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NEW LOCALITIES OF PROTECTED AND RARE PLANTS IN SOUTHERN HUNGARY

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Abstract. Data on protected and rare plants may be important from a nature conservation point of view, and can be used to secondary data analysis, to reveal broad-scale spatial patterns. As recent publications indicate, several floristic novelties can be found even in well-studied areas. In this article, we give data about occurrences of 28 species, among them 19 protected and 3 strictly protected ones. The focus of the paper is on the Maros-angle and the Villány Mts, but other areas from South Hungary are also represented. In two cases, coenological relevés are also provided. Knowledge on the localities of the strictly protected *Astragalus dasyanthus*, *Ephedra distachya* and *Ophrys sphegodes* reported here, accompanied by localities of other protected and rare species may be used for designating protected areas and performing more effective conservation measures.

Keywords: *Astragalus dasyanthus*, *Ephedra distachya*, *Ophrys sphegodes*, floristic data, Maros-angle, Villány Mts

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Introduction

Although data on new localities of plant species are often neglected, they play an important role in nature conservation, and can be used in revealing broad-scale spatial patterns (Horváth 1997, Király 2005, Molnár V. 2005, Fekete 2010). Recent publications suggest that there are several unknown occurrences of plants, even in well-studied areas, and even for the relatively well-known taxa (e.g. Pensza and Malatinszky 2010, Erdős et al. 2011, Riezing 2012). In the present paper, we give data about occurrences of 28 species, including 22 protected and strictly protected ones. We also provide some coenological relevés.

Methods

Species are listed in alphabetical order in this article. All localities are given according to the small landscape units of Hungary (Marosi and Somogyi 1990), and according to settlements as well. Topographic maps were used to give local geographic names. Codes of the Central European Flora Mapping System (CEU) are given in brackets

(Király and Horváth 2000). Nomenclature follows Simon (2000). For the small landscape units, we used the following abbreviations:

B: Bugac-sand ridge
D: South-Tisza-valley
DM: Dorozsma-Majsa sand ridge
I: Illancs
M: Maros-angle
NH: Nyárad-Harkány-plain
V: Villány Mts

Results

Asplenium javorkeanum VIDA

NH: Nagyharsány (on a stonewall in the village) [0176.3]. It occurs on some parts of the neighbouring Villány Mts (Bátor et al. 2010, Erdős et al. 2011), thus it can be assumed that the species arrived from the nearby Mt Szársomlyó.

Asplenium scolopendrium L.

D: Szeged (on the wall of the Bolyai-building of the university, under a gutter) [9786.4]. It has not been known from Szeged before, although some

ferns have been reported from the city, from unusual habitats: *Pteridium aquilinum* from stone-walls (Lányi 1915) and *Dryopteris carthusiana* from a tree hollow in Újszeged (Timár 1948).

Astragalus dasyanthus PALL.

DM: Kisszállás (Jánosteleki-forest, in open sand grasslands) [9783.2]. The investigated population is taxonomically problematic. Only a small proportion of the individuals could be identified as typical *Astragalus dasyanthus* according to the species identification keys (cf. Bátori et al. 2011). Presumably, most individuals are hybrids of *Astragalus dasyanthus* and *Astragalus exscapus*. Location of the two parent species have been known from the region (Szujkó-Lacza et al. 1993). Other valuable, protected plants occurring in the grasslands are *Achillea ochroleuca*, *Adonis vernalis*, *Alkanna tinctoria*, *Colchicum arenarium*, *Centaurea arenaria*, *Corispermum nitidum*, *Dianthus serotinus*, *Gypsophila fastigiata*, *Iris humilis* ssp. *arenaria*, *Onosma arenaria*, *Stipa borysthena*, *Vinca herbacea*.

Botrychium lunaria (L.) SW. in SCHRAD.

DM: Ásotthalom (Emlékerdő, under hawthorn shrubs and white poplar trees) [9784.4] (K. Lukács and G. Pászty, ined.). It has not been reported from Ásotthalom previously (cf. Lányi 1915, Lengyel 1915, Bodrogekőzy 1957, Farkas 1999). According to Király (2009), it is rare on the Great Hungarian Plain, but Farkas (1999) states that new localities are expected to be discovered. Coenological relevé: A1 (%): *Populus alba* 15; B (%): *Crataegus monogyna* 80, *Ligustrum vulgare* 1, *Populus alba*: 20; A1 + B cover (%): 90; A1 height (m): 15; B height (m): 4; C (%): *Achillea* sp. 0.1, *Anthriscus cerefolium* 0.1, *Asparagus officinalis* 0.1, *Berberis vulgaris* 0.1, *Botrychium lunaria* 0.1, *Bromus sterilis* 2, *Calamagrostis epigeios* 0.1, *Carex liparicarpos* 3, *Celtis occidentalis* 0.1, *Chondrilla juncea* 0.1, *Crataegus monogyna* 0.5, *Cynoglossum officinale* 0.1, *Dactylis polygama* 0.1, *Eryngium campestre* 0.1, *Euphorbia cyparissias* 0.1, *Fallopia convolvulus* 0.1, *Festuca valesiaca* 15, *Galium aparine* 0.1, *Galium verum* 0.1, *Hedera helix* 0.1, *Ligustrum vulgare* 1, *Myosotis stricta* 0.1, *Phleum phleoides* 0.1, *Poa pratensis* agg. 0.1, *Populus alba* 0.1, *Potentilla arenaria* 0.1, *Quercus robur* 0.1, *Rhamnus catharticus* 0.5, *Salvia pratensis* 0.1, *Scirpoides holoschoenus* 0.1, *Seseli* sp. 1, *Silene latifolia* ssp. *alba* 0.1, *Stellaria media* 0.1, *Taraxacum officinale* 0.5, *Thymus pannonicus* 0.1, *Tragopogon* sp. 0.1, *Verbascum lychnitis* 0.1, *Viola rupestris* 0.1; C cover (%): 30; C height (cm): 25; date: 24.05.2011. Relevé

