

## **MATERIALS FOR A FLORA OF SERBIA FROM THE HERBARIUM COLLECTION PZZP (1)**

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The Herbarium collection of the Institute for Nature Conservation of the Vojvodina province (PZZP) is one of the least known institutional collections in Serbia. In this article is presented the first part of results of the ongoing process of examination and revision of this collection. It covers data on interesting, new and noteworthy vascular plant taxa from 6 genera (*Cytisus* L., *Lamium* L., *Lappula* Moench, *Lathyrus* L., *Leersia* Sw. and *Legousia* Durande) included in 18 species, 5 subspecies, 3 varieties, 4 forms, as well as 4 taxa with undetermined status [stat. indet.] and one supposed nothospecies. One species and subspecies (*Lappula heteracantha* subsp. *heterocarpa*) and 5 taxa on the different infraspecific levels are new for a flora of Serbia.

**Key words:** botanical collections, flora, chorology, Serbia.

## INTRODUCTION

The Herbarium Collection of the Institute for Nature Conservation of the Vojvodina province (PZZP) in Novi Sad (Serbia) is one of the few institutional botanical collections in Serbia with about 30 000 sheets containing vascular plants, mosses and liverworts originating mostly from Serbia, FYR Macedonia, Bosnia & Herzegovina and Montenegro. Though established in 1949, majority of the herbarium comprises specimens which had been collected during the last quarter of a century.

Only a portions of this collection were integrally published *viz.* materials from Fruška Gora Mt. (Čolović 1956, Čolović-Parabučki 1958, Obradović 1966, collection was abbreviated as “HPM”), materials collected by T. Soška in the Deliblato Sands (Broz 1951) and the ruderal plants of Novi Sad (Šajinović 1980-1981). Also, data on the most threatened taxa in Serbia derived from this herbarium were incorporated in “The Red Data Book of Flora of Serbia” and to the later additions of it (*ed.* Stevanović 1999 and Tomović *et al.* 2009; abbreviated as “HIPNS”). Based on sheer numbers of specimens cited in the above mentioned as well as in some other minor works (e. g. Butorac *et al.* 1993-1994, Panjković *et al.* 2012, Perić *et al.* 2013, 2016, 2017, Dítě *et al.* 2015, Perić & Rilak 2017) we estimate that only about a 15 percent of all data from collection have ever been published.

Revision and publication of data from the Herbarium Collection of the Institute for Nature Conservation of the Vojvodina province is contributing to the better understanding of distribution patterns of vascular plant taxa in Serbia, which eventually could prove to be useful to future editions of The Flora of Serbia, Check List and Atlas of the vascular flora and may affect national nature conservation policies. In that sense, aim of this paper is to give a full account on unpublished and revised herbarium data on selected new and noteworthy taxa accompanied with a review of already published data for Serbia.

In this article are included data for the following genera: *Cytisus* L., *Lamium* L., *Lappula* Moench, *Lathyrus* L., *Leersia* Sw. and *Legousia* Durande.

## MATERIAL AND METHODS

Selection of vascular plant taxa (including nothotaxa) is based on the following criteria: 1) new (unpublished) taxa for a flora of Serbia, 2) otherwise known taxa documented so far with only a few published records for Serbia, 3) taxa with unclear or questionable distribution in Serbia due to recent substantial changes in their taxonomical concept, 4) revised or supplemented published data and 5) taxa protected by law in Serbia.

Unless otherwise stated, nomenclature follows the Euro+Med Plant Base (2006+). Author citations are given according to Rec. 46A, note 1 of the Code (Turland *et al.* 2018). When citing the types, the term “scan” means a HD picture available online through official herbarium websites or digital platforms (e.g. Europeana, Herbarium WU). Distribution data are mapped on the 10 × 10 km MGRS UTM maps (Lampinen 2001) within UTM Grid Zone 34T. Geographical regionalization of Serbia is cited according to Stevanović (1999). Abbreviations for herbarium collections used in the text are given according to Thiers (2016+).

## RESULTS AND DISCUSSION

**Cytisus nigricans** subsp. **atratus** (Schur) Nyman, *Consp. Fl. Eur.* 156 (1878).

BASIONYM: *Cytisus atratus* Schur, *Enum. Pl. Trans.* 147 (1866).

TYPE: [Romania, Tâmpa Mt. near Braşov] In rupestribus calcareis prope Coronaea Kapellenberg. 06. 1854. F. Schur (lectotype LW, designated by Pifkó 2009: 154).

Syn. *C. nigricans* b. *sericeus* Rochel, *Pl. Ban. Rar.* 2 (1828) [*nom. nudum*]; *C. nigricans* b. *sempervirens* Wierzb. ex Rochel, *Bot. Reise Ban.* 48 (1838) [*nom. nudum*]; *C. nigricans* var. *sericeus* Rochel ex Andrae, *Bot. Zeitung* 11(23): 440 (1853); *C. nigricans* a. *parvifolia* Schur, *Verhandl. Mitt. siebenb. Ver. Nat.* 4(*Sertum Fl. Transs.*): 17 (1853) [*nom. nudum*]; *C. nigricans* var. *mediterraneus* Pantocs., *Oest. Bot. Zeitschr.* 23(1): 5 (1873); *C. Pseudo-nigricans* Schur, *Enum. Pl. Trans.* 147 (1866) [*nom. illeg.*]; *C. nigricans* var. *australis* A. Kerner ex Freyn, *Term. füz.* 3: 273 (1879) [*nom. nudum*]; *C. nigricans* c. *australis* Freyn ex Wohlf. in Hallier & Brand, *Syn. Deutsch. Fl.* 1: 509 (1892); *C. nigricans* var. *nanus* Favrat in Gremli, *Neue Beitr. Fl. Schweiz* 4: 4 (1887); *Genista nigricans* var. *australis* (Rochel ex Andrae) Briquet, *Et. Cyt.* 122 (1894); *G. nigricans* var. *sericea* (Freyn ex Wohlf.) Briquet, *l. c.* (1894); *C. nigricans* var. *australis* (Freyn ex Wohlf.) Hayek, *Repert. Spec. Nov. Regni Veg. Beih.* 30(1): 895 (1926); *C. nigricans* var. *sericeus* (Andrä) Hayek, *l. c.* (1926); *C. nigricans* subsp. *mediterraneus* (Pant.) Jáv., *Magyar Tudom. Acad. Balkan-Kutatásainak Tudom. Eredményei* 3: 272 (1926); *Lembotropis nigricans* subsp. *australis* (Freyn ex Wohlf.) J. Holub, *Preslia* 36: 253 (1964); *L. nigricans* subsp. *atratus* (Schur) Holub., *Folia Geob. Phytot.* 5(3-4): 436 (1970); *L. nigricans* subsp. *mediterraneus* (Pant.) Holub, *l. c.* 5(3-4): 437 (1970); *L. nigricans* var. *sericeus* (Rochel) Diklić, *Fl. SR Srbije* 4: 491 (1972).

NEW DATA:

**Banat: Deliblato Sands:** [subnom. *C. nigricans* L.] EQ 07 Glavosulji [“Glavosulje”] (Čolović, S. 15-Jul-1955).

**Srem:** Fruška Gora Mt.: CR 90 Testera [subnom. *C. nigricans* L.] (Babić, N. 24-May-1950); DR 00 Stari Ledinci: road to Ledinačko Lake (Stojšić, V. 02-Aug-2003); CQ 99 Bešenovački Prnjavor: Beli Kamen Lake (Šajinović, B. 16-Jul-1976); DQ 09 Jazak: stream valley (Stojšić, V. 28-Jul-1992); DQ 49 Slankamen (Panjković, B. 2014).

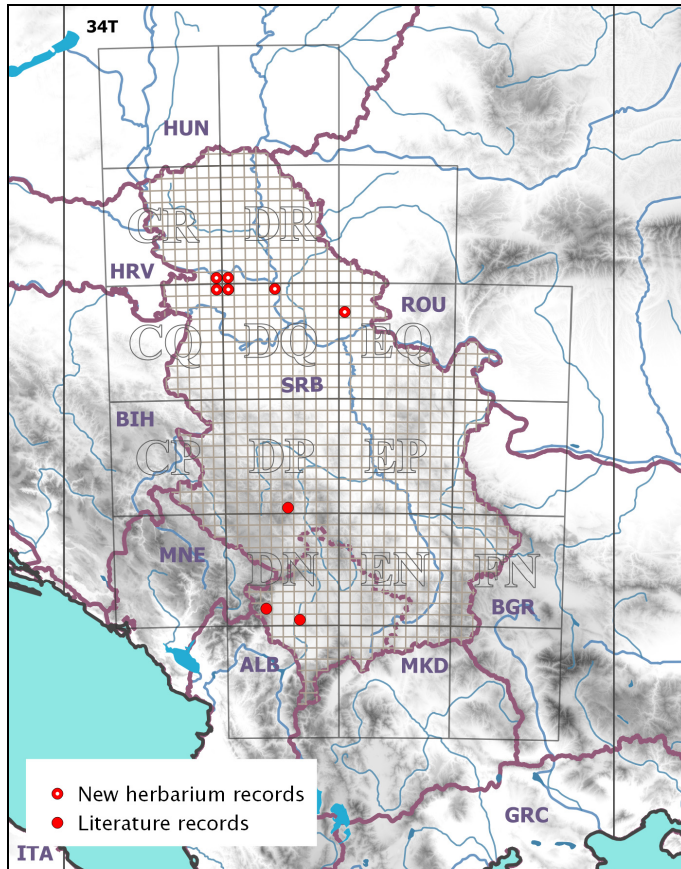


Fig. 1. – New herbarium and published data on the distribution of *Cytisus nigricans* L. subsp. *atratus* (Schur) Nyman in Serbia (DQ09 also includes published data, but here are mapped only our herbarium data, being the most recent and therefore actual confirmation of the presence of this taxa on the field).

**PUBLISHED DATA:** **Srem:** Fruška Gora Mt.: [subnom. *Lembotropis nigricans* var. *sericeus* (Roch.) Diklić] DQ 09 Vrdnik, “slopes of Vrdnik ridge”, ass. *Pruno spinosae-Crataegetum* (Soó 1927) Hueck. 1931. (Butorac 1992: Phyt. tab. no. 14).

**W Serbia:** [subnom. *Lembotropis nigricans* var. *sericeus* (Roch.) Diklić] Radočelo Mt.: DP 50 Rudno (Nikolić et al. 1986: 293).



