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ADDITIONS TO THE BRYOPHYTE FLORA OF THE TARA RIVER CANYON AND THE DURMITOR AREA, MONTENEGRO

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Recent explorations by the authors have revealed 120 bryophyte taxa (19 liverworts and 101 mosses) from the Tara river canyon and the Bukovica stream valley at Gornji Bukovica village. 23 taxa are new to the Durmitor area, with 16 bryophytes new to the Durmitor National Park. Two mosses, *Anoectangium aestivum* and *Dichodontium flavescens* are reported for the first time from Montenegro.

Key words: liverworts, mosses, new records, taxa of special interest

INTRODUCTION

The canyon of the Tara river, with a watershed of 1,900 km^2, is situated northeast of the Durmitor massive in the northeastern part of Montenegro. With a length of 150 km, Tara is the longest river flowing through Montenegro and the canyon is one of the largest in Europe. Generally, it is 1,000 m deep, in places reaching 1,300 m, and the average drop is 3.6 m/km with numerous waterfalls, cascades and rapids. A 60 km long section of the Tara canyon is included in the Durmitor National Park established in 1978. For its natural and cultural wonders, in 1980 the canyon was declared a UNESCO World Natural Heritage site. The river enters the Park at the mouth of the Ravnjak creek and leaves it downstream of the mouth of Sušica river. Its average water discharge is 89 m^3/s. The canyon and its surroundings are mainly built of limestones and dolomites of the Mesozoic age. In the Tara canyon snow is rather rare, particularly on its sunny sides and at the bottom, but in the adjoining areas of the Durmitor massive snow can last more than 180 days. The Park area has a rather humid climate with yearly precipitations 1,000–1,200 mm in the canyon and around 2,000 mm

on the plateau (CEROVIĆ 1986). In the lower belts of the canyon the vegetation consists of oak forests; while between 1,300–1,500 m, and the plateau is largely covered by beech forest (LJEŠEVIĆ 1996).

A complete list of the bryophyte species found during the same collecting trip (see below) in the main massive of the Durmitor Mts belonging to the Durmitor National Park was published last year (PAPP and ERZBERGER 2010). This paper contains additional data based on collections in the Tara river canyon and at another site in the Bukovica stream valley.

METHODS

Our collecting trip was made in October 2004 in a section of the Tara canyon that falls within the Durmitor National Park and along the Bukovica stream on Durmitor plateau, an area that lies outside the park borders (Fig. 1).

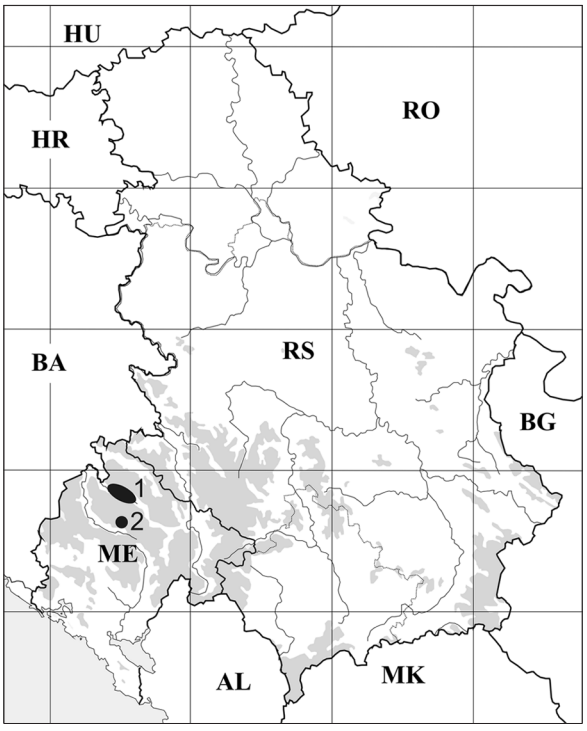


Fig. 1. Location of the investigated areas. 1 = Tara canyon, 2 = Bukovica (HU = Hungary, RO = Romania, HR = Croatia, BA = Bosnia-Herzegovina, ME = Montenegro, RS = Serbia, BG = Bulgaria, MK = FYR Macedonia, AL = Albania)

The specimens are deposited in the bryophyte collection of the Hungarian Natural History Museum, Budapest (BP) and in the Herbarium of the Botanischer Garten und Botanisches Museum Berlin-Dahlem (B).

