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New moss taxa for the flora of Serbia

Abstract

Veljić, M. & Marin, P. D.: New moss taxa for the flora of Serbia. — Fl. Medit. 7: 133-138. 1997. — ISSN 1120-4052.

Thirteen taxa of mosses new to Serbia have been recorded. Seven species are from *Hepaticae*, and five species and one variety are from the *Bryopsida*. Of these *Porella baueri* (Schiffn.) C. Jens. is regionally endangered and *Ortotrichum stellatum* Brid. is recorded as rare.

Introduction

After checking the available literature on the bryophytes distributed in the territory of Serbia, we conclude that this area is poorly studied. Therefore, in 1994, we started intensive research in the localities which have not been investigated to date. From the material collected, a great number of taxa has been determined. Comparing our results with those of other authors (Jurišić 1900, Simić 1900, Katić 1907, Podpera 1922, Pavletić 1955, Popović 1966, Gajić & al. 1991) we established that 13 taxa are recorded for the first time in bryophyte flora of Serbia.

The entire material collected is deposited in the Herbarium of the Institute of Botany and Botanical Garden "Jevremovac", Faculty of Biology, Belgrade.

In addition to the names of the newly recorded species, the synonyms from the relevant literature, localities, altitudes, substrata, from which the material were collected, and the periods of collection are also noted.

Nomenclature for liverworts follows that of Grolle (1983) and for mosses with that of Smith (1980) and Corley & al. (1981).

HEPATICAЕ

Barbilophozia lycopodioides (Wallr.) Loeske (= *Jungermannia lycopodioides* Wallroth, *Lophozia lycopodioides* (Wallr.) Cogn.). The village of Milanovac (EP 49), 240 m a.s.l., limestone rocks, Mar 1995 (Fig. 1).

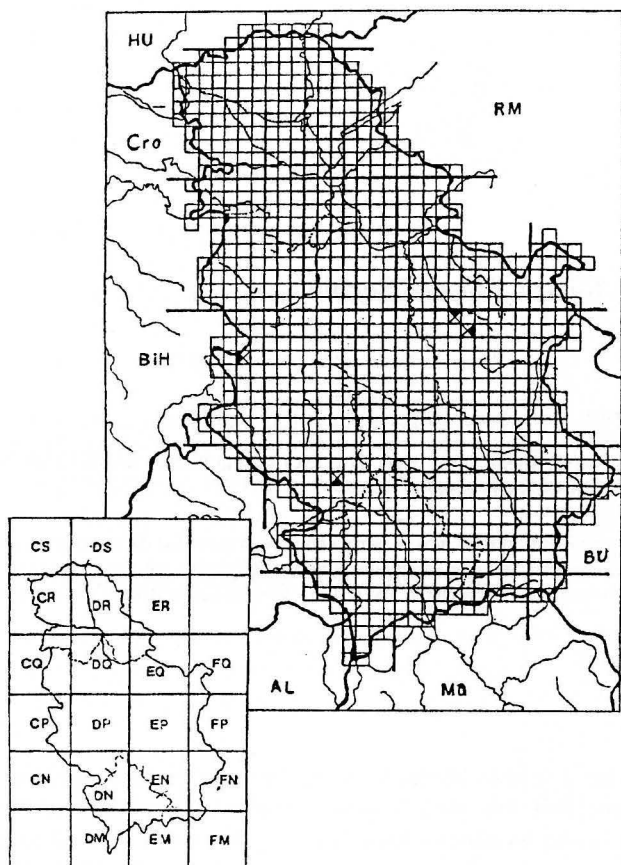


Fig. 1. UTM of Serbia (10 × 10) with the localities of species: *Barbilophozia lycopodioides* (☒); *Jungermannia atrovirens*, *Scapania mucronata* (☒); *Porella arboris-vitae*, *Cololejeunea calcarea*, *Cratoneuron filicinum* var. *curvicaule* (☒); *Orthotrichum stellatum* (☒).

Jungermannia atrovirens Dum. (= *Solenostoma triste* (Nees) K. Müll., *S. atrovirens* (Dum.) K. Müll.). The Raška river (Monastery Sopoćani, DN 57), 760 m a.s.l., humid limestone rocks, Nov 1995 (Fig. 1).

Cololejeunea calcarea (Libert) Schiffn. (= *Lejeunea calcarea* Libert., *L. echinata* (Hook.) Tayl., *Jungermannia hamatifolia* var. *echinata* Hook., *Cololejeunea ehinata* (Hook.) DT). The Rača river (CP 86), 498 m a.s.l., on limestone rocks, Nov 1994 (Fig. 1).

