New data on the flora of West Bulgaria

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Abstract. New chorological data are reported about 16 taxa from floristic regions of Sofia (3 new species), Mt Vitosha (6 species), Rila Mts (7 species new or confirmed), and Mt Sredna Gora (*Western* – 3 species). The distribution of *Thesium linophyllon*, a rare species for Bulgaria entered in the *Red Data Book of the PR Bulgaria*, has been confirmed for the Mt Vitosha region (Mt Plana), two populations of which were found.

Key words: chorology, flora

Introduction

In 2002 and 2003, during the investigation of grass communities in Sofia district (under the National Grassland Inventory Project, Bulgaria), mainly in the Samokov plain, Palakariya, Mt Plana, and on the slopes of Mt Vitosha around Zheleznitsa and Bistritsa villages, new data on the distribution of some species have been obtained. Some of them were comparatively widely distributed, others occur locally, and single species were single-time collected in the country.

The newly established and confirmed species are presented. The names of the taxa are given after Kozhuharov (1992). The geographical coordinates (including UTM) of the locations are reported. A visual assessment of the populations of the more rare species is provided, as well as data about their habitats and plant communities. The specimens are deposed in the Herbarium of the Institute of Botany, Sofia (SOM).

Results and discussion

Agrostis castellana Boiss. & Reut.

Mt Vitosha: in a pasture between Bistritsa and Pancharevo villages, Sofia district, at 830 m, 23.07.2003, FN-91, SC, SOM 158536;

Sofia region: in a pasture to the north of Gorni Lozen village, Sofia district, in St Pavel locality, at 650 m, 14.07.2003, GN-01, SC, SOM 158542.

This species is new for both floristic regions, so far known from Rila Mts, Eastern and Central Rhodopes and Mt Strandzha (Kozhuharov 1992). In Mt Vitosha region it was observed frequently in the vicinities of the villages of Bistritsa, Simeonovo and Dragalevtsi, always in relatively drier patches in the pasture communities, seldom in meadows. In the southwestern part of the region, on the steep and dry slopes of Verila Mt, near Krainitsi village, it is a dominant species in the pastures.

***Bromus barcensis* Simonk.**

Rila Mts: in a meadow with sandy soil in the valley of Iskur River, northwards of Samokov town, along the road to Dragoshinovo village, at 900 m, 15.06.2002, GM-19, 42. 37038° N 023.54417° E SC, SOM 158962.

The species is new for the floristic region of Rila Mts. It occurs occasionally in the pasture complex in the valley of Iskur River, on the small elevations with sandy soil and xerophytic grassy vegetation dominated by *Festuca valesiaca* Schleich. ex Gaudin and in the presence of such species as *Euphorbia barrelieri* Savi, *Armeria rumelica* Boiss., *Viscaria vulgaris* Rohlena subsp. *atropurpurea* (Griseb.) Stoj., *Silene otites* (L.) Wibel, *Dianthus moesiacus* Vis. & Pančić, *Chamaecytisus calcareus* (Velen.) Kuzmanov, *Muscari comosum* (L.) Mill., etc. It is also spread in analogous stretches in the valley of Palakiriya River, between Prodanovtsi and Shiroki Dol villages. In the middle of June, during flowering, it participates in the formation of a specific aspect of these xerophytic patches among the prevailing mesophyllous and hygromesophyllous meadows dominated by *Agrostis capillaris* L., *Poa pratensis* L., *Festuca pratensis* L. and *Alopecurus pratensis* L. The altitude at which it was identified was somewhat lower than the one mentioned in literature (Kozhuharov 1992).

***Carex paniculata* L.**

Rila Mts: along a stream in the valley of Iskur River, northwards of Samokov town, at 885 m, 16.06.2002, GM-19, 42. 37605° N 023.54630° E, SC, SOM 157961;

Mt. Vitosha: along a stream in the valley of Palakiriya River, northwards of Prodanovtsi village, Samokov district, at 900 m, 16.07.2002, GM-09, 42. 37179° N, 023.51886° E, SC, SOM 157962.

This is a new species for both floristic regions (Markova 1992). The populations were relatively small, situated in the most humid part of the meadow complexes in the valleys of rivers Iskur and Palakiriya, on peaty soil along the banks of small streams. Presence of many water-loving species was characteristic for both locations. In the first location, on an area of about 500 m2, there occurred twelve species of genus *Carex,* including the locally distributed in Bulgaria *C. buxbaumii* Wahlenb., as well as *C. acuta* L., *C. echinata* Murr, *C. palescens* L., *C. panicea* L., *C. vesicaria* L., etc. Present were also *Eriophorum latifolium* Hoppe, *Galium palustre* L., *Juncus atratus* Krock and *Geum coccineum* Sm. for which the altitude was unusually low. The presence of water-loving species with local distribution was characteristic for the second location also. The species mentioned for the first location occurred here too, as well as *Geranium palustre* L. and *Trollius europaeus* L.

