaris</i> Huds.	ntv	XI.
<i>Prunella vulgaris</i> L.	ntv	II. III. IV. VIII. XI. XII. XIII.
<i>Prunus armeniaca</i> L.	arc	XI.
<i>Prunus avium</i> (L.) L.	ntv	II. III. IX. XI. XII. XXI. XXII.
<i>Prunus cerasifera</i> Ehrh.	arc	I. II. III. IV. V. VI. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI.
<i>Prunus cerasus</i> L.	arc	I. III. IV. VIII. XI. XII. XXI. XXIII.
<i>Prunus domestica</i> L.	arc	III. VI. XII. XVII.
<i>Prunus laurocerasus</i> L.	neo	XV.
<i>Prunus mahaleb</i> L.	ntv/arc	I. VI. IX. X. XI. XII.
<i>Prunus padus</i> L.	ntv	IV. IX. XII. XV.
<i>Prunus persica</i> (L.) Batsch	arc	IV. VIII.
<i>Prunus serotina</i> Ehrh.	neo	IV. XI.
<i>Prunus spinosa</i> L.	ntv	I. II. III. X. XI. XII. XXII.
<i>Prunus tenella</i> Batsch	ntv	III. IV.
<i>Pteridium aquilinum</i> (L.) Kuhn	ntv	III. IX.
<i>Pteris multifida</i> Poir.	neo	IX. XII.
<i>Puccinellia distans</i> (Jacq.) Parl.	ntv	III. XXI.
<i>Pulicaria dysenterica</i> (L.) Bernh.	ntv	III. IX.
<i>Pulmonaria officinalis</i> L.	ntv	III.
<i>Pyracantha coccinea</i> M.Roem.	neo	I. III. IV. VIII. IX. XI. XII.
<i>Pyrus pyrastrer</i> (L.) Burgsd.	ntv	XII.
<i>Quercus cerris</i> L.	ntv	II. III. XI. XII.
<i>Quercus petraea</i> (Matt.) Liebl.	ntv	III. IX. XI. XII.
<i>Quercus pubescens</i> Willd.	ntv	III.
<i>Quercus robur</i> L.	ntv	II. III. IV. XIII. XIV. XXII.
<i>Ranunculus acris</i> L.	ntv	III.
<i>Ranunculus bulbosus</i> L.	ntv	I. II. X. XI. XIV.
<i>Ranunculus ficaria</i> L.	ntv	I. IV. XI. XII. XV. XVI.
<i>Ranunculus lanuginosus</i> L.	ntv	III.
<i>Ranunculus pedatus</i> Waldst. & Kit.	ntv	IX.

Taxon	Residency status	Distribution
<i>Ranunculus polyanthemus</i> L.	ntv	I. II. III. IV. XII.
<i>Ranunculus repens</i> L.	ntv	I. III. V. VIII. IX. X. XI. XIV. XVII. XXII. XXIII.
<i>Ranunculus sardous</i> Crantz	arc	I. IX. XIII. XX.
<i>Ranunculus sceleratus</i> L.	ntv	IV. XI. XIII. XX.
<i>Raphanus raphanistrum</i> L.	arc	XI. XIII. XIV.
<i>Raphanus raphanistrum</i> subsp. <i>sativus</i> (L.) Domin	arc	V.
<i>Rapistrum perenne</i> (L.) All.	arc	XXIII.
<i>Reseda lutea</i> L.	arc	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX. XXI. XXII. XXIII.
<i>Reseda phyteuma</i> L.	arc	IX. XI.
<i>Reynoutria bohemica</i> Chrtek & Chrtková	neo	I. II. III. IV. VI. VIII. IX. X. XI. XII. XIII. XIV. XVI. XX. XXI. XXII. XXIII.
<i>Rhamnus cathartica</i> L.	ntv	XII.
<i>Rhus typhina</i> L.	neo	II. III. IX. XI. XIII. XIV. XX. XXI.
<i>Ribes aureum</i> Pursh	neo	XV. XVI.
<i>Robinia pseudoacacia</i> L.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Robinia viscosa</i> Michx. ex Vent.	neo	XI. XIX. XX.
<i>Rorippa austriaca</i> (Crantz) Besser	ntv	XIII. XX.
<i>Rorippa palustris</i> Besser	ntv	XIII. XIV. XXI.
<i>Rorippa sylvestris</i> (L.) Besser	ntv	I. II. V. VI. VIII. IX. XI. XIII. XIV. XX. XXI.
<i>Rosa canina</i> L.	ntv	I. II. III. VI. VIII. IX. X. XI. XII. XIV. XV. XVI. XVII. XIX. XXI. XXII. XXIII.
<i>Rosa rubiginosa</i> L.	ntv	XII.
<i>Rubus caesius</i> L.	ntv	III. IV. VIII. IX. XI. XIII. XXI. XXIII.
<i>Rubus idaeus</i> L.	ntv	XIII.
<i>Rubus praecox</i> Bertol.	ntv	IX.
<i>Rudbeckia hirta</i> L.	neo	I.
<i>Rumex acetosa</i> L.	ntv	IV. XV.
<i>Rumex acetosella</i> L.	ntv	VIII. IX. XIII. XIV. XXIII.
<i>Rumex conglomeratus</i> Murray	ntv	VII. XIV.
<i>Rumex crispus</i> L.	arc	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXII. XXIII.
<i>Rumex obtusifolius</i> L.	ntv	I. III. XI. XIX. XXII.
<i>Rumex palustris</i> Sm.	ntv	IX.
<i>Rumex patientia</i> L.	arc	III. IV. VII. VIII. IX. XI. XXIII.

Taxon	Residency status	Distribution
<i>Rumex sanguineus</i> L.	ntv	II.
<i>Rumex thyrsoiflorus</i> Fingerh.	ntv	III. VII. IX. X. XII. XIV. XVI.
<i>Ruscus aculeatus</i> L.	ntv	XI. XII. XIII.
<i>Ruta graveolens</i> L.	neo	XVI.
<i>Sagina apetala</i> Ard.	ntv	I. II. VI. VII. VIII. IX. XI. XIV.
<i>Sagina micropetala</i> Rauschert	ntv	III.
<i>Sagina procumbens</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. XI. XII. XIII. XIV. XV. XVI. XX. XXI.
<i>Salix alba</i> L.	ntv	III. IV. V. VI. VIII. IX. XI. XIII.
<i>Salix babylonica</i> L.	neo	IX. XXI.
<i>Salix caprea</i> L.	ntv	I. IX.
<i>Salix cinerea</i> L.	ntv	III.
<i>Salix fragilis</i> L.	ntv	XXIII.
<i>Salix purpurea</i> L.	ntv	IV.
<i>Salsola kali</i> L.	ntv	IV. XIV. XXI. XXIII.
<i>Salvia nemorosa</i> L.	ntv	II. III. IV. VIII. IX. XI. XIV.
<i>Salvia officinalis</i> L.	arc/neo	XII.
<i>Salvia pratensis</i> L.	ntv	IV. VIII. IX. XI. XII.
<i>Salvia sclarea</i> L.	arc/neo	II. III. XXII.
<i>Sambucus ebulus</i> L.	ntv	III. XI. XII. XXI.
<i>Sambucus nigra</i> L.	ntv	I. II. III. IV. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XX. XXI. XXII.
<i>Sanguisorba minor</i> Scop.	ntv	II. III. IV. VIII. XI. XII. XIV. XX. XXII.
<i>Saponaria ocymoides</i> L.	neo	III.
<i>Saponaria officinalis</i> L.	arc	VIII. IX. XI. XXI. XXIII.
<i>Satureja hortensis</i> L.	arc	III. VIII. XV. XVI.
<i>Saxifraga tridactylites</i> L.	ntv	VIII.
<i>Scabiosa ochroleuca</i> L.	ntv	I. III. IV. IX. X. XI. XII. XXI. XXIII.
<i>Schoenoplectus lacustris</i> (L.) Palla	ntv	XXIII.
<i>Scilla vindobonensis</i> Speta	ntv	XI. XV.
<i>Scleranthus annuus</i> L.	ntv	XIV.
<i>Sclerochloa dura</i> (L.) P.Beauv.	ntv/arc	I. II. III. VI. XI. XII. XIII. XIV. XV. XVI.
<i>Scorzoneroideis autumnalis</i> (L.) Moench	ntv	IV.
<i>Secale cereale</i> L.	arc	III. XI.
<i>Secale sylvestre</i> Host	ntv/arc	XV.
<i>Sedum acre</i> L.	ntv	II. III. IV. VIII. IX. X. XI. XII. XIII. XV. XX. XXI.

