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TAXONOMICAL AND CHOROLOGICAL NOTES 8 (85–93)

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Abstract: The present part of the series of miscellaneous new records provides the second recent record of *Entodon concinnus* in Hungary and reports *Neckera pennata* for the first time in Zselic (SW Hungary). The third record of *Glandularia ×hybrida*, an escaped ornamental plant and also the second record of *Sporobolus neglectus* a spreading adventive species are given here from Hungary. The report confirms the occurrence of *Sternbergia colchiciflora* from Külső-Somogy region, and old uncertain data of *Bupleurum pachnospermum* from the Western-Mezőföld region. *Parietaria judaica* from Nagykanizsa is the first report of the species in Western Transdanubia. As a result of herbarium revision, the status of *Pyrola media* is re-evaluated as actually missing and probably erroneously reported from Hungary. The occurrence of the adventive *Asarina procumbens* in Budapest is confirmed, amended with the adventive status and phenological information on the species.

Key words: Amaryllidaceae, Apiaceae, Entodontaceae, Hungary, Neckeraceae, Plantaginaceae, Poaceae, Pyrolaceae, Urticaceae

INTRODUCTION

This paper is the eights part of the series launched in *Studia botanica hungarica* focusing on the new chorological records, nomenclature, and taxonomy of plant species from algae to vascular plants and fungi (Barina *et al.* 2015, Papp *et al.* 2016, Takács *et al.* 2016, Csiky *et al.* 2017*b*, Mesterházy *et al.* 2017, Schmidt *et al.* 2018., Matus *et al.* 2018).

MATERIAL AND METHODS

Nomenclature of vascular plants follows KIRÁLY (2009) and The Plant List (2013). Nomenclature of bryophytes follows PAPP *et al.* (2010). Codes of the Central European Flora Mapping grid are in square brackets. Abbreviations of herbaria follow THIERS (2017).

NEW RECORDS WITH ANNOTATIONS

Bryophytes

(85) ***Entodon concinnus*** (De Not.) Paris (Entodontaceae)

Hungary, Pest county, Gödöllői-dombság: Gödöllő town, near the railway station, Żywiec-sétány, park, on sandy soil, 47.59258° N, 19.35762° N, 210 m, [8482.1], leg. & det.: P. Szűcs, (EGR), 31.08.2018, conf. P. Erzberger

Entodon concinnus is a critically endangered (CR) species in Hungary (PAPP *et al.* 2010). A single extant population was known from the country, in the Botanical Garden of Vácrátót (PÓCS *et al.* 2008, PAPP *et al.* 2010). The size of the moss carpet at the new occurrence is about 30 cm^2, without other associated bryophytes. We do not know anything about the origin of either occurrence, but it might be significant that in both cases the species grows in a park, in a somewhat anthropogenic habitat. It seems also interesting that the two sites are only a 16 km distance from one another.

P. Szűcs

(86) ***Neckera pennata*** Hedw. (Neckeraceae)

Hungary, Zala county, Zala Hills, Kerka-vidék (Hetés): between Felsőszenterzsébet and Magyarföld, in deciduous forest near tourist path (blue +), on trunk of *Quercus petraea*, with sporophytes, 46.75814° N, 16.44247° E, 240 m [9264.4]; leg. & det.: P. Erzberger & B. Papp, 28.05.2018 (B-Erzberger 24764, BP 195158).

Hungary, Zala county, Zala Hills, Göcsej: southwest of Keménfa, in the valley of Keresztúri-patak, on trunk of *Populus* sp., 46.81819° N, 16.61278° E, 250 m [9165.4]; leg. & det.:P. Erzberger, 25.03.2019 (B-Erzberger 25883). Patch size approximately 10×10 cm^2, at 120 cm above ground on a trunk of 1 m diameter. Associated bryophytes: *Hypnum cupressiforme, Isothecium alopecuroides, Homalia trichomanoides, Anomodon viticulosus*.

Hungary, Somogy county, Észak-Zselic, Zselicségi Landscape Protection Area: south of Zselickisfalud, in deciduous forest, on trunks of *Quercus*, 46.25247° N, 17.75250° E, 255 m and 46.25403° N, 17.75075° E, 245 m [9772.2]; leg.: P. Erzberger & K. Baráth, det: P. Erzberger, 26.07.2018 (B-Erzberger 25229).

Hungary, Baranya county, on the border of Észak-Zselic and Dél-Zselic, Csillagpark: west of Bőszénfa, in deciduous forest, on 5 trunks of *Quercus robur*, 46.22347° N, 17.78994° E, 250 m [9772.4]; leg. & det.:P. Erzberger & K. Baráth, 28.07.2018 (B-Erzberger 25263, BP 194737) (Fig. 1).

The population in this latter site was examined more closely (Table 1).

