

Snežana Dragičević, Milan Veljić, Petar D. Marin & Branimir Petković

New moss taxa for the flora of Montenegro

Abstract

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This study contains the list and the localities of 13 taxa of mosses collected in the canyon of the River Mrtvica (right tributary of the River Morača). All these taxa are new records in the territory of Montenegro.

Introduction

The River Mrtvica is a right tributary of the River Morača. Its spring is located in the region of Kapetanovo jezero and Velje Duboko, i.e. in the region of Durmitor flysch. The medium part of the river has notched the lime region of the mountain Maganik, forming a very deep and narrow canyon, one of the most beautiful in Montenegro.

Mrtvica is a typical lost river in the late phase of karstification (Petrović, 1978). It is formed by the first autumn rains and the waters flows in an open-air channel until when the snow on the Morača mountain is completely molten. During summer the river dries up in the enlargement of Velje Duboko where it loses its water in the stony and pebbly riverbed. The superficial flow of Mrtvica starts again in the medium part of the canyon where the copious karst springs Bijeli Nerini occurs.

Poor attention was devoted to floristic and vegetational investigations of the River Mrtvica canyon, and this region is still scarcely known to botanical literature. One of the reasons for neglecting the moss flora of this region is doubtless due to its ruggedness. By reviewing the literature on moss research in Montenegro, the only data reporting a visit in this region were those by Pulević (1970) who named Glowacki as a collector of *Antitrichia curtipendula* in 1896; this species was collected not only in Mrtvica canyon, but also in two other locations in Montenegro and in 1914 he described it as a new species.

In the period 1997-1998 we carried out an intensive research on the bryoflora of this region (Fig. 1). By comparing the results of our investigation with previous ones (Weiss 1866, Hoehnel 1893, Breidler 1888, Velenovsky 1901, Loitlesberger 1905, Baumgartner 1915, Vilhelm 1923, Latzel 1931, Černjavski 1936/37, Pavletić 1955, Martinčić 1964, 1968, Birks & Walters 1972/73, Pavletić & Pulević 1975, Grgić 1989, Duell & al. 1999,

