

Centaurea vandasii, *Genista pilosa* and *Ribes petraeum* – new species in the flora of North Macedonia

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Abstract

Three new species for the flora of North Macedonia are reported in this paper: *Centaurea vandasii* from Belasica Mt., *Genista pilosa* from the canyon of Probištipska Reka, and *Ribes petraeum* from Šar Planina Mt. The phytogeographic importance of each record is discussed.

Keywords: *Centaurea vandasii*, *Genista pilosa*, North Macedonia, *Ribes petraeum*

Teofilovski, A. (2019): *Centaurea vandasii*, *Genista pilosa* i *Ribes petraeum* – nove vrste u flori Sjeverne Makedonije. Glas. Hrvat. bot. druš. 7(2): 55-61.

Sažetak

U ovom radu su prikazane tri nove vrste u flori Sjeverne Makedonije: *Centaurea vandasii* s planine Belasica, *Genista pilosa* iz kanjona Probištipske rijeke i *Ribes petraeum* sa Šar planine. Fitogeografski značaj za svaku od njih je diskutiran.

Ključne riječi: *Centaurea vandasii*, *Genista pilosa*, *Ribes petraeum*, Sjeverna Makedonija

Introduction

North Macedonia has a rich vascular flora that could be considered relatively well known. Nevertheless, the number of its representatives is continuously enriched. As an illustration, following species new for the country flora were reported only within 2018: *Allium amethystinum*

Tausch (Nikolov 2018), *Petasites kablikianus* Bercht., *Pedicularis hoermanniana* K. Malý (Teofilovski 2018b), and *Senecio sylvaticus* L. (Teofilovski 2018a). The author's recent field studies also resulted in a number of additional interesting novelties, part of which are disclosed in this paper.

Material and methods

During the fieldwork appropriate specimens were collected and relevant data regarding the habitats and population size are provided. Specimens were herbarized according to the standard methods and stored in the author's private herbarium collection. Identification was performed according to relevant regional floras and monographic works (Velenovsky 1898, Tutin et al. 1968-1980 etc.), with nomenclature following Euro+Med (2006-). Scans of herbarium specimens from the type collection of *Centaurea vandasii* (No. 661331, 661332, leg. V. Stribrny, det. J. Velenovsky) stored in National Museum in Prague were used as comparative material. The reported localities are mapped on satellite map.

Results and discussion

Following three species are recorded for the first time for the flora of North Macedonia: *Centaurea vandasii* (Asteraceae), *Genista pilosa* (Fabaceae), and *Ribes petraeum* (Grossulariaceae).

Centaurea vandasii Velen. (Figs. 1, 2)

Records in North Macedonia: Belasica Mt.: Tromeđe, subalpine heats and pastures, silicate, 1730-1760 m a.s.l., 41°20'28.66"N, 22°55'26.64"E,

18.8.2018, leg. A. Teofilovski, D. Mandžukovski, det. A. Teofilovski; Belasica Mt.: above Gabrovo village, close to the Greek-Macedonian state border, grassy and shrubby places, silicate, 1370-1400 m a.s.l., 41°19'36.09"N, 22°47'3.68"E, 22.9.2018, leg. A. Teofilovski, D. Mandžukovski, R. Čušterevska, det. A. Teofilovski.

On the locality near Gabrovo village this species is rather frequent, occurring on dry grassy places while on the locality Tromeđe it grows scattered on subalpine heats and pastures, accompanied by following species: *Achillea millefolium* s.l., *Calamagrostis varia* (Schrad.) Host, *Cerastium decalvans* Schloss. & Vuk., *Chamaecytisus absinthioides* (Janka) Kuzm., *Epilobium angustifolium* L., *Euphorbia barrelieri* Savi, *Festuca* sp., *Hieracium sparsum* Friv., *Hypericum barbatum* Jacq., *H. olympicum* L., *H. perfoliatum* L., *Scabiosa triniifolia* Friv., *Veronica chamaedrys* L., etc.