**Metohija:** [subnom. *Lembotropis nigricans* var. *sericeus* (Roch.) Diklić] DN 42 Peć (Diklić 1972: 491); DN 31 Dečani: Visoki Dečani (Diklić 1972: 491); Prekoruplje: [subnom. *C. nigricans* var. *mediterraneus*] DN 60 Mrasor [“Mrasarski Potok”] and Labučevo [“Labučevski potok”], ass. *Polygalo-Forsythietum europeae* Blečić & Krasnići subass. *carpinetosum*, serpentinite, 380-615 m (Blečić & Krasnići 1971: 37, Phyt. tab., abbrev.).

IMPRECISE PUBLISHED DATA:

**Deliblato Sands** [subnom. *Lembotropis nigricans* var. *sericeus* (Roch.) Diklić] (Obradović & Panjković 1980: 329, Diklić & Vasić 1983: 192).

UNCERTAIN DATA:

**C Serbia?:** [“Mittel-Serbien”] [subnom. *Lembotropis nigricans* Gris.] “eine silber-graue Form, die sich im Trocknen nicht schwärzt” (Pančić 1859: 142).

NOTES: Both accepted subspecies (*i.e.* subsp. *nigricans* and subsp. *atratus*) live sympatrically in Serbia with some local populations displaying intermediate characters (e. g. from Fruška Gora Mt. and the western Serbia). Taxonomical treatment in this article follows Cristofolini & Troia (2006: 736). Synonymization is based on works of Briquet (1894: 122), Hayek (1926: 895), Diklić (1972: 491) and Pifkó (2005: 27-28, 2009: 154) as well as on examination of some type material (JE, no. 00014542, 00014560, 00014526 [scan!]). In this account only the plants with apparently dense, patent indumentum on the twigs and with less-flowered, interrupted racemes were taken into consideration (Fig. 1).

CORRECTIONS: Record of Soška (Deliblato Sands: Flamunda, *Soška*, T. 23-Jul-1943, subn. *C. nigricans* f. *sericeus* Roch) published by Broz (1951: 324) represents deficient fragment of some other species, possibly *C. triflorus* Lam. [*C. glaber* L. f.].

**Lamium galeobdolon** subsp. **montanum** (Pers.) Hayek, Repert. Spec. Nov. Regni Veg. Beih. 30(2): 272 (1929).

NEW DATA:

**Banat:** Vršac Mts.: EQ 29 Široko Bilo (*Stojšić, V.* 29-Jun-1990), Lisičija Glava, forest (*Perić, R.* 14-May-2005); EQ 39 Gudurički Vrh (*Perić, R.* 16-May-2017).

**Srem:** Fruška Gora Mt.: [subn. *L. luteum* Knock.] DR 10 Stražilovo (*Babić, N.* 25-Apr-1951; “forest” *Čolović, S.* 12-May-1955; *Čolović, S.* 27-Apr-1958), [subn. *L. galeobdolon* (L.) Cr.], road to the Hajdučki Izvor, forest (*Čolović, S.* 12-May-1955), Glavica, forest (*Čolović, S.* 30-Apr-1956); CQ 99 [subn. *L. galeobdolon* subsp. *argentatum* (Smejkal) J. Duvign., *Bull. Jard. Bot. Natl. Belg.* 57: 459 (1987)] Papratski Do (*Rilak, S.* 06-May-2015).

**C Serbia:** Kopaonik: DN 89 Mrkonja (*Savić, D.* 02-Jun-1994).

## PUBLISHED DATA:

**Šumadija:** DQ 64 Avala Mt., oak-hornbeam forest (Gajić 1964: 55); DP 94 Kalenić, beech forest (Gajić 1965: 42).

**NW Serbia:** [subn. *L. galeobdolon* subsp. *montanum* (Pers.) Hayek.] CP 99 Medvednik Mt.: northern slope, beech forest (Nikolić & Diklić 1958: 87); Jablanik Mt.: [subn. *L. galeobdolon* (subsp. *montanum*) f. *hirtum* Beck] foothill of the eastern slope, near the stream, in beech forest (Nikolić & Diklić 1958: 87); Povlen Mt.: [subn. *L. galeobdolon* subsp. *montanum* (Pers.) Hayek.] CP 98 Cetinja, beech forest (Gajić & Gajić 1962: 154).

**W Serbia:** Tara Mt.: [subn. *L. galeobdolon* var. *montanum* (Pers.) Hayek] CP 66 Derвента Canyon, european hop-hornbeam forest (Gajić 1988: 369).

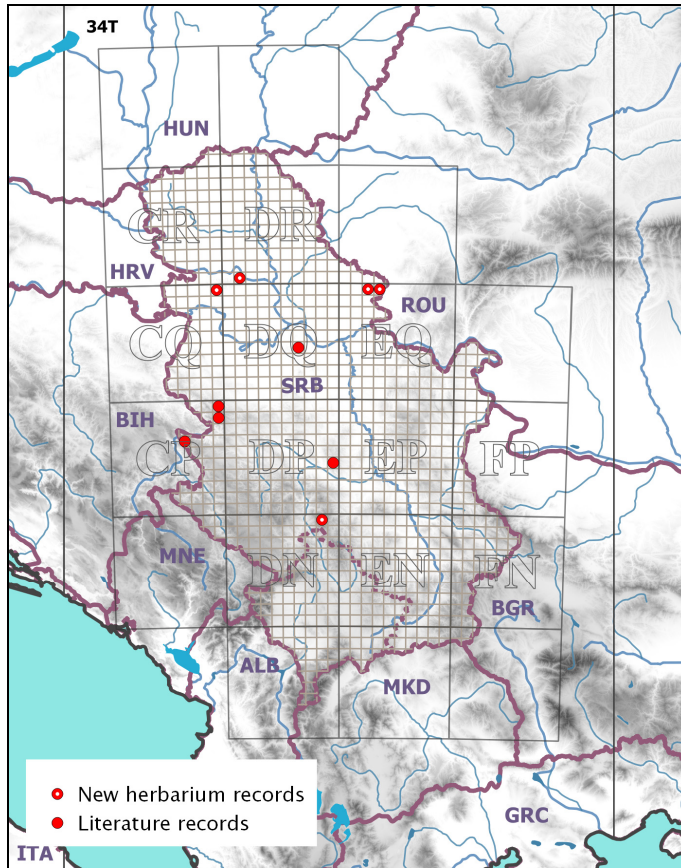


Fig. 2. – New herbarium and published data on the distribution of *Lamium galeobdolon* subsp. *montanum* (Pers.) Hayek in Serbia.

## IMPRECISE PUBLISHED DATA:

**Šumadija:** [subn. *L. galeobdolon* var. *montanum* (Pers.) Hayek] Juhor Mt., beech forest (Gajić 1965: 42; Gajić & Korać 1971: 119); Serbia: “wide-spread” (Diklić 1974: 395).

NOTES: As inhabitant of deciduous forests with pronounced inclination towards beech forest stands and because of its overlap with the *L. galeobdolon* subsp. *galeobdolon*, distribution of subsp. *montanum* is not yet fully understood, especially in the eastern and southeastern parts of its natural range (Mennema 1989, Rosenbaumová *et al.* 2004). Our data and published sources are suggesting sporadic appearance of *L. g.* subsp. *montanum* in Serbia (Fig. 2), predominantly in oak and beech forest zones. Some of our specimens originating from Vršac Mts. (Gudurički Vrh) and Fruška Gora Mt. (Papratski Do) show a variable degree of leaf and bract coloration having more or less densely arrayed small isolated patches of dull-white or greyish-silvery colour. These variegated plants are somewhat similar to the *L. g.* subsp. *argentatum* (Smejkal) J. DuRoi, a casual garden escape described from the central Europe, treated as an aggressive alien by some authors in the western and central Europe (Rutherford & Stirling 1987, Medvecká *et al.* 2012). *L. g.* subsp. *argentatum* has been recorded also in the northern Montenegro (Rosenbaumová *et al.* 2004: 240). Its presence in Serbia has not been confirmed yet but it can be expected that may occur in Serbia, too.

To avoid possible confusion between *L. g.* subsp. *argentatum* and variegated forms of *L. g.* subsp. *montanum* we present the following identification key based on works of Rosenbaumová *et al.* (2004) and Rutherford & Stirling (1987):

- Rather robust plant in all its parts. The silvery pattern on leaves and most of bracts is present in form of two persistent continuous bands along the midrib and lateral veins. The middle part of these bands becomes brownish-maroon during winter. Leaf and bract margin usually shallowly crenate-dentate. Apical teeth of bracts with wide apex (in the uppermost c. 5 mm and lowermost c. 4.1 mm wide). Flowers large, corolla (21) 23–28 (31) mm long, upper corolla lip with distinct ciliae (1) 1.15–1.7 mm long, calyx tube up to 8.1 (8.5) mm long, nutlets (2.5) 2.9–4.7 (4.9) mm long. subsp. ***argentatum***
- Silvery pattern on leaves and bracts (if present) inconstant, never forming two continuous bands nor becoming maroon-brownish during winter, usually consisted of mutually distant smaller flecks of silvery-greyish colour or they are sometimes obscure. Leaf and bract margin usually sharply dentate with more separated teeth. Apical teeth of bracts usually longer and more acute. Flowers smaller, corolla up to 25 mm long, upper corolla lip with short ciliae up to 1.3 mm long, calyx tube commonly less than 7 mm long, nutlets up to 4 mm long. subsp. ***montanum*** [variegated forms]

LOWER INFRASPECIFIC TAXA REPORTED FROM SERBIA: Nikolić & Diklić (1958: 87) published *L. g. f. hirtum* G. Beck, *Ann. K. K. Naturh. Hofmus.* 2: 144 (1887) under the subsp. *montanum*, but the subspecific affinity of this form within *L. galeobdolon* s.l. is unresolved (Mennema 1989: 40).

CORRECTIONS: Herbarium data cited for Fruška Gora Mt. (Stražilovo and Glavica) under the name “*Lamium galeobdolon* (L.) Nath” (“HPM”, Obradović 1966: 81) are referring to *L. g.* subsp. *montanum*.

***Lamium garganicum* subsp. *striatum* (Sm.) Hayek, Repert. Spec. Nov. Regni Veg. Beih. 30(2): 275 (1929).**

NEW DATA:

**Banat:** Vršac Mts.: EQ 29 Lisičija glava, forest (Perić, R. 14-May-2005).

**NE Serbia:** Iron Gate: [subn. *L. garganicum* (subsp. *glabratum*) var. *macedonicum* (Deg.) Hayek] Miroč mt: FQ 03 Veliki Štrbac (Savić, D. 20-Apr-1994; Perić, R. 15-Oct-2010).