Nomenclature of the species follows GROLLE and LONG (2000) for liverworts and HILL *et al.* (2006) for mosses. Floristical results are considered as new to Montenegro if no corresponding records are found in the bryophyte checklist of Montenegro (DRAGIĆEVIĆ and VELJIĆ 2006), in the liverwort checklist of the Mediterranean (ROS *et al.* 2007), in the moss checklist of southeastern Europe (SABOVLJEVIĆ *et al.* 2008) and in some other works containing additional data for Montenegro (BIRKS and WALTERS 1973, DÜLL *et al.* 1999, ERZBERGER and PAPP 2007, ERZBERGER *et al.* 2008, PAPP and ERZBERGER 2007*a*, PAPP *et al.* 2008, SABOVLJEVIĆ and STEVANOVIĆ 1999). Records reported for the first time for the Durmitor area were selected on the basis of the first conspectus of the bryophyte flora of the Durmitor National Park published by KÜRSCHNER and PAROLLY (1997), as well as our previously published records from the main massif of the Durmitor Mts (PAPP and ERZBERGER 2010).

Site details

1. Montenegro, Durmitor National Park, Tara canyon, Crna poda forest, *Pineto-Fagetum*, 895 m, N 43°00'29.5", E 19°25'31.2", 11.10.2004.
2. Montenegro, Durmitor National Park, Tara canyon, Česma spring, between Dobrilovina and Splavište, 677 m, 11.10.2004.
3. Montenegro, Durmitor National Park, Tara canyon, Tara river at Splavište, 623 m, N 43°07'43.3", E 19°18'36.7", 11.10.2004.
4. Montenegro, Gornji Bukovica, at Bukovica potok stream, *Fagetum*, 1,426 m, N 43°01'22.2", E 19°08'39.9", 14.10.2004.

RESULTS AND DISCUSSION

In this paper 120 bryophyte taxa (19 liverworts and 101 mosses) are recorded from the investigated area, of which 23 taxa are new to the Durmitor area, including 16 bryophytes new to the Durmitor National Park. Two mosses, *Anoectangium aestivum* and *Dichodontium flavescens*, are reported for the first time from Montenegro.

List of taxa

The locality numbers and substrates are given after the species name. Taxa new to the Durmitor area are marked with an asterisk.

Hepaticae

Chiloscyphus pallescens (Ehrh. ex Hoffm.) Dumort. – 3: at the river
Cololejeunea calcarea (Lib.) Schiffn. – 1: on limestone rock
Conocephalum conicum (L.) Dumort. – 2: at the spring
Frullania dilatata (L.) Dumort. – 1: on the bark of *Fagus* and *Fraxinus*; 4: on the bark of *Fagus*
* ***Jamesoniella autumnalis*** (DC.) Steph. – 1: on decaying wood
Jungermannia atrovirens Dumort. – 2: at the spring; 3: at the river
Leiocolea collaris (Nees) Schljakov – 2: at the spring; 3: at the river
Lepidozia reptans (L.) Dumort. – 1: on the bark of *Pinus*
Metzgeria conjugata Lindb. – 1: on limestone rock
Metzgeria furcata (L.) Dumort. – 1, 4: on the bark of *Fagus*
Pedinophyllum interruptum (Nees) Kaal. – 1: on limestone rock; 2: at the spring
Pellia endiviifolia (Dicks.) Dumort. – 2: at the spring; 3: at the river; 4: at the stream
Plagiochila asplenioides (L.) Dumort. – 2: at the spring
Plagiochila porelloides (Torrey ex Nees) Lindenb. – 1: on limestone rock and on the bark of *Pinus*; 4: at the stream
Porella baueri (Schiffn.) C. E. O. Jensen – 1: on the bark of *Fagus*
Porella cordaeana (Huebener) Mohr – 4: at the stream, on the bark of *Fagus*, on tree bark
Preissia quadrata (Scop.) Nees – 2: at the spring
Radula complanata (L.) Dumort. – 1: on the bark of *Fagus* and *Fraxinus*; 4: at the stream
Scapania aspera M. Bernet et Bernet – 2: at the spring