Taxon	Residency status	Distribution
<i>Sedum album</i> L.	ntv	III. IV. VI. IX. XI. XIV. XV. XVI. XXII. XXIII.
<i>Sedum hispanicum</i> L.	ntv	III. IV. VIII. IX. X. XI. XII. XIII. XVI. XIX. XX. XXII.
<i>Sedum sarmentosum</i> Bunge	neo	III. IX. XII. XIII. XIV. XV.
<i>Sedum sexangulare</i> L.	ntv	II. III. IX. XI. XIII. XV. XXIII.
<i>Senecio inaequidens</i> DC.	neo	IV. VIII. IX. X. XI. XIV.
<i>Senecio vernalis</i> Waldst. & Kit.	neo	I. II. III. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX. XXI.
<i>Senecio vulgaris</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Serratula tinctoria</i> L.	ntv	III.
<i>Seseli annuum</i> L.	ntv	XI.
<i>Seseli osseum</i> Crantz	ntv	I. XII.
<i>Seseli pallasii</i> Besser	ntv	XXIII.
<i>Setaria italica</i> (L.) P.Beauv.	arc	XI.
<i>Setaria pumila</i> (Poir.) Roem. & Schult.	arc	II. III. IV. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXII. XXIII.
<i>Setaria verticillata</i> (L.) P.Beauv.	arc	I. II. III. IV. V. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XX. XXI. XXII.
<i>Setaria viridis</i> (L.) P.Beauv.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Setaria viridis</i> subsp. <i>pyncocoma</i> (Steud.) Tzvelev	neo	XV.
<i>Sherardia arvensis</i> L.	arc	XIV.
<i>Silene conica</i> L.	ntv	XXI.
<i>Silene coronaria</i> (L.) Clairv.	ntv	II.
<i>Silene latifolia</i> subsp. <i>alba</i> (Mill.) Greuter & Burdet	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Silene noctiflora</i> L.	ntv	XII.
<i>Silene nutans</i> L.	ntv	XI. XII.
<i>Silene otites</i> (L.) Wibel	ntv	IX.
<i>Silene vulgaris</i> (Moench) Garcke	ntv	II. III. IV. VI. VIII. IX. XI. XII. XIII. XXIII.
<i>Silybum marianum</i> (L.) Gaertn.	neo	III.
<i>Sinapis alba</i> L.	arc	II. VIII. XI. XIII.
<i>Sinapis arvensis</i> L.	arc	V. VI. VIII. XII. XIV. XVI.
<i>Sisymbrium altissimum</i> L.	arc	VIII. XI. XIII. XIV.
<i>Sisymbrium irio</i> L.	neo	XIII.

Taxon	Residency status	Distribution
<i>Sisymbrium loeselii</i> L.	arc	I. II. IV. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XIX. XX. XXI. XXIII.
<i>Sisymbrium officinale</i> (L.) Scop.	ntv/arc	III.
<i>Sisymbrium orientale</i> L.	arc	I. II. IV. VI. VII. VIII. IX. X. XI. XIV. XV.
<i>Sisymbrium strictissimum</i> L.	ntv	X.
<i>Smyrnium perfoliatum</i> L.	ntv	I. XII.
<i>Solanum dulcamara</i> L.	ntv	I. II. III. VII. VIII. IX. X. XI. XII. XIII. XX. XXI. XXII.
<i>Solanum lycopersicum</i> L.	neo	I. II. III. IV. V. VI. VII. VIII. IX. X. XII. XIII. XIV. XVI. XIX. XX. XXI. XXII. XXIII.
<i>Solanum nigrum</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XX. XXI. XXII. XXIII.
<i>Solanum tuberosum</i> L.	neo	IX.
<i>Solanum villosum</i> Mill.	neo	IV. IX.
<i>Solidago canadensis</i> L.	neo	I. II. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Solidago gigantea</i> Aiton	neo	II. III. IV. V. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XXI. XXII.
<i>Solidago virgaurea</i> L.	ntv	XII.
<i>Sonchus arvensis</i> L.	arc	I. III. IV. VI. VIII. IX. XI. XII. XIII. XIV. XVI. XXI. XXIII.
<i>Sonchus asper</i> (L.) Hill	arc	I. II. VI. VIII. IX. XII. XIII. XIV. XV. XX. XXI.
<i>Sonchus oleraceus</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Sophora japonica</i> L.	neo	IV. V. VI. VIII. IX. XIII. XV. XXII.
<i>Sorbaria sorbifolia</i> (L.) A.Braun	neo	II.
<i>Sorbus aucuparia</i> L.	ntv	IX.
<i>Sorbus semiincisa</i> Borbás	ntv	II. XI.
<i>Sorghum halepense</i> (L.) Pers.	neo	I. II. III. IV. V. VIII. IX. X. XI. XIII. XIV. XVII. XIX. XX. XXI. XXII. XXIII.
<i>Spergularia rubra</i> J.Presl & C.Presl	ntv	V.
<i>Spiraea chamaedryfolia</i> L.	neo	IV.
<i>Spiraea japonica</i> L.f.	neo	XIII.
<i>Spiraea vanhouttei</i> (Briot) Zabel	neo	VIII. XI. XII.
<i>Spirodela polyrhiza</i> (L.) Schleid.	ntv	XX.
<i>Stachys annua</i> L.	arc	II. III. VIII. XIII. XV. XXII.
<i>Stachys byzantina</i> K.Koch	neo	XXII.

Taxon	Residency status	Distribution
<i>Stachys palustris</i> L.	ntv	XIV.
<i>Stachys recta</i> L.	ntv	I. XI. XII.
<i>Stachys sylvatica</i> L.	ntv	XII.
<i>Stellaria aquatica</i> Scop.	ntv	I. III. V. XVI. XVII. XXII.
<i>Stellaria holostea</i> L.	ntv	I.
<i>Stellaria media</i> (L.) Vill.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Stellaria pallida</i> (Dumort.) Crép.	ntv	I. II. III. IV. V. VI. VII. XI. XIV. XVI.
<i>Symphoricarpos albus</i> (L.) S.F.Blake	neo	I. II. III. IX. XI. XII. XIV. XV.
<i>Symphoricarpos orbiculatus</i> Moench	neo	XI. XIII. XXII.
<i>Symphyotrichum lanceolatum</i> (Willd.) G.L.Nesom	neo	I. III. IV. V. VI. VIII. IX. X. XI. XII. XIII. XX. XXI. XXIII.
<i>Symphyotrichum novi-belgii</i> (L.) G.L.Nesom	neo	III.
<i>Symphyotrichum tradescantii</i> (L.) G.L.Nesom	neo	III.
<i>Symphytum officinale</i> L.	ntv	III. IX. XI. XIV. XV. XX. XXIII.
<i>Syringa vulgaris</i> L.	neo	I. II. III. IV. V. VI. VIII. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XX. XXII.
<i>Tagetes patula</i> L.	neo	I. III. XIX. XXII.
<i>Talinum paniculatum</i> (Jacq.) Gaertn.	neo	XI.
<i>Tamarix tetrandra</i> Pall. ex M.Bieb.	neo	III. XI. XV. XXI.
<i>Tanacetum corymbosum</i> (L.) Sch.Bip.	ntv	XI.
<i>Tanacetum parthenium</i> (L.) Sch.Bip.	neo	III. VII. VIII. XI. XV. XIX.
<i>Tanacetum vulgare</i> L.	ntv/arc	V. IX. X. XIV.
<i>Taraxacum erythrospermum</i> Andrz. ex Besser	ntv	XI.
<i>Taraxacum officinale</i> F.H.Wigg.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Taxus baccata</i> L.	ntv	I. II. III. IV. V. VIII. IX. XI. XII.
<i>Teucrium chamaedrys</i> L.	ntv	XI. XIII. XX.
<i>Teucrium scordium</i> L.	ntv	VI.
<i>Thalictrum flavum</i> L.	ntv	V.
<i>Thelypteris palustris</i> Schott	ntv	V. VI. VIII. IX. X. XII. XIII.
<i>Thesium ramosum</i> Hayne	ntv	VI. XXII.
<i>Thladiantha dubia</i> Bunge	neo	I. VIII.
<i>Thlaspi arvense</i> L.	ntv/arc	XI.
<i>Thlaspi perfoliatum</i> L.	ntv	I. III. XVI.
<i>Thuja occidentalis</i> L.	neo	XV.