**SE Serbia:** FN 35 Jerma [subn. *L. bifidum* subsp. *balcanicum* Vel.] (Savić, D. 09/11-May-1995), canyon, screes (Stojšić, V. 12-Jul-1994).

IMPRECISE NEW DATA:

**SW Serbia:** Golija Mt. (“Štavnica” Panjković, B. 09-Jul-1996).

PUBLISHED DATA:

**NE Serbia:** [subn. *L. striatum* Sm.] EP 99 Stol Mt. (Pančić 1856: 542).

**E Serbia:** Aleksinac: [subn. *L. bithynicum* Bth.] EP 62 Lipovac: Sveti Stefan monastery [“Sv. Stevan”] (Vandas 1909: 457); EP 72 [subn. *L. bithynicum* Bth.] Devica Mt.: Oštra Čuka [“Ostra čuka”] (Vandas 1909: 457); EP 62-EP72 [subn. *L. bithynicum* Bth.] Ozren Mt. (Vandas 1909: 457); [subn. *L. glechomoides* Sm.] EP 90 Svrliške planine Mts.: Pleš (“akin to the *L. glechomoides* Sm.” Pančić 1874: 560); EN 89 [subn. *L. bithynicum* Bth.] Sićevo [“Sićevo”] (Vandas 1909: 457); [subn. *L. bithynicum* Benth.] EN 99 Sićevačka Klisura: Sveta Petka monastery [“Sv. Pietka”] (Vandas 1909: 457); [subn. *L. bithynicum* Benth.] Stara Planina Mts.: FN 29 Temska, on rocks and craggs (Adamović 1911: 199); FN 38 Basara, Crni Vrh, on rocks and craggs (Adamović 1911: 199); FN 28 Belava Mt., Gradašnica, on rocks and craggs (Adamović 1911: 199); FN 47-FN57 Vidlič Mt., on rocks and craggs (Adamović 1911: 199); [subn. *L. garganicum* (subsp. *glabratum*) var. *glabratum*] FN 07 Suva Planina Mt.: Litica, Kula (Nikolić et al. 1986: 310).

**SE Serbia:** [subn. *L. bithynicum* Benth.] FN 36 Dimitrovgrad: Banjski Dol: Kukla on rocks and craggs (Adamović 1911: 199); [subn. *L. garganicum* (subsp. *glabratum*) var. *glabratum*] FN 16 Babušnica: Ljuberada (Nikolić et al. 1986: 310); [subn. *L. bithynicum* Benth.] FN 26 Babušnica: Stol Mt., on rocks and craggs (Adamović 1911: 199).

**S Serbia:** [subn. *L. garganicum* (subsp. *glabratum*) var. *glabratum*] Vranje: EN 61-EN 71 Pljačkovica Mt. (Diklić 1974: 400).

**Metohija:** Prokletije Mts.: DN 31-DN 32 [subn. *L. pictum* Boiss. et Heldr.] Koprivnik Mt., on rocks and grassy places of the subalpine area (Jávorka 1926, Grebenščikov 1943, Diklić 1977: 165, Rexhepi 1982: 216, Rexhepi 1986, “Metohijske Prokletije” Amidžić & Panjković 2003: 159).

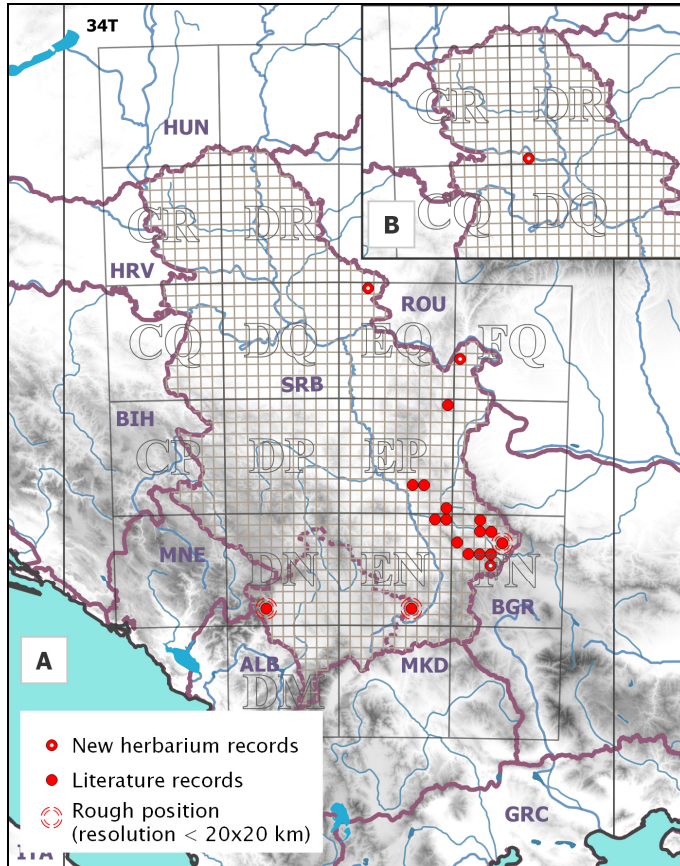


Fig. 3a. – New herbarium and published data on the distribution of *Lamium garganicum* subsp. *striatum* (Sm.) Hayek (a) and alleged hybrid *Lamium xholsaticum* E. Krause (b) in Serbia.

IMPRECISE PUBLISHED DATA:

**Serbia:** [subn. *L. pictum*] (Gajić 1979: 10, 1980: 127).

NOTES: Both *L. garganicum* subsp. *garganicum* and *L. g.* subsp. *striatum* occur in the Balkan part of Serbia, with latter being more frequent in the eastern and southeastern areas (Diklić 1974, 1977, Nikolić *et al.* 1986, Mennema 1989) (Fig. 3a). According to Strid &

Tan (1991) *L. pictum* Boiss. & Heldr. is a separate endemic species confined to the Greek mountains only, as opposed to the opinion of Mennema (1989) and Euro+Med Plantbase treatment where it is included in a synonymy of *L. g.* subsp. *striatum*.

**Lamium ×holsaticum** E. Krause in Prahel (*L. album* × *maculatum*),  
Krit. Fl. Schlesw.-Holst. 2: 169 (1890)!

NEW DATA:

**Srem:** Fruška Gora Mt.: [subnom. *L. maculatum* L.] DR 10 Stražilovo, near a stream (Čolović, S. 06-Jun-1955).

IMPRECISE NEW DATA:

**SW Serbia:** Golija Mt. (*Panjковиć, B.* Aug/Sep-1996).

NOTES: There are no published data for Serbia (Fig. 3b). Traditionally considered as the only accepted hybrid within genus *Lamium* (Mennema 1989). Recent molecular studies found no support for its hybrid status. Its taxonomic position is close to *L. maculatum* but remains uncertain (Bendiksby *et al.* 2011). Its presumed morphological distinctive characters are professed to be intermediate between the *L. album* and *L. maculatum*: leaves varying between parental species, verticillasters composed of 6-8(10) flowers, corolla whitish-purple and pollen grains abortive to a certain degree, yellowish white to orange-like (Mennema 1989).

**Lamium purpureum** var. **incisum** (Willd.) Pers., *Syn. Pl.* 2: 122 (1806).

NEW DATA:

**Srem:** DR 11 Petrovaradin: [subn. *L. purpureum* L.] Petrovaradin fortress (Čolović, S. 30-Mar-1959).

PUBLISHED DATA:

**W Serbia:** [subn. *L. incisum* Willd.] Čačak: DP 56 Brđani ["Brdjane"], under bushes (Pančić 1856: 542).

**NE Serbia:** [subn. *L. incisum*] EQ 54 Golubac: [subn. *L. incisum* Willd., *L. ×hybridum* Vill. em. Gams, *L. ×hybridum* Vill.] close to Kruševica hill ["Kruševica"] above Jelenska Stena (Pančić 1874: 561, Diklić & Nikolić 1986a: 182), Jelenska Stena ["Jelenske stene"] (Diklić & Nikolić 1986a: 182), ["Zelenska stena"], on rocks (*Pančić, J.* May-1868, GOET, Mennema 1989: 184); FP 05 Zaječar: Vrška Čuka (Adamović 1892: 55).

**E Serbia:** [subn. *L. incisum* Willd.] Niš: EP 60 near Čamurlija, in fields and vineyards (Petrović 1882: 690), EN 79 Suvi do ["Suvodol"], + Gabrovac ["Grabovačko brdo"], in fields and vineyards (Petrović 1882: 690); Pirot: (Adamović 1911: 200), FN 38 Basara (Adamović 1911: 200), Basarski kamen (Adamović 1892: 59); FN 28 Belava Mt. (Adamović 1911: 200); FN

47-FN 57 Vidlič Mt. (Adamović 1911: 200); EN 95 Vlasotince (Adamović 1911: 200).

**SE Serbia:** [subn. *L. incisum* Willd.] FN 36 Dimitrovgrad: Banjski Dol: Kukla (Adamović 1911: 200); FN 26 Babušnica: Stol Mt. (Adamović 1911: 200).

**S Serbia:** [subn. *L. incisum* Willd.] EN 71 Vranje [“Vranja”]: Ćoška, in vineyards (Ničić 1893: 58) (Fig. 4).

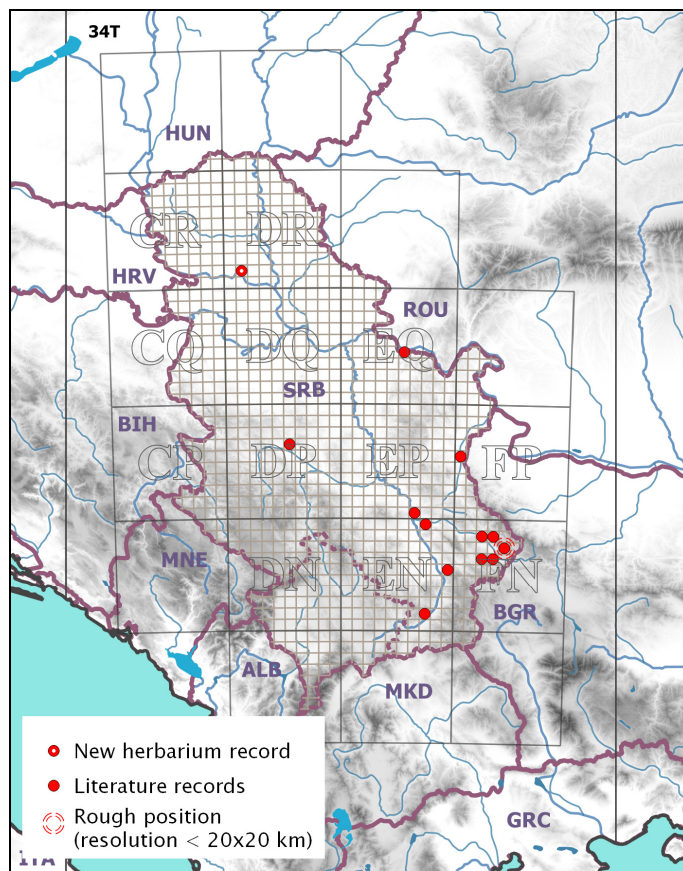


Fig. 4. – New herbarium and published data on the distribution of *Lamium purpureum* var. *incisum* (Willd.) Pers. in Serbia.