Until now, *C. vandasii* was considered Bulgarian endemic to Rhodope Mts., known from three nearby localities - Čauševo, Ponory and Bačkovski Manastir (Velenovsky 1898; Stojanoff & Achtaroff 1935, sub *C. splendens* f. *vandasii* (Velen.) Stoj. & Acht.; Stojanov et al. 1967, sub *C. splendens* f. *vandasii*; Greuter 2006+; Assyov et al. 2012). The distance between



Figure 1. *Centaurea vandasii* a) capitulum and b) habitat (Belasica Mt., Tromeđe, Photos: A. Teofilovski).



Figure 2. General distribution of *Centaurea vandasii* (▲).

these localities and the newly recorded ones on Belasica Mt. in SE part of North Macedonia is ca. 180 km. Both observed populations of *C. vandasii* on Belasica Mt. grow just near the state borders with Greece and Bulgaria and therefore the presence of this species on the Bulgarian and Greek part of this mountain is also very likely. However, it is not reported in the recent monographic work regarding the flora of the Bulgarian part of this mountain (Dimitrov & Vutov 2016).

The discovery of *C. vandasii* on Belasica Mt. makes more clear the phytogeographical connection between this mountain and Rhodope Mts., which is also indicated by the similar distributional pattern of another two Balkan endemics - *Lathraea rhodopea* Dingler. and *Viola stojanowii* W. Becker. However, unlike to *C. vandasii*, beside on Belasica and Rhodope Mts., both of them also occur in the area between them, on Slavyanka Mt. (Raus 1986, Melovski & Hristovski 2015).

Description: Biennial. Stems 30-50 cm, paniculately much-branched from the base with erect branches. Leaves greyish-tomentose or puberulent; lower 2- to 3-pinnatisect, with small, linear, lobed segments. Involucre 10-12 mm in diameter, ovoid-conical or -globose; appendages small, not covering bracts, orbicular, brownish-black, with broadly ovate,

blackish central spot, the margin hyaline-scarious, denticulate, slightly lacerate, the apex deeply emarginate, mucronate. Florets pink. Achenes c. 3-5 mm; pappus 0.5-1.5 mm (Dostál 1976, sub *C. alba* subsp. *vandasii* (Velen.) Dostál).

C. vandasii belongs to *C. alba* aggregate among which the most closely related species is *C. deusta* Ten. The later one is of wide occurrence in North Macedonia (mainly in W part) differing from *C. vandasii* in the morphology of the capitula which bracts are completely covered by the appendages. The taxonomy of *C. vandasii* was variously treated in its history. Hayek (1931) accepted the rank of species, while Stojanoff & Achtaroff (1935), in their monographic study of the genus *Centaurea* in Bulgaria, degraded *C. vandasii* to a form of *C. splendens* L. followed also by the authors in the Flora of Bulgaria (Stojanov et al. 1967). Later, in the Flora Europaea *C. vandasii* was included as a subspecies of *C. alba* L. (Dostál 1976), while recently its original status of a separate species has been widely reaffirmed (Greuter 2006+, Assyov et al. 2012, The Plant List 2013).

***Genista pilosa* L. (Figs. 3, 4)**

Record in North Macedonia: Probištup – in the canyon of the stream Probištipaska Reka, 1.4 km NE

from Grizlievci village, deciduous forest and forest clearings, silicate, 860-900 m a.s.l., 42°2'40.18"N, 22°9'41.14"E, 25.6.2017, leg. A. Teofilovski, B. Micevski, det. A. Teofilovski.

In the canyon of the stream Probištipska Reka a large population of this species was found on a steep slope just over the river bed. Here it grows on stony places and shallow soils in fragmented oak and birch forests, often forming large dense stands.

Description: Procumbent to suberect shrub up to 150 cm long. Leaves 5-12 mm, usually oblanceolate, shortly petiolate to sessile, appressed-sericeous beneath, glabrous above. Flowers borne singly or in pairs in the axil of each bract, in lax racemes on ascending branches. Bracteoles absent. Calyx 4-5 mm. Standard 8-10 mm, broadly ovate with sparse, appressed-sericeous hairs. (Gibbs 1968).

The genus *Genista* L. comprises about 140 species, mostly deciduous shrubs, distributed mainly in the Mediterranean region and W Asia (Duran & Dural 2003). In The flora of Republic of Macedonia 14 species of this genus are listed (Micevski 2001), but recently the reports for *G. lydia* Boiss. and *G. albida* Willd. were revised as misidentifications (Teofilovski 2011, Teofilovski et al. 2012).