Porella arboris-vitae (With.) Grolle (= *Porella levigata* (Schrader) Lindb. var. *levigata*, *Jungermannia levigata* Schrader, *Madotheca levigata* (Schrader) Dum., *Bellincinia montana* Raddi). The Rača river (CP 86), 498 m a.s.l., on limestone rocks and tree bark, Nov 1994 (Fig. 1).

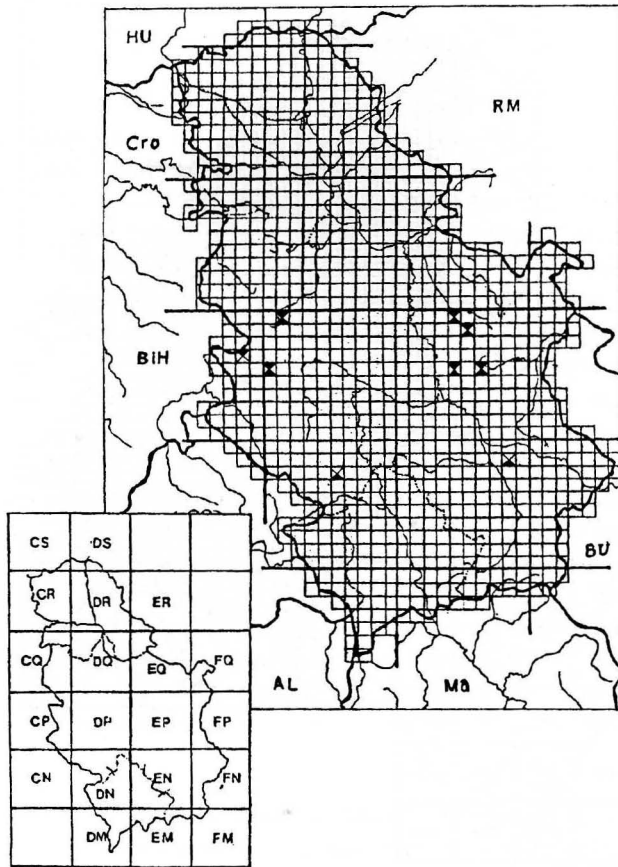


Fig. 2. UTM of Serbia (10 × 10) with the localities of species: *Porella baueri* (☒) and *Cinclidotus aquaticus* (◻).

Porella baueri (Schiffn.) C. Jens. (= *Madotheca baueri* Schiffn.). The Banja river (the village of Petnica, DP 19), 178 m a.s.l., May 1995; the Gradac river (DP 19), 265 m a.s.l., May 1995; the Sušica river (DP 05), 530 m a.s.l., Nov 1994; the Rača river (CP 86), 498 m a.s.l., Nov 1994; the village of Milanovac (EP 49), 240 m a.s.l., Apr 1995; the Veliko Vrelo (Senjski mines, EP 58), 440 m a.s.l., Aug 1994; the spring of the Grza river (EP 45), 450 m a.s.l., Feb 1995; the village of Krivi Vir (EP 65), 375 m a.s.l., Feb 1995; on limestone rocks and tree bark (Fig. 2). This species is cited in the "Red Data Book of European Bryophytes" as regionally endangered (Stewart 1995).

Scapania mucronata Buch. The Raška river (Monastery Sopoćani, DN 57), 760 m a.s.l., from the soil covering limestone rocks, Nov 1995 (Fig. 1).