Table 1. Population details of *Neckera pennata* in Bőszénfa locality.

no.	lat. (N)	long. (E)	patch size (cm^2)	distance above ground (cm)	trunk diameter (cm)
1	46.22347°	17.78994°	5×3	120	45
2	46.22275°	17.79069°	3×3	90	50
3	46.22267°	17.79086°	10×3	120	80
4	46.22258°	17.79092°	1×3	150	50
5	46.22239°	17.79144°	5×3	160	50

Associated bryophytes were *Leucodon sciuroides, Porella platyphylla, Anomodon attenuatus*, and *Homalia trichomanoides*.

Neckera pennata is listed in the European Red Data book (ECCB 1995) as vulnerable (V), it is protected by law in Hungary and rated as endangered (EN, Papp *et al.* 2010). Papp and Szurdoki (2018) reported recently newly detected stands in Zala county and summarized the knowledge on extant populations. We add here data from four additional locations. In particular the occurrences in Zselic area seem more profuse than other known populations, which tend to be small and scarce. We observed the species mainly on trunks of *Quercus*, but interestingly also on an exotic species of *Populus*.

Fig. 1. *Neckera pennata* Hedw. Zselic, Csillagpark (photo: K. Baráth, 28.07.2018).

Forestry activity remains the most important threat factor, not only by removing suitable or even occupied phorophytes, but also by its negative influence on the forest climate.

P. Erzberger, K. Baráth & B. Papp

Vascular plants

(87) ***Asarina procumbens*** Mill. (Plantaginaceae)

Hungary, Budapest I., southern walls of Buda Castle, 'Nagy rondella', 47.49406° N, 19.04138° E, alt. 140 m [8580.1], 28.04.2019, leg.: Z. Barina, L. Barina & G. Somogyi (BP).

An endemic species of the Pyrenees and also planted sometimes as an ornamental plant. First collected in the above locality by Moesz in 1926 (Priszter 1985: 52), later believed to be extinct (Jeszenszkyné 1996); however rediscovered by Priszter (1959) at the same locality. Priszter (1985: 52) confirmed the presence and spread of the species on the walls of Buda Castle and reported as an escaped species from Budafok. Contemporary and later sources (Soó 1968: 178, Simon 1992, 2000) referred to these few reports of the species and it remained rather unknown in Hungary. Udvardy (1998) listed it as an adventive species linked to special soil conditions. Balogh *et al.* (2004) reported it as a naturalised neophyte in Hungary, but it was missing in Bartha *et al.* (2015). According to Király (2009) it is an ornamental plant escaped in Buda.

Our record confirms the presence of the species in Buda Castle where it is naturalised in a small area. According to the available sources the presence of the species is the result of a single escape from the onetime garden nearby. Its spread beside the walls of Buda Castle has not been experienced and possible further records of the species (Budafok, Buda) are not vouchered and confirmed.

We observed a remarkable difference in the flowering time of the species compared to the actual knowledge. According to Király (2009) it is a late flowering plant, blooming from July to September; however, flowering specimens even at the end of April were observed. We believe that it is the clarification instead of the advance of the species' flowering time.

Z. Barina

(88) ***Bupleurum pachnospermum*** Pančić (Apiaceae)

Hungary, Veszprém county, Mezőföld region, Balatonfőkajár: Somlyó Hill, 47.02751° N, 18.22668° E, alt. ~180–185 m, 07.07.2018 [8975.3]; leg. & det.: N. Bauer, (BP 00030276).

Floristical research carried out in the Western Mezőföld gave many valuable data in the last two decades (Horváth 1998, 2002, Bauer *et al.* 2001, Mészáros 2001, Sonnevend 2001, Bauer & Somlyay 2007, Barina 2008). Somlyó Hill at Balatonfőkajár was also examined by several researchers. Even so, the ro-

bust population (some hundreds of specimens) of *Bupleurum pachnospermum* has been recorded just in mid-summer of 2018. Hiding character of the species probably caused by its phenology. Blooming and producing of the annual plant is typical from early July to early August, which period does not belong to the most intensive intervals of the botanical fieldworks.

Based on the overview of BP herbarium, Somlyay (2005) stated that the westernmost occurrence of *Bupleurum pachnospermum* documented by sheet can be found in the surroundings of Székesfehérvár. Soó (1966) published it also west of Székesfehérvár, but a part of his data is mistaken (e.g. Tihany–Zánka) (presumably came from the misidentification of *B. praealtum* L.). Soó listed 'Papkeszi' situated in the Western Mezőföld among the data of *Bupleurum pachnospermum*. This data was collected by Andor Bartha (see Rédl 1942: "Addenda"). Papkeszi is only 12 km far from the locality at Balatonfőkajár, so it suggests that data formerly doubtful should be right.

