

New bryophyte records in the Balkans: 5

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Abstract. New chorological data are presented for 20 species of bryophytes from Bulgaria. Four taxa are liverworts (*Marchantiophyta*) belonging to the families *Jungermanniaceae* (11), *Ricciaceae* (9, 10), and *Scapaniaceae* (1). Sixteen taxa are mosses (*Bryophyta*) belonging to the families *Amblystegiaceae* (6, 17, 18), *Anomodontaceae* (8), *Brachytheciaceae* (7), *Grimmiaceae* (2), *Hypnaceae* (19), *Neckeraceae* (20), *Orthotrichaceae* (5, 14, 15, 16), *Pottiaceae* (3, 13), *Sphagnaceae* (12), and *Splachnaceae* (4).

The publication includes contributions by A. Ganeva (1-8) and R. Natcheva (9-20).

Reports 1–8

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Scapaniaceae

1. *Scapania aspera* Bernet & M. Bernet

Bu Balkan Range (*Central*): Nature Park Bulgarka, on calcareous rocks in the SE part of the park, LH-63, 22.07.2008, coll. V. Roussakova, det. A. Ganeva (SOM-B 9872).

New to the Balkan Range and the N part of Bulgaria. The distribution of the species is closely related to montane calcareous regions and it was reported from Slayyanka, Rhodopi, and Pirin Mts in the southern part of Bulgaria (Petrov 1962b, 1963, 1966; Ganeva 1996; Ganeva & Düll 1999).

Grimmiaceae

2. *Grimmia orbicularis* Bruch ex Wilson

Bu Pirin Mts: S slopes of the hill NE of Nova Lovcha village, 717 m, GL-29, 31.03.2007, coll. A. Ganeva & R. Natcheva, det. A. Ganeva (SOM-B 9844).

New to Pirin Mts. Growing on calcareous rocks, this species was found in areas with such bedrock in NE Bulgaria, Balkan Range, Mt Konyavska, Central Rhodopi Mts, S parts of Mt Vitoshka, and

Kresna gorge (Stefanoff & Petrov 1962; Šmarda 1970; Ganeva & Düll 1999; Ganeva 2002; During 2008).

Pottiaceae

3. *Crossidium squamiferum* (Viv.) Jur. var. *squamiferum*

Bu Pirin Mts: S slopes of the hill NE of Nova Lovcha village, 717 m, GL-29, 31.03.2007, coll. A. Ganeva & R. Natcheva, det. A. Ganeva (SOM-B 9843).

This taxon was reported from the Rhodopi Mts (Velenovsky 1902), Mt Konyavska and Kresna gorge (Stefanoff & Petrov 1962), and the Danubian Plain (Natcheva & Ganeva 2006).

Splachnaceae

4. *Tayloria lingulata* (Dicks.) Lindb.

Bu Mt Vitoshka: small mire on the slope of Golyam Rezen peak, at its SE part facing Skoparnika peak, 42°33'20.1" N, 23°17'40.8" E, 2058 m, FN-91, 20.07.2008, coll. A. Ganeva, det. A. Ganeva & R. Natcheva (SOM-B 9863).

New moss species to the Bulgarian bryophyte flora. Other species of the genus reported from Bulgaria are *Tayloria froelichiana* (Hedw.) Mitt. ex Broth. from Pirin Mts (Meinunger 1975) and *T. splachnoides* (Schleich. ex Schwägr.) Hook. from Rila Mts (Ganeva & Düll 1999)

Orthotrichaceae**5. *Ulota crispa* (Hedw.) Brid.**

Bu Mt Vitoshka: the valley of Vladayska River, along the tourist trail from Vladaya village to Zlatni Mostove locality, above the water – capture, on bark of *Quercus daleshampii*, at 60–80 cm height, 1050 m, FN-82, 02.08.2008, coll. & det. A. Ganeva (SOM-B 9854).