Taxon	Residency status	Distribution
<i>Thymus odoratissimus</i> Mill.	ntv	IV. IX.
<i>Thymus pulegioides</i> subsp. <i>pannonicus</i> (All.) Kerguélen	ntv	XV.
<i>Tilia cordata</i> Mill.	ntv	III. IX.
<i>Tilia platyphyllos</i> Scop.	ntv	I. II. III. X. XI. XII. XIII. XV. XVI.
<i>Tilia tomentosa</i> Moench	ntv	I. XIII. XV.
<i>Tordylium maximum</i> L.	ntv/arc	XIV.
<i>Torilis arvensis</i> (Huds.) Link	arc	II. III. V. VIII. IX. X. XI. XII. XIII. XIV. XVII. XXII.
<i>Torilis japonica</i> DC.	ntv	III. XI. XIII.
<i>Tradescantia virginiana</i> L.	neo	III. XIII. XV. XIX. XX.
<i>Tragopogon dubius</i> Scop.	ntv	I. II. VI. VIII. XI. XII. XIII. XIV. XV. XVI. XX. XXI.
<i>Tragopogon orientalis</i> L.	ntv	I. III. IV. V. VIII. IX. X. XI. XIII. XIV. XV. XVI. XVII. XX. XXI. XXII. XXIII.
<i>Tragus racemosus</i> (L.) All.	neo	III. IV. V. VIII. IX. X. XI. XIII. XV. XVI. XIX. XX. XXI. XXIII.
<i>Tribulus terrestris</i> L.	ntv/arc	II. III. IV. VI. VIII. IX. X. XI. XIII. XIV. XV. XIX. XX. XXI.
<i>Trifolium arvense</i> L.	ntv	I. II. XV. XVI.
<i>Trifolium campestre</i> Schreb.	ntv	II. XI. XIV. XV.
<i>Trifolium fragiferum</i> L.	ntv	XI. XX.
<i>Trifolium incarnatum</i> L.	neo	XXIII.
<i>Trifolium medium</i> L.	ntv	XII.
<i>Trifolium pratense</i> L.	ntv	I. II. III. IV. VI. VIII. IX. X. XI. XII. XIII. XIV. XV. XVII. XX. XXI. XXIII.
<i>Trifolium repens</i> L.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Tripidium ravennae</i> (L.) H.Scholz	neo	X.
<i>Tripleurospermum inodorum</i> (L.) Sch.Bip.	arc	II. III. V. VI. VIII. IX. X. XI. XIII. XIV. XV. XX.
<i>Triticum aestivum</i> L.	arc	II. III. VIII. XII. XIV. XVI. XXI.
<i>Tulipa gesneriana</i> L.	neo	IX.
<i>Tussilago farfara</i> L.	ntv	II. III. VIII. IX. XII. XIII. XIV.
<i>Typha latifolia</i> L.	ntv	II. VII. XXIII.
<i>Ulmus laevis</i> Pall.	ntv	I. II. III. IX. XI. XII. XIII.
<i>Ulmus minor</i> Mill.	ntv	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XIX. XX. XXI. XXII.

Taxon	Residency status	Distribution
<i>Ulmus pumila</i> L.	neo	I. II. IV. V. VI. VII. VIII. IX. X. XI. XIII. XIV. XX. XXI. XXIII.
<i>Urtica dioica</i> L.	ntv	I. II. III. IV. V. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XX. XXI. XXII. XXIII.
<i>Urtica urens</i> L.	arc	I. V. XIII.
<i>Vaccaria hispanica</i> (Mill.) Rauschert	arc	XIII.
<i>Valeriana officinalis</i> L.	ntv	III.
<i>Valerianella carinata</i> Loisel.	ntv/arc	XI. XIV. XX.
<i>Valerianella locusta</i> (L.) Laterr.	arc	I. III. VI. VII. VIII. XIV. XV. XVI.
<i>Verbascum blattaria</i> L.	ntv	IV. X. XIII. XIV. XXIII.
<i>Verbascum chaixii</i> subsp. <i>austriacum</i> (Schott ex Roem. & Schult.) Hayek	ntv	XII.
<i>Verbascum densiflorum</i> Bertol.	ntv	XVIII.
<i>Verbascum lychnitis</i> L.	ntv	VI. X. XI. XV. XXIII.
<i>Verbascum phlomoides</i> L.	ntv	II. III. IV. V. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XIX. XX. XXI. XXIII.
<i>Verbascum phoeniceum</i> L.	ntv	VI. IX.
<i>Verbena bonariensis</i> L.	neo	I. II. III. V. VIII. XIII.
<i>Verbena officinalis</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVII. XVIII. XX. XXI. XXII. XXIII.
<i>Veronica anagallis-aquatica</i> L.	ntv	II. III. XVII.
<i>Veronica arvensis</i> L.	arc	I. II. III. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XX.
<i>Veronica austriaca</i> L.	ntv	XI.
<i>Veronica catenata</i> Pennell	ntv	XVI.
<i>Veronica hederifolia</i> L.	ntv/arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI.
<i>Veronica peregrina</i> L.	neo	III. XIV.
<i>Veronica persica</i> Poir.	neo	I. II. III. V. VI. VII. VIII. IX. XI. XII. XIII. XIV. XV. XVI. XXI.
<i>Veronica polita</i> Fr.	arc	I. II. III. V. VI. VII. IX. XI. XII. XIV. XV. XVI. XX.
<i>Veronica praecox</i> All.	ntv	XV.
<i>Veronica prostrata</i> L.	ntv	X.
<i>Veronica serpyllifolia</i> L.	ntv	XI.
<i>Veronica sublobata</i> M.A.Fisch.	arc/neo	I. III. XII.
<i>Veronica triloba</i> (Opiz) Opiz	ntv/arc	III.
<i>Veronica triphyllos</i> L.	arc	XV.