NOTES: The identification of specimens collected by Pančić near Jelenska Stena in the northeastern Serbia labelled as *Lamium incisum* Willd. and deposited in the Herbarium Göttingen (GOET) was unequivocally confirmed as correct by Mennema (1989). On the other hand published data derived from this record (Pančić 1874) were later interpreted by Diklić & Nikolić (1986a) and Tomović *et al.* (2007) as *L.*



*hybridum* Vill. [*L. purpureum* var. *hybridum* (Vill.) Vill.], at first sight similar but distinctly different taxon. In fact, data from Serbian old published sources concerning the presence of *L. purpureum* var. *incisum* in Serbia, which are not supported with related herbarium specimens, appear to be simply merged within *L. p.* var. *hybridum* (compare the above list of published data and Diklić & Nikolić 1986a, Tomović *et al.* 2007). The main differences between these two varieties are outlined by Mennema (1989):

- Rather hairy plants, stems 10–20 cm long. Corolla  $\frac{3}{4}$ – $1\frac{1}{4}$  cm long, corolla tube usually not exerted from the calyx. . . var. ***hybridum***
- Usually glabrous plants, stems 20–30 cm long. Corolla about  $1\frac{1}{2}$  cm long, corolla tube clearly exerted from the calyx. . . var. ***incisum***

OTHER INFRASPECIFIC TAXA REPORTED FROM SERBIA:

f. ***albiflora*** (Schur) Gérard, *Rev. Bot.* 8: 185 (1890) [“var. *major cum floribus niveis*” ap. Baumg., *Enum. Stirp. Transs.* 167 (1816); syn. “*Lamium purpureum a albiflora*” Schur, *Sertum. Fl. Transs.* 58 (1853), nom. nudum.; *L. purpureum a. albiflorum* (Baumg.) Schur, *Enum. Pl. Transs.* 534 (1866), nom. inval.; “*Lamium purpureum, flore albo*” sensu Čolović] (Čolović 1956: 123, Sigunov 1975: 17, Diklić 1977: 165, Randelović *et al.* 1980: 48, Boža & Butorac 1981: 69, Nikolić *et al.* 1986: 310, Randelović 1986: 182).

***Lappula heteracantha*** subsp. ***heterocarpa*** (Klokov & Artemcz.) Holub, *Fl. Slovenska* 5(1): 153 (1993).

Syn. *Echinosperrum semicinctum* Steven, *Bull. Soc. Imp. Naturalistes Moscou* 24(1-2): 605 (1851); *L. heterocarpa* Klokov & Artemcz., *Bot. Žurn. (Kiev)* 9(3): 83 (1952); *L. semicincta* (Steven) M. Popov in Komarov, *Fl. URSS* 19: 428 (1953); *L. squarrosa* subsp. *heteracantha* (Ledeb.) Chater, *Bot. Jour. Linn. Soc.* 64: 380 (1971), *pro parte*.

NEW DATA:

**Bačka:** Titel hill: DR 31 Mošorin: Feldvar [“Feudvar”]: loess cliff (Perić, R. 16-May-2008).

NOTES: New for Serbia. In its broadest sense the name *L. heteracantha* had been applied to the series of transitional forms between *L. squarrosa* (Retz.) Dumort. and *L. marginata* (M. Bieb.) Gürke (Popov 1953). From *L. marginata* it differs in having 2–3 rows of glochidia on the nutlet (*L. marginata* has 1 row) and from *L. squarrosa* having glochidia of inner row distinctly confluent at base and sometimes those of inner row are shorter than outer one (in *L. squarrosa* all glochidia are of subequal or equal length and free at base) (Chater 1972, Holub & Kmeťová 1993, Fedorov 2001). Although it was observed that in some instances these characters are varying even at level of individual plant



(Popov 1953) two subspecies are recognized today as: *L. e.* subsp. *heteracantha* and *L. e.* subsp. *heterocarpa* (Holub & Kmeťová 1993, Fedorov 2001, Valdés 2011). The following key for their delimitation is based on works of Steven (1851), Popov (1953), Grințescu (1960), Chater (1972), Holub & Kmeťová (1993), Fedorov (2001), Valdés (2011) and on our observations:

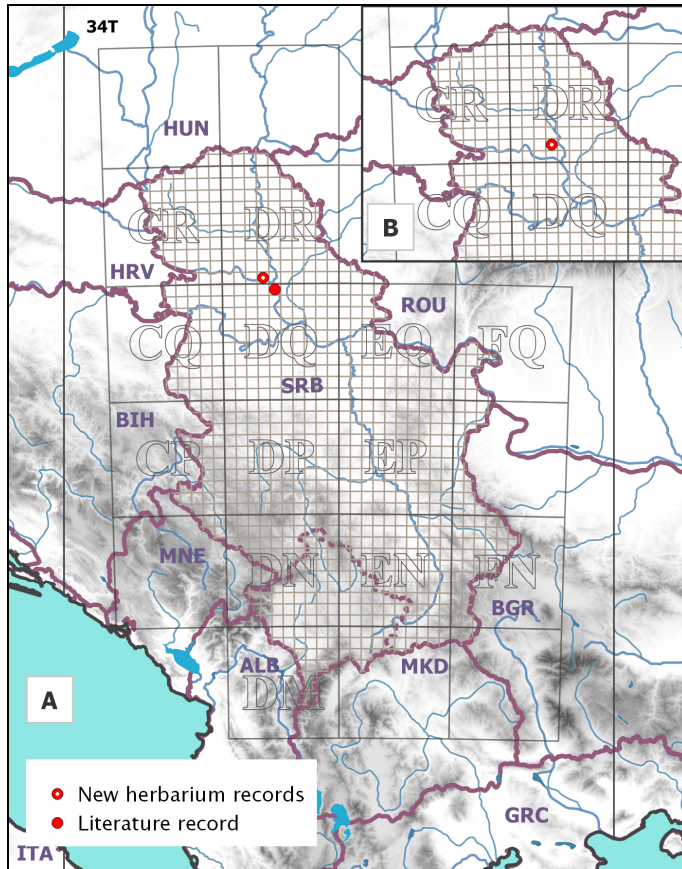


Fig. 5. – New herbarium and published data on the distribution of *Lappula patula* (Lehm.) Gürke (a) and *Lappula heteracantha* subsp. *heterocarpa* (Klokov & Artemcz.) Holub (b) in Serbia.

- Glochidia of outer row subequal or of the same length as the ones of inner row. *Southern Russia, Ukraine, Hungary* [possibly introduced in France and Italy] . . . . . subsp. ***heteracantha***
- Glochidia of outer row very short, those of inner row distinctly longer, 2–3 mm long. *Ukraine, Romania, Slovakia, Hungary, Serbia* . . . . . subsp. ***heterocarpa***

HABITAT IN SERBIA: Loess steppic grassland on the slopes of Titel hill (Fig. 5b).

**Lappula patula** (Lehm.) Gürke in Engler & Prantl., *Nat. Pflanzenfam.* 4(3a): 107 (1894).

NEW DATA:

**Bačka:** Titel: DR 30 Lok: Vodice: meadow with shadoof (*Perić, R.* 16-May-2008).

PUBLISHED DATA:

**Srem:** DQ49 Slankamen [subnom. *L. redowskii* subsp. *patula* (Lehm.) Soó, *Lappula patula* (Lehm.) Asch.] (Obradović 1966: 74, Cincović & Kojić 1974: 17).

IMPRECISE PUBLISHED DATA:

**Serbia:** (Gajić 1980: 127, 1983: 16).

**Vojvodina:** [subnom. *L. patula* (Lehm.) Menyh.] (Obradović & Panjković-Matanović 1986: 106); Subotica Sands [subnom. *L. patula* (Lehm.) Asch.] (Obradović & Boža 1986: 130).

NOTES: This species in Serbia is not sufficiently known but seems to be strikingly rare and confined to steppic habitats in the Vojvodina only (Fig. 5a).

**Lathyrus aphaca** var. **biflorus** Post, *Fl. Syria* 292 (1896).

NEW DATA:

**Banat:** Belo Blato-Perlez: DR 50-DR 51 Mala Greda / Tiganjica (*Stojšić V.* 09-Jun-1994).

NOTES: New for Serbia (Fig. 6b). Peduncles *mostly* 2-flowered (Post 1896: 292). In *L. a. f. floribundus* (Velen.) K. Malý, *Verh. Zool.-Bot. Ges. Wien* 55: 227 (1904) the peduncles are as a rule 2-flowered.

OTHER INFRASPECIFIC TAXA REPORTED FROM SERBIA:

1. [stat. indet. "b"] **affinis** (Guss.) Arcang., *Comp. fl. ital.* 195 (1882) ["var. *affinis* (Guss.) Ces. Pass. Gib. 1882"] (Borbás 1890: 158-159);
2. f. **floribundus** (Velen.) K. Malý, *Verh. Zool.-Bot. Ges. Wien* 54: 227 (1904) ("var." Kojić 1972: 373);
3. f. **laetus** Posp., *Fl. Oest. Küstenland.* 2: 431 (1899) ("*laeta*" Boža *et al.* 2003: 62-64).

