



INTERNATIONALLY SIGNIFICANT VASCULAR PLANTS IN THE NORTH OF KOSOVO AND METOHIJA, THE MIDDLE COURSE VALLEY OF THE IBAR RIVER

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Key word:

vascular flora,
The Ibar River Valley,
CITES Convention,
European red list, IUCN
categories of
endangerement

Ključne reči:

vaskularna flora, Ibarska
dolina,
CITES konvencija,
Evropska crvena list,
IUCN kategorije
ugroženosti

SYNOPSIS

During a three year research the presence of 915 taxa of vascular plants, classified into 85 families or 392 genera, was revealed in the valley of the Ibar River middle course. 24 taxa out of this number were classified in a category of the internationally important vascular plants or species included in the European red list of the globally endangered flora and fauna forms from 1991. Ten representatives are protected by the Convention on International Trade of Endangered Species (CITES Convention).

SINOPSIS

*MEĐUNARODNO ZNAČAJNE VASKULARNE BILJKE SA
PODRUČJA SEVERNOG KOSOVA I METOHIJE, U DOLINI
SREDNJEG TOKA REKE IBAR*

Na terenima severnog Kosova i Metohije, u dolini srednjeg toka reke Ibar, u toku trogodišnjih istraživanja konstatovano je prisustvo 915 taksona vaskularnih biljaka, svrstanih u 85 familija, odnosno 392 rodova. Od ovog broja 24 taksona je uvršteno u kategoriju međunarodno značajnih vaskularnih biljaka, tj. vrsta koje su uključene u Evropsku crvenu listu globalno ugroženih biljnih i životinjskih vrsta iz 1991. Deset predstavnika je zaštićeno konvencijom o međunarodnom prometu ugrožene divlje faune i flore (CITES Convention).

INTRODUCTION

The Ibar serpentine massif stretches along the middle course of the Ibar River and may be considered as one of the biggest serpentine massifs in Europe. It represents a link in the extension chain of the serpentines in Bosnia-Zlatibor-the Ibar Gorge-Albania direction. Considering the fact that the serpentine terrains with insufficiently developed soil and unfavourable water and mineral regime, and high levels of magnesium, iron, nickel and chrome, are "inhospitable" for flora development, the total number of 915 identified taxa on the investigated area still shows the floral treasure.

The researches were conducted in the valley of the Ibar middle course, in the north of Kosovska Mitrovica, all the way to the administrative border with Serbia proper, in the area of Donje Jarinje village, on different types of habitats, within the height range of 500-900 m and 50 km length (Picture 1). The relief of the Ibar River middle course where the investigation was conducted, may be described as a mountaineous region. In the north of Kosovska Mitrovica the Ibar River basin is developed on the serpentines and periodites that belong to the northwestern ridge of the Ibar River periodite massif.

MATERIAL AND METHODS

The study of the serpentine terrains of Kosovo part of the Ibar Valley started in August, 2002, and continued in the following year, until September, 2005. The plants were collected from the time of sprouting to the first spring heralds (that appear earlier than on the surrounding grounds, due to the feature of the serpentine base to absorb sun rays and warm faster) until late autumn during the vegetation period. The collected floral material was herbarized in a usual way, labelled and stored in the Herbarium of the Institute for the Protection of Nature, Belgrade.

Modern floristic literature was used to identify plants: Josifović (1970- 1977), Sarić 1992, Xhafer (1990-1996), Jordanov (1963-1979), Velčev(1982-1989), Kožuharov (1995), Tutin *et.al.* (1964-1980).

The review of the internationally important vascular flora of Yugoslavia, according to Stevanović *et.al.* , 1995, was used to classify taxa into the category of the internationally important floral species.

RESULTS AND DISCUSSION

A three year study of the serpentine area in the valley of the Ibar River middle course in the north of Kosovo and Metohija proved the presence of 915 taxa, classified into 85 families or 392 genera. Out of total number of identified taxa , 24 belong to a group of internationally important vascular plants. The basic criterium for

such a status was the inclusion of these species in the European red list of the globally endangered flora and fauna species from 1991 (ECE, 1991), the responsibility of one country for those taxa and belonging to a group of endemorelict, endemic or subendemic species.

Eryngium serbicum Pančić, belongs to a group of local endemes from tertiary period, which even more emphasizes its floristic and general biological importance in global preservation of biodiversity and genofunds. This species was included in the European red list of the globally endangered flora and fauna, in the category of rare species. In the investigated area, the species was revealed in two relatively close loci, on the left and right river banks. It is interesting that in the last four years this species has not been found on more than a half of the already known loci (on Vis, Pirot surroundings, Stolovi in the Ibar River Valley, etc- oral report of Z. Krivošej) This interesting phenomenon should be observed in the years to come taking into consideration the IPA list (Important Plant Area list). The loci in the Kosovo part of the Ibar Valley represent new areas for the species and flora of Kosovo and Metohija.