Taxon	Residency status	Distribution
<i>Viburnum lantana</i> L.	ntv	III. VI. X. XII. XV.
<i>Viburnum opulus</i> L.	ntv	II. VIII.
<i>Viburnum rhytidophyllum</i> Hemsl.	neo	VIII. XII.
<i>Vicia cracca</i> L.	arc	III. X. XI. XII. XXIII.
<i>Vicia grandiflora</i> Scop.	ntv/arc	III. VI. VII. XIII. XV. XVI.
<i>Vicia hirsuta</i> (L.) Gray	arc	I. III. VIII. XI. XIII. XIV. XV. XVI. XX.
<i>Vicia lathyroides</i> L.	ntv	I. IV. IX. X. XI.
<i>Vicia sativa</i> L.	arc	I. II. III. V. VI. VII. VIII. XI. XII. XIII. XIV. XV. XX.
<i>Vicia sativa</i> subsp. <i>nigra</i> (L.) Ehrh.	ntv/arc	IX.
<i>Vicia sepium</i> L.	ntv	XII. XXIII.
<i>Vicia tenuifolia</i> Roth	ntv/arc	III. XXI.
<i>Vicia tetrasperma</i> (L.) Schreb.	arc	II. IV. VIII. IX. X. XI. XIV.
<i>Vicia villosa</i> Roth	arc	II. IV. VI. VIII. IX. X. XII. XIII. XIV. XX.
<i>Vinca major</i> L.	neo	I. III. XI. XII. XIV. XV. XVI.
<i>Vinca minor</i> L.	ntv	VIII. XI. XII. XV. XVI.
<i>Vincetoxicum hircundinaria</i> Medik.	ntv	XI.
<i>Viola arvensis</i> Murray	arc	I. II. III. V. VII. VIII. IX. X. XI. XIII. XV. XX.
<i>Viola hirta</i> L.	ntv	IX. XV.
<i>Viola odorata</i> L.	arc	I. II. III. IV. V. VI. VII. VIII. IX. X. XI. XII. XIII. XIV. XV. XVI. XVIII. XIX. XX. XXI. XXII. XXIII.
<i>Viola reichenbachiana</i> Jord. ex Boreau	ntv	I. III. IX. XI. XII. XV.
<i>Viola sororia</i> Willd.	neo	I. III. IV. VIII. IX. XI. XII. XIII. XIV. XV. XVI. XVII. XIX.
<i>Viola tricolor</i> L.	ntv	II. III. IV. VIII. XII. XIV. XV. XVI.
<i>Viola wittrockiana</i> Gams	neo	XIII.
<i>Viscum album</i> L.	ntv	III. XI. XII.
<i>Vitex agnus-castus</i> L.	neo	VIII. IX.
<i>Vitis vinifera</i> L.	arc	I. III. XI. XIII. XIV. XV. XVII. XIX. XXI. XXII.
<i>Vulpia myuros</i> (L.) C.C.Gmel.	ntv/arc	I. II. III. VI. VIII. IX. X. XI. XIII. XIV. XV. XX. XXIII.
<i>Wisteria sinensis</i> (Sims) DC.	neo	I. X. XI.
<i>Xanthium saccharatum</i> Wallr. & Widder	neo	XI.
<i>Xanthium strumarium</i> L.	arc	XXI.
<i>Yucca filamentosa</i> L.	neo	XIX.
<i>Zea mays</i> L.	neo	XIII. XX. XXI.

Taxon	Residency status	Distribution
<i>Zinnia elegans</i> L.	neo	XIII.

Considering the frequency of the species, it can be concluded that there were very few really common species in the urban areas of Budapest. There are only 12 species that were found in more than 40% of the surveyed street sections and squares, while 27 species were found in 20–40%, 35 species were found in 10–20%, 188 species were found in 1–10% and 711 species were found in less than 1% of surveyed units. The 20 most frequent species of Budapest were *Polygonum aviculare* L. (found in 79% of the surveyed units), *Taraxacum officinale* F.H.Wigg (75%), *Erigeron canadensis* L. (59%), *Setaria viridis* (L.) P.Beauv. (58%), *Sonchus oleraceus* L. (56%), *Chenopodium album* L. (52%), *Stellaria media* (L.) Vill. (51%), *Erigeron annuus* (L.) Pers. (43%), *Ailanthus altissima* (Mill.) Swingle (42%), *Plantago major* L. (41%), *Eleusine indica* (L.) Gaertn. (41%), *Lolium perenne* L. (41%), *Eragrostis minor* Host (40%), *Portulaca oleracea* L. (39%), *Convolvulus arvensis* L. (38%), *Poa annua* L. (38%), *Plantago lanceolata* L. (37%), *Oxalis dillenii* Jacq. (36%), *Ballota nigra* L. (34%) and *Oxalis corniculata* L. (32%). Five of these taxa are native, one is a doubtfully native taxon (native or archaeophyte), eight are archaeophytes and six are neophytes. There were 38 taxa that occurred in all 23 districts of Budapest. A total of 184 taxa occurred in 12 or more districts, while 789 occurred in 11 or less districts, 445 of which only occurred in one or two districts.

Discussion

The main result of our research is the compiled inventory of the urban flora of Budapest with the distribution of each taxon. It is necessary to make an inventory of the flora of different, well-defined areas from time to time so that changes in the flora can be monitored. The 973 found taxa is 28.3 % of the Hungarian flora (3437 taxa) according to Bartha et al. (2023), while Budapest is only 0.5% of the country's area. As different urban floristic studies use completely different methodologies, comparing the results does not always lead to good conclusions, but some general conclusions can be drawn. The 973 plant species found in Budapest can be considered below average from an international perspective (Pysek 1998), but most of the urban floristic researches include natural and semi-natural habitats within cities, which we excluded from our research.

In Hungary, the floristic research of Pécs (southern Hungary) took place most recently (Wirth et al. 2020c), resulting in 1641 taxa found in and around Pécs and the native-archaeophyte-neophyte ratio was 7-1-2. In Budapest, on the other hand, we found 973 species and the native-archaeophyte-neophyte ratio was 5-2-3. One possible reason for this is that Wirth et al. (2020c) also examined the plants of natural and semi-natural habitats in Pécs, which we omitted in Budapest.

By reviewing the changes in the urban flora of Budapest from the beginning of the 19th century, we can see that the records of taxa from the urban habitats of Budapest is

constantly increasing. Sadler (1840) reported 366 taxa, Borbás (1879) reported 441 taxa and Hegedűs (1994) reported 568 taxa from the urban habitats of Budapest.

All seven species that are new to the Hungarian flora are casual aliens which escaped from cultivation. Only *Clinopodium nepeta* (L.) Kuntze and *Linaria maroccana* Hook.f. has more than one record. Rediscovered species are also casuals, except *Sisymbrium irio* L., which we consider locally naturalised in Budapest. We detected a major expansion in the case of six species (*Datura wrightii* Regel, *Erigeron sumatrensis* Retz., *Euphorbia prostrata* Aiton, *Nepeta racemosa* Bergmans ex Stearn, *Perovskia atriplicifolia* Benth., *Sagina apetala* Ard.). Of these, *Sagina apetala* is native and the expansion of the species in urban habitats is well documented (Schmidt 2019). We suggest that *Datura wrightii* Regel, *Erigeron sumatrensis* Retz., *Euphorbia prostrata* Aiton, *Nepeta racemosa* Bergmans ex Stearn, *Perovskia atriplicifolia* Benth. are locally naturalised in Budapest.

In several cases, protected and rare casual alien ferns were found in urban environments (e.g. Tamás et al. 2017). Of the 18 ferns found in Budapest, seven are legally protected in Hungary (*Asplenium adiantum-nigrum* L., *Asplenium scolopendrium* L., *Dryopteris carthusiana* (Vill.) H.P.Fuchs, *Gymnocarpium robertianum* (Hoffm.) Newman, *Polystichum aculeatum* (L.) Roth, *Polystichum setiferum* Rosendahl and *Thelypteris palustris* Schott) and four are casual aliens (*Adiantum capillus-veneris* L., *Cyrtomium falcatum* (L.f.) C.Presl, *Cyrtomium fortunei* J.Sm. and *Pteris multifida* Poir.).

Our research draws attention to the fact that the flora of urban areas is under-researched. The appearance of certain species in urban environments is accidental, therefore small-scale, high-resolution mapping is recommended in order to better understand urban flora.

Acknowledgements

We would like to thank the Doctoral School of Environmental Studies at the Hungarian University of Agriculture and Life Sciences for providing the financial framework necessary for the research. We would also like to thank Dávid Szirtes (Hungary), who helped us in some parts of the fieldwork. Last but not least, we would like to thank Tamás Rigó (Hungary) for the linguistic revision of the manuscript.

Author contributions

Attila Rigó conducted a major part of the fieldwork, participated in the development of the methods, identified the taxa, sorted and analysed the data and drafted the manuscript. Ákos Malatinszky was present in some part of the fieldwork and supervised the research and the manuscript. Zoltán Barina also conducted a major part of the field work, participated in the development of the methods, identified the taxa, sorted the data and supervised the research and the manuscript.

