



Original Scientific Paper

New records and noteworthy data of plants, algae and fungi in SE Europe and adjacent regions, 17

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ABSTRACT:

This paper presents new records and noteworthy data on the following taxa in SE Europe and adjacent regions: hemibiotrophic fungus *Juglanconis juglandina*, lichenised fungi *Micarea lignaria* var. *lignaria*, *Pertusaria flavicans*, and *Placidiopsis custnani*, parasitic fungi *Entyloma gaillardianum* and *Stegocintractia luzulae*, saprotrophic fungi *Hericium coralloides*, *Hericium flagellum*, and *Rosellinia corticium*, liverwort *Sauteria alpina*, mosses *Acaulon triquetrum*, *Buxbaumia aphylla*, and *Dicranum viride*, monocot *Epipactis palustris* and dicots *Clinopodium vardarense*, *Helichrysum doerfleri* and *Opopanax chironium* subsp. *bulgaricum*.

Keywords:

new report, *Acaulon triquetrum*, *Buxbaumia aphylla*, *Clinopodium vardarense*, *Dicranum viride*, *Entyloma gaillardianum*, *Epipactis palustris*, *Helichrysum doerfleri*, *Hericium coralloides*, *Hericium flagellum*, *Juglanconis juglandina*, *Micarea lignaria* var. *lignaria*, *Opopanax chironium* subsp. *bulgaricum*, *Pertusaria flavicans*, *Placidiopsis custnani*, *Rosellinia corticium*, *Sauteria alpina*, *Stegocintractia luzulae*, SE Europe

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Acaulon triquetrum* (Spruce) Müll. Hal., fam. Pot-tiaceae (moss, bryophyte)*Contributors:** Marko S. SABOVLJEVIĆ and Aneta D. SABOVLJEVIĆ**Geographical focus:** Serbia**New record and noteworthy data:** This is the third report for the country, and the first one in the Banat region (Serbia).**Specimen data:** 1) Deliblatska Peščara, Devojački Bunar, on disturbed soil near the road, N 45.016742°, E 20.959224°, 8 December 2023; leg./det. Sabovljević M, Sabovljević A.; 2) Deliblatska Peščara, Devojački Bunar, on open sandy soil, N 45.017005°, E 20.959453°, 2 January 2024; leg./det. Sabovljević M, Sabovljević A.**Vouchers:** Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade, Bryophyte collection Bryo (BEOU-Bryo), s.n.

Acaulon triquetrum is an ephemeral scarce minute species of submediterranean-subatlantic distribution in Europe, also inhabiting North America, north Africa and parts of Asia (SERGIO & PORLEY 2019). Previously, it was recorded only twice in Serbia, from the loess plateau in the Belgrade area of Bežanijska Kosa (ELLIS *et al.* 2015) and from the north of Vojvodina province (SABOVLJEVIĆ *et al.* 2022). At present, Belgrade area is under construction and the previously known site of this species in Serbia has been destroyed. Since the first report in 2014 (ELLIS *et al.* 2015), we have been unable to detect the species in the nearby loess area. Thus, the population there might be lost permanently, which is difficult to confirm due to its ephemeral and shuttle life strategy. Additionally, this species is minute and easy to overlook.

During the investigation in the Banat region, we located two subpopulations not far one from another counting over 300 sporophytes each. However, each occupied less than a square meter and thus are considered as two individual equivalents (as regarded by BERGAMINI *et al.* 2019). The new records confirm its presence in Serbia and Vojvodina, but its vulnerability as well, due to the small population in a rather unpredictable habitat. The species is also known from neighbouring areas and is regarded as threatened in many European countries (SERGIO & PORLEY 2019). In Hungary, it is near threatened (NT), while in Romania, it is considered a vulnerable species (VU) (ȘTEFĂNUȚ & GOIA 2012). It is also a candidate for the red list of mosses of Serbia.

Buxbaumia aphylla* Hedw., fam. Buxbaumiaceae (moss, bryophyte)*Contributors:** Gabriela TAMAS and Sorin ȘTEFĂNUȚ**Geographical focus:** Romania**New record and noteworthy data:** This is the first record of this rare species for the Călimani Mountains, Romania.**Specimen data:** Eastern Carpathians, Călimani Mountains, Călimani National Park, Suceava County, N 47.119139°, E 25.248750°, 1397 m a.s.l.; 25 September 2022, 14 October 2022; det. Tamas G, Ștefănuț S.**Voucher:** photo documentation by Tamas G. and Ștefănuț S.