Somlyó Hill is outcropped from the loess sediment of Western Mezőföld just on a small patch, the bedrock of the habitat is Silurian mudstone covered in patches by loess (Gyalog & Horváth 2004). On Somlyó Hill, *Bupleurum pachnospermum* grows in a patch of 40–50 square metres of grassland–shrubland habitat mosaic. Many other steppe and forest steppe species were recorded in the studied habitat (e.g. *Allium flavum*, *Artemisia campestris*, *A. pontica*, *Bupleurum affine*, *Convolvulus cantabrica*, *Hypericum elegans*, *Inula germanica*, *Iris pumila*, *Peucedanum alsaticum*, *P. cervaria*, *Prunus fruticosa*, *Rosa spinosissima*, *Silene bupleuroides*, *Taraxacum serotinum*, and *Veronica spicata*).

N. Bauer

(89) ***Glandularia* ×*hybrida*** (Groenland & Rümpler) G. L. Nesom & Pruski (Verbenaceae)

Hungary, Somogy county, between Bőszénfa and Simonfa: at a small parking zone beside the road number 67, in ruderal habitat, 46.26548° N, 17.82707° E, 265 m [8772.2], leg.: K. Baráth & P. Erzberger, 27.07.2018; det.: Z. Barina (photodocumented).

Glandularia ×*hybrida* is of horticultural origin in South America, but occurs in Central and North America, Europe, Asia, and Africa as an adventive. It apparently is of mixed parentage that presumably includes South American *G. incisa*, *G. peruviana*, *G. phlogiflora*, *G. platensis*, and perhaps other species as well (Moldenke 1958, Parodi 1959).

Glandularia ×*hybrida* appears to have been first treated as '*Verveines hybrides*' by E. de Vilmorin (Pruski & Nesom 1992). The name *Verbena hybrida* was later validated by Grönland & Rümpler (1873). Although they provided an illustration, no type specimen was cited and no authentic herbarium material is known to exist (Pruski & Nesom 1992). Since the identity of this hy-

brid species derived from species now placed in the genus *Glandularia*, Pruski & Nesom (1992) proposed the name of *Glandularia* ×*hybrida* (Groenland & Rümpler) G. L. Nesom & Pruski as authentic name for this taxon.

Glandularia ×*hybrida* was considered to be a casual neophytic species in Hungary (Mihály & Botta-Dukát 2004), first mentioned from the country by Priszter (1985). In 2003 it was found in Győr, NW Hungary (Schmidt 2003). We found a blooming and a budding individual in a ruderal habitat about two kilometres far from Simonfa. Associated species in 1 m^2 sized patch were *Achillea millefolium*, *Arrhenatherum elatius*, *Carex hirta*, *Cirsium arvense*, *Cruciata laevipes*, *Elymus repens*, *Gallium mollugo* agg., *Glechoma hederacea*, *Lolium perenne*, *Rubus caesius*, and *Solidago gigantea*.

K. Baráth & P. Erzberger

(90) ***Parietaria judaica*** L. (Urticaceae)

Hungary, Zala county, Zala Hills, Nagykanizsa: within the settlement, Erzsébet square, 46.45754° N, 16.98804° E, alt. ~150 m, 10.04.2015. [9567.2]; leg. & det: N. Bauer & J. Bajzáth, (BP 00031344).

The species was found en masse in the interior part of Nagykanizsa, at the northern edge of Erzsébet square, on the wall of a ruined, crumbling house. This finding fits into both the habitat requirements which seem to be typical in the Mediterranean region and the circumstances of the occurrences revealed in Hungarian urban areas (Budapest: Soó 1970, Somlyay 2011, Szentendre: Csiky 2011, Pécs: Kovács & Wirth 2013, Debrecen: Török 2015). The species is probably present but overlooked in many sites of densely populated towns of Hungary. Its dispersion could be generated by the intensive tourism aiming at the Mediterranean regions.

N. Bauer

(91) ***Pyrola media*** Sw. (Pyrolaceae)

Pyrola media is a Euro-Siberian element that is restricted in the Carpathian Basin to the montane-subalpine regions (Soó 1968). In Austria, it was reported from all federal states excluding Vienna (Fischer *et al.* 2008), however, it has in Burgenland only a single record not confirmed by vouchers (H. Niklfeld pers. comm.). In Slovakia, it is confined to the higher mountains and all reliable records originate far from the border to Hungary (Křísa 1982).