References

- Álvarez H, Ibáñez N, Gómez-Bellver C (2016) Noves aportacions al coneixement de la flora al·lòctona de la comarca del Baix Llobregat (Catalunya, Espanya). *Collectanea Botanica* 35: e007. <https://doi.org/10.3989/collectbot.2016.v35.007>
- Anastasiu P, Negrean G, Făgăraș M, Samoilă C, Cogălniceanu D (2009) Constanța harbour (Romania) as a major gateway and reservoir for alien plant species. *Acta Horti Botanici Bucurestiensis* 36: 41-60.
- Balogh L, Dancza I, Király G (2004) A magyarországi neofitonok időszerű jegyzéke, és besorolásuk inváziós szempontból. In: Mihály B, Botta-Dukát Z (Eds) *Biológiai inváziók Magyarországon: Özönnövények*. TermészetBÚVÁR Alapítvány Kiadó, Budapest, 61-92 pp. [ISBN 963 86107 5 1].
- Barina Z (2006) A Gerecse hegység flórájának katalógusa. [Flora of the Gerecse Mountains]. Duna-Ipoly Nemzeti Park Igazgatóság & Magyar Természettudományi Múzeum, Budapest, 612 pp. [ISBN 963 7093 91 5] <https://doi.org/10.13140/2.1.25.12.4166>
- Bartha D, Bán M, Schmidt D, Tiborc V (2023) Magyarország edényes növényfajainak online adatbázisa [Vascular plants of Hungary online database]. <http://floraatlasz.uni-sopron.hu/>. Accessed on: 2023-7-03.
- Bátori Z, Erdős L, Somlyay L (2012) *Euphorbia prostrata* (Euphorbiaceae), a new alien in the Carpathian Basin. *Acta Botanica Hungarica* 54 (3-4): 235-243. <https://doi.org/10.1556/ABot.54.2012.3-4.2>
- Bhat MA, Shakoor SA, Chowdhary P, Badgal P, Mir BA, Soodan AS (2021) Taxonomic description and annotation of *Catapodium rigidum* (L.) C. E. Hubbard (Poaceae: Pooideae, Poeae, Parapholiinae) from Kashmir Himalayas, India. *Vegetos* 34 (3): 692-699. <https://doi.org/10.1007/s42535-021-00223-z>
- Borbás V (1879) *Budapestnek és környékének növényzete*. Magyar Királyi Egyetemi Könyvnyomda, Budapest, 172 pp.
- Celesti-Grapow L, Capotorti G, Del Vico E, Lattanzi E, Tilia A, Blasi C (2013) The vascular flora of Rome. *Plant Biosystems - An International Journal Dealing with all Aspects of Plant Biology* 147 (4): 1059-1087. <https://doi.org/10.1080/11263504.2013.862315>
- Chelariu E (2017) Studies regarding the behaviour of *Chasmanthium latifolium* (Michx.) Yates ornamental species in cropping conditions from Iași county, Romania. *Lucrări Stiințifice Seria Horticultură* 60 (2): 299-304.
- Chocholoušková Z, Pyšek P (2003) Changes in composition and structure of urban flora over 120 years: a case study of the city of Plzeň. *Flora - Morphology, Distribution, Functional Ecology of Plants* 198 (5): 366-376. <https://doi.org/10.1078/0367-2530-00109>
- Csiky J, Baráth K, Csikyné Radnai É, Deme J, Wirth T, Zurdo JA, Kovács D (2018) Pótlások Magyarország edényes növényfajainak elterjedési atlaszához VIII. *Kitaibelia* 23 (2): 238-261. <https://doi.org/10.17542/kit.23.238>
- Csiky J, Balogh L, Dancza I, Gyulai F, Jakab G, Király G, Lehoczky É, Mesterházy A, Pósa P, Wirth T (2023) Checklist of alien vascular plants of Hungary and their invasion biological characteristics. *Acta Botanica Hungarica* 65: 53-72. <https://doi.org/10.1556/034.65.2023.1-2.3>

- Deme J, Palla B, Haszonits G, Csiky J, Baráth K, Kovács D, Zurdo Jorda A, Erzberger P, Wolf M, Papp V, Schmidt D (2019) Taxonomical and chorological notes 9 (94–98). *Studia Botanica Hungarica* 50 (2): 379-389. <https://doi.org/10.17110/studbot.2019.50.2.379>
- Duc NH, Vo AT, Haddidi I, Daood H, Posta K (2021) Arbuscular mycorrhizal fungi improve tolerance of the medicinal plant *Eclipta prostrata* (L.) and induce major changes in polyphenol profiles under salt stresses. *Frontiers in Plant Science* 11: 612299. <https://doi.org/10.3389/fpls.2020.612299>
- Dunkel F (2006) Neues oder Bemerkenswertes zur Flora Bayerns – *Achillea roseoalba*, *Orobanche amethystea* und andere Funde. *Berichte der Bayerischen Botanischen Gesellschaft zur Erforschung der Flora* 76: 151-168.
- Eliáš Jr. P, Májeková J, Hegedúšová K, Dudáš M, Letz D, Mereda Jr. P, Bakay L, Čejka T, Dítě D, Dítě Z, Ďurišová L, Gregorek R, Király G, Mártonfióvá L, Mártonfi P, Spanyol F, Svitková I, Hrivnák R (2023) New alien vascular plants of Slovakia: records from 2008–2021. *BiolInvasions Records* 12 (1): 1-30. <https://doi.org/10.3391/bir.2023.12.1.01>
- Feráková V, Jarolímek I (2010) Bratislava. In: Müller N, Kelcey J (Eds) *Plants and Habitats of European Cities*. Springer, New York, 79-129 pp. [ISBN 978-0-387-89684-7]. https://doi.org/10.1007/978-0-387-89684-7_4
- Gaertner M, Wilson JU, Cadotte M, Maclvor JS, Zenni R, Richardson D (2017) Non-native species in urban environments: patterns, processes, impacts and challenges. *Biological Invasions* 19 (12): 3461-3469. <https://doi.org/10.1007/s10530-017-1598-7>
- Galasso G, Domina G, Andreatta S, Angiolini C, Ardenghi NG, Aristarchi C, Arnoul M, Azzella M, Bacchetta G, Bartolucci F, Bodino S, Bommartini G, Bonari G, Buono S, Buono V, Caldarella O, Calvia G, Corti E, D'Antraccoli M, De Luca R, De Mattia F, Di Natale S, Di Turi A, Esposito A, Ferretti G, Fiaschi T, Fogu M, Forte L, Frigerio J, Gubellini L, Guzzetti L, Hofmann N, Laface VA, Laghetti G, Lallai A, La Rosa A, Lazzaro L, Lodetti S, Lonati M, Luchino F, Magrini S, Mainetti A, Marignani M, Maruca G, Medagli P, Mei G, Menini F, Mezzasalma V, Misuri A, Mossini S, Mugnai M, Musarella C, Nota G, Olivieri N, Padula A, Pascale M, Pasquini F, Peruzzi L, Picella G, Pinzani L, Pirani S, Pittarello M, Podda L, Enri SR, Rifici C, Roma-Marzio F, Romano R, Rosati L, Scafidi F, Scarici E, Scarici M, Spampinato G, Stinca A, Wagensommer R, Zandoni G, Nepi C (2019) Notulae to the Italian alien vascular flora: 8. *Italian Botanist* 8: 63-93. <https://doi.org/10.3897/italianbotanist.8.48621>
- Gilli C, Pachschröll C, Nikfeld H (2019) Floristische Neufunde (305-375). *Neireichia* 10: 197-274. <https://doi.org/10.5281/zenodo.2630545>
- González-Gallegos JG, Castillo-Gómez HA, Fernández-Alonso JL (2017) Discovery of naturalized *Clinopodium nepeta* (Lamiaceae) in Oaxaca and San Luis Potosí, Mexico. *Phytotaxa* 312 (2): 279-286. <https://doi.org/10.11646/phytotaxa.312.2.11>
- Gudžinskas Z (2017) Alien herbaceous plant species new to Lithuania. *Botanica Lithuanica* 23 (1): 33-42. <https://doi.org/10.1515/botlit-2017-0003>
- Güneş Özkan N, Yazlık A (2020) *Polygonum orientale* (≡*Persicaria orientalis*; Polygonaceae) in Turkey re-discovered after 73 years and considerations about its status. *Eurasian Journal of Forest Science* 8: 302-308. <https://doi.org/10.3195/ejejfs.784137>
- Gupta M, Singh S (2010) *Borago officinalis* Linn. An important medicinal plant of Mediterranean region: Review. *International Journal of Pharmaceutical Sciences Review and Research* 5 (1): 27-34.