Buxbaumia aphylla is a moss species reported from more than 20 localities in Romania, including the mountain massifs, such as Maramureș, Rodna, Giumalău, Nemira, Nodoc, Bucegi, Făgăraș, Cibin, Căpăținii, Cernei-Mehedinți and Muntele Mare, but also from the lowland site of Breazu Forest – 180 m altitude, (Iași County) (ȘTEFĂNUȚ & GOIA 2012). In the Călimani Mountains, *B. aphylla* grows on soil, on the northern slope of Răchițele Mountain. *Buxbaumia aphylla* was considered a species with a wider distribution than *B. viridis* in Romania, but in the last 10 years the situation has changed. Increased attention to *B. viridis* by Natura 2000 has resulted in more records (ȘTEFĂNUȚ *et al.* 2023), while the modern distribution of rare neotenic moss *B. aphylla* has remained obscured.

Clinopodium vardareense* (Šilić) Govaerts, fam. Lamiaceae (dicot, vascular plant)*Contributors:** Smiljana JANKOVIĆ and Nemanja RAJČEVIĆ**Geographical focus:** Serbia**New records and noteworthy data:** The second locality for the species in the country.**Specimen data:** Eastern Serbia, Mts. Stara Planina, Gradašnica river gorge, N 43.191228°, E 22.597792°, ca. 500 m a.s.l.; 30 July 2021; leg.: Janković S, Rajčević N, Rabrenović D.; det.: Marin PD, Janković S, Rajčević N. The species was further observed in 2023.**Vouchers:** Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade, vascular plant collection (BEOU) 18007.

The species *Clinopodium vardareense* (Šilić) Govaerts was first described for the territory of ex-Yugoslavia by ŠILIC (1979) as a taxon distributed in North Macedonia, Greece, Albania and Bulgaria under the name *Calamintha vardarensis* Šilić. RANDJELOVIĆ & RANDJELOVIĆ (2002) stated that this taxon was recorded for the area of Mts. Stara Planina (Serbia) by PAVLOVIĆ *et al.* (1985), but they revised the sample as *Calamintha nepeta* (L.) Savi subsp. *nepeta* var. *subisodonta* (Borb.) Hayek. Further, RADULOVIĆ & BLAGOJEVIĆ (2010) made the first record of *Clinopodium vardareense* in the urban environment of Niš in 2008, and the species was confirmed as *Calamintha vardarensis* by the experts in the Department of Biology and Ecology, Faculty of Science and Mathematics, Niš. This finding (RADULOVIĆ & BLAGOJEVIĆ 2010), along with our finding in the Gradašnica river gorge,

indicates that *Clinopodium vardarense* occurs sporadically in east Serbia and it is probably more widespread as a residual of the Submediterranean flora. Additionally, our unpublished studies have shown that the chloroplast sequences (*rps16-trnQ*) of *Clinopodium vardarense* from the Gradašnica river gorge and the North Macedonian population show a complete overlap, but are also clearly separate from morphologically related *Clinopodium menthifolium* (Host) Merino.

***Dicranum viride* (Sull. & Lesq.) Lindb., fam. Dicranaceae (moss, bryophyte)**

Contributors: Lado KUTNAR and Marko SABOVljević

Geographical focus: Slovenia

New record and noteworthy data: This is a rare and threatened Natura 2000 species in Slovenia, protected by the Bern Convention (Appendix I) and listed in the EU Habitat Directive (Annex II).

Specimen data: 1) An old-growth mountain beech forest, SW of Trdinov Vrh, at the top of the Gorjanci Mountains, close to the Slovenian-Croatian border, N 45.746861°, E 15.290833°, a European beech (*Fagus sylvatica* L.) stand (*Cardamini savensi-Fagetum* Košir, 1962, association) on eutric cambisols on dolomite, on the west-facing slope above the Klamfer stream, *Dicranum viride* recorded on beech deadwood and the bark of living beech, 750 m a.s.l., 16 August 2006; leg. Kutnar L.; det. Sabovljević M.; 2) A subalpine spruce forest on Fužinske Mountains in the Julian Alps, near Planina Blato, N of Lake Bohinj, N 46.317222°, E 13.839528°, Norway spruce (*Picea abies* L.) stands (*Adenostylo glabrae-Piceetum* Zukrigl, 1973, association) with admixed rowan (*Sorbus aucuparia* L.) and sycamore (*Acer pseudoplatanus* L.) on rendzic leptosols and lithosol on glacial moraine, on a rocky, south-east exposed slope, *Dicranum viride* recorded on the deadwood of rowan or sycamore, 1490 m a.s.l., 24 August 2007; leg. Kutnar L.; det. Sabovljević M.