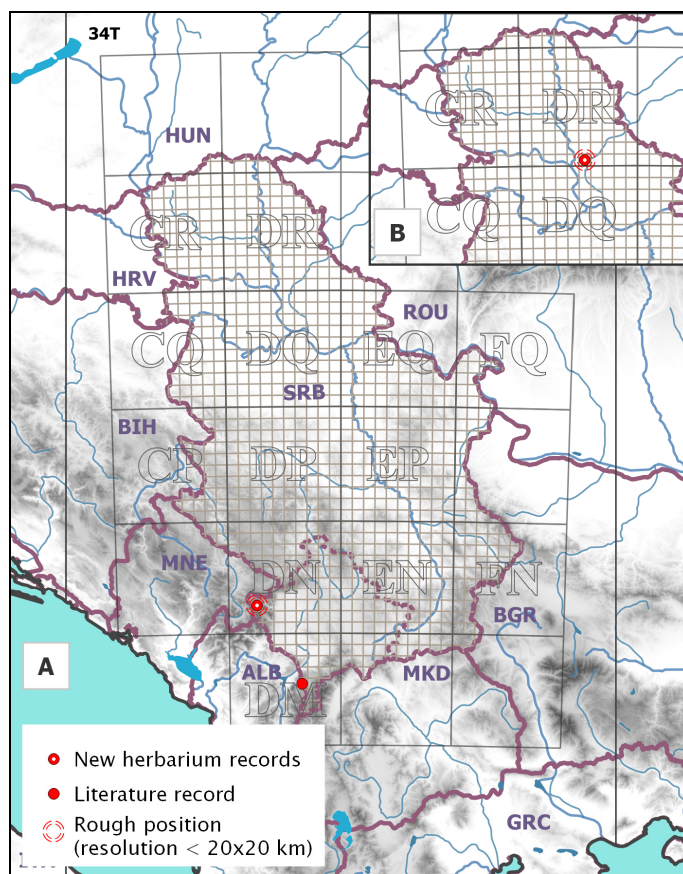


Fig. 6. – New herbarium and published data on the distribution of *Lathyrus laxiflorus* f. *glabriusculus* (Ser.) Hayek (a) and *Lathyrus aphaca* var. *biflorus* Post (b) in Serbia.

***Lathyrus hallersteinii* Baumg.**, Enum. Stirp. Transs. 2: 333 (1816).

The full summary of data on distribution of this species in Serbia has been published by Niketić & Tomović (2008: 126-128). On this instance we will supplement it with our and additional published data:

NEW DATA:

**C Serbia:** Kopaonik Mt.: DN 79 Kozje Stene, road above the river Samokovka (*Savić, D.* 09-Jun-1994).

ADDITIONAL PUBLISHED DATA:

**Šumadija:** Suvobor Mt.: DP 38 Rajac, *Fagetum montanum*, on limestone (Sigunov 1975: 12).

**E Serbia:** Knjaževac: FP 02 Timok riverbank (*Reiser, O.* 1899/1900 ap. Degen 1905: 125).

***Lathyrus hirsutus*** [stat. indet. “β”] ***solerederi*** A. F. Schwarz, *Fl. Umg. Nürnberg.-Erlangen* 6: 166 [1108] (1912).

NEW DATA:

**Banat:** Kajtasovo: EQ 16 near the house called “Zeleni dvor”, 77 m, 7520110, USR 4970976 (Perić, R. 18-Jun-2008).

NOTES: New for Serbia (Fig. 7b). Raceme with 3-4 flowers.

OTHER INFRASPECIFIC TAXA REPORTED FROM SERBIA: *L. h.* var. ***uniflorus*** Grecescu, *Supl.* 52 (1909) (Nikolić & Diklić 1968: 46).

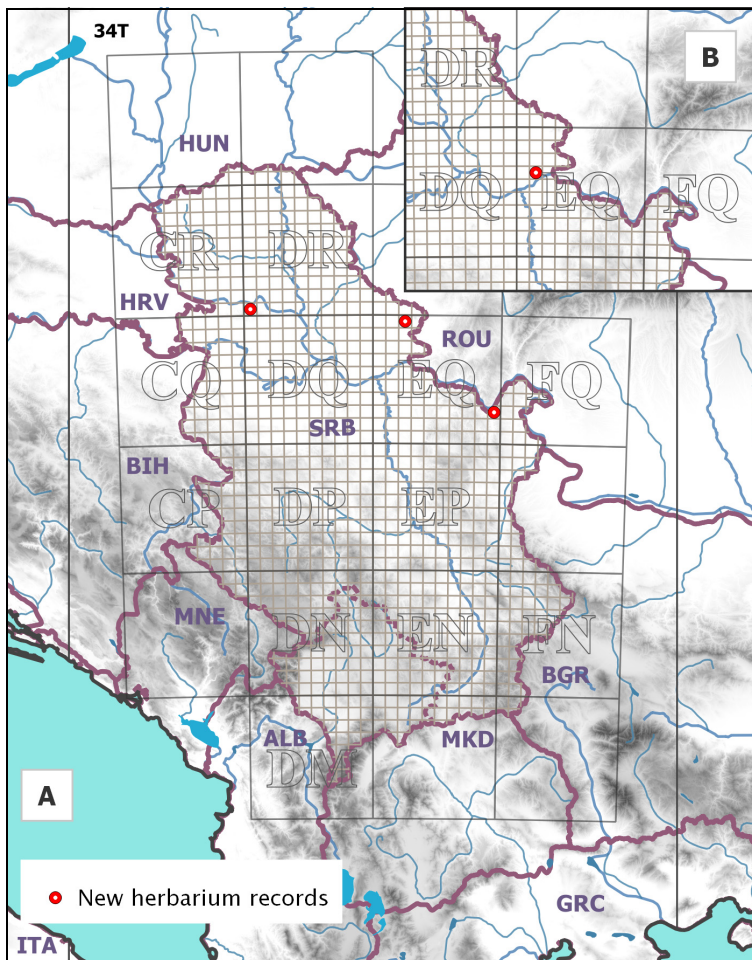


Fig. 7. – New herbarium data on the distribution of *Lathyrus niger* subsp. *niger* f. *longipes* (Rohlena) Lindberg (a) and *Lathyrus hirsutus* [stat. indet. “β”] *solerederi* A. F. Schwarz (b) in Serbia.

***Lathyrus latifolius* f. *denticulatus* (Kit. ex Jáv.) Soó ap. Soó, Syn. Fl. Veg. Hung. 2: 372 (1966).**

NEW DATA:

**Srem:** [subnom. *Lathyrus megalanthus* Steud.] Fruška Gora Mt.: Sremski Karlovci: DR 10 Širine (Čolović, S. 28-May-1956), Belješevo: meadow (Čolović, S. 19-May-1955).

NOTES: New for Serbia (Fig. 8b). Stems with slightly denticulate wings, leaves broadly elliptical. Our specimens were previously published by Obradović (1966: 48) under the name “*Lathyrus latifolius* L.”

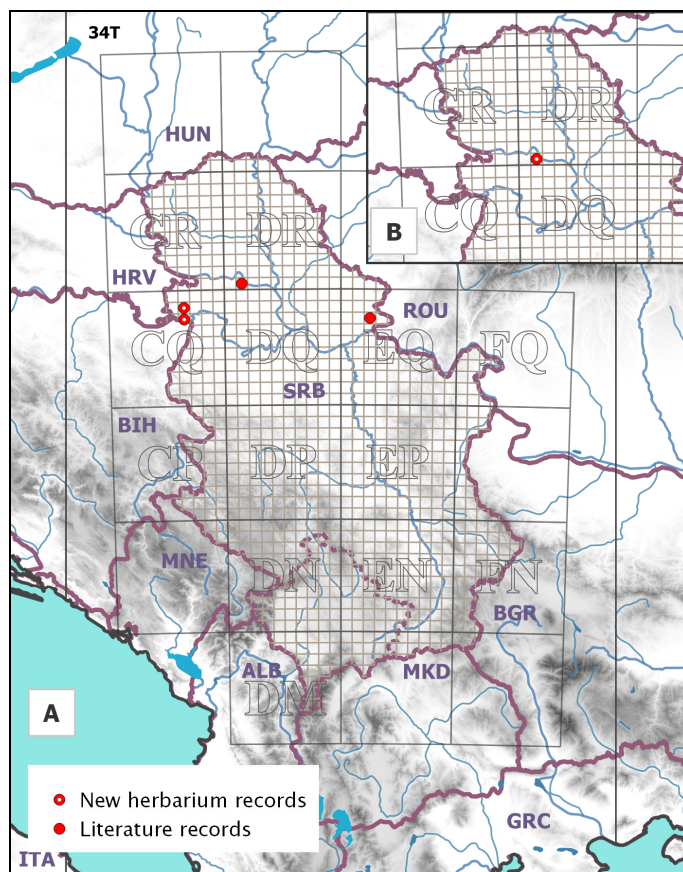


Fig. 8. – New herbarium and published data on the distribution of *Lathyrus nissolia* var. *glabrescens* Freyn (a) and *Lathyrus latifolius* f. *denticulatus* (Kit. ex Jáv.) Soó (b) in Serbia.

OTHER INFRASPECIFIC TAXA REPORTED FROM SERBIA: *L. l.* [stat. indet. “ $\gamma$ ”] ***membranaceus*** (Presl.) Beck, *Icon. fl. Germ. Helv.* 22: 174 (1903) (“var.” Kojić 1972: 382, Sigunov 1975: 12, Lakušić 1996: 18). Krstić *et*



*al.* (2002: 82-83) also reported *L. l.* f. ***rotundifolium*** (Willd.) Rchb., *Fl. Germ. exc.* 2: 535 (1832), but this is very likely to be erroneous because it is a synonym for *L. rotundifolius* Willd., a Caucasian and Western Asian species absent from the most of Europe (The Euro+Med Plantbase, Ball 1968).

***Lathyrus laxiflorus* f. *glabriusculus*** (Ser.) Hayek, *Repert. Spec. Nov. Regni Veg. Beih.* 30(1): 819 (1926).

NEW DATA:

**Metohija:** Prokletije Mts.: above the Rugovo: DN 22-DN32 (*Panjković, B.* 02-Jun-1996).

PUBLISHED DATA:

**Metohija:** Koritnik Mt.: [subnom. *Lathyrus inermis* Roch. f. *glabriusculus* (Ser.) Hayek] DM 65 Rapče: in the beech and Bosnian pine forest zone (*Nikolić, V., Diklić, N. Nikolić & Diklić* 1975: 16, *Cincović & Kojić* 1977: 129, *Rexhepi & Randjelović* 1985: 81) (Fig. 6a).