Musci

Abietinella abietina (Hedw.) M. Fleisch. – 2: at the spring
* ***Amblystegium subtile*** (Hedw.) Schimp. – 4: on the bark of *Fagus*
* ***Anoectangium aestivum*** (Hedw.) Mitt. – 2: at the spring
* ***Anomodon attenuatus*** (Hedw.) Huebener – 1: on limestone rock, on the bark of *Fagus*
Anomodon viticulosus (Hedw.) Hook. et Taylor – 1: on limestone rock, on the bark of *Fagus* and on decaying wood
Antitrichia curtipendula (Hedw.) Brid. – 4: on the bark of *Fagus*
Barbula convoluta Hedw. – 3: at the river
* ***Barbula crocea*** (Brid.) F. Weber et D. Mohr – 2: at the spring
Brachytheciastrum velutinum (Hedw.) Ignatov et Huttunen – 1: on decaying wood and on the base of *Fraxinus* trunk; 4: at the stream
Brachythecium glareosum (Bruch ex Spruce) Schimp. – 2: at the spring
Brachythecium rivulare Schimp. – 4: at the stream
Brachythecium rutabulum (Hedw.) Schimp. – 3: at the river; 4: at the stream
Brachythecium salebrosum (Hoffm. ex F. Weber et D. Mohr) Schimp. – 1: at the base of *Fraxinus* trunk

Bryum capillare Hedw. – 4: on the stem base of *Fagus*
Bryum moravicum Podp. – 1: on the bark of *Fraxinus*; 4: on the bark of *Fagus*
Bryum pseudotriquetrum (Hedw.) P. Gaertn. et al. – 2: at the spring; 3: at the river
Campylium protensum (Brid.) Kindb. – 2: at the spring
Campylophyllum calcareum (Crundw. et Nyholm) Hedenäs – 1: on limestone rock; 2: at the spring; 3: at the river
* ***Cinclidotus aquaticus*** (Hedw.) Bruch et Schimp. – 3: at the river
Cinclidotus fontinaloides (Hedw.) P. Beauv. – 2: at the spring
* ***Cinclidotus riparius*** (Host ex Brid.) Arn. – 2: at the spring
* ***Cirriphyllum crassinervium*** (Taylor) Loeske et M. Fleisch. – 2: at the spring; 3: at the river
Cratoneuron filicinum (Hedw.) Spruce – 2: at the spring; 4: at the stream
Ctenidium molluscum (Hedw.) Mitt. – 1: on limestone rock; 2: at the spring; 4: at the stream
* ***Dichodontium flavescens*** (Dicks.) Lindb. – 2: at the spring
Dichodontium pellucidum (Hedw.) Schimp. – 2: at the spring; 3: at the river
Dicranum scoparium Hedw. – 1: on decaying wood
Dicranum tauricum Sapjegin – 1: on the bark of *Pinus*
Didymodon ferrugineus (Schimp. ex Besch.) M. O. Hill – 3: at the river
Didymodon spadiceus (Mitt.) Limpr. – 4: at the stream
Ditrichum gracile (Mitt.) Kuntze – 2: at the spring
Encalypta streptocarpa Hedw. – 2: at the spring; 4: at the stream
Fissidens dubius P. Beauv. – 1: on limestone rock; 2: at the spring
* ***Fissidens rufulus*** Bruch et Schimp. – 2: at the spring; 3: at the river
Fissidens taxifolius Hedw. – 4: at the stream
Fontinalis antipyretica Hedw. – 3: at the river
Gymnostomum aeruginosum Sm. – 2: at the spring; 3: at the river
Homalothecium lutescens (Hedw.) H. Rob. – 2: at the spring
Homalothecium philippeanum (Spruce) Schimp. – 1: on limestone rock and on tree bark; 4: on tree bark
Homalothecium sericeum (Hedw.) Schimp. – 1, 4: on the bark of *Fagus*
Homomallium incurvatum (Schrad. ex Brid.) Loeske – 1: on limestone rock
Hygrohypnum luridum (Hedw.) Jenn. – 2: at the spring; 3: at the river; 4: at the stream
Hylocomium splendens (Hedw.) Schimp. – 1: on limestone rock; 2: at the spring
Hypnum cupressiforme Hedw. – 1: on limestone rock, on the bark of *Pinus* and *Betula pendula*, on decaying wood
Hypnum cupressiforme Hedw. var. ***lacunosum*** Brid. – 2: at the spring
Isothecium alopecuroides (Lam. ex Dubois) Isov. – 1: on limestone rock, on the bark of *Fagus,* on decaying wood; 4: on the bark of *Fagus*
* ***Leptodon smithii*** (Hedw.) F. Weber et D. Mohr – 1: on the bark of *Fagus*
* ***Lescuraea saxicola*** (Schimp.) Molendo – 4: on tree bark
Leucodon sciuroides (Hedw.) Schwägr. – 1: on the bark of *Fagus*, *Fraxinus* and *Betula pendula*; 4: on the bark of *Fagus*