- Hamzeh'ee B, Alemi M, Attar F, Ghahreman A (2007) *Bromus catharticus* and *Bromus danthoniae* var. *uniaristatus* (Poaceae), two new records from Iran. *Iranian Journal of Botany* 13 (1): 33-36.
- Haszonits G, Molnár C, Sonkoly J, Tóthmérész B, Török P, Tóth E, Gnotek P, Nagy J, Korda M, Ádám S, Malatinszky Á, Riezing N, Jóna Z, Séllei D (2021) Pótlások Magyarország edényes növényfajainak elterjedési atlaszához XIII. *Kitaibelia* 26 (1): 85-88. <https://doi.org/10.17542/kit.26.85>
- Hegedűs Á (1994) Budapest jelenlegi virágos flórája. [The recent flowering vegetation of Budapest]. Animula Kiadó, Budapest, 68 pp. [ISBN 963 8089 49 0]
- Hungarian Central Statistical Office (2023) Budapest kerületeinek adatai. <https://statinfo.ksh.hu/Statinfo/haViewer.jsp>. Accessed on: 2023-5-03.
- Ivashchenko I (2019) Biochemical peculiarities of *Glebionis coronaria* (Asteraceae) introduced in Central Polissya of Ukraine. *Plant & Fungal Research* 1 (1): 32-39. <https://doi.org/10.29228/plantfungalres.47>
- Jeričević M, Jeričević N (2017) *Eclipta prostrata* (L.) L. a new alien species in Croatian flora. *Natura Croatica* 26 (1): 105-109. <https://doi.org/10.20302/NC.2017.26.8>
- Jogan N, Šabić A, Šilc U (2022) Asiatic fern *Cyrtomium fortunei* J. Sm. (Dryopteridaceae) – a new naturalized fern in the flora of Slovenia. *Natura Sloveniae* 24 (1): 31-38. <https://doi.org/10.14720/ns.24.1.31-38>
- Jovanović S, Stojanović V, Lazarevic P, Jelic I, Vukojicic S, Jakovljevic K (2014) Flora of Belgrade surroundings (Serbia) 150 years after Pančić's monograph – a comparative overview. *Botanica Serbica* 38 (2): 201-207.
- Kalusová V, Čeplová N, Chytrý M, Danihelka J, Dřevojan P, Fajmon K, Hájek O, Kalníková V, Novák P, Řehořek V, Těšitel J, Tichý L, Wirth T, Lososová Z (2019) Similar responses of native and alien floras in European cities to climate. *Journal of Biogeography* 46 (7): 1406-1418. <https://doi.org/10.1111/jbi.13591>
- Kim H, Choi T, Son D, Jo H, Lee S (2021) *Sisymbrium irio* L. (Brassicaceae): a new alien plant in Korea. *BiolInvasions Records* 10 (2): 453-466. <https://doi.org/10.3391/bir.2021.10.2.23>
- Király G (Ed.) (2009) Új magyar fűvészkönyv. Magyarország hajtásos növényei. Határozókulcsok. [New Hungarian herbal. The vascular flora of Hungary. Identification keys]. Aggteleki Nemzeti Park Igazgatóság, Jósvalfő, 616 pp. [ISBN 978-963-87082-9-8]
- Király G, Baranyi-Nagy A, Kerekes S, Király A, Korda M (2009) Kiegészítések a magyar adventív-flóra ismeretéhez IV. *Flora Pannonica* 7: 3-31.
- Király G, Alegro A (2015) Re-evaluation of the *Panicum capillare* complex (Poaceae) in Croatia. *Acta Botanica Croatica* 74 (1): 173-179. <https://doi.org/10.1515/botcro-2015-0004>
- Király G, Király A (2018) Adatok és kiegészítések a magyar flóra ismeretéhez III. *Botanikai Közlemények* 105 (1): 27-96. <https://doi.org/10.17716/botkozlem.2018.105.1.27>
- Király G, Hohla M, Süveges K, Hábcenyus AA, Barina Z, Király A, Lukács BA, Türke I, Takács A (2019) Taxonomical and chorological notes 10 (98–110). *Studia Botanica Hungarica* 50 (2): 391-407. <https://doi.org/10.17110/studbot.2019.50.2.391>
- Kocián P (2014) *Linaria pelisseriana* (L.) Mill. – a new alien species in the Czech Republic. *Acta Musei Silesiae, Scientiae Naturales* 63 (3): 283-288. <https://doi.org/10.2478/cszma-2014-0023>

- Kovács D, Mesterházy A (2015) A *Ceratochloa* (DC. et P. Beauv.) Hack. alnemzetség *Bromus* L., Poaceae> hazai története és elterjedése. *Kitaibelia* 20 (1): 44-47. <https://doi.org/10.17542/kit.20.44>
- La Sorte F, Aronson MJ, Williams NG, Celesti-Gradow L, Cilliers S, Clarkson B, Dolan R, Hipp A, Klotz S, Kühn I, Pyšek P, Siebert S, Winter M (2014) Beta diversity of urban floras among European and non-European cities. *Global Ecology and Biogeography* 23 (7): 769-779. <https://doi.org/10.1111/geb.12159>
- 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 (4): 391-420. <https://doi.org/10.23855/preslia.2019.391>
- Lim TK (2014) *Begonia cucullata* var. *cucullata*. In: Lim TK (Ed.) *Edible medicinal and non-medicinal plants*. Volume 7, Flowers. Springer, Dordrecht, 551-555 pp. [ISBN 978-94-007-7394-3]. https://doi.org/10.1007/978-94-007-7395-0_35
- Liu B, Bussmann R, Batsatsashvili K, Kikvidze Z, Akobirshoeva A, Ghorbani A, Kool A (2020) *Achillea asiatica* Serg. *Achillea filipendulina* Lam. *Achillea millefolium* L. *Achillea setacea* Waldst. & Kit. Asteraceae. In: Batsatsashvili K, Kikvidze Z, Bussmann R (Eds) *Ethnobotany of the mountain regions of Central Asia and Altai*. Springer, Cham, 1-11 pp. [ISBN 978-3-319-77087-1]. https://doi.org/10.1007/978-3-319-77087-1_11-1
- Lososová Z, Chytrý M, Tichý L, Danihelka J, Fajmon K, Hájek O, Kintrová K, Kühn I, Lániková D, Otypková Z, Řehořek V (2011) Native and alien floras in urban habitats: a comparison across 32 cities of central Europe. *Global Ecology and Biogeography* 21 (5): 545-555. <https://doi.org/10.1111/j.1466-8238.2011.00704.x>
- Maslo S, Šarić Š (2019) *Datura innoxia* Mill. (Solanaceae), a new alien species in the flora of Bosnia and Herzegovina. *Thaiszia Journal of Botany* 29 (2): 225-230. <https://doi.org/10.33542/tjb2019-2-07>
- Maslo S, Šarić Š (2021) *Erigeron sumatrensis* Retz. (Compositae), a recently recognized invasive alien species in Bosnia and Herzegovina. *Glasnik Hrvatskog Botaničkog Društva* 8 (2): 88-93. <https://doi.org/10.46232/flashbod.8.2.3>
- Maslo S (2022) New locality of Japanese holly fern *Cyrtomium falcatum* (L. f.) C. Presl in Croatia. *Glasnik Hrvatskog Botaničkog Društva* 9 (2): 104-107. <https://doi.org/10.46232/flashbod.9.2.5>
- Mawa S, Husain K, Jantan I (2013) *Ficus carica* L. (Moraceae): phytochemistry, traditional uses and biological activities. *Evidence-Based Complementary and Alternative Medicine* 2013 (3): 974256. <https://doi.org/10.1155/2013/974256>
- McCulloch-Jones E, Kraaij T, Crouch N, Fritz H (2021) The effect of horticultural trade on establishment success in alien terrestrial true ferns (Polypodiophyta). *Biological Invasions* 23: 3583-3596. <https://doi.org/10.1007/s10530-021-02599-0>
- Mesterházy A, Kulcsár L (2015) Kiegészítések a Nyugat-Dunántúl flórájának ismeretéhez. *Kitaibelia* 20 (2): 213-234. <https://doi.org/10.17542/kit.20.213>
- Mesterházy A (2021) A *Cyperus odoratus* Magyarországon. *Kitaibelia* 26 (2): 157-164. <https://doi.org/10.17542/kit.26.157>
- Mokni RE, Verloove F (2021) First appointment of the invasive *Cyperus eragrostis* (Cyperaceae) as an established species in Tunisia. *Flora Mediterranea* 31 (1): 83-88. <https://doi.org/10.7320/flmedit31.083>
- Molnár C, Haszonits G, Malatinszky Á, Süveges K, Balogh L, Nagy T, Horváth S, Hudák K (2018) Pótlások Magyarország edényes növényfajainak elterjedési atlaszához VI. *Kitaibelia* 23 (1): 87-102. <https://doi.org/10.17542/kit.23.87>