It should be noted that Hayek (1924) cited Macedonia as a part of the distributional range of *G. pilosa*, but the largest part of the geographic term "Macedonia" used in that work actually belongs to modern N Greece and SW Bulgaria. Most probably following this report, Gibbs (1968) also includes Macedonia in the range of this species, which according to this author is distributed in W and C Europe extending to S Sweden, C Italy, and "Macedonia". Both these reports obviously could not be considered reliable data regarding the flora of North Macedonia.

Within the neighboring countries this species has a restricted distribution while completely missing from Greece (Babalonas 2013). In Albania it is known from several localities in northern part (Barina et al. 2017), in Kosovo from one locality in western part (Peć), in Serbia from few localities in C, W and E parts (Dikić 1975), and in Bulgaria from NW and W parts southward to Rila Mts. (Assyov et al. 2012). The closest known locality to those one recorded near Probištip is Vitoša Mt. in W Bulgaria, situated 110 km north-east (Kuzmanov 1976). Considering the existing gap between Bulgarian and Albanian localities in the previously known distribution range of this species, its presence in NE part of North Macedonia was expected.



Figure 3. *Genista pilosa* a) fruiting branches and b) habitat (Photos: A. Teofilovski).

Ribes petraeum Wulfen (Figs. 4, 5)

Record in North Macedonia: Šar Planina Mt. – 1.7 km SW from Lešnica, beech forest, 1800 m a.s.l., 42°0'50.24"N, 20°46'16.41"E, 9.6.2017, leg. et det. A. Teofilovski.

Despite many years of extensive fieldwork in the largest part of Šar Planina Mt. this species was recorded only recently on a single locality near Lešnica. The recorded population consists of several dwarf individuals that grow on an area of only few tens square meters in a subalpine beech forest.

R. petraeum has a large range of distribution encompassing C and much of the S Europe, almost entire Siberia and part of NW Africa (Morocco and Algeria) (Blanca 1997). In the Balkan Peninsula it occurs in most of the countries with exclusion of Albania and Greece, southward reaching to Pirin Mts. in SW Bulgaria (Marhold 2011, Assyov et al. 2012, Dimopoulos et al. 2013, Barina et al. 2017). The closest known localities to the newly recorded one on Šar Planina Mt. are Prokletije (Žljeb) and Mokra Gora Mts. in NW part of Kosovo (Nikolić 1972), situated 95 km northwest-west.

Description: Plant 1-3 m. Leaves up to 15 x 15 cm, glabrous or pubescent, sometimes bullate above and glandular beneath. Racemes c. 10 cm, horizontal or



Figure 5. *Ribes petraeum* (Photo: A. Teofilovski).

drooping, with 20-35 pinkish, campanulate flowers. Sepals ciliate, orbicular-spathulate, the lower part erect, the upper patent; petals ½ to as long as the sepals. Upper part of ovary protruding above the disc. Fruit dark purplish-red, acid (Webb 1993).

In the flora of North Macedonia another three species of the genus *Ribes* L. are also present: *R. alpinum* L., *R. multiflorum* Roem. & Schult. and *R. uva-crispa* L., each of them known from several mountain regions of the country (Em & Dimitrovski 1974, Micevski 1998, Teofilovski 2015).

Conclusions

Centaura vandasii, *Genista pilosa* and *Ribes petraeum* are recorded for the first time for the flora of North Macedonia. The records are also of a significant phytogeographic importance. *Centaura vandasii*, previously considered local endemic to Bulgarian part of Rhodope Mts., is recorded 180 km southwest-west on Belasica Mt. in SE North Macedonia. The new record confirms the phytogeographical connection between these two mountains. *Genista pilosa* is recorded near Probištip in NE North Macedonia, 110 km south-east from the closest known locality on Vitoša Mt. in W Bulgaria. The new locality represents a connection between those ones in mountains of W Bulgaria and N Albania. The record of *Ribes petraeum* on Šar Planina Mt.



Figure 4. Distribution of *Genista pilosa* (●) and *Ribes petraeum* in the Republic of Macedonia (◆).

extends the species range toward southwest part of the Balkan Peninsula, with the closest known locality being situated in NW Kosovo, 95 km northwest.

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