The species was first reported from Hungary by Waisbecker (1891, 1897) from the 'Alsó-erdő' Forest near Kőszeg. Later it was mentioned from two sites on the foot of the Bakony Mts (Soó 1931, Rédl 1942), at one site in the Karancs Mts near Somoskőújfalu (Hulják 1933), and the Vendvidék region near Alsószölnök

(Károlyi *et al.* 1972), respectively. The proper source of the record from the Börzsöny Mts (that was first published by Soó & Jávorka 1951) is unknown, and it was already questioned by Nagy (2007). Finally, it was also listed from more localities in the Pilis Mts by Farkas (1990), however, with question marks. The species was included in all former Hungarian Floras (Jávorka 1925, Soó & Jávorka 1951, Simon 2000), but was assessed as 'data deficient' species in the Hungarian Red list (Király 2007) on account of 'the lack of demonstrative herbarium material', and was considered in the key of Molnár (2009) as a species that needs to be confirmed.

In order to judge clearly the status of *Pyrola media* in Hungary, I tried to get access to the specimens in BP, DE, and SAMU that can be linked to the literature records described above. Here I present the commented list of specimens found in these herbaria identified earlier as *P. media*:

BP 127721: "Bükkhegység fennsíkja, Lustavölgy" [Plateau of Bükk Mts, Lusta Valley], leg.: J. Budai, 1 July 1880. The specimen was first subtitled as *P. media*, but the script was crossed out (by Budai himself?) and replaced by '*P. minor*'. Because the styles are short (*ca* 2 mm long), the specimen is certainly *P. minor*.

BP 127796: "Ó-Huta, Fehérkőlápa fenyveseiben" [Bükk Mts, Ó-Huta, in coniferous forests at Fehérkőlápa], leg.: J. Budai, 24 June 1908. The specimen was first subtitled as *P. media*, but the script was crossed out (by Budai himself?) and replaced by '*P. rotundifolia*', and it was revised later (1961) also by B. Křísa as *P. rotundifolia*. Based on the long, curved styles the specimen is certainly *P. rotundifolia*. Both above specimens from Bükk Mts are listed as *Pyrola* sp. by Vojtkó (2001).

BP 707578: "Kőszeg, Alsó-erdő" [Kőszeg, Alsó-erdő Forest], leg.: A. Waisbecker, 10 June 1892. This sheet is newly mounted, with five plant specimens. The herbarium label is not with the original handwriting of Waisbecker, it is probably a later transcription made by S. Jávorka. One specimen (top left) is obviously different from the others, and it is certainly *P. minor* because the short styles that are included in the flower. The remaining four specimens are in flowering and represent the same taxon. Their flowers are cup-shaped, styles bending downwards, slightly curved, 5–6.5 mm long; sepals lanceolate. Based on these features, the specimens explicitly belong to *P. rotundifolia*.

SAMU, Waisbecker collection, specimen no. BW 1355. "Erdőben Kőszegen" [In a forest near Kőszeg], 10 June 1897, leg.: A. Waisbecker. The label is in handwriting of Waisbecker. It is possible that this specimen originates from the same gathering as those of BP 707578, but the year was changed by an accidental misspelling during the later transcription of the label. The collection consists of two plant specimens, representing the same taxon, at the beginning of the flowering (some upper flowers are still closed). Their lower flowers (that are not more in buds) are cup-shaped, styles bending downwards, slightly curved, 4.5–6 mm long; sepals lanceolate. Based on these features, the specimens explicitly belong to *P. rotundifolia*.

BP 292951: "Vend-vidék, comit. Vas, Dicrano-Pinetum ad Götz-major, pr. pg. Alsószölnök" [Vendvidék region, Vas county, Dicrano-Pinetum near Götz-major, Alsószölnök], leg.: T. Pócs & I. Gelencsér, 22 August 1954. The collection consists of two fruiting stems (without basal leaves), and a complete fruiting specimen, they represent the same taxon. The sheet was originally labelled as *P. media*, and this identification was also confirmed later by a handwritten revision of T. Pócs & M. Balogh. However, this identification is erroneous because the specimens clearly belong to *P. minor* on the basis of the very short styles.

Worthy of note that in the collection of DE that contains most of the collections of R. Soó, no specimens labelled ever as *P. media* from the Bakony Mts were deposited.

In the face of the vertical distribution of *Pyrola media* in the neighbouring countries, its occurrence at lower elevations in Hungary would be strange and it could be accepted only if unequivocal vouchers exist. Since the records of *P. media* from the Bükk Mts, Kőszeg, and Vendvidék regions are explicitly erroneous (they refer either to *P. minor*, or to *P. rotundifolia*), and no supporting collection was found from the other former localities (Bakony, Börzsöny, Karancs, and Pilis Mts), I believe that there is no evidence on the former occurrence of the species in Hungary. Therefore, it should be removed both from the checklist and the list of protected plants in Hungary.