Vouchers: Fungi and Lichens Collection and Herbarium of Slovenian Forestry Institute, Ljubljana, s/n.

During the survey of the forest vegetation in Slovenia in 2006 and 2007 on a 16 km × 16 km systematic plot grid (URBANČIČ *et al.* 2009; KUTNAR 2011; KUTNAR *et al.* 2023), we collected samples of various mosses on different substrates. The samples of the newly recorded *Dicranum viride* were found at two locations.

It is a widespread but scattered moss in Europe, with numerous reports from Central Europe and the mountain ranges of the Alps and Carpathians to the southern Urals (BAISHEVA *et al.* 2013). North, west and south of this area, records appear to be much rarer. Outside Europe, there are some records in North America and the Asian part of Russia, but the records from southern Korea, China, Japan and western North America are doubtful (IGNATOVA & FEDOSOV 2008). The main global

centre of distribution therefore appears to be in Europe. The species is of high conservation interest as it is a flag species in national and pan-European legislation. Although HODGETTS *et al.* (2019) categorised the species as Least Concern at European level, SCHRÖCK *et al.* (2019) assessed the overall trend of the European population as unclear and declining. *Dicranum viride* occupies a rather small ecological niche and lives as an epiphyte in mesophytic forests with high humidity and not too high temperature amplitudes. For this reason, it has mainly been reported from specific topographical habitats such as wooded ditches, small gorges or dolinas overgrown with different deciduous tree species or mixed with some conifers. Most records have been made on larger beech trees with bent trunks.

So far there have been approximately 20 reports of *D. viride* from Slovenia, but almost all of them date from the end of the 19th and the beginning of the 20th centuries. The last reports date back to 2002 from two sites, namely the Rajhenav and Krokav forest reserves in the Kočevsko region (ODOR & VAN DORT 2002). Since 2020, about 20 new records of these species have been reported from different regions of Slovenia and some of them have already been published (e.g. TOMOVIĆ *et al.* 2022).

Two of the records of *D. viride* reported in this article come from regions which had not been sampled before, namely the Gorjanci Mountains in southeastern Slovenia and the Mts. Fužinske in northwestern Slovenia. However, in addition to the samples of this bryophyte collected on the bark of larger living trees, these records also come from deadwood, in the first case from beech, in the second case from the decayed deadwood of rowan or sycamore.

***Entyloma gaillardianum* Vánky, fam. Entylomataceae (fungus, parasitic)**

Contributors: Teodor T. DENCHEV & Cvetomir M. DENCHEV

Geographical focus: Bulgaria

New record and noteworthy data: This is the first record of *Entyloma gaillardianum* from Bulgaria and the Balkan Peninsula.

Specimen data: Black Sea coast, Dobrich Province, Kranevo village, N 43.3433333°, E 28.053805°, on cultivated *Gaillardia pulchella* Foug.; September 1998; leg./det. Denchev CM.

Voucher: Mycological Collection at the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF) 22369.

Entyloma is a large genus in the family Entylomataceae, with approximately 190 recognised species on host plants belonging to various families of eudicots (DENCHEV *et al.* 2021). *Entyloma* species form sori in the vegetative organs of plants, mostly in the leaves, rarely

in the stems or roots, usually forming few to numerous spots, sometimes swellings or galls. The spores are permanently embedded in the host tissue, singly or in irregular groups, hyaline, yellow or yellowish brown (VÁNKY 2012; DENCHEV *et al.* 2021). Information on the taxonomy of *E. gaillardianum* is available in VÁNKY (1982, 2012). The morphological characteristics of the Bulgarian specimen match the description of *E. gaillardianum* in VÁNKY (2012). This smut fungus is a cosmopolitan species on hosts in *Gaillardia* (Asteraceae). It is native to North America. In Central, East, and South Europe, this fungus is an alien species. *Entyloma gaillardianum* is recorded here for the first time from Bulgaria and the Balkan Peninsula.