NOTES: Also described by Grisebach (1843: 76) under the name *Orobus hirsutus* [stat. indet. “β”] ***glabratus*** Grisebach, *Spicilegium Fl. Rumel.* 1: 76 (1843) [“caule foliisque glaberrimus, calyce et legumine tantummodo pilosis”].

***Lathyrus niger* [subsp. *niger*] f. *longipes*** (Rohlena) Lindberg, *Iter Austr. Hung.* 65 (1906).

NEW DATA:

**Banat:** Vršac Mts.: EQ 29 Široko Bilo [subn. *Lathyrus niger* (L.) Bernh.] (*Šajinović, B.* 13-May-1977).

**Srem:** Fruška Gora Mt.: [subnom. *Lathyrus niger* (L.) Bernh.] DR 00 Iriški Venac: forest (*Čolović, S.* 20-Jun-1955), Kraljeva Stolica [“Kraljeve stolice”] (*Stojšić, V.* 05-Oct-1994).

**NE Serbia:** [subnom. *Lathyrus niger* (L.) Bernh.] Iron Gate: EQ 92 Donji Milanovac: near the Danube (*Savić, D.* 06-Sep-1994).

NOTES: New for Serbia (Fig. 7a). Peduncle of raceme (especially in the upper part of a plant) 2.5-3 times as long as subtending leaf (Rohlena 1902: 18).

***Lathyrus nissolia* var. *glabrescens*** Freyn, *Abh. Senckenberg. Naturf. Ges.* 27: 325 (1877).

NEW DATA:

**Srem:** Bosut forests: Morović-Višnjićevo: CQ 68 Naklo 2, forest compartment no. 56b (*Perić, R.* 18-Jun-2013); Sremska Rača: CQ 67 Stara Vrtična (*Stojšić, V.* 17-May-2001).

## PUBLISHED DATA:

**Banat:** EQ 27 Jasenovo, ass. *Oenanthe (banatica)-Alopecuretum pratensis* Parabućski & Stojanović (Parabućski & Stojanović 1988: 74, Phyt. tab. no. 1).

**Srem:** [subnom. *L. gramineus* Kern.] DR 10 Sremski Karlovci ["Carlovicii"] (Borbás 1890: 159).

## IMPRECISE PUBLISHED DATA:

**C Serbia:** Kopaonik Mt. (Lakušić 1996: 18); Serbia: "sporadically" (Kojić 1972: 379).

NOTES: Probably more common in the lowland humid areas of Serbia (Fig. 8a).

***Lathyrus pratensis*** [stat. indet. "γ"] **parvifolius** Petermann, *Fl. Lips. exc.* 545 (1838).

## NEW DATA:

**Banat:** Vršac Mts.: EQ 29 Široko Bilo (*Stojšić, V.* 26-Jul-1999).

## NOTES:

4. New for Serbia (Fig. 9b). Finely villose plant with numerous, small, linear to oblong leaves, which are more or less villose-sericeous on the back. Stipules strongly unequally-sagittate (Petermann 1838: 545).
5. Specimens of *L. pratensis* L. transitional to *L. binatus* Pančić are found in the vicinity of Sjenica (Donje Gonje, *Butorac, B.* 29-Sep-1994) suggesting possible introgression between these species. Some of their leaves are ending with a short mucro or simple tendril as in *L. binatus*, others are with well developed tendril similar to *L. pratensis*. Habitus, shape and size of leaves and stipules are as in *L. pratensis*.

## OTHER INFRASPECIFIC TAXA REPORTED FROM SERBIA:

6. [stat. indet. "β"] **uliginosus** Wierzb. ex Heuffel, *Verh. des Zool.-Bot. Ges. Wien* 8: 97 (1858) (Jávorka 1925: 653).
7. [stat. indet. "β"] ["var."] **velutinus** DC., *Fl. Fr.* 5: 575 (1815) (Kojić 1972: 370, Sigunov 1975: 12).

***Lathyrus sphaericus* f. *setifer*** (Vel.) Hayek, *Repert. Spec. Nov. Regni Veg. Beih.* 30(1): 814 (1926).

## NEW DATA:

**Banat:** Dupljaja - Banatska Palanka: EQ 26-EQ 27 Mali pesak (*Perić, R.* 08-May-2008).

**Srem:** Fruška Gora Mt.: Beočin: DR 00 Časorski Potok Valley, ≈ 19.743725° E, 45.19580278° N, 197 m (*Perić, R.* 09-May-2013).

## PUBLISHED DATA:

**Metohija:** Prizren DM 77 (Kojić 1972: 378); Žur DM 66 (Kojić 1972: 378); Koritnik Mt.: DM 65 (Kojić 1972: 378).

NOTES: First data for Serbia outside of the Metohija. Probably more widespread in Serbia, but insufficiently known (Fig. 9a).

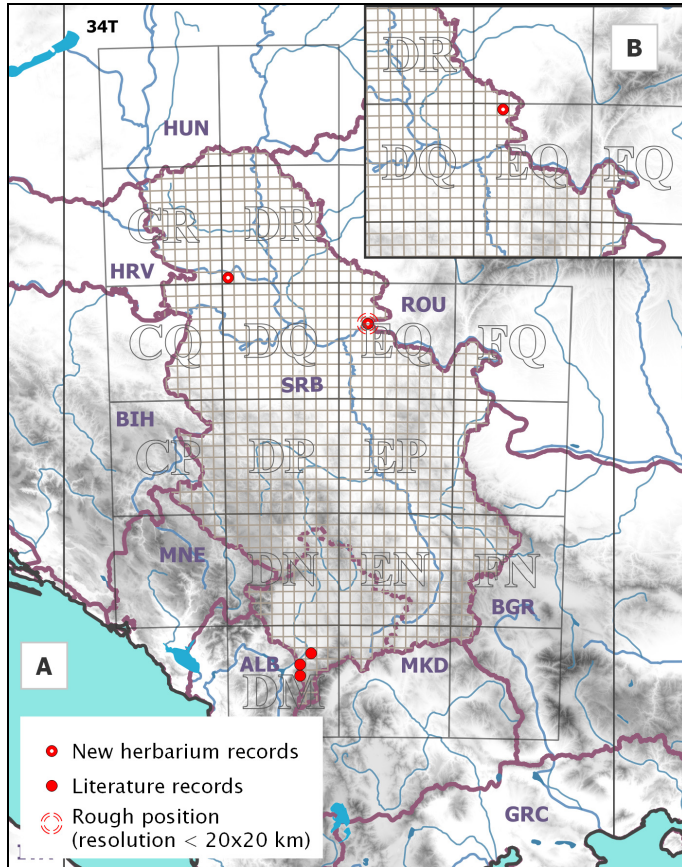


Fig. 9. – New herbarium and published data on the distribution of *Lathyrus sphaericus* f. *setifer* (Vel.) Hayek (a) and *Lathyrus pratensis* [stat. indet. “ $\gamma$ ”] *parvifolius* Petermann (b) in Serbia.

***Lathyrus vernus*** [stat. indet. “ $\gamma$ ”] ***flaccidus*** (Radius) Arcang., *Comp. Fl. Ital. ed. 2*: 522 (1894).

## NEW DATA:

**NW Serbia:** Ljubovija: Trešnjica canyon, CP 88 at the mouth of the river Sušica, near a road to Trutinac (Perić, R. 11-May-2014).



## PUBLISHED DATA:

**W Serbia:** Užice: [“var. *flaccidus* (Radius) Arcang.,” “f. *gracilis* (Gaud.) Grint. et Nyar.”] DP 05 gorge of the river Đetinja, 700 m, limestone, ass. *Seslerio varia*-*Ostryetum* Jovanović (Jovanović 1972: 6, 1986: 114).

## IMPRECISE PUBLISHED DATA:

**Serbia:** (Merkulov *et al.* 2001: 77).

NOTES: Appears to be frequent in the limestone areas along the border with Bosnia & Herzegovina (Fig. 10).

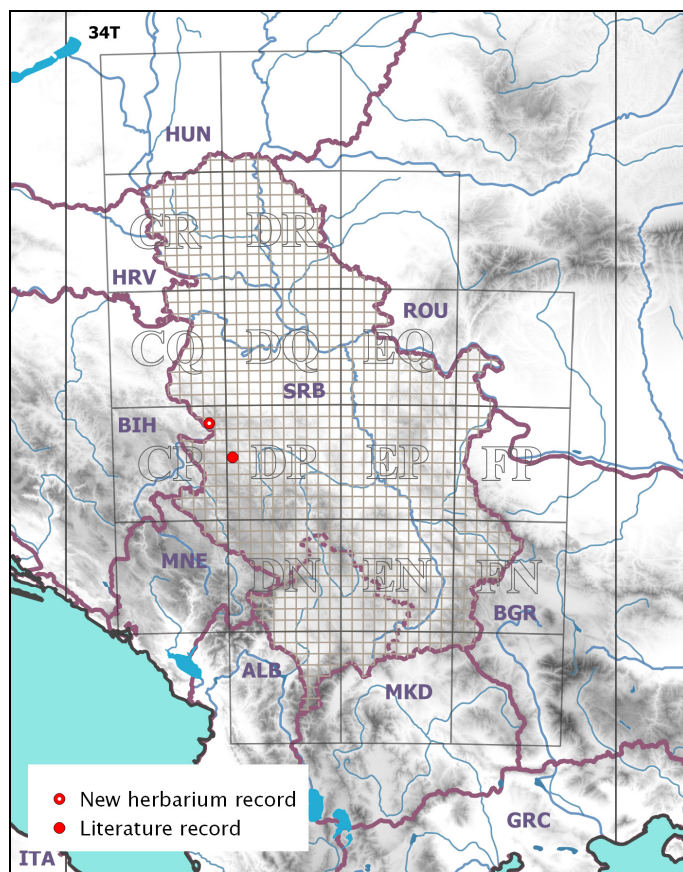


Fig. 10. – New herbarium and published data on the distribution of *Lathyrus vernus* [stat. indet. “γ”] *flaccidus* (Radius) Arcang. in Serbia.

OTHER INFRASPECIFIC TAXA REPORTED FROM SERBIA: *L. v. f. angustifolius* (Endl.) Borza, *Consp.* 170 (1947) (“var. *angustifolius* Endl.” Zorkóczy 1896: 22, Kojić 1972: 364, Obratov *et al.* 1992: 277, Merkulov *et al.* 2001: 77).