G. Király

(92) ***Sporobolus neglectus*** Nash (Poaceae)

Hungary, Veszprém county, Bakony Mts, 2.8 km N–NW of Tótvázsony, among pubescent oak stands, in semi-natural open dry grasslands on dolomite, 47.03325° N, 17.76187° E, 343 m; leg.: G. Király & Sz. Veres, 20. 09. 2018 (BP 00013800).

Sporobolus neglectus, a representative of the diverse genus 'dropseed', is native to the central and Atlantic United States (Peterson *et al.* 2007). The species was found for the first time in Europe in the 1950s in Slovenia, but due to confusions with the related *S. vaginiflorus* the precise date of the introduction is unclear. It probably was brought to Europe by American military troops with animal fodder or other crops (Jogan 2017). Later it was recorded – in chronological order – in Croatia (Marković 1973), Italy (Melzer 1981), France (Prost 1991), Austria (Melzer 1994), and Switzerland (Tinner 2013), in all countries its invasion was mainly connected to traffic lines (Hohla 2014, Jogan 2017). In Hungary, it was first reported from an isolated secondary sandy grassland near the Drava River, its stand established here supposedly due to wild game feeding and subsequent naturalization (Király 2016). At the new locality in the Bakony Mts, it spreads along an approx. 100 m long section of a path in a species-rich but slightly disturbed open dry grassland on dolomite. This occurrence is, similarly to that at the Drava River, most likely also a consequence of wild game feeding

with cereals. Although it showed a higher abundance (more thousand specimens at different state of development) at the site, we do not expect a (from nature conservational point of view) dangerous expansion in similar habitats of the region.

G. Király & Sz. Veres

(93) ***Sternbergia colchiciflora*** Waldst. & Kit. (Amaryllidaceae)

Hungary, Somogy county, Külső-Somogy region, Balatonföldvár: 'Magaspart', 46.84831° N, 17.87335° E, alt. ~145 m, 13.09.2015. [9173.3]; leg. & det: N. Bauer (BP 00019546).

Data of *Sternbergia colchiciflora* recorded in the area of Külső-Somogy (herb. Á. Boros, 03.09.1952., "Látrány pr. Lengyeltóti" BP 413345; Boros 1970) has not been confirmed for several decades (see Bartha *et al.* 2015). In the interior of Balatonföldvár, along the 'Kelta' walkway lying on the plateau of a bluff, some hundred specimens were found in a small xerothermic oak forest patch (characteristic and interesting species of the habitat are: *Allium oleraceum*, *Bupleurum falcatum*, *Chamaecytisus austriacus*, *Cotinus coggygria*, *Elymus hispidus*, *Fragaria viridis*, *Fraxinus ornus*, *Euphorbia epithymoides*, *E. glareosa*, *Iris variegata*, *Medicago falcata*, *Quercus pubescens*, and *Veronica austriaca*). The natural part of the forest remains is a quite small patch, the largest proportion of the habitat occurs on degraded, secondary surfaces with non-native species, like *Pinus nigra*, *Celtis occidentalis*, *Juglans regia*, *Ailanthus altissima*, *Lycium barbarum*. The newest results on habitat requirements of the species confirmed that it tolerates disturbing and slight modification of the habitat (see Molnár *et al.* 2018). I am sure that the published one is a natural population. Furthermore, it is almost particular that the species occurs in other xerothermic oak forest fragments of Külső-Somogy.

N. Bauer

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Összefoglaló: Regionális adatokat közlő rovatunk jelen részében beszámolunk a kipusztulás közelébe került *Entodon concinnus* nevű mohafaj második aktuálisan ismert hazai populációjának előkerüléséről és a tollas függönymoha (*Neckera pennata*) elsőként jelzett zselici előfordulásairól. Harmadik hazai jelzését adjuk a dísznövényként termesztett és kiszökött kerti vasfűnek (*Glandularia ×hybrida*), valamint szintén a második adatát a behurcolt és terjedőben levő *Sporobolus neglectus*-nak. Megerősítjük a vetővirág (*Sternbergia colchiciflora*) előfordulását a Külső-Somogyból, valamint közöljük a deres buvákfű (*Bupleurum pachnospermum*) bizonytalan, régi adatának (Papkeszi) közeléből a faj kis populációját a Nyugat-Mezőföldről. Az ágas falgyom (*Parietaria*

judaica) nagykanizsai előfordulásával a faj Nyugat-Dunántúlról is előkerült. Herbáriumi revíziók eredményeként kimutattuk, hogy a közepes körtike (*Pyrola media*) nem fordul elő hazánkban, feltehetőleg minden korábbi magyarországi jelzése téves. Beszámolunk az adventív kereklevelű oroszlánszáj (*Asarina procumbens*) hazai előfordulásáról, megerősítve azt Budapesten, kiegészítve ezt a faj virágzásában megfigyelt jelentős eltéréssel az aktuális határozókönyvi adatokhoz képest.