- Molnár C, Haszonits G, Pintér B, Korda M, Peregrym M, Nótári K, Malatinszky Á, Toldi M, Beránek Á (2019) Pótlások Magyarország edényes növényfajainak elterjedési atlaszához IX. Kitaibelia 24 (2): 253-256. <https://doi.org/10.17542/kit.24.253>
- Molnár C, Bauer N, Csathó AI, Szigeti V, Schmidt D (2020) Az *Oenothera pycnocarpa* Atk. & Bartl. Magyarországon, és kiegészítések néhány idegenhonos faj hazai elterjedéséhez. Botanikai Közlemények 107 (2): 177-202. <https://doi.org/10.17716/botkozlem.2020.107.2.177>
- Molnár C, Schmidt D, Bauer N (2022) Az *Iris orientalis* Mill. Magyarországon és kiegészítések idegenhonos fajok hazai elterjedéséhez. Botanikai Közlemények 109 (2): 165-200. <https://doi.org/10.17716/botkozlem.2022.109.2.165>
- Monalisa-Francisco N, Ramos FN (2019) Composition and Functional Diversity of the Urban Flora of Alfenas-MG, Brazil. Floresta e Ambiente 26 (3). <https://doi.org/10.1590/2179-8087.111017>
- Mosyakin SL, Yavorska OG (2002) The nonnative flora of the Kiev (Kyiv) urban area, Ukraine: A checklist and brief analysis. Urban Habitats 1 (1): 45-65.
- Nāburga I, Evarts-Bunders P (2019) Status of some escaped ornament perennials in the flora of Latvia. Botanica 25 (2): 131-144. <https://doi.org/10.2478/botlit-2019-0015>
- Niculescu M (2022) *Datura wrightii* Regel. Invasive plant in Oltenia, Romania. Scientific Papers. Series A. Agronomy 65 (2): 403-408.
- Péntes A (1942) Budapest élővilága. Királyi Magyar Természettudományi Társulat, Budapest, 236 pp.
- Péntes A, Csizy F (1956) Budapest élővilága. Társadalom- és Természettudományi Ismeretterjesztő Társulat, Budapest, 137 pp.
- Poindexter DB, Weakley AS, Denslow MW (2011) New exotic additions and other noteworthy records for the flora of North Carolina. Phytoneuron 42: 1-14.
- Potgieter L, Gaertner M, Kueffer C, Larson BH, Livingstone S, O'Farrell P, Richardson D (2017) Alien plants as mediators of ecosystem services and disservices in urban systems: a global review. Biological Invasions 19 (12): 3571-3588. <https://doi.org/10.1007/s10530-017-1589-8>
- Pysek P (1998) Alien and native species in Central European urban floras: a quantitative comparison. Journal of Biogeography 25 (1): 155-163. <https://doi.org/10.1046/j.1365-2699.1998.251177.x>
- Pyšek P, Sádlo J, Chrtek J, Chytrý M, Kaplan Z, Pergl J, Pokorná A, Axmanová I, Čuda J, Doležal J, Dřevojan P, Hejda M, Kočár P, Körtz A, Lososová Z, Lustyk P, Skálová H, Štajerová K, Večeřa M, Vítková M, Wild J, Danihelka J (2022) Catalogue of alien plants of the Czech Republic (3rd edition). Preslia 94 (4): 447-577. <https://doi.org/10.23855/preslia.2022.447>
- Qin Y, Wu J (2013) Seed germination characteristics of ornamental grass *Eragrostis spectabilis* (Poaceae). Plant Diversity and Resources 35 (2): 165-170. [In Chinese]. <https://doi.org/10.7677/ynzwyj201312072>
- Rigó A (2019) Additions to the Distribution atlas of vascular plants of Hungary. Studia Botanica Hungarica 50 (1): 185-224. <https://doi.org/10.17110/studbot.2019.50.1.185>
- Rigó A, Barina Z (2020) Methodology of the habitat classification of anthropogenic urban areas in Budapest (Hungary). Biologia Futura 71: 53-68. <https://doi.org/10.1007/s42977-020-00011-x>
- Sadler J (1840) Flora Comitatus Pesthinensis in uno volumine comprehensa. Apud Kilian et Comp, Pesthini, 499 pp.

- Salinitro M, Alessandrini A, Zappi A, Melucci D, Tassoni A (2018) Floristic diversity in different urban ecological niches of a southern European city. *Scientific Reports* 8 (1): 15110. <https://doi.org/10.1038/s41598-018-33346-6>
- Sanchez-Ken JG, Clark LG (2023) *Chasmanthium*. In: Flora of North America Editorial Committee (Ed.) 1993+. Flora of North America North of Mexico [Online]. 22+ vols. New York and Oxford. Vol. 25. <http://beta.floranorthamerica.org/Chasmanthium>. Accessed on: 2023-8-13.
- Schmidt D (2015) Adatok a Kisalföld flórájának ismeretéhez III. *Botanikai Közlemények* 102 (1-2): 61-84. <https://doi.org/10.17716/botkozlem.2015.102.1-2.61>
- Schmidt D (2019) Vonalas létesítmények mentén terjedő növények Vas megyében. *Vasi Szemle* 73 (2): 160-174.
- Schmidt D (2020) Taxonomical and chorological notes 13 (137). *Studia Botanica Hungarica* 51 (2): 87-90. <https://doi.org/10.17110/studbot.2020.51.2.87>
- Schmidt D, Haszonits G (2021) Adatok a Kisalföld flórájának ismeretéhez IV. *Botanikai Közlemények* 108 (1): 27-42. <https://doi.org/10.17716/botkozlem.2021.108.1.27>
- Schmotzer A (2015) *Ceratocephala testiculata* (Crantz) Rás és további adatok a Bükkalja flórájához. *Kitaibelia* 20 (1): 81-142. <https://doi.org/10.17542/kit.20.81>
- Scholz H (2002) *Panicum riparium* H.Scholz – eine neue indigene Art der Flora Mitteleuropas. *Feddes Repertorium* 113: 273-280. [https://doi.org/10.1002/1522-239x\(200208\)113:3/43.0.co;2-f](https://doi.org/10.1002/1522-239x(200208)113:3/43.0.co;2-f)
- Seregin A, Korniak T (2013) *Allium ramosum* L. (Amaryllidaceae), a neglected alien in the European flora and its oldest record from Poland. *Phytotaxa* 134 (1): 61-64. <https://doi.org/10.11646/phytotaxa.134.1.6>
- Shynder O, Kolomyichuk V, Melezhyk O (2022) Spontaneous flora of O.V. Fomin Botanical Garden of Taras Shevchenko National University of Kyiv, Ukraine. *Environmental & Socio-economic Studies* 10 (1): 38-56. <https://doi.org/10.2478/environ-2022-0004>
- Sierro N, Battey JN, Ouadi S, Bovet L, Goepfert S, Bakaher N, Peitsch MC, Ivanov NV (2013) Reference genomes and transcriptomes of *Nicotiana sylvestris* and *Nicotiana tomentosiformis*. *Genome Biology* 14: R60. <https://doi.org/10.1186/gb-2013-14-6-r60>
- Sogbossi ES, Zakari S, Djego JG (2020) Phytodiversity and spatial development of urban flora in Lokossa, Benin. *International Journal of Natural Resource Ecology and Management* 5 (4): 145-159. <https://doi.org/10.11648/j.ijnrem.20200504.12>
- Solymosi P (2008) Két új termofil pázsítfűfaj jelent meg Magyarországon. *Növényvédelem* 44 (3): 141-142.
- Somlyay L (2011) Adatok Budapest környéke flórájának ismeretéhez. *Kitaibelia* 15 (1-2): 101-108.
- Somlyay L, Makádi S, Csábi M (2016) Adatok Budapest környéke flórájának ismeretéhez II. *Kitaibelia* 21 (1): 33-50. <https://doi.org/10.17542/kit.21.33>
- Somlyay L, Csábi M (2019) Adatok Budapest környéke flórájának ismeretéhez III. *Kitaibelia* 24 (2): 227-237. <https://doi.org/10.17542/kit.24.227>
- Soó R (1968) A magyar flóra és vegetáció rendszertani-növényföldrajzi kézikönyve III. Akadémiai Kiadó, Budapest, 558 pp.
- Soriano I (2014) *Achillea filipendulina* Lam. nueva para Andalucía, más algunas observaciones sobre las *Achillea* andaluzas. *Acta Botanica Malacitana* 39: 295-297. <https://doi.org/10.24310/abm.v39i1.2613>