Aster albanicus Degen subsp. *albanicus*, belongs to a group of subendemites and ranks among the vulnerable species. It has been identified as an indicator of serpentine base on the afore mentioned the Ibar Valley- Ceranja River locus (Krivošej et.al., 1993) as well as on the left bank of the Ibar River- on two new loci around Banjska and Kamenica Village.

Halacsysa sendtneri (Boiss.) Dörfler, as a tertiary relict taxon and indicator of serpentine base is widely spread in the investigated area. It has been listed in the European Red Book in the vulnerable species category.

Alyssum markgrafii O.E. Schulz, appears on warm serpentine rocks and stones along the researched zone. In the European Red List, the taxon belongs to the group of threatened species.

Alyssum montanum L. subsp. *serbicum* Novak, as a Yugoslav endemite, very frequently appears in the researched area. The category of endangerment for this taxon is nt (almost endangered species)

Fumana bonapartei Maire et Petitmengin, as a Balkan endemite belongs to the category of very rare species. In the investigated area in the Ibar Valley, the species was identified on the rocky grounds in Kamenica Village vicinity.

Sedum serpentini Janchen –in literature is cited for the Ibar Valley (Pavlović, Z. 1967), near Banjska, but our area investigation has not confirmed the presence of this species. This species, very rarely found, has been recorded in the European Red List.

Scabiosa fumaroides Visiani et Pančić – inhabits serpentine rocks and rocky grounds in the investigated area. As a very rarely found species it has been listed into the European and World Red Lists.

Astragalus dasyanthus Pall., belongs to a group of xerothermic (steppe) relict taxa. The afore mentioned taxon has been found on a few isolated loci, from Kamenica Village near Lešak to the very administrative border between Kosovo and Metohija and central Serbia. The listed loci were firstly recorded on Kosovo and Metohija territory. This species ranks among vulnerable species in the European Red List.

Salvia pratensis L. subsp. *pozegensis* Watzl-Zemann, a locally spread endemite may be found near roads and meadows in the Ibar Valley. It belongs to a group of insufficiently known vulnerable and rare species.

Tulipa serbica Tatić & Krivošej, as a recently described and new species for science is not legally protected in Serbia, nor has it been entered in the European and World Red Lists of flora (Stevanović, ed., 1999). In the category of rare species, the taxon ranks among the internationally important species of vascular flora of Yugoslavia (Stevanović et. al. 1995: 210). Apart from the described loci (locus classicus – Gornja Kamenica, Rogozna mountain, Beli Laz near Srbovac Village), the species has been identified on one more locus, on the right Ibar bank, in the vicinity of Kamenica bridge, with numerous population of around 3000 specimens. On the left Ibar bank the taxon sporadically appears, from Ložište Village to Kamenica Village, but with very few samples.

Cephalanthera rubra (L.) Rich. L.C.M. Fritsch- has been found in the woods and underbushes near Kamen Village, Vračevo and from Ložište to Leposavić, on the left Ibar bank. In the RARE category, the taxon is protected by CITES Convention.

Epipactis microphylla (Ehrh.) Sw, may be encountered in the forests around Donje Jarinje Village, near administrative border between Kosovo and Metohija and central Serbia. According to the International Union for the Conservation of Nature, this species has been classified into the RARE category and protected by CITES Convention.

The species *Limodorum abortivum* (L.) Sw. – , with only few samples, has been found on the left Ibar bank, in a thinned oak forest, near Donje Jarinje Village. According to the of endangerment, the species has been categorized as R (rare) and protected by CITES Convention.

Species: *Neottia nidus-avis* (L.) Rich., *Orchis mascula* L. var. *mascula* i *Orchis morio* L. subsp. *Morio* are protected by CITES Convention and according to the International Union for the Protection of Nature almost jeopardized.

Species: *Orchis papilionaceae* L., *Orchis purpurea* Huds., *Orchis tridentata* Scop i *Platanthera bifolia* (L.) Rich, according to the International Union for the Protection of Nature are classified into the category of rare species and protected by CITES Convention.

Potentilla visianii Pančić - an endemorelict, phylogenetically isolated species in Europe. The closest relatives of this species inhabit the non-serpentine grounds in Asia Minor and Kavkas. It belongs to eastern-Illiric-scarpindian flora element indicating the ancient florogenetic relations of the Balkans, Asia Minor and Kavkas (Glišić & Stevanović, 1997). This species has been entered into the European red list, into the category of rare species. It inhabits the serpentine rocky grounds and hill pastures on the investigated terrains in the Ibar Valley.

In the area that was the subject of our floristic study, the species *Haplophyllum boissieiranum* Vis. Et Pančić is rarely found, with a small number of samples, on the loci near Kamenica Bridge and Banjska Village. As an endem of Yugoslavia and

Albania, the species has been included in the European red list, in the category of rare taxa.

Melampyrum heracleoticum Boiss.& Orph., as a subendemite of Yugoslavia, has been included in the European red list. The species has been categorized as rare (R). The investigated area showed only one locus with this species, around "Simonida " motel, on the left Ibar bank.