REFERENCES

Balogh L., Dancza I. & Király G. (2004): *A magyarországi neofitonok időszerű jegyzéke és besorolásuk inváziós szempontból.* [Actual list of neophytes in Hungary and their classification according to their success]. – In: Mihály B. & Botta-Dukát Z. (eds): Biológiai inváziók Magyarországon: Özönnövények, pp. 61–92. A KvVM Természetvédelmi Hivatalának tanulmánykötetei 9, TermészetBÚVÁR Alapítvány Kiadó, Budapest.

Barina Z. (2008): Adatok a Dunántúli-középhegység és környéke flórájához. (Data on the flora of Hungarian Middle Mountains and neighbouring regions). – *Flora Pannonica* **6**: 3–23.

Barina Z., Benedek L., Boros L., Dima B., Folcz Á., Király G., Koszka A., Malatinszky Á., Papp D., Pifkó D. & Papp V. (2015): Taxonomical and chorological notes 1 (1–19). – *Studia bot. hung.* **46**(2): 205–221. https://doi.org/10.17110/studbot.2015.46.2.205

Bartha D., Király G., Schmidt D., Tiborcz V., Barina Z., Csiky J., Jakab G., Lesku B., Schmotzer A., Vidéki R., Vojtkó A. & Zólyomi Sz. (eds) (2015): *Magyarország edényes növényfajainak elterjedési atlasza.* – Nyugat-Magyarországi Egyetem Kiadó, Sopron, 329 pp.

Bauer N. & Somlyay L. (2007): A Sisymbrium polymorphum (Murray) Roth. és más florisztikai adatok a Nyugat-Mezőföldről. (Sisymbrium polymorphum (Murray) Roth. and other data to the flora of the Mezőföld region (Central Hungary)). – *Kitaibelia* **12**(1): 52–55.

Bauer N., Kenyeres Z. & Mészáros A. (2001): A berhidai Koldustelek löszvölgyének flórája és vegetációja (Veszprém megye). – *Folia Mus. Hist.-Nat. Bakonyiensis* **17**: 65–86.

Boros Á. (1970): Florisztikai közlemények V. – *Bot. Közlem.* **57**(1): 69–72.

Csiky J. (2011): Parietaria diffusa Mert. et W. D. J. Koch előfordulása Szentendrén. – *Kitaibelia* **15**: 85.

Csiky J., Kovács D., Deme J., Takács A., Óvári M., Molnár V. A., Malatinszky Á., Nagy J. & Barina Z. (2017): Taxonomical and chorological notes 4 (38–58). – *Studia bot. hung.* **48**(1): 133–144. https://doi.org/10.17110/studbot.2017.48.1.133

ECCB (1995): *Red data book of European bryophytes.* – European Committee for Conservation of Bryophytes, Trondheim, 291pp.

Farkas S. (ed.) (1999): *Magyarország védett növényei.* – Mezőgazda Kiadó, Budapest, 416 pp.

Fischer M. A., Adler W. & Oswald K. (2008): *Exkursionsflora für Österreich, Liechtenstein und Südtirol* (3rd ed.). – Land Oberösterreich, OÖ Landesmuseen, Linz, 1392 pp.

Grönland J. & Rümpler T. (1873): *Vilmorin's illustrierte Blümengärtnerei.* – Wiegandt, Hempel and Parey, Berlin, 1365 pp.

Gyalog L. & Horváth I. (2004): *A Velencei-hegység és a Balatonfő földtana. Geology of the Velence Hills and the Balatonfő.* – Magyar Állami Földtani Intézet, Budapest, 316 pp.

Hohla M. (2014): Hystrix patula – neu für Österreich, sowie weitere Beiträge zur Flora von Oberösterreich, Salzburg, Steiermark und Vorarlberg. – *Stapfia* **101**: 83–100.

Horváth A. (1998): A mezőföldi fátlan löszvegetáció florisztikai és cönológiai jellemzése. – *Kitaibelia* **3**(1): 91–94.

Horváth A. (2002): *A mezőföldi löszvegetáció términtázati szerveződése.* – Scientia Kiadó, Budapest, 174 pp.

Hulják J. (1933): A Micromeria rupestris Wulf. a Bélkőn és néhány érdekesebb adat a Magyar Középhegység flórájából. – *Magyar Bot. Lapok* **32**: 77–83.