***Carex vesicaria* L.**

Rila Mts: near a stream in the valley of Iskur River, northwards of Samokov town, at 885 m, 16.06.2002, GM-19, 42. 37605° N, 023.54630° E, SC, SOM 158912.

Valev & Kitanov (1964) have reported this species for the Western Balkan Range, South and Southwest Bulgaria and the Rhodopes. In later sources (Markova 1992; Assyov & al. 2002) its distributuion was specified by the following floristic regions: Northeast Bulgaria, Western Balkan Range, Mt Vitosha, Znepole, West Frontier Mts, Mt Belasitsa, Mt Slavyanka, the Rhodopes, Thracian Lowland. The present report confirms its distribution in the region of Rila Mts and the species probably has even wider distribution. The author's observations in the meadow complexes in Samokov district, in the vicinities of Dragoshinovo, Zlokouchene, Dospei, and Pordanovtsi villages testify that this species is locally distributed in the well preserved wet meadows, usually in the area of small streams or canals.

***Cerastium glomeratum* Thuill.**

Rila Mts: in a meadow with sandy soil in the valley of Iskur River, to the north of Samokov town, along the road to Dragoshinovo village, at an altitude of 900 m, with flowers and fruits, 15.06.2002, GM-19, 42. 37038° N, 023.54717° E, SC, SOM 157959.

This is a new floristic region for this widely distributed species (Assyov & al. 2002).

***Cerastium semidecandrum* L.**

Rila Mts: in a meadow with sandy soil in the valley of Iskur River, to the north of Samokov town, along the road to Dragoshinovo village, at an altitude of 900 m, with flowers, 15.06.2002, GM-19, 42. 36855° N, 023.54525° E, SC, SOM 157968.

This is a new floristic region for this widely distributed species.

***Euphorbia nutans* Lag.**

Sofia region: in weedy patches near the Studentski grad, close to the Winter Palace, with fruits, 28.09.2003, FN-82, SC, SOM 159104.

A North American species with adventive distribution in Europe. In Bulgaria was reported only for the districts of Plovdiv and Asenovgrad in the Thracian Lowland (Kuzmanov 1979).

***Galium elongatum* C. Presl**

Mt Vitosha: in a wet meadow dominated by *A. pratensis* near the road to Yarlovo village, Sofia district, at 1010 m, 03.07.2003, FN-80, SC SOM 158540; in a wet meadow dominated by *Deschampsia caespitosa* (L.) P. Beauv. along Palakariya River at Kovachevtsi village, at 940 m, 12.07.2003, FN-90 SC, SOM 158539.

A new species for the floristic region of Mt Vitosha, so far known from the Black Sea Coast, Northeast Bulgaria, the Forebalkan, Balkan Range, Rila Mts, and Central and Western Rhodopes (Anchev 1992).

***Lophochloa cristata* (L.) Hyl.**

Mt Sredna Gora (*Western*): on the fortress walls in Hisarya town at 430 m, , 29.05.2002, LH-10, SC, SOM 157979.

A new species for this floristic region.

***Melica transsilvanica* Schur**

Mt Sredna Gora (*Western*): on the fortress walls in Hisarya town, at 430 m, 29.05.2002, LH-10, SC, SOM 157944.

A new species for this floristic region.

***Muscari comosum* (L.) Mill.**

Rila Mts: in a meadow with sandy soil in the valley of Iskur River, northwards of Samokov town, along the road to Dragoshinovo village, at 900 m, 15.06.2002, GM-19, 42. 37038° N, 023.5430° E, SC, SOM 157943; in a xerophyllous patch in the meadows eastwards of Prodanovski elevation, 22.06.2002, SC, SOM 157942.

In the contemporary general sources on the flora of Bulgaria (Kozhuharov 1992; Assyov & al. 2002) *M. comosum* is mentioned only for some of the floristic regions in the country. In fact, this is a widely distributed species, probably occurring all over the country. The present report confirms its distribution in Rila Mts. In the meadow complex in the valley of Iskur River it occurs often in the small elevations with sandy soil and developed xerophytic grassy vegetation, where *Bromus barcensis* (see above) occurs too.

***Onobrychis inermis* Stev.**

Rila Mts: in a meadow in the valley of Iskur River, to the north of Samokov town, to the east of Prodanovski elevation, at 890 m, with flowers and friuts, 22.06.2002, GM-19, 42. 37627° N, 023.54118° E, SC, SOM 157954. The species was also observed in the meadows of Dragoshinovo village. The populations were relatively small;

Mt Vitosha: in the meadows along the road from Prodanovtsi to Raiovo, 915 m, 15.06.2002, GM-09, 42. 36073° N 023.51819° E, SC, SOM 158541.

These are new floristic regions for this species, so far known from the Danubian Plain, Northeast Bulgaria, the Forebalkan, Sofia region, Znepole, and West Frontier Mountains (Assyov & al. 2002).