was made by K. Baráth., Z. Bátori and L. Erdős. Size: 5 m × 5 m.

V: Máriagyúd (Mt Tenkes, near the blue tourist route, two specimens in 2010, three specimens in 2012) [0175.2] (A. Mészáros, ined.). It has not been known from the Villány Mts (cf. Dénes 2000).

Cephalanthera rubra (L.) RICH.

DM: Kisszállás (Jánosteleki-forest, in a sand poplar forest, about 25 specimens) [9783.2]. It has not been mentioned from the area previously (Szujkó-Lacza et al. 1993).

Clematis integrifolia L.

M: Szeged (on the dike, near the mouth of River Maros, abundant) [9787.3]. It was reported from the same locality by J. Erdős (in Soó and Máthé 1938).

Crocus reticulatus STEV.

DM: Kisszállás (Jánosteleki-forest, in the edges of black locust and poplar plantations, several hundred individuals) [9783.2]. It is not rare on the southern part of the Danube-Tisza Interfluvium Area (Farkas 1999).

Dryopteris filix-mas (L.) SCHOTT

B: Bugacpusztaháza (Deszkás-dűlő, in a pine plantation) [9384.1]. It is relatively rare on the Great Hungarian Plain (Szerdahelyi 1999, Simon 2000).

Ephedra distachya L.

I: Hajós (former shooting range of the Hungarian Army, a few hundred individuals in a small patch) [9681.1]. Szalczer and Szalczer (2009) reported the species in the same CEU-quadrat, about 2 km from the cellars of Hajós away, on a small sand dune surrounded with tree plantations; that locality is not identical with the occurrence on the former shooting range. The species is rare in the region and in the whole Carpathian basin as well (Szujkó-Lacza et al. 1993, Dobay 1999). It is assumed that military activity supported the species by creating and maintaining open sand surfaces (cf. Dobay 1999). Due to the decline of the species, every new locality can be important from a nature conservation perspective (Dobay 1999).

Euphorbia maculata L.

M: Szeged (abundant in the park of the biological building of the university) [9787.3]. It is established in Szeged (Timár 1948).

Galanthus nivalis L.

V: Csarnóta (Mt Kis, near to a deserted wine-cellar cottage, abundant) [0175.1]. It is likely that the

population was planted, as it is restricted to the area around the cottage. Other localities in the Villány Mts are listed in Erdős et al. (2011).

Helleborus odoratus W. et K. f. *purpureiformis* HORV.

V: Diósvizsló (Cserkő-dűlő, near the forester's lodge) [0174.2], Villány (Mt Somsich) [0176.2]. Only one specimen in both locality. Horváth (1942) mentions this form only from the Mecsek Mts.

Iris spuria L.

M: Magyarcsanád (Bekai-meadow, on a hay-meadow) [9889.2]. Neither Dragulescu (1995) nor Farkas (1999) mentioned it from the lower section of River Maros, but Penksza et al. (2001) listed it among the protected plants of the area. Coenological relevé: *Allium* sp. 0.1, *Alopecurus pratensis* 5, *Capsella bursa-pastoris* 1, *Carex distans* 0.1, *Carex praecox* 25, *Cirsium arvense* 0.1, *Convolvulus arvensis* 1, *Elymus repens* 40, *Galium verum* 25, *Geranium pusillum* 0.1, *Iris spuria* 15, *Lactuca serriola* 0.5, *Lamium amplexicaule* 1, *Myosotis arvensis* 5, *Ornithogalum umbellatum* 0.1, *Poa pratensis* agg. 10, *Rumex* sp. 0.1, *Taraxacum officinale* 0.1, *Valerianella locusta* 0.1, *Veronica arvensis* 0.1, *Vicia angustifolia* 5; cover (%): 110; height (cm): 90; date: 16.05.2012. Relevé was made by Z. Bátori and L. Erdős. Size: 2 m × 2 m.