***Leersia oryzoides* (L.) Sw., Prodr. 21 (1788).**

## NEW DATA:

**Bačka:** DS 20 Martonoš: Stara Tisa, near a bridge, 20.05176111° E, 46.11873611° N, 76 m (*Perić, R.* 04-Sep-2008); Sonta: CR 54 along the Crna Bara (*Perić, R.* 08-Aug-2007); Kovilj: Koviljski Rit: DR 20 Arkanj oxbow, 20.08766667° E, 45.19475° N, 87 m (*Perić, R.* 16-Jul-2008).

**Banat:** DR 37 Padej-Jazovo: ≈ 20.20165° E, 45.83880278° N, 71 m (*Perić, R.* 11-Oct-2013); Novi Bečej: DR 34 near the Tisa, upstream from bridge (*Perić, R.* 20-Jul-2012); Kajtasovo: EQ 16 near the house called “Zeleni dvor”, along the Mrtvi Karaš oxbow (*Perić, R.* 09-Sep-2010).

**NW Serbia:** Bogatić: CQ 77 Crna Bara (*Perić, R.* Aug-2009).

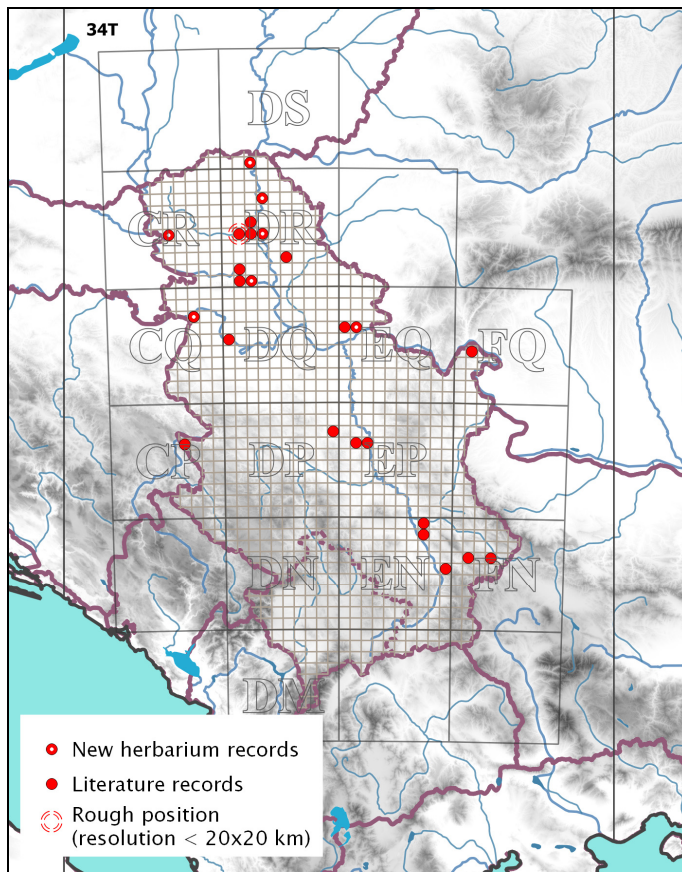


Fig. 11. – New herbarium and published data on the distribution of *Leersia oryzoides* (L.) Sw. in Serbia.

## PUBLISHED DATA:

**Bačka:** Bečej [“Óbecse”]: DR 14-DR 24 [subnom. *Homalocenchrus oryzoides* (L.) Pall.] along the Veliki bački channel [“Ferencz-csatorna”],

reed edges, everywhere (Kovács 1915: 74, 1929: 40), DR 25 [“Kisrét”] Mali Rit, “disparuit”!, DR 24 Donji rit [“Alsó rét”], Gornji Rit [“Felső rét”], “disparuit”!, “around Paukovits farm” [“Paukovits Tanya”] (Kovács 1929: 40); DR 11 Novi Sad [“Ujvidék”]-Kač [“Káty”] (Feichtinger 1870: 19).

**Banat:** DR 52 Zrenjanin: distributary of the river Stari Begej, not far from a sugar refinery, near a railroad bridge, ass. *Acoreto-Glycerietum aquaticae* Slavnić (Aug-1955, Slavnić 1956: 43-44); Deliblato Sands: EQ 06 Deliblato: around 6 km from Deliblato, “shallow riverbank overflowed from the drainage channel on the edge of the Deliblato Sands” (Jul-1949, Slavnić 1956: 44-45).

**Srem:** [subnom. *Leersia oryzoides*] DR 10 Sremski Karlovci, vicinity (Rumy, 1846: 52).

**NW Serbia:** DQ 05 Orid: right bank of the river Sava, 76 m, ass. *Alnetum glutinosae* prov. (Ilić-Vukićević 1956: 162).

**Šumadija:** DP 97 Kragujevac, “trenches, swamp-edges” (Pančić 1856: 595).

**NE Serbia:** Iron Gate: FQ 14 Tekija, reed edge (Adamović 1967: 156, 157).

**Pomoravlje:** Jagodina: EP 16 Dragocvet, near a stream (Gajić 1965: 53a); EP 26 “trenches, swamp-edges” (Pančić 1856: 595).

**W Serbia:** Zvezda Mt.: CP 66 Vitmirovac, near a road, in the ditch (Gajić 1988: 488).

**E Serbia:** [subnom. *Leersia oryzoides* Soland.] EN 79 Niš (Nikolić *et al.* 1986: 331); EN 78 Seličevica Mt., “swamps” (Petrović 1885: 186, Nikolić *et al.* 1986: 331).

**SE Serbia:** [subnom. *Homalocenchrus oryzoides* Mieg.] FN 16 Babušnica, swamps and wetlands (Adamović 1908: 162, Nikolić *et al.* 1986: 331); FN 36 Sukovo, swamps and wetlands (Adamović 1908: 162, Nikolić *et al.* 1986: 331); EN 95 Vlasotince, swamps and wetlands (Adamović 1908: 162, Nikolić *et al.* 1986: 331).

#### IMPRECISE PUBLISHED DATA:

**Serbia:** (Pančić 1874: 734, “In aquis stagnantibus et lente fluentibus, in rivis et in paludosis planitie” Adamović 1904: 135, Gajić 1980: 127, Janković 1985: 155, Kojić & Vrbničanin 1998: 27); Vojvodina “ass. *Populetum nigro-albae* Slavnić” (Slavnić 1952: 25).

**Bačka:** Vrbas-Bezdan channel (Vučković *et al.* 1994: 27), Novi Sad [“Ujvidék”] [subnom. *Oryza clandestina* A. Br.] (Zorkóczy 1896: 109), Šajkaška [“csajkások kerülete”] (Feichtinger 1870: 27).

**Banat:** Deliblatska Sands (Obradović & Panjković 1980: 329, Jovanović *et al.* 1983: 377), SW Banat “ass. *Sparganio-Glycerietum fluitantis* Br.-Bl. 1925” (Butorac & Crnčević 1987: 167), Vršac Mts. (Panjković-Matanović 1989: 65).

**Srem:** Fruška Gora Mt. (Obradović 1966: 170).

**NW Serbia:** Mačva (Cincović & Kojić 1976: 283).

**Šumadija** (Gajić 1967: 191, Cincović & Kojić 1976: 283); **Belgrade** (Pančić 1856: 595, Janković 1972: 163).

**NE Serbia:** Iron Gate [subnom. *Leersia oryzoides* (L.) Swartz subsp. *oryzoides*] (Petrić *et al.* 2010: 47).

**S Serbia:** (Cincović & Kojić 1976: 283).

NOTES: On almost all its stands observed in the Vojvodina it covers never more than a few square meters. The richest population had been found in the vicinity of Kovilj (along the Arkanj oxbow) (Fig. 11).

***Legousia speculum-veneris* (L.) Chaix in Villars, Hist. Pl. Dauphiné 1: 338 (1786).**

NEW DATA:

**Bačka:** Karavukovo-Srpski Miletić: CR 54 sandy hill [“peščani brežuljak”], 19.19983333° E, 45.52870278° N, 81 m (Perić, R. 25-May-2017).

PUBLISHED DATA:

**Bačka:** Bečej DR 25 [“Óbecse”] [subnom. *Specularia speculum* DC.] (Kovács 1929: 171); [subnom. *L. Speculum* (L.) Fisch.] Vajska [“Vajszka”] CR 53 (Prodán 1915: 260); [subnom. *L. Speculum* (L.) Fisch.] CR 62 Bač [“Bács”]: courtyard of the fortress (Kovács ap. Prodán 1915: 260), Tovariševo [“Bácstóváros”] (Prodán 1915: 260); [subnom. *L. Speculum* (L.) Fisch.] Bačka Palanka [“Palánka”] CR 71 (Prodán 1915: 260); [subnom. *Specularia Speculum* Alph. DC.] Futog: DR 01 edge of the Futog forest [“futtaki erdő”], on verges (Zorkóczy 1896: 75).

**Banat:** Vršac Mts.: EQ 29 SUP resort, near a road (Panjković-Matanović 1989: 65).

**Srem:** Fruška Gora: DR 00 Paragovo (Obradović 1966: 107); DR 10 Sremski Karlovci (Petrović 1938); DQ 15 Obrež, on the field (Obradović *et al.* 1977: 200).

**Šumadija:** Belgrade: DQ 55 Rakovica, on the field (Gajić 1964: 58).

**C Serbia:** Niš: EN 69 Lalinac (20-Jun-2003, Zlatković *et al.* 2005: 4).

**W Serbia:** CP 86, CP 87 Bajina Bašta, vicinity, edge of plowland (Gajić 1988: 385); Tara Mt.: CP 66 Derventa Canyon [“gorge”], european hop forest (Gajić 1988: 385); Radočelo Mt.: DP 50 Rudno [“Rudnjanska Plateau”], ass. *Galeopsi-Brassicetum campestrae* Vrbničanin & al. subass. *typicum*. (Vrbničanin *et al.* 1998: 70).

**SW Serbia:** CP 80, CP 90 Prijepolje [subnom. *Specularia Speculum* (L.) DC.] (Zahlbruckner, P. 1904 ap. Hayek 1906: 281).

**E Serbia:** Niš: [subnom. *Specularia speculum* L.] EP 70 Hum, on rocks (Petrović 1882: 559); EN 89 Jelašnica, on fields (Petrović 1882: 559).

**S Serbia:** [subnom. *Specularia Speculum* (L.)] Vladičin Han EN 82 (Reiser, O. 1899/1900 ap. Degen 1905: 128); EN 71 Vranje (“*Specularia Speculum* DC.” Ničić 1893: 50, Jovanović 2004: 85).