Mnium lycopodioides Schwägr. – 4: at the stream
Mnium marginatum (Dicks.) P. Beauv. – 1: on limestone rock; 4: at the stream
Mnium stellare Hedw. – 4: at the stream
* ***Neckera besseri*** (Lobarz.) Jur. – 1: on limestone rock, on the bark of *Fagus*
Neckera complanata (Hedw.) Huebener – 1: on the bark of *Fagus* and *Fraxinus*
Neckera crispa Hedw. – 1: on limestone rock, on the bark of *Fagus*
Orthothecium intricatum (Hartm.) Schimp. – 2: at the spring
Orthotrichum affine Schrad. ex Brid. – 4: on the bark of *Fagus*
Orthotrichum cupulatum Hoffm. ex Brid. var. ***cupulatum*** – 2: at the spring
* ***Orthotrichum cupulatum*** Hoffm. ex Brid. var. ***riparium*** Huebener – 4: at the stream
Orthotrichum lyellii Hook. et Taylor – 1: on the bark of *Fagus*
Orthotrichum pallens Bruch ex Brid. – 4: on the bark of *Sorbus*
* ***Orthotrichum pumilum*** Sw. ex anon. – 4: on the bark of *Fagus*
* ***Orthotrichum rupestre*** Schleich. ex Schwägr. – 4: on the bark of *Cerasus* and *Fagus*
Orthotrichum speciosum Nees – 4: on the bark of *Fagus* and *Sorbus*
Orthotrichum stramineum Hornsch. ex Brid. – 1, 4: on the bark of *Fagus* and *Sorbus*
Orthotrichum striatum Hedw. – 4: on the bark of *Fagus* and *Cerasus*
Oxyrrhynchium hians (Hedw.) Loeske – 4: at the stream
Palustriella commutata (Hedw.) Ochyra – 2: at the spring; 4: at the stream
Palustriella falcata (Brid.) Hedenäs – 2: at the spring
Plagiobryum zierii (Hedw.) Lindb. – 2: at the spring
Plagiomnium affine (Blandow ex Funck) T. J. Kop. – 2: at the spring
* ***Plagiomnium cuspidatum*** (Hedw.) T. J. Kop. – 1: at the stem base of *Fraxinus*
Plagiomnium rostratum (Schrad.) T. J. Kop. – 1: on decaying wood; 2: at the spring
Plagiomnium undulatum (Hedw.) T. J. Kop. – 1: at the stem base of *Fraxinus*; 4: at the stream
* ***Plagiothecium cavifolium*** (Brid.) Z. Iwats. – 4: at the stream
Plasteurhynchium striatulum (Spruce) M. Fleisch. – 2: at the spring
Platyhypnidium riparioides (Hedw.) Dixon – 2: at the spring; 3: at the river; 4: at the stream
Pohlia melanodon (Brid.) A. J. Shaw – 4: at the stream
Polytrichastrum formosum (Hedw.) G. L. Sm. – 4: at the stream
Pseudoleskea incurvata (Hedw.) Loeske – 4: at the stream
* ***Pseudoleskea radicosa*** (Mitt.) Macoun et Kindb. – 4: on the bark of *Fagus*
Pseudoleskea saviana (De Not.) Latzel – 4: at the stream
Pseudoleskeella catenulata (Brid. ex Schrad.) Kindb. – 3: at the river
Pseudoleskeella nervosa (Brid.) Nyholm – 1: on the bark of *Fagus*, on decaying wood; 4: on the bark of *Fagus*
Pseudoscleropodium purum (Hedw.) M. Fleisch. – 1: on soil; 2: at the spring
Pterigynandrum filiforme Hedw. – 1: on the bark of *Fagus*; 4: on the bark of *Fagus* (including var. *majus*)
Rhizomnium punctatum (Hedw.) T. J. Kop. – 4: at the stream
Rhynchostegium murale (Hedw.) Schimp. – 2: at the spring