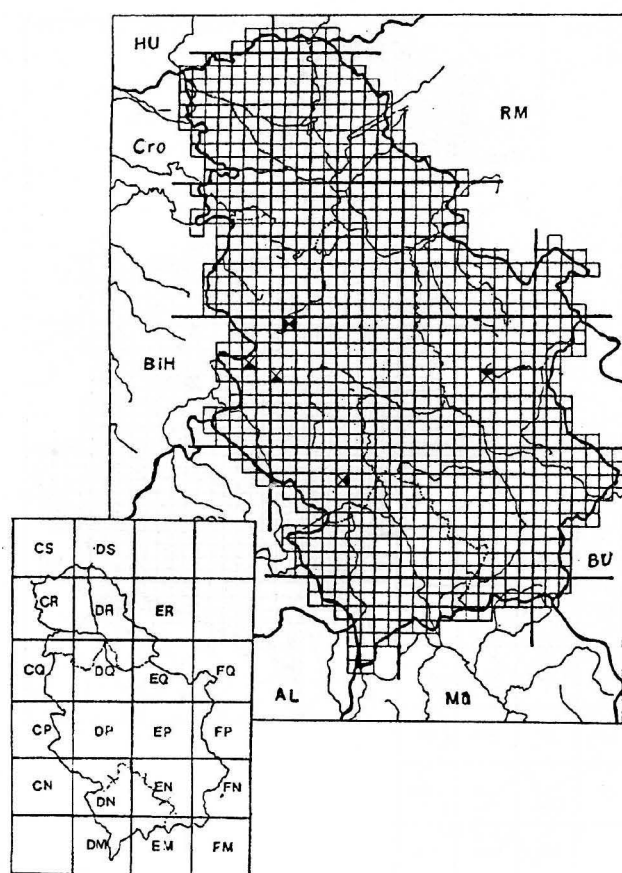


Fig. 3. UTM of Serbia (10 × 10) with the localities of species: *Scapania aspera* (▣), *Didymodon sinuosus* (▣), *Bryum torquescens* (▣), *Taxiphyllum wissgrillii* (▣).

Scapania aspera M. et H. Bern. (= *S. aequiloba* var. *dentata* Gottsche). The Sušica river (DP 05), 530 m a.s.l., Nov 1994; the Rača river (CP 86), 498 m a.s.l., Nov 1994; limestone rocks (Fig. 3).

MUSCI

Cratoneuron filicinum (Hedw.) Spruce var. *curvicaule* (Jur.) Mönk. (= *Amblystegium curvicaule* (Jur.) Lindb., *Hypnum curvicaule* Juratzka, *Amblystegium filicinum* var. *curvicaule* Molendo, *Hygroamblystegium curvicaule* Loeske, *Cratoneuron curvicaule* Roth). The Rača river (CP 86), 498 m a.s.l., on humid limestone rocks, Nov 1994 (Fig. 1).

Orthotrichum stellatum Brid. (= *O. braunii* B. & S.). The Veliko Vrelo (Senjski mines, EP 58), 440 m a.s.l., on tree bark, Apr 1995 (Fig. 1). This species is rare (Stewart 1995).

Cinclidotus aquaticus (Hedw.) B. & S. (= *Anictangium aquaticum* Hedw., *A. falcatum* P. Beauv. *Harrisonia aquatica* Spreng., *Gümbelia aquatica* K. Müll., *Sekra aquatica* Lindb., *Cinclidotus aquaticus* subsp. *eu-aquaticus* Giacom.). The Banja river (the village of Petnica, DP 19), 178 m a.s.l., Feb 1995; the Gradac river (DP 19), 265 m a.s.l., May 1995; the Sušica river (DP 05), 530 m a.s.l., Nov 1994; the Raška river (Monastery Sopoćani, DN 57), 760 m a.s.l., Nov 1994; the village of Milanovac (EP 49), 240 m a.s.l., Aug 1994; the Veliko Vrelo (Senjski mines, EP 58), 440 m a.s.l., Aug 1994; the spring of the Grza river (EP 45), 450 m a.s.l., Feb 1995; the village of Krivi Vir (EP 65), 375 m a.s.l., Aug 1994; the spring in the village of Donji Dušnik (EN 88), 550 m a.s.l., Dec 1995; on the submerged stoens of running waters (Fig. 2).

Bryum torquescens B. & S. (= *Bryum capillare* var. *torquescens* Husnot). The Banja river (the village of Petnica, DP 19), 178 m a.s.l., Feb 1995; the Raška river (Monastery Sopoćani, DN 57), 760 m a.s.l., Nov 1995; limestone rocks (Fig. 3).

Didymodon sinuosus (Mitt.) Delogne (= *Barbula sinuosa* (Mitt.) Garov., *Oxystegus sinuosus* (Mitt.) Hilp., *Trichostomum sinuosum* (Mitt.) C Müll., *Dicranella sinuosa* Wils., *Tortula sinuosa* Mitten, *Barbula cylindrica* var. *sinuosa* Lindb.). The Banja river (the village of Petnica, DP 19), 178 m a.s.l., on humid limestone rocks, Feb 1995 (Fig. 3).

Taxiphyllum wiszgrillii (Garov.) Wijk & Marg. (= *T. depresum* (Bruch) Reimers., *Isopterygium depresum* (Bruch) Mitt., *Plagiothecium depresum* (Bruch) Dixon). The village of Krivi Vir (EP 65), 375 m a.s.l., on rocks and soil, Aug 1994 (Fig. 3).

Acknowledgements

Financial support by the Research Science Fund of Serbia, grant No. 03 E 08/1, is gratefully acknowledged.

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