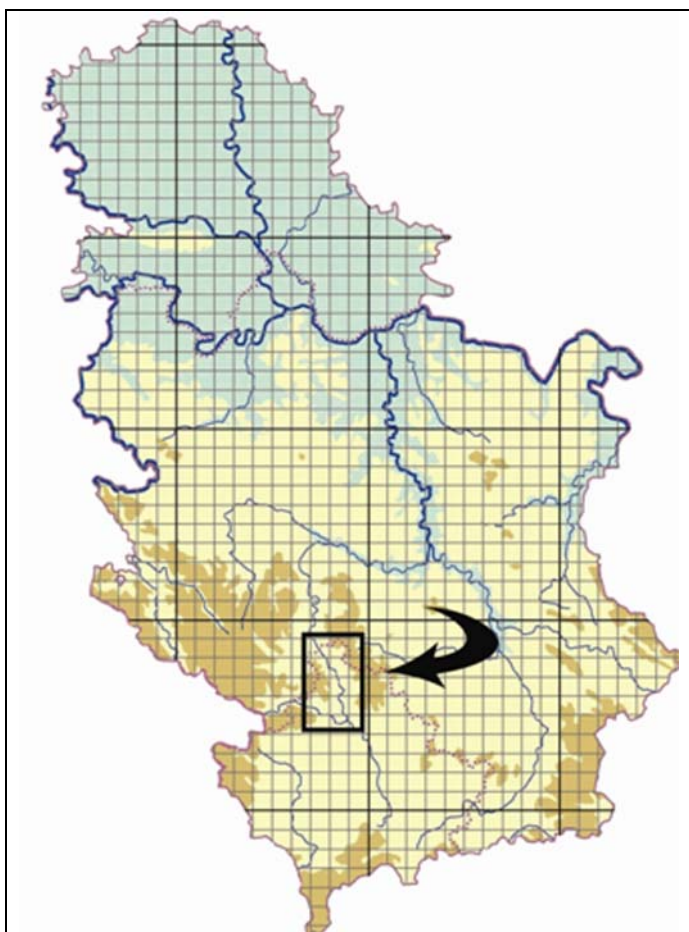


Fig. 1: Map of Serbia and the examined area.

NEGATIVE FACTORS AND PROTECTION MEASURES

Taking into consideration the steep and rocky grounds with sparse vegetation, there is no acute negative effect made either by men or domestic animals. Unplanned wood cutting that has been intensified in the previous years may potentially expose to risk the habitats of some internationally important species from the territory of Kosovo and Metohija, in the middle course of the Ibar River. Naturally, better implementation of punitive measures on the perpetrators will make it possible to improve the conservation of wood habitats, populated by some of the afore mentioned taxa.

CONCLUSION

The paper deals with the results of the floristic researches performed on the serpentine terrains in the valley of the middle Ibar course, in Kosovo and Metohija north. 915 taxa, classified into 85 families or 392 genera were identified in the investigated area at 50 km length. Out of the total number of identified taxa, 24 belong to the group of internationally important vascular plants. They are: *Eryngium serbicum* Pančić, *Aster albanicus* Degen subsp. *albanicus*, *Halacsya sendtneri* (Boiss.) Dörfner, *Alyssum markgrafii* O.E. Schulz, *Alyssum montanum* L. subsp. *serbicum* Novak, *Fumana bonapartei* Maire et Petitmengin, *Sedum serpentini* Janchen, *Scabiosa fumaroides* Visiani et Pančić, *Astragalus dasyanthus* Pall., *Salvia pratensis* L. subsp. *pozegensis* Watzl-Zemann, *Tulipa serbica* Tatić & Krivošej, *Cephalanthera rubra* (L.) Rich. L.C.M. Fritsch, *Epipactis microphylla* (Ehrh.) Sw., *Limodorum abortivum* (L.) Sw., *Neottia nidus-avis* (L.) Rich., *Orchis mascula* L. var. *mascula*, *Orchis morio* L. subsp. *morio*, *Orchis papilionaceae* L., *Orchis purpurea* Huds., *Orchis tridentata* Scop, *Platanthera bifolia* (L.) Rich, *Potentilla visianii* Pančić, *Haplophyllum boissierianum* Vis. et Pančić, *Melampyrum heracleoticum* Boiss. & Orph. Ten taxa of these are protected by CITES Convention (Convention on International Trade in Endangered Species of Wild Fauna and Flora. Washington). They are: *Cephalanthera rubra* (L.) Rich. L.C.M. Fritsch, *Epipactis microphylla* (Ehrh.) Sw., *Limodorum abortivum* (L.) Sw., *Neottia nidus-avis* (L.) Rich, *Orchis mascula* L. var. *mascula*, *Orchis morio* L. subsp. *morio*, *Orchis papilionaceae* L., *Orchis purpurea* Huds., *Orchis tridentata* Scop and *Platanthera bifolia* (L.) Rich.

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