***Epipactis palustris* (L.) Crantz, fam. Orchidaceae (monocot, vascular plant)**

Contributors: Vladan DJORDJEVIĆ and Svetlana KRĐŽIĆ
Geographical focus: Serbia

New records and noteworthy data: This is the first record of this species for the region of Central Serbia.

Specimen data: Central Serbia, Mt. Željin, Veliko Brdo, N 43.476476°, E 20.851257°, MGRS 34T DP81, ass. *Mentha longifoliae*-*Juncetum inflexi* Müller & Görsex de Foucault, 1984, limestone, exp. E, incl. 30°, 1128 m a.s.l.; 8 July 2023; leg. Djordjević V, Krdžić S.; det. Djordjević V.

Voucher: Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade, vascular plant collection (BEOU) 71206; photo documentation of Djordjević V.

Epipactis palustris is a Eurasian species which is widely distributed in Europe and temperate Asia and extremely rare in the southern part of the Mediterranean region (JACQUEMYN *et al.* 2014). In the Central Balkans, this species grows exclusively in wetland vegetation types (DJORDJEVIĆ *et al.* 2023). The new finding of *E. palustris* on Mt. Željin is the first record of this species for the region of Central Serbia and also the first record of this species in the MGRS 34T DP81 10 × 10 km grid cell. It was previously recorded in 54 10 × 10 km UTM grid cells throughout Serbia in the following regions: Bačka, Banat, Srem, NW Serbia, W Serbia, SW Serbia, Šumadija, NE Serbia, E Serbia, SE Serbia, and Kosovo and Metohija (DJORDJEVIĆ *et al.* 2017 and the references therein; TOMOVIĆ *et al.* 2022).

The newly recorded population on Mt. Željin numbered eight individuals within an area of 50 m². According to Serbian legislation, the species is classified as strictly protected, whereas the estimated IUCN conservation status of this species in Serbia is Near Threatened (NT) (DJORDJEVIĆ *et al.* 2017). The species is protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

***Helichrysum doerfleri* Rech. f., fam. Asteraceae (dicot, vascular plants)**

Contributor: Eleftheria ANTALOUDAKI

Geographical focus: Crete, Greece

New record and noteworthy data: This is a new location of endemic *Helichrysum doerfleri* from southeastern Crete, Greece.

Specimen data: Southeastern Crete, ca. 3.7 km south of Pervolakia village, N 35.035914°, E 26.068708°, 535 m a.s.l., with flowers, 27 March 2023, leg./det. Antaloudaki E.

Vouchers: Natural History Museum of Crete, vascular plant collection (NHMC) 42.13477.

Helichrysum is a member of the Asteraceae family, distributed in Africa, the Euro-Siberian and Irano-Turanian regions and in Australia, comprising almost 600 species (POWO 2022). In Greece the genus is represented by ten species, where five of them are endemic (three species on Crete, one in the Peloponnese and one in NE mainland) (DIMOPOULOS *et al.* 2022). *Helichrysum doerfleri* is a stenoendemic species known from a very small area around the summit of Thrypti Mountain, Crete. It was recorded for the first time outside its known distribution, during fieldwork in March 2023 on the southeastern part of the Island. According to published information, this is the first time this species has been found at an altitude of 535 m, which is the lowest recorded for this plant. *Helichrysum doerfleri* was found growing on limestone substrate among typical Mediterranean phrygana, in a heavily overgrazed area.

The subpopulation consists of fewer than ten individuals, growing between spiny phrygana such as *Thymbra capitata* (L.) Cav., *Sarcopoterium spinosum* (L.) Spach. and other similar xerophytic species. According to the previous Red Data Book of Rare and Threatened plants of Greece (PHITOS *et al.* 2009) the species was assessed as Endangered (EN) based on criteria B1ab(iii)+2ab(iii). The new record does not change the category of the species, since although the AOO and EOO may have changed (20 km² and 80 km² respectively), the total number of mature individuals has not been increased significantly so as to affect the final category. Nevertheless, this is an important finding, as it indicates the possibility that the species may have survived, hidden, in other areas between the known sites and the new one, and also highlights the need for more thorough field observation in areas which may not seem “botanically” attractive.