**SE Serbia:** Vlasina: FN 03 Vlasina Rid [“Crkvena mahala”] (Košanin 1910), “arable lands near the Vlasina Rid” (*Randjelović, V.* 20-Jul-1993, Randjelović & Zlatković 2010: 95).

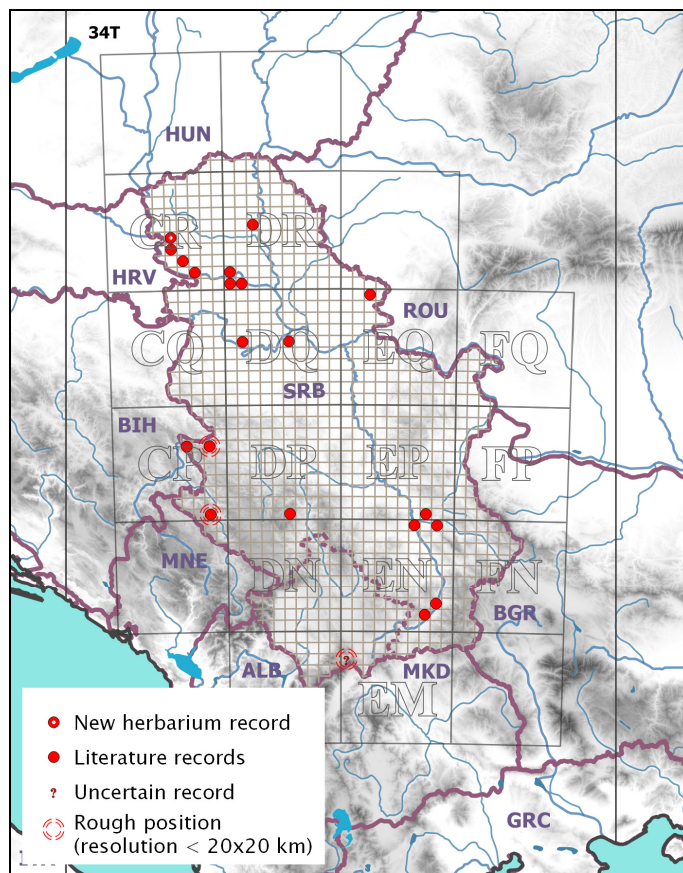


Fig. 12. – New herbarium and published data on the distribution of *Legousia speculum-veneris* (L.) Chaix in Serbia.

#### UNCERTAIN DATA:

**Kosovo:** Šar-planina Mts.: [subnom. *Campanula arvensis* L.?] EM07-EM17 Ljuboten (Rexhepi 1984: 35).

#### IMPRECISE PUBLISHED DATA:

**Serbia:** (“*Campanula Speculum* L.”, Pančić 1874: 477, Obradović 1974: 567, Gajić 1980: 127, 1983: 18, Vrbničanin 1997: 16, Kojić & Vrbničanin 1998: 15); **Vojvodina:** ass. *Anthemis-Consolida orientalis* Slavnić (Msc. 1944) 1951, releveé no. 7: +.2 (Slavnić 1951: 89).

**NE Serbia:** Mačva (Milošević *et al.* 2008: 45).

**Šumadija** (Gajić 1967: 178); **Belgrade** (Černjavski 1950: 119).



**C Serbia:** Kopaonik Mt. [subnom. *Specularia Speculum* (L.)] (Reiser, O. 1899/1900 ap. Degen 1905: 128, Lakušić 1996: 26).

**E Serbia:** Stara Planina Mts. [subnom. *Specularia speculum*], 600-800 m (Danon & Blaženčić 1969: 207).

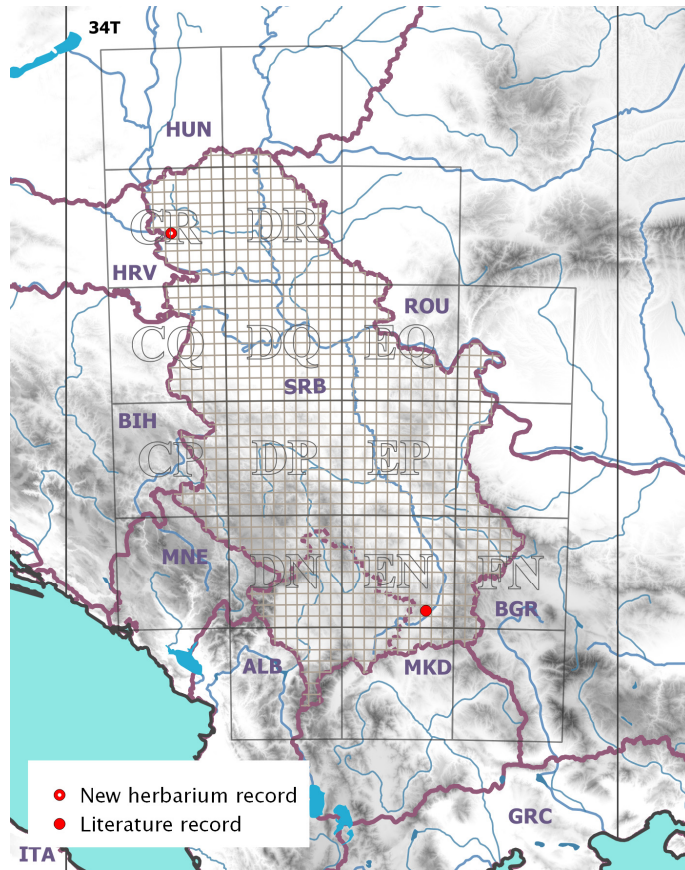


Fig. 13. – New herbarium and published data on the distribution of *Legousia speculum-veneris* [stat. indet. “β”] *pubescens* (DC.) K. Malý in Serbia.

**SE Serbia:** [subnom. *Specularia Speculum* D.C.] “on fields and fallows of the entire district” (Adamović 1911: 226) (Fig. 12).

NOTES:

1. Most of the published data concerning the presence of *L. speculum-veneris* in Serbia are older than 50 years. Excepting its recent records in the central and southeastern parts of Serbia this species seems to be rare in the majority of Serbia. As a member of vulnerable segetal vegetation its disappearance is linked with ongoing changes in agricultural practice and weed control resulting

in the extinction of long-established weed species across the much of Europe (Albrecht *et al.* 2016, Richner *et al.* 2015, Storkey *et al.* 2012).

2. Pančić's records of similar species *L. pentagonia* (L.) Druce in the central Serbia (Pančić 1856: 542) are the only known and they were not confirmed again even by himself (Pančić 1874). Supporting herbarium specimens in the *Herbarium Pancicianum* (BEOU) are missing (Vukojičić, S., *pers. comm.*).

[stat. indet. "β"] **pubescens** (DC.) K. Malý, *Mag. Bot. Lapok* 7(4–8): 236 (1908).

NEW DATA:

**Bačka:** Karavukovo - Srpski Miletić: CR 54 sandy hill "peščani brežuljak", 19.19983333° E, 45.52870278° N, 81 m (Perić, R. 25-May-2017).

PUBLISHED DATA:

**S Serbia:** [subnom. *L. speculum-veneris* f. *pubescens* (DC.) K. Malý] EN 71 Vranje: "new settlement, ruderal habitats" (Bogdanović Diklić & Nikolić 1978: 65, Diklić & Nikolić 1986b: 194) (Fig. 13).

NOTES: Found mixed with typical plants.

## CONCLUSIONS

In this article are presented results of examination and/or revision of vascular plant material belonging to 6 genera (*Cytisus* L., *Lamium* L., *Lappula* Moench, *Lathyrus* L., *Leersia* Sw. and *Legousia* Durande) held at the Herbarium Collection of the Institute for Nature Conservation of the Vojvodina province (PZZP) i. e. the interesting, new and noteworthy taxa for a flora of Serbia. These taxa are distributed within 42 UTM squares and include 18 species, 5 subspecies 3 varieties, 4 forms, 4 other infraspecific taxa with undetermined taxonomical status [stat. indet.] and one presumed nothospecies with unresolved status.

New taxa for Serbia are: 1 species and 1 subspecies (*Lappula heteracantha* subsp. *heterocarpa*), 1 variety (*Lathyrus aphaca* var. *biflorus*), 2 forms (*Lathyrus latifolius* f. *denticulatus*, *L. niger* subsp. *niger* f. *longipes*) and 2 "stat. indet." taxa (*Lathyrus hirsutus* β *solerederi*, *L. pratensis* γ *parvifolius*). Presumed nothospecies *Lamium* × *holsaticum* is published for the first time for Serbia, but its taxonomical status is questionable.

New chorological data on already published taxa in Serbia are given for 4 species (*Lappula patula*, *Lathyrus hallersteinii*, *Leersia oryzoides*, *Lego-*

*usia speculum-veneris*), 3 subspecies (*Cytisus nigricans* subsp. *atratus*, *Lamium galeobdolon* subsp. *montanum*, *Lamium garganicum* subsp. *striatum*), 2 varieties (*Lamium purpureum* var. *incisum*, *Lathyrus nissolia* var. *glabrescens*), 2 forms (*Lathyrus laxiflorus* f. *glabriusculus*, *L. sphaericus* f. *setifer*) and 2 “stat. indet.” taxa (*Lathyrus vernus*  $\gamma$  *flaccidus*, *Legousia speculum-veneris*  $\beta$  *pubescens*).

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## МАТЕРИЈАЛИ ЗА ФЛОРУ СРБИЈЕ ИЗ ХЕРБАРИЈУМСКЕ КОЛЕКЦИЈЕ PZZP (1)

РАНКО ПЕРИЋ, ЈЕЛЕНА КНЕЖЕВИЋ, СЕНИША ШКОНДРИЋ

### РЕЗИМЕ

Хербаријумска колекција Покрајинског завода за заштиту природе (PZZP) је једна од најмање познатих институционалних колекција у Србији. У овом чланку је представљен први део резултата процеса проучавања и ревизије ове колекције који је у току. Чланак садржи податке о занимљивим, новим и вреднијим таксонима васкуларних биљака из 6 родова (*Cytisus* L., *Lamium* L., *Lappula* Moench, *Lathyrus* L., *Leersia* Sw. и *Legousia* Durande) у оквиру 18 врста, 5 подврста, 3 варијетета, 4 форме као и 4 таксона са неодређеним статусом [stat. indet.] и једну претпостављену нотоврсту. Једна врста и једна подврста (*Lappula heteracantha* subsp. *heterocarpa*) и 5 таксона на различитим инфраспецијским нивоима су нови за флору Србије.