Jávorka S. (1925): *Flora Hungarica*. – Studium, Budapest, 1307 pp.
Jeszenszkyné Bucsi É. (1996): Szemelvények a budai királyi kertek történetéből. – *Tanulmányok Budapest múltjából* **25**: 325–335.
Jogan N. (2017): Spread of Sporobolus neglectus and S. vaginiflorus (Poaceae) in Slovenia and neighbouring countries. – *Bot. Serbica* **41**: 249–256. https://doi.org/10.5281/zenodo.1026555
Károlyi Á., Pócs T. & Balogh M. (1972): Délnyugat-Dunántúl flórája V. – *Acta Acad. Paed. Agr.* **10**: 373–400.
Király G. (2016): An invader at the edge of the world: Sporobolus neglectus (Poaceae) discovered at a remote locality in Hungary. – *Studia bot. hung.* **47**(2): 335–344. https://doi.org/10.17110/StudBot.2016.47.2.335
Király G. (ed.) (2007): *Red list of the vascular flora of Hungary*. – Lővér Print, Sopron, 73 pp.
Kovács D. & Wirth T. (2013): A Telekia speciosa (Schreb.) Baumg. és a Parietaria diffusa Mert. et W. D. J. Koch előfordulása Pécsett. – *Kitaibelia* **18**: 183–184.
Křísa B. (1982). *Pyrolaceae Dumort*. – In: Futák J. & Bertová L. (eds): Flora Slovenska III. VEDA, Bratislava, pp. 314–332.
Marković L. (1973): Sporobolus neglectus Nash, nova adventivna vrsta Jugoslavije. [Sporobolus neglectus Nash, a new alien species in the flora of Yugoslavia]. – *Acta Bot. Croatica* **32**: 237–242.
Matus G., Csiky J., Bauer N., Baráth K., Vasuta G., Barabás A., Hricsovinyi D., Takács A., Antal K., Budai J., Erzberger P., Molnár P. & Barina Z. (2018): Taxonomical and chorological notes 7 (75–84). – *Studia bot. hung.* **49**(2): 83–94. https://doi.org/10.17110/studbot.2018.49.2.83
Melzer H. (1981): Neues zur Flora von Kärnten und dem angrenzenden Süden. – *Carinthia II* **171/91**: 103–114.
Mesterházy A., Matus G., Király G., Szűcs P., Török P., Valkó O., Pelles G., Papp V. G., Virók V., Nemcsok Z., Rigó A., Hohla M. & Barina Z. (2017): Taxonomical and chorological notes 5 (59–70). – *Studia bot. hung.* **48**(1): 263–275. https://doi.org/10.17110/studbot.2017.48.2.263
Mészáros A. (2001): Adatok a Veszprém megyei Mezőföld flórájához I. – *Folia Mus. Hist.-Nat. Bakonyiensis* **17**: 55–64.
Mihály B. & Botta-Dukát Z. (eds) (2004): *Özönnövények. Biológiai inváziók Magyarországon*. – Természetbúvár Alapítvány, Budapest, 408 pp.
Moldenke H. N. (1958): Hybridity in the Verbenaceae. – *Amer. Midl. Naturalist* **59**: 333–370.
Molnár V. A. (2009): *Pyrolaceae*. – In: Király G. (ed.): Új magyar füvészkönyv. Magyarország hajtásos növényei. Határozókulcsok. Aggteleki Nemzeti Park Igazgatóság, Jósvafő, pp. 320–321.
Molnár V. A., Mészáros A., Csathó A. I., Balogh G., Takács A., Löki V., Lovas-Kis Á., Tökölyi J., Somlyay L. & Bauer N. (2018): Distribution and reproduction success of the rare, dry grassland specialist Sternbergia colchiciflora (Amaryllidaceae) in Pannonian graveyards. – *Tuexenia* **38**: 371–384. https://doi.org/10.14471/2018.38.015
Nagy J. (2007): *A Börzsöny hegység edényes flórája*. – Duna–Ipoly Nemzeti Park Igazgatóság tanulmánykötetei 2, Duna–Ipoly Nemzeti Park Igazgatóság, Budapest, 378 pp.
Papp B. & Szurdoki E. (2018): Bryophyte flora of the forests of Vétyem and Oltárc protected areas (Zala county, W Hungary). – *Studia bot. hung.* **49**(1): 83–96. https://doi.org/10.17110/studbot.2018.49.1.83
Papp B., Erzberger P., Ódor P., Hock Zs., Szövényi P., Szurdoki E. & Tóth Z. (2010): Updated checklist and redlist of Hungarian bryophytes. – *Studia bot. hung.* **41**: 31–59.
Papp V., Király G., Koscsó J., Malatinszky Á., Nagy T., Takács A. & Dima B. (2016): Taxonomical and chorological notes 2 (20–27). – *Studia bot. hung.* **47**(1): 179–191. https://doi.org/10.17110/studbot.2016.47.1.179

Parodi L. R. (1959): *Enciclopedia Argentina de Agricultura y Jardinería. Vol. I. Descripción de las plantas cultivadas.* – S.A.C.I., Buenos Aires, 931 pp.