This endangered in Bulgaria species was collected by Podpéra (1911) in Mt Vitoshka, along river Stara Reka above Bistritsa village and later by Arnaudoff (1914) above Dragalevski Monastery. Its current distribution in Mt Vitoshka has not been confirmed by recent collections.

Amblystegiaceae**6. *Hygroamblystegium varium* (Hedw.) Mönk.**

Bu Balkan Range (*Central*): Nature Park Bulgarka, karst spring along Sivyak River, 700 m, LH-63, 12.09.2008, coll. V. Roussakova, det. A. Ganeva (SOM-B 9896).

The species is reported from Iskur River valley (between Svoje and Tserovo towns) (Podpera 1911), Black Sea Coast (Oryahovo) (Simon & Vajda 1959), Mt Strandzha (Petrov 1966), and Mt Vitoshka (Papp & al. 2006).

Brachytheciaceae**7. *Oxyrrhynchium speciosum* (Brid.) Warnst.**

Bu Balkan Range (*Central*): Nature Park Bulgarka, along Sivyak River, on wet soil, 700 m, LH-63, 12.09.2008, coll. V. Roussakova, det. A. Ganeva (SOM-B 9899).

After the first record from Mt Belasitsa (Petrov 1962a) the species was found in the Rhodopi Mts, Rila Mts, and Mt Lozenska (Mickiewicz & al. 1966; Ganeva 1996, 1997). Stefanoff & Petrov (1962) reported this species from the East Balkan Range but without precise data about its locality.

Anomodontaceae**8. *Anomodon longifolius* (Brid.) C.Hartm.**

Bu Balkan Range (*Central*): Nature Park Bulgarka, on calcareous rocks in Vikanata Skala locality, 700 m, LH-63/73, 27.06.2008, coll. V. Roussakova, det. A. Ganeva (SOM-B 9870).

After the first record at Provadiya (Velenovsky 1902) the species was found in the Danubian Plain, Rila Mts (Podpéra 1911), Rhodopi Mts (Petrov 1963; Šmarda 1970), and the Black Sea Coast (Natcheva 2007).

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Ricciaceae**9. *Riccia fluitans* L.**

Bu Znepole Region: Choklyovo marsh, floating among rushes, sterile, 866 m, 42°23'48.7" N, 22°49'55.1" E, 28.07.2008, coll. & det. R. Natcheva (SOM-B 9402).

10. *Ricciocarpos natans* (L.) Corda

Bu Znepole Region: Choklyovo marsh, floating among rushes and on mud by the shore, sterile, 866 m, 42°23'48.7" N, 22°49'55.1" E, 28.07.2008, coll. & det. R. Natcheva (SOM-B 9403); Dragoman marsh, floating on the water surface, sterile, 700 m, 42°56'11.8" N, 22°57'11.2" E, 12.03.2008, coll. & det. R. Natcheva (SOM-B 9404).

Jungermanniaceae**11. *Jungermannia leiatha* Grolle**

Bu Rhodopi Mts (*Eastern*): Protected area "Locality of *Adiantum capillus-veneris*", S-SW of town Kardzhali, in the valley of river Kyosh Dere, on wet tufa rocks, sterile, associated with *Palustriella commutata* (Hedw.) Ochyra, *Pellia endiviifolia* (Dicks.) Dumort., *Pohlia wahlenbergii* var. *calcareae* (Warnst.) E.F. Warb., 250 m, 41°37'21.1" N, 25°21'20.9" E, 12.07.2008, coll. D. Ivanova, det. R. Natcheva (SOM-B 9394).

Sphagnaceae**12. *Sphagnum subnitens* Russow & Warnst. subsp. *subnitens***

Bu Rila Mts: in a transitional mire at the W shore of the Lower Fish lake along the path to Ribni Ezera challet, sterile, 2275 m, 42°06'50.9", 23°29'37.0", 25.09.2008, coll. & det. R. Natcheva (SOM-B 9401).