Jovibarba globifera (L.) J. PARNELL ssp. *hirta* (L.) J. PARNELL

V: Csarnóta-Harkány (Mt Nagy, in an open rock sward) [0175.1]. Lehmann (1975) mentioned the species from Mt Szársomlyó, based on the notes of Zs. L. Vöröss, but this occurrence was never confirmed later. Thus the Mecsek Mts were considered its only locality in the region (cf. Farkas 1999, Király 2009). It is possible that it was planted to Mt Nagy, as *Opuntia* individuals live in the immediate proximity.

Lamium album L.

M: Magyarcsanád (in a willow-poplar forest of River Maros near Bökény) [9889.4]. It is rare on the Great Hungarian Plain (Simon 2000), its nearest known locality is Csordajárás next to Makó (Makra 2002).

Marchantia polymorpha L. emend BURGEFF.

M: Deszk (on the Maros bank, on open soil surface) [9787.4]. Although it is wide-spread in most of the Carpathian basin (Hazslinszky 1885), it is rare on the Great Hungarian Plain, occurring mostly in artificial habitats (Soó 1964, Orbán és Vajda 1983).

Ophrys sphegodes MILL.

V: Harkány (Mt Nagy, 60 specimens) [0175.1]. From the Villány Mts, it was known from the Csukma-dűlő near Siklós (Dénes 1996, also see Kevey 2004).

Orchis morio L.

V: Csarnóta-Harkány (Mt Kis, 4 specimens) [0175.1]. Formerly, it was known from the Felső-legelő near Máriagyúd and from the Akasztófa-hill near Siklós (Dénes 1996).

Orchis tridentata SCOP.

V: Csarnóta-Harkány (in the shrubforests of Mt Nagy) [0175.1]. It was reported from the following localities in the Villány Mts previously: Mt Tenkes (Kevey 1980), Felső-legelő, Mt Fekete, Mt Szársomlyó, Akasztófa-hill, Csukma-dűlő (Dénes 1996), and Szabolcsi-dűlők near Máriagyúd (Erdős et al. 2010).

Polygonatum latifolium (JACQ.) DESF.

V: Villány (northern slope of Mt Templom, in a degraded oak-hornbeam forest) [0176.2]. It is sporadic in the Villány Mts (Erdős et al. 2011).

Prunus padus L.

V: Villány (northern slope of Mt Templom, in a degraded oak-hornbeam forest) [0176.2]. It has not been reported from the Villány Mts (cf. Horvát 1942, Lehmann 1975, Dénes 2000).

Ranunculus ficaria L.

M: Deszk [9787.3, 9787.4], Maroslele [9787.4] (N. Darányi, ined.), Szeged [9787.1, 9787.3] (along River Maros, in willow-poplar forests and hybrid poplar plantations and oak plantations). It is sporadic along the river (Soó and Máthé 1938).

Ruscus aculeatus L.

V: Csarnóta (Mt Nagy, in the black locust plantation of the northern slope) (Kovács and Erdős, ined.) [0175.1], Villány (in the Deák Ferenc street and in the park of the student hostel of the Teleki Vocational School) (Kovács and Erdős, ined.) [0176.2]. It is wide-spread in the Villány Mts, its known localities are listed in Kevey and Bartha (2010).

Salvinia natans L.

M: Szeged (near the mouth of River Maros, in the inundated area) [9787.3] (D. Tolnay and L. Erdős, ined.). It was known from this section of River Maros (Gaskó 1999), as well as from Algyő (Kovács F. in Soó and Máthé 1938) and from the

Szeged section of River Tisza (Zsák 1941).

Scilla vindobonensis SPETA

M: Magyarcsanád (in a willow-poplar forest of River Maros near Bökény) [9889.4]. It is rare east of River Tisza, its nearest known locality is the Landori-forest of Makó (Farkas 1999).

Sempervivum tectorum L.

V: Csarnóta-Harkány (Mt Nagy, in an open rock sward) [0175.1]. The only occurrence of the species in Hungary is known from Mt Szársomlyó (Farkas 1999). It is probable that it was planted to Mt Nagy, for the population is near to the planted *Opuntia* individuals.

Spiranthes spiralis (L.) CHEVALL

V: Harkány (Mt Nagy, only a few specimens) [0175.1]. It is rare in the Villány Mts, and has not been found west of Mt Tenkes so far (Dénes 1996, 2000, Erdős et al. 2010).

Thalictrum aquilegiifolium L.

V: Csarnóta (Mt Nagy, in the edge of the degraded forest of the northern slope, about 10 individuals) [0175.1] (D. Tolnay and L. Erdős, ined.). It was not known from Mt Nagy; its former localities are given by Erdős et al. (2011).

Trapa natans L.

M: Szeged (near the mouth of River Maros, in the inundated area) [9787.3] (D. Tolnay and L. Erdős, ined.). It was known from Algyó (Gaskó 1999).

Viola reichenbachiana JORD.

M: Szeged (near River Maros, in a willow-poplar forest) [9787.3]. It is rare on the Great Hungarian Plain (Király 2009).

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