Rhytidiadelphus triquetrus (Hedw.) Warnst. – 2: at the spring; 3: at the river
Schistidium crassipilum H. H. Blom – 2: at the spring
* ***Schistidium elegantulum*** H. H. Blom – 2: at the spring
* ***Sciuro-hypnum populeum*** (Hedw.) Ignatov et Huttunen – 3: at the river
Syntrichia ruralis (Hedw.) F. Weber et D. Mohr – 1: on the bark of *Fagus*, on decaying wood; 3: at the river; 4: on the bark of *Fagus*
Thamnobryum alopecurum (Hedw.) Gangulee – 1: on limestone rock; 3: at the river
* ***Thuidium assimile*** (Mitt.) A. Jaeger – 1: on limestone rock; 2: at the spring
* ***Thuidium recognitum*** (Hedw.) Lindb. – 1: on limestone rock
Tortella tortuosa (Hedw.) Limpr. – 2: at the spring; 4: at the stream
Trichostomum crispulum Bruch – 2: at the spring; 3: at the river
Ulota crispa (Hedw.) Brid. – 1: on the bark of *Fagus*, *Betula pendula* and *Cerasus*

New records and taxa of special interest

Anoectangium aestivum (Hedw.) Mitt. is a rare, subarctic, subalpine species (DÜLL 1984) living on shaded limestone rocks. In southeastern Europe it is reported only from Romania according to SABOVLJEVIĆ *et al.* (2008). It is the first report of the species from Montenegro.

Barbula crocea (Brid.) F. Weber et D. Mohr is a rare, subatlantic, dealpine species (DÜLL 1984), although it is known from almost all southeastern European countries except Albania, Macedonia and the European part of Turkey (SABOVLJEVIĆ *et al.* 2008). This record from Tara canyon was published earlier by the authors as the first report of the species from Montenegro in ERZBERGER and PAPP (2007).

Dichodontium flavescens (Dicks.) Lindb. is a rare, subatlantic, montane species (DÜLL 1984). In southeastern Europe it is known only from Romania and Slovenia according to SABOVLJEVIĆ *et al.* (2008). It is the first report of the species from Montenegro.

Jamesoniella autumnalis (DC.) Steph. is very valuable record. Although this subboreal, montane liverwort (DÜLL 1983) is included in the bryophyte checklist of Montenegro (DRAGIĆEVIĆ and VELJIĆ 2006), according to the liverwort checklists of the Mediterranean (ROS *et al.* 2007) it has only a very old, doubtful record from Montenegro. In southeastern Europe it is known from Bulgaria, Croatia, Serbia, Slovenia and Turkey according to ROS *et al.* (2007).

Pseudoleskea saviana (De Not.) Latzel is a continental, subalpine moss (DÜLL 1985) included in the regionally threatened (RT) category ac-

cording to the Red data book of European bryophytes (ECCB 1995). It is a species of shaded volcanic rocks, but sometimes it is found on tree bark mainly at the base of trunks. It is not very rare in southeastern Europe as several populations were found in Serbia (PAPP *et al.* 2004, PAPP and ERZBERGER 2005, 2007*b*, 2009) Montenegro (PAPP and ERZBERGER 2010) and Albania (PAPP *et al.* 2010).

REFERENCES

BIRKS, H. J. B. and WALTERS, S. M. (1973): The flora and vegetation of Barno jezero, Durmitor, Montenegro. – *Glasn. Republ. Zavodna Zaštitu Prir. Prirodnjačkog Muz. Titogradu* **5**: 5–23.

CEROVIĆ, B. (1986): *Durmitor and the Tara canyon*. – Durmitor National Park, Žabljak.

DRAGIĆEVIĆ, S. and VELJIĆ, M. (2006): *Pregled mahovina Crne Gore*. – Prirodnjački Muzej Crne Gore, Podgorica, 99 pp.

DÜLL, R. (1983): Distribution of the European and Macaronesian liverworts (Hepaticophytina). – *Bryol. Beitr.* **2**: 1–115.

DÜLL, R. (1984): Distribution of the European and Macaronesian mosses (Bryophytina) I. – *Bryol. Beitr.* **4**: 1–109.

DÜLL, R. (1985): Distribution of the European and Macaronesian mosses (Bryophytina) II. – *Bryol. Beitr.* **5**: 110–232.

DÜLL, R., GANEVA, A., MARTINČIČ, A. and PAVLETIĆ, Z. (1999): *Contributions to the bryoflora of former Yugoslavia and Bulgaria*. – IDH, Bad Münstereifel, 199 pp.

ECCB (1995): *Red data book of European bryophytes.* – European Committee for Conservation of Bryophytes, Trondheim, 291 pp.

ERZBERGER, P. and PAPP, B. (2007): New and noteworthy bryophyte records from Montenegro and Serbia. – *Willdenowia* **37**: 339–351.

ERZBERGER, P., PAPP, B. and DRAGIĆEVIĆ, S. (2008): Notes on some newly recorded bryophytes from Montenegro. – *J. Bryol.* **30**: 167–170.