Sphagnum subnitens (Fig. 1) was reported only once in Bulgaria for Pirin Mts by Šmarda (1970). However, no herbarium specimen was found in Šmarda's collection at BP and all attempts to find

the species in Pirin Mts have failed so far. This is the first documented report of the species in Bulgaria. It is evaluated as *Vulnerable* in the Red List of the bryophytes of Bulgaria (Natcheva & al. 2006).



Fig. 1. *Sphagnum subnitens* (photo R. Natcheva).

Pottiaceae

13. *Syntrichia virescens* (De Not.) Ochyra

Bu Znepole Region: on the bark of old *Acer campestre* and *Juglans regia* in the yard of Zemen monastery, with sporophytes, 670 m, 42°28'00.1" N, 22°44'14.6" E, 28.07.2008, coll. & det. R. Natcheva (SOM-B 9405).

Orthotrichaceae

14. *Orthotrichum affine* Schrad. ex Brid.

Bu Znepole Region: Choklyovo marsh, on the bark of *Salix* sp., with sporophytes, 866 m, 42°23'48.7" N, 22°49'55.1" E, 28.07.2008, coll. & det. R. Natcheva (SOM-B 9407).

15. *Orthotrichum lyelii* Hook. & Taylor

Bu Znepole Region: Choklyovo marsh, on the bark of *Salix* sp., sterile, 866 m, 42°23'48.7" N, 22°49'55.1" E, 28.07.2008, coll. & det. R. Natcheva (SOM-B 9406).

16. *Zygodon rupestris* Schimp. ex Lorentz

Bu Rila Mts: Rila Monastery, at the grave of St. Ivan Rilski, in crevices of shaded calcareous rock in beech forest, associated with *Homalothecium sericeum* (Hedw.) Schimp., 1250 m, FM-97, 13.07.2005, coll. & det. R. Natcheva (SOM-B 9383).

The species is new to Bulgaria where the genus *Zygodon* is represented by one more species, *Z. forsterii* (Dicks.) Mitt.

Amblystegiaceae

17. *Drepanocladus aduncus* (Hedw.) Warnst.

Bu Znepole Region: Choklyovo marsh, on soil along the shore, sterile, 866 m, 42°23'48.7" N, 22°49'55.1" E, 28.07.2008, coll. & det. R. Natcheva (SOM-B 9408).

A peculiar form with slender, almost regularly pinnately branched shoots, collected on wet soil without traces of submergence.

18. *Palustriella commutata* (Hedw.) Ochyra

Bu Rhodopi Mts (*Eastern*): Protected area "Locality of *Adiantum capillus-veneris*", S-SW of town Kardzhali, the valley of river Kyosh Dere, on wet tufa rocks, 250 m, 41°37'21.1" N, 25°21'20.9" E, 12.07.2008, coll. D. Ivanova, det. R. Natcheva (SOM-B 9395).

Hypnaceae

19. *Hypnum jutlandicum* Holmen & E. Warncke

Bu Sredna Mt Gora: E of Koprivstitsa town, along the road to peak Beliya Kamak, on soil in plantation of *Pinus sylvestris*, 1179 m, 42°38'11.9", 24°22'31.4" E, 10.06.2008, coll. & det. R. Natcheva (SOM-B 9376).

Hypnum jutlandicum has unclear distribution in Bulgaria. It has been reported only from the locality Pobitite Kamani by town Beloslav (Simon & Vajda 1959). It is underrecorded and perhaps routinely neglected due to its close resemblance to the widespread *H. cupressiforme* Hedw.

Neckeraceae

20. *Neckera complanata* (Hedw.) Huebener

Bu Rhodopi Mts (*Eastern*): Protected area "Oreshari" at village Oreshari (Krumovgrad Municipality), in ravine between the Iron bridge over Arda River and village Oreshari, on calcareous rocks, 220 m, 41°36'23.6" N, 25°43'23.5" E, LG-90, 13.07.2008, coll. D. Ivanova, det. R. Natcheva (SOM-B 9393).

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