

## **Taxa with High Conservation Value in the Region of Batashka Planina, Western Rhodopi Mountains Location, State of the Populations and Conservation**

*Svetlana Bancheva, Malina Delcheva, Sonja Tsoneva, Rajna Natcheva*

*Institute of Botany, BAS, Sofia, Bulgaria*

### **Abstract:**

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On the territory of Batashka planina, Western Rhodopi Mountains 1024 taxa of vascular plants (28% from the Bulgarian flora) were found. Of them 82 are with different conservation value: 8 species belong to the IUCN list; one to the BERN convention; 18 to the CITES convention; 26 are included in the Bulgarian Red Data Book; 49 are endemics (10 Bulgarian, 39 Balkan). The chorological investigation showed significant concentration of rare and endemic species with conservation value in the following sites: 1) the area of Pashino burdo, 2) Chukursko dere, 3) Kemerov most, and 3) Rakovo dere. Measures for the compensation of the negative anthropogenic pressure are suggested. The establishment of new protected areas is necessary in the context of the optimal nature management.

**Key words:** : vascular plants, concervation value, environmental threats

### **Introduction**

The present study was conducted in the area of Batashka planina, Western Rhodopi Mts. as a part of a project financed by the Naitonal Trust EcoFund (NTEF), and coordinated by the Bulgarian-Swiss Biodiversity Conservation Programme (BSBCP). The aim of this project is to optimize the system of nature reserves in the Rhodopi Mts. and to establish Western Rhodopi National Park.

Batashka planina is one of the largest parts of the Western Rhodopi Mts. It is situated between Chepinska, Devinska and Vucha rivers. Its length is ca. 60 km, its width is between 15 and 20 km. Its ridge is relatively flat with single peaks of 1800 – 2000 m altitude. The bedrock is composed of gneisses, granites, marbles, and others. Prevailing is the dystric soil type but also with restricted distribution rendzic, umbric, and lithic soil types

occur (Ninov, 2002). The rich geological history, the influence of three bioclimatic zones, and the various orohydrographic conditions are a prerequisite for diverse and specific ecological niches with high level of endemism and species diversity.

The main goals of the present study are: 1) to assess the state of the floristic complex and its conservation value in the region of Batashka planina, and 2) to make particular recommendations to the relevant institutions for the conservation of the flora in the studied region.

### **Materials and methods**

During the inventory of the floristic composition we applied the transect method. The transect net was designed to cover maximum of the studied area and as many as possible of the

representative habitat types. Maps, scale 1:25 000, were used. The field work was performed during two vegetation seasons (March – October) in 2001 and 2002.

As taxonomic basis serve “Flora RP Bulgaricae” (Yordanov 1970, 1972, 1976, 1979, 1982, 1989; Kozhuharov 1995) and “A guide to the Bulgarian vascular flora” (Kozhuharov 1992).

## Results and discussion

During the field studies a total of 1024 taxa of vascular plants have been found. They belong to 435 genera and 88 families. These data are indicative for the high taxonomic diversity in the studied area.

### Taxa with conservation value

Taxa with conservation value are the Bulgarian and Balkan endemic taxa (Velchev et al., 1992) and taxa under protection: global (Walter et al., 1998), European (BERN Convention) and national (Red data book of PR Bulgaria, Velchev, 1984, and Bulgarian Law for biodiversity, 2002).

Eighty-two out of the 1024 taxa that have been found during this study, are of conservation value (Table 1). They belong to the following categories: 1) the IUCN list of threatened species – 8 species, 2) the Convention on the conservation of European wildlife and natural habitats (BERN) – one species, 3) the Red Data Book of PR Bulgaria – 25 species, most of which belong to the category of the rare species, and one to the category of the endangered species, 4) 18 species protected by the Bulgarian Law for biodiversity (DV N77/2002), 5) 49 endemic species (39 Balkan and 10 Bulgarian endemics).

The sum of taxa according to their categories exceeds 82 because some species fall in more than one category.

Three groups of taxa with conservation value are defined according to the factors that affect the state of their populations:

1. Species with populations that are in good condition, i.e. viable and with good reproduction abilities, threatening factors are absent or are negligible: *Allium melanantherum* Panc., *Cirsium appendiculatum* Griseb., *Crocus veluchensis* Herb., *Dactylorhiza sambucina* (L.) Soo, etc.

2. Species with populations that are in a good condition, i.e. viable and with good reproduction abilities, but there is a real risk for decline: *Galanthus elwesii* Hook, *Geum rhodopaeum* Stoj. et Stef., *Iris reichenbachii* Heuff., etc.

3. Species with small, strongly fragmented populations that are under a real risk of decline and extinction: *Astragalus alopecurus* Pall., *Drosera rotundifolia* L., *Verbascum humile* Janka ssp. *rhodopaeum* Stoj., etc.

### Sites with highest conservation value

The taxa with conservation value are unevenly distributed in the studied region. However, the analysis of their topographic distribution allows the delimitation of four sites of high conservation importance:

1. Pashino burdo – open grasslands bordering to the southwest the Mantaritsa nature reserve. In this site several species of conservation value were found (*Armeria rumelica* Boiss., *Stachys serbica* Panc., *Sedum kostovii* Stef., *Soldanella rhodopaea* F.K.Meyer, etc.) with populations being numerous and in good condition.

2. Chukursko dere – wet to paludified open grasslands along the Chukursko dere river – bordering to the South the Kartela locality, and to the West the road Batak-Dospat. In this site a variety of species with conservation value were found (*Gentianella bulgarica* (Velen.) Holub., *Geum rhodopaeum* Stoj. et Stef., *Viola rhodopeia* W. Beck., etc.), that are threatened by a high anthropogenic pressure.

3. Kemerov most – includes rocky habitats with high concentration of rare species (*Seseli rhodopaeum* Velen., *Armeria rumelica* Boiss., *Sedum stefco* Stef., *Sempervivum ciliosum* Craib., etc.).

4. Rakovo dere – wet to paludified grasslands situated 4 km away of the crossroads to the Beglika locality. This site is the only known locality of the rare species *Potentilla fruticosa* L. in Bulgaria. Other threatened species are also present (*Potentilla palustris* (L.) Scop., *Viola rhodopeia* W. Beck., *Galium boreale* L., etc.).

The sites listed here have high conservation value and comprise an important element when new protected areas are to be designated.

### Recommendation for conservation of the species diversity

1. To set information tables at the sites of high conservation importance.

2. To develop scientific programs for assessment of the state of the populations of vulnerable taxa with high conservation value, such as *Genista germanica* L., *Ranunculus stojanovii* Delip., *Colchicum borisii* Stef., *Spirea salicifolia* L., and recommend particular measures for their protection.

3. To mark with information tables the populations of *Potentilla fruticosa* L. (Rakovo dere) and *Astragalus alopecurus* Pall.

4. To create a system for the restoration of the natural vegetation in areas that are strongly affected by human activities (e.g. in the Kartela locality).

5. To control the collecting of medicinal plants and mushrooms.

6. To restrict the number of the campers in the seasonal tent camp in the meadows in Beglika locality.

7. To organize the removing of the waste in the area of the tent camp in Beglika locality.

8. To ensure strict adherence to the requirements for fire prevention and to control the restoration of the vegetation in already burnt areas (such as the Batashki Sneznik peak).

9. Suggestions for new protected territories:

9.1. To extend the border of Mantaritsa nature reserve southwards so that to include Pashino Burdo locality.

9.2. To proclaim Kemerov most as an area of high floristic conservation importance.

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