GROLLE, R. and LONG, D. G. (2000): An annotated check-list of the Hepaticae and Anthocerotae of Europe and Macaronesia. – *J. Bryol.* **22**: 103–140.

HILL, M. O., BELL, N., BRUGGEMAN-NANNENGA, M. A., BRUGUÉS, M., CANO, M. J., ENROTH, J., FLATBERG, K. I., FRAHM, J.-P., GALLEGO, M. T., GARILLETI, R., GUERRA, J., HEDENÄS, L., HOLYOAK, D. T., HYVÖNEN, J., IGNATOV, M. S., LARA, F., MAZIMPAKA, V., MUÑOZ, J. and SÖDERSTRÖM, L. (2006): An annotated checklist of the mosses of Europe and Macaronesia. – *J. Bryol.* **28**(3): 198–267.

KÜRSCHNER, H. and PAROLLY, G. (1997): Additions to the bryophyte flora of the Durmitor National Park (Crna Gora) and a first conspectus of all records. – *Willdenowia* **27**: 249–264.

LJEŠEVIĆ, M. (1996): *The nature of National Park Durmitor* (*Montenegro*). *Summary*. – In: LJEŠEVIĆ, M. (ed.): Priroda nacionalnog parka Durmitora. Geografski Fakultet Univerziteta u Beogradu, Beograde, p. 299.

PAPP, B. and ERZBERGER, P. (2005): The bryophyte flora of Golija-Studenica Biosphere Reserve and some adjacent sites (SW Serbia, Serbia-Montenegro). – *Studia bot. hung.* **36**: 101–116.

PAPP, B. and ERZBERGER, P. (2007*a*): Contributions to the bryophyte flora of Montenegro. – *Studia bot. hung.* **38**: 79–94.

PAPP, B. and ERZBERGER, P. (2007*b*): Contributions to the bryophyte flora of Western Stara Planina Mts (E Serbia). – *Studia bot. hung.* **38**: 95–123.

PAPP, B. and ERZBERGER, P. (2009): Contributions to the bryophyte flora of southeastern Serbia: Suva Planina Mts and its surroundings. – *Studia bot. hung.* **40**: 125–142.

PAPP, B. and ERZBERGER, P. (2010): Contributions to the bryophyte flora of Durmitor National Park, Montenegro. – *Beih. Nova Hedwigia* **138**: 147–163.

PAPP, B., ERZBERGER, P. and DRAGIĆEVIĆ, S. (2008): Contributions to the bryophyte flora of the Orjen Mts, Montenegro. – *Studia bot. hung.* **39**: 101–112.

PAPP, B., ERZBERGER, P. and MARKA, J. (2010): Contributions to the bryophyte flora of eastern Albania (Korça and Kolonja Districts). – *Studia bot. hung.* **41**: 61–88.

PAPP, B., ERZBERGER, P. and SABOVLJEVIĆ, M. (2004): Contributions to the bryophyte flora of Kopaonik Mts (Serbia, Serbia-Montenegro). – *Studia bot. hung.* **35**: 67–79.

ROS, R. M., MAZIMPAKA, V., ABOU-SALAMA, U., ALEFFI, M., BLOCKEEL, T. L., BRUGUÉS, M., CANO, M. J., CROS, R. M., DIA, M. G., DIRKSE, G. M., EL SAADAWI, W., ERDAĞ, A., GANEVA, A., GONZÁLEZ-MANCEBO, J. M., HERRNSTADT, I., KHALIL, K., KÜRSCHNER, H., LANFRANCO, E., LOSADA-LIMA, A., REFAI, M. S., RODRÍGUEZ-NUNEZ, S., SABOVLJEVIĆ, M., SÉRGIO, C., SHABBARA, H., SIM-SIM, M. and SÖDERSTRÖM, L. (2007): Hepatics and Anthocerotes of the Mediterranean, an annotated checklist. – *Cryptogamie, Bryol.* **28**(4): 351–437.

SABOVLJEVIĆ, M. and STEVANOVIĆ, V. (1999): Moss conspectus of the Federal Republic of Yugoslavia. – *Flora Medit.* **9**: 65–95.

SABOVLJEVIĆ, M., NATCHEVA, R., DIHORU, G., TSAKIRI, E., DRAGIĆEVIĆ, S., ERDAĞ, A. and PAPP, B. (2008): Check-list of the mosses of SE Europe. – *Phytol. Balcan.* **14**: 207–244.

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