- Spampinato G, Laface VLA, Posillipo G, Cano Ortiz A, Quinto Canas R, Musarella CM (2022) Alien flora in Calabria (Southern Italy): an updated checklist. *Biological Invasions* 24: 2323-2334. <https://doi.org/10.1007/s10530-022-02800-y>
- Stešević D, Caković D, Jovanović S (2014) The Urban Flora Of Podgorica (Montenegro, SE Europe): Annotated Checklist, Distribution Atlas, Habitats And Life-Forms, Taxonomic, Phytogeographical And Ecological Analysis. *Ecologica Montenegrina* 1 (4): 1-171. <https://doi.org/10.37828/em.2014.1.36>
- Szabó R, Horváth K (2005) Egy ázsiai faj (*Perovskia atriplicifolia* Benth.) a magyar flórában. *Növényvédelem* 41: 9-11.
- Tait C, Daniels C, Hill R (2005) Changes in species assemblages within the Adelaide metropolitan area, Australia, 1836–2002. *Ecological Applications* 15 (1): 346-359. <https://doi.org/10.1890/04-0920>
- Takács A, Wirth T, Schmotzer A, Gulyás G, Jordán S, Süveges K, Virók V, Somlyay L (2020) *Cardamine occulta* Hornem. Magyarországon, és a dísznövénykereskedelem más potyautasai. *Kitaibelia* 25 (2): 195-214. <https://doi.org/10.17542/kit.25.195>
- Tamás J, Vida G, Csontos P (2017) Contributions to the fern flora of Hungary with special attention to built walls. *Botanikai Közlemények* 104 (2): 235-250. <https://doi.org/10.17716/botkozlem.2017.104.2.235>
- Verloove F (2006) Catalogue of neophytes in Belgium (1800-2005). *Scripta Botanica Belgica* 39: 1-89.
- Verloove F (2008) *Datura wrightii* (Solanaceae), a neglected xenophyte, new to Spain. *Bouteloua* 4: 37-40.
- Verloove F, Sánchez Gullón E (2012) New records of interesting vascular plants (mainly xenophytes) in the Iberian Peninsula. II. *Flora Mediterranea* 22: 5-25. <https://doi.org/10.7320/flmedit22.005>
- Walthers M, Figueiredo E, Crouch NR, Winter PJD, Smith GF, Zimmermann HG, Mashope BK (2011) Naturalised and invasive succulents of southern Africa. *ABCtaxa* 11 (1): 1-360.
- Wirth T (2019) Újabb adat a magyarországi adventív flóra ismeretéhez: *Polypogon viridis* (Gouan) Breistr. *Kitaibelia* 24 (2): 165-172. <https://doi.org/10.17542/kit.24.165>
- Wirth T, Csiky J (2020) Contributions to the Hungarian alien flora: *Erigeron bonariensis* L. and *E. sumatrensis* Retz. (Asteraceae) in Hungary. *Botanikai Közlemények* 107 (1): 33-43. <https://doi.org/10.17716/botkozlem.2020.107.1.33>
- Wirth T, Kovács D, Csiky J (2020a) Adatok és kiegészítések a magyarországi adventív flóra kivadult, meghonosodott és potenciális inváziós fajainak ismeretéhez. *Kitaibelia* 25 (2): 111-156. <https://doi.org/10.17542/kit.25.111>
- Wirth T, Fazekas I, Schmidt C, Csiky J (2020b) Spreading to north: naturalisation of *Ficus carica* (Moraceae) in Hungary. *Acta Botanica Hungarica* 62 (1-2): 187-201. <https://doi.org/10.1556/034.62.2020.1-2.12>
- Wirth T, Kovács D, Sebe K, Csiky J (2020c) The vascular flora of Pécs and its immediate vicinity (South Hungary) I.: species richness and the distribution of native and alien plants. *Biologia Futura* 71: 19-30. <https://doi.org/10.1007/s42977-020-00008-6>
- Wirth T, Kovács D, Sebe K, Lengyel A, Csiky J (2020d) Changes of 70 years in the non-native and native flora of a Hungarian county seat (Pécs, Central Europe). *Plant Biosystems* 156 (1): 24-35. <https://doi.org/10.1080/11263504.2020.1829734>

- Wolf M, Király G (2014) *Euphorbia serpens* (Euphorbiaceae), a new alien species in Hungary. *Acta Botanica Hungarica* 56 (1-2): 243-250. <https://doi.org/10.1556/abot.56.2014.1-2.16>
- World Flora Online (2023) WFO Plant List. <https://wfoplantlist.org/plant-list/>. Accessed on: 2023-7-01.
- Zhao J, Ouyang Z, Zheng H, Zhou W, Wang X, Xu W, Ni Y (2009) Plant species composition in green spaces within the built-up areas of Beijing, China. *Plant Ecology* 209 (2): 189-204. <https://doi.org/10.1007/s11258-009-9675-3>
- Zólyomi B (1958) Budapest és környékének természetes növénytakarója. In: Pécsi M (Ed.) *Budapest természeti képe*. Akadémiai Kiadó, Budapest, 509-642 pp.

Supplementary materials

Suppl. material 1: New and noteworthy floristic records from Budapest (materials)

[doi](#)

Authors: Attila Rigó, Ákos Malatinszky, Zoltán Barina

Data type: occurrences, individual count, phenology

Brief description: Materials for the new and noteworthy floristic records found in the urban flora of Budapest between 2018 and 2023. Includes: scientificName = scientific name of the taxon; family; continent; country; county; municipality = districts of Budapest; locality = name of the public place; decimalLatitude; decimalLongitude; eventDate; habitat; individualCount; reproductiveCondition; occurrenceID; recordedBy; identifiedBy

[Download file](#) (42.69 kb)

Suppl. material 2: Inventory of the secondary habitats of the urban, built-up areas of Budapest [doi](#)

Authors: Attila Rigó, Ákos Malatinszky, Zoltán Barina

Data type: residency status, distribution

Brief description: An inventory of the taxa found by the authors in the secondary habitats of the urban, built-up areas of Budapest between 2018 and 2023. Includes: Taxon = scientific name of the taxon; Residency status (abbreviations: ntv = native, arc = archaeophyte, neo = neophyte); Distribution = list of the districts of Budapest where the taxon occurs. Data source: Budapest districts taxon list.

[Download file](#) (42.69 kb)

Suppl. material 3: Budapest districts taxon list [doi](#)

Authors: Attila Rigó, Ákos Malatinszky, Zoltán Barina

Data type: occurrences

Brief description: Taxon list of each 23 districts of Budapest. 1 = the taxon is registered in the district; 0 = the taxon is not registered in the district.

[Download file](#) (96.40 kb)