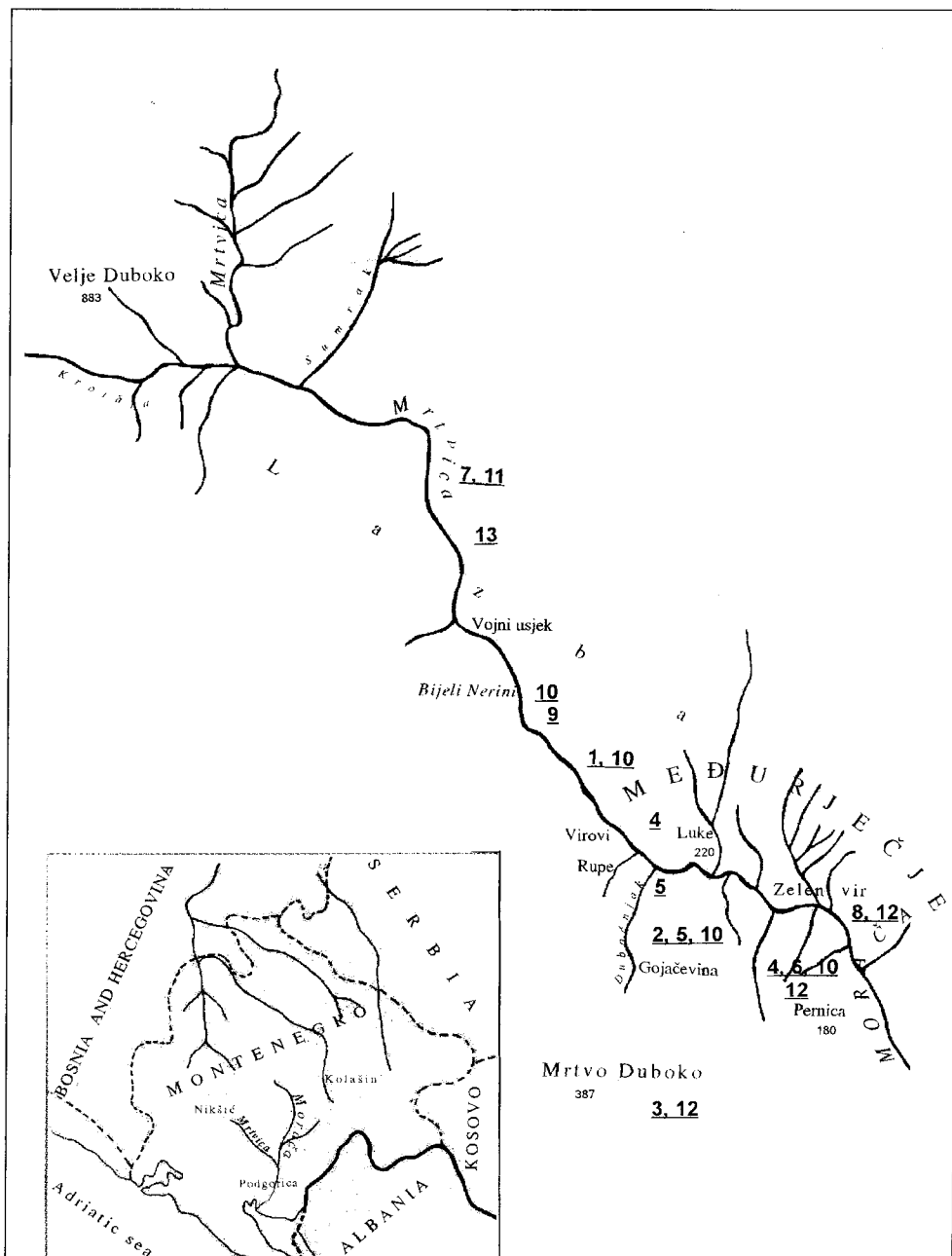


Fig. 1. Map of the studied site and localities of the new records. 1: *Amphidium lapponicum*; 2: *Brachythecium reflexum*; 3: *Entodon concinnus*; 4: *Grimmia apiculata*; 5: *Hylocomium brevirostre*; 6: *Hypnum pratense*; 7: *Orthotrichum rupestre*; 8: *Pottia truncata*; 9: *Pseudoleskella catenulata* var. *catenulata*; 10: *Rhynchostegium murale*; 11: *Rhytidium rugosum*; 12: *Thuidium philibertii*; 13: *Ulota crispa*.

Sabovljević & Stevanović 1999), we ascertained 13 new species of genuine mosses (Bryopsysda) for Montenegrin flora.

The entire material collected is deposited in the collection of the Natural History Museum of Montenegro in Podgorica.

Nomenclature for mosses follows that of Smith (1990) and Corley & al. (1981). Besides the names of the newly recorded species, synonyms from the relevant literature, localities, altitudes, substrata where the material was collected, and the periods of collection are reported.

BRYOPSIDA

Amphidiuin lapponicum (Hedw.) Schimp. On the left bank, along the way from Rupe to Bijeli Nerini-Lazba, at about 300 m a.s.l., on soil, Aug. 1998.

Brachytheciwn reflexuin (Starke) B., S. & G. (= *B. kosaninii* Podp.). On the right bank, along the way from Rupe to Mrtvo Duboko - Gojačevina, at about 350 m a.s.l., on soil, Oct. 1998.

Entodon concinnus (De Not.) Par. (= *E. orthocarpus* (Brid.) Lindb.). Mrtvo Duboko, at about 400 m a.s.l., on limestone rocks, Oct. 1998.

Grimmia apiculata Hornsch. On the left bank: Luke, at about 220 m a.s.l., limestone rocks, July 1997; Međurječje, Pernica (mouth of the River Mrtvica), at 180 m a.s.l., on limestone rocks, Feb. 1998.