***Reseda inodora* Rchb.**

Mt Vitosha: in a stony pasture above Kokalyane village, at 950 m, 31.07.2002, FN-91, 42. 56600° N, 023.40665° E, SC, SOM 157 966; on the streets of Shiroki Dol village, Samokov district, at 870 m, 28.06.2002, GM-09, SC, SOM 157964. The species was observed in another place in the area of Shiroki Dol village, near the road to the village, at the crossing to Prodanovski elevation;

Rila Mts: in a pasture to the north of Samokov town, at 895 m, 29.06.2002, GM-19, 42. 31760° N, 023.54750° E, SC, SOM 157965.

This species has been so far known in Bulgaria from the floristic regions of the Danubian Plain, Northeast Bulgaria, Thracian Lowland, and Central Rhodopes (Assyov & al. 2002), with local distribution. The establishment of the species in several locations in the region testifies to a distribution of a comparatively long standing. The populations above Kokalyane and northwards of Samokov were strong in numbers, while these near Shiroki Dol were small.

***Scabiosa argentea* L.**

Sofia region: in a pasture to the northeast of Gorni Lozen village, Sofia district, at 660 m, 14.07.2003, GN-01;

Mt Sredna Gora (*Western*): in a pasture near Hisarya town, 460 m, 29.05.2002, LH-10, SC, SOM 157978.

In the contemporary general floristic literature on Bulgaria (Kozhuharov 1992; Assyov & al. 2002) *S. argentea* is mentioned only for several floristic regions (Northeast Bulgaria, Black Sea Coast, Thracian Lowland, Eastern Rhodopes, Southern Pirin Mts, and the Valley of Strouma River). Actually, this is a comparatively widely distributed species in the xerophytic habitats in the country, frequently on calcareous ter-

rains. The species was also observed in dry spots in the pasture between Bistritsa and Pancharevo villages (FN 91, SC, SOM 158538) in Mt Vitosha floristic region, for which it was reported recently by Assyov & Vassilev (2004).

Sieglingia decumbens (L.) Bernh.

Mt Vitosha: in a meadow along the road from Yarema locality to Kovachevtsi village, at 1100 m, 11.07.2003, FN-80, SC, SOM 158535;

Rila Mts: in wet meadows along a stream in the valley of Iskur River, northwards of Samokov town, at 885 m, 16.06.2002, GM-19, 42. 37471° N, 023.54642° E, SC, SOM 157952.

According to Kozhuharov (1992), the species occurs in the floristic regions of the Black Sea Coast (*Southern*), Thracian Lowland and Toundzha Hilly Country, with an altitude range up to 100 m. In the author's opinion the distribution of the species cited in the above publication is probably incorrect. In other major sources on the Bulgarian flora this species is mentioned as spreading "in the meadows and grasslands all over Bulgaria, mainly in the mountain belt" (Kozhuharov 1963), or "in the dry meadows and pastures, mainly in the mountain belt of the Balkan Range, Mt Sredna Gora, Mt Vitosha, Mt Konyavska, Mt Strandzha, and in Southeast Bulgaria, between 1000 and 2000 m" (Stojanov & al. 1966). According to Hristov (1962), the species is also widely distributed. Dimitrov (2002) reported this species as new to Pirin Mts and also commented on its wider distribution in the country. The species occurs comparatively often in the mesophyllous meadows and pastures on the slopes of Mt Vitosha (around Bistritsa, Zheleznitsa, Yarlovo, and Plana villages), although with small participation. This confirms its distribution in that region mentioned by Kitanov & Penev (1963) and Stojanov & al. (1966).

Thesium linophyllon L.

Mt Vitosha: Mt Plana, in a meadow (not mowed in recent years) above Plana village, at the foot of Manastirishte summit, at 1250 m, FN-91, 42. 50947° N, 023.40490° E, SC, SOM 157968; Ilchovi Koshari locality (on the land of Zheleznitsa village), 1200 m, 42.53529° N, 023.40940° E .

In both locations the populations were not numerous, covering an area of 200 – 300 m^2. A wider distribution of the species in the region is quite probable. According to Stojanov & al. (1966), this species is rare in the Balkan Range, Sofia region, Rila and Rhodopi Mts. Kuzmanov & Kozhuharov (1976) mentioned it as reliably known only from the region of Central Rhodopes and commented on the need of specifying its distribution in Bulgaria. The species is entered in the *Red Data Book of the PR Bulgaria* as rare (Meshinev 1984), with a note on lack of herbarium material and unclear distribution in the country. The present report confirms its distribution in Vitosha floristic region, with concrete data on the situation of locations and visual assessment of the populations.

During the investigation in Samokov plain and Palakariya the locations of some rare species known for the region were confirmed and the coordinates of two of them are:

Galium boreale L.: 42. 37179° N 023.51886° E; 42. 35879° N 023.51632° E; 42. 35923° N 023.51736° E, (SOM 158 105, 158 082);

Geranium palustre: 42. 37081° N 023.51818° E; 42.35879° N 023.51632° E, (SOM 158 080).

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