***Hericium coralloides* (Scop.) Pers., fam. Hericiaceae (fungus, saprotrophic)**

Contributors: Gordana KASOM and Marko S. SABOVLJEVIĆ

Geographical focus: Montenegro

New records and noteworthy data: *Hericium coralloides* is recorded in Asia, Europe and North America (ARTDA-

TABANKEN 2019); it seems to be a threatened species in Europe and it is Red Listed in several European countries (BODDY *et al.* 2011; ARTDATABANKEN 2019). In Montenegro, the species is protected by national law (KASOM & MILIČKOVIĆ 2010); also, it is present on the Preliminary Red List of Macromycetes of Montenegro (PERIĆ & PERIĆ 2004). There is the first record of this taxon for the mountains of Golija, Visitor and Bablji Zub, while there are new localities within the Biogradska Gora National Park and the Durmitor National Park.

Specimen data: 1) Mt. Golija, Nikšić Municipality, in a forest of *Fagus sylvatica*, on the fallen trunk of a beech tree (*Fagus sylvatica*), 30 September 2009; leg./det. Kasom G.; 2) Mt. Bablji Zub, Kolašin Municipality, in a mixed forest of *Fagus sylvatica* and *Pinus heldreichii* H. Christ, on a fallen beech trunk (*Fagus sylvatica*), 6 August 2015, leg./det. Kasom G.; 3) Biogradska Gora National Park, in the rainforest reserve, on fallen beech trunks (*Fagus sylvatica*), approx. N 42.897917°, E 19.612768°, ca. 1376 m a.s.l., *idem.* approx. N 42.899777°, E 19.606777°, ca. 1277 m a.s.l., 20 September 2016; *idem.* approx. N 42.897917°, E 19.612768°, ca. 1117 m a.s.l., *idem.* approx. N 42.897613°, E 19.599851°, ca. 1114 m a.s.l., 11 October 2016; leg./det. Kasom G.; 4) Mts. Prokletije, Mt. Visitor, in a forest of *Fagus sylvatica*, on fallen beech trunks (*Fagus sylvatica*), approx. N 42.639844°, E 19.907381°, ca. 1135 m a.s.l., 10 October 2017; 5) Durmitor National Park, Crna Poda Forest Reserve, in a forest of *Fagus sylvatica* and *Pinus nigra* J. F. Arnold, on beech (*Fagus sylvatica*), approx. N 43.007794°, E 19.428054°, ca. 945 m a.s.l., 30 May 2023; leg. Sabovljević M.; det. Kasom G.

Voucher: photo documentation by G. Kasom and M. S. Sabovljević.

Hericium coralloides is a decomposer and causes white rot in hardwood (ARTDATABANKEN 2019). It mainly occurs in moist, natural old-growth forests with a large proportion of dead old deciduous trees, where it grows on the branches of old deciduous trees and is mainly found on heavily decayed logs with soft wood and partially or completely exfoliated bark (ARTDATABANKEN 2019). *Fagus sylvatica*, *Quercus* and *Betula* are its major substrates (BERNICCHIA & GORJÓN 2010; ARTDATABANKEN 2019; TOFILOVSKA *et al.* 2020); but it has been reported on *Alnus*, *Fraxinus excelsior* L., *Populus*, *Sorbus* and *Ulmus* (PEGLER *et al.* 1997; BERNICCHIA & GORJÓN 2010; BODDY *et al.* 2011; ARTDATABANKEN 2019). The presence of *H. coralloides* is an indicator of an advanced state of hardwood decay (TOFILOVSKA *et al.* 2020).

The fruitbodies (basidiomes) of *H. coralloides* are morphologically close to the related species, *H. flagellum*, whose spines are concentrated at the tips of individual branches, while in *H. coralloides* they are distrib-

uted along the entire branches (ARTDATABANKEN 2019). *H. flagellum* also differs from *H. coralloides* in terms of its strong ecological association with silver fir (*Abies alba* Mill.) (BERNICCHIA & GORJÓN 2010; KUJAWSKA *et al.* 2021).

Up to now, in Montenegro it is known from three localities 1) Lovćen National Park, on beech trunks (KARADŽIĆ & VUJANOVIĆ 1994); 