Hylocomium brevirostre (Brid.) B., S. & G. (= *Loeskeobryum brevirostre* (Brid.) Fleisch., *Rhytidiadelphus brevirostris* (Brid.) Nyh.). On the right bank: along the way from Rupe to Mrtvo Duboko - Gojačevina, at about 350 m a.s.l., on soil, Oct 1998; where the brook Dubočnjak goes into the River Mrtvica, at 223 m a.s.l., on soil, July 1997.

Hypnum pratense (Rabenh.) W. Koch ex Hartm. (= *Breidieria pratensis* (Rabenh.)

Loeske). Međurječje, Pernica (mouth of the River Mrtvica), at 180 m a.s.l., on limestone rocks, Feb. 1998.

Orthotrichum rupestre Schleisch. ex Schwaegr. (= *O. creticum* Baumg., *O. franzonianum* De Not. ex Vent., *O. sturmii* Hoppe & Hornsch.). On the left bank, along the way from the military cleft to Velje Duboko-Lazba, at about 600 m a.s.l., on limestone rocks, Jul. 1998.

Pottia truncata (Hedw.) B. & S. (= *P. truncatula* (With.) Buse). On the right bank, Međurječje, along the way from Zeleni vir to Pernica (mouth of the River Mrtvica), 200 m a.s.l., on soil, Mar. 1998.

Pseudoleskeella catenulata var. *catenulata* (Schrad.) Kindb. On the left bank, near Bijeli Nerini, at about 450 m a.s.l., on limestone rock in the bed, which was without water, Aug. 1997.

Rhynchostegiium murale (Hedw.) B., S. & G. (= *Eurhynchium murale* (Hedw.) Milde). On the left bank: Bijeli Nerini, at about 500 m a.s.l., on soil and limestone rocks, Feb. 1998; along the way from Rupe to Bijeli Nerini-Lazba, at about 300 m a.s.l., in the wood, on soil, Feb. 1998; on the right bank: along the way from Rupe to Mrtvo Duboko -Gojačevina, at about 350 m a.s.l., on soil, Oct. 1998; Međurječje, Pernica (mouth of the River Mrtvica), at 180 m a.s.l., into the water, on limestone rocks, Feb. 1998.

Rhytidium rugosuim (Hedw.) Kindb. On the left bank, along the way from Bijeli Nerini to Velje Duboko-Lazba, at about 600 m a.s.l., on soil, Mar. 1998.

Thuidium philiberti Limpr. (= *T. delicatulum* var. *radicans* (Kindb.) Crum, Steere & Anderson). On the right bank: Međurječje, along the way from Zeleni vir to Pernica (mouth of the River Mrtvica), at 200 m a.s.l., on soil, Mar. 1998; Pernica (mouth of the River Mrtvica), at 180 m a.s.l., on limestone rocks, Feb. 1998; Mrtvo Duboko, at about 400 m a.s.l., on limestone rocks and soil, Oct. 1998.

Ulota crispa (Hedw.) Brid. (= *U. bruchii* Hornsch. ex Brid., *U. crispula* Brid., *U. intermedia* Schimp., *U. nicholsonii* Culm., *U. ulophylla* Broth.). On the left bank, along the way from Bijeli Nerini to the military cleft-Lazba, at about 550 m a.s.l., on bark of *Fagus silvatica*, Aug. 1997.

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Addresses of the authors:

Dragičević Snežana, Natural History Museum of Montenegro, Trg Nikole Kovačević 7, P.O. Box 374, YU-8 1000 Podgorica, Yugoslavia.

Mr. Milan Veljić, Prof. dr. Petar D. Marin, Prof. dr. Branimir Petković, Faculty of Biology, Botanical Institute and Garden "Jevremovac", Studentski trg 16, YU-1 1000 Belgrade, Yugoslavia.