Peterson P. M., Hatch S. L. & Weakley A. S. (2007): *Sporobolus R. Br.* – In: Barkworth M. E., Anderton L. A., Capels K. M., Long S. & Piep M. B. (eds): Manual of grasses for North America. Intermountain Herbarium and Utah State University Press, Logan, Utah, pp. 212–217.

Pócs T., van Zanten B. O. & Erzberger P. (2008): Entodon concinnus (De Not.) Paris. – In: Blockeel T. L. (ed.): New national and regional bryophyte records, 18. *J. Bryol.* **30**: 163. https://doi.org/10.1179/174328208X282463

Priszter Sz. (1959): Megjegyzések adventív növényeinkhez. – *Bot. Közlem.* **48**(1–2): 265–277.

Priszter Sz. (1985): *Synopsis systematico-geobotanica florae vegetationisque Hungariae VII.* – Akadémiai Kiadó, Budapest, 682 pp.

Prost J.-F. (1991): Une graminee nouvelle dans L'Aine. – *Le Monde des Plantes* **84/442**: 30.

Pruski F. J. & Nesom L. G. (1992): Glandularia ×hybrida (Verbenaceae), a new combination for a common horticultural plant. – *Brittonia* **44**(4): 494–496. https://doi.org/10.2307/2807200

Rédl R. (1942): *A Bakonyhegység és környékének flórája.* – Egyházmegyei Könyvnyomda, Veszprém, 159 pp.

Schmidt D. (2003): *Verbena hybrida Voss.* – In: http://floraatlasz.uni-sopron.hu/ (accessed: 06.05.2019)

Schmidt D., Csiky J., Matus G., Balogh R ., Szurdoki E., Höhn M., Ábrán P., Buczkó K. & Lőkös L. (2018): Taxonomical and chorological notes 6 (71–74). – *Studia bot. hung.* **49**(1): 121–130. https://doi.org/10.17110/studbot.2018.49.1.121

Simon T. (1992): *A magyarországi edényes flóra határozója.* – Tankönyvkiadó, Budapest, 892 pp.

Simon T. (2000): *A magyarországi edényes flóra határozója.* – Tankönyvkiadó, Budapest, 976 pp.

Somlyay L. (2005): A Budai-hegység florisztikai növényföldrajzának fő vonásai. – *Kitaibelia* **14**(1): 35–68.

Somlyay L. (2011): Adatok Budapest környéke flórájának ismeretéhez. – *Kitaibelia* **15**: 101–108.

Sonnevend I. (2001): Tatárjuharos-lösztölgyes maradványok a Nyugat-Mezőföldön (előzetes közlemény). – *Kitaibelia* **6**(2): 377–380.

Soó R. (1931): Adatok a Balatonvidék vegetációjának ismeretéhez III. – *A Magyar Biológiai Intézet Munkái* **4**: 293–319.

Soó R. (1966): *Synopsis systematico-geobotanica florae vegetationisque Hungariae II.* – Akadémiai Kiadó, Budapest, 655 pp.

Soó R. (1968): *Synopsis systematico-geobotanica florae vegetationisque Hungariae III.* – Akadémiai Kiadó, Budapest, 506 + 51 pp.

Soó R. (1970): *Synopsis systematico-geobotanica florae vegetionisque Hungariae IV.* – Akadémiai Kiadó, Budapest, 614 pp.

Soó R. & Jávorka S. (1951): *A magyar növényvilág kézikönyve I–II.* – Akadémiai Kiadó, Budapest, 1120 pp.

Takács A., Baráth K ., Csiky J., Csikyné R. É., Király G., Nagy T., Papp V., Schmidt D., Tamási B. & Barina Z. (2016): Taxonomical and chorological notes 3 (28–37). – *Studia bot. hung.* **47**(2): 345–357. https://doi.org/10.17110/studbot.2016.47.2.345

Tinner, U. (2013): Zwei neue Grasarten im St. Galler Rheintal: Sporobolus vaginiflorus und Sporobolus neglectus. – *Bauhinia* **24**: 53–56.

Török P. (2015): Az adventív ágas falgyom (Parietaria judaica) újabb előfordulási adata Debrecenből. – *Kitaibelia* **20**(2): 304–305.

Udvardy L. (1998): Classification of adventives dangerous to the Hungarian natural flora. – *Acta Bot. Hung.* **41**(1–4): 315–331.

Vojtkó A. (2001): *A Bükk hegység flórája.* – Sorbus 2001, Eger, 340 pp.

Waisbecker A. (1891): *Kőszeg és vidékének edényes növényei* (2nd ed). – Kilián, Kőszeg, 80 pp.

Waisbecker A. (1897): Beiträge zur Flora des Eisenburger Comitates. – *Öst. Bot. Zeitschr.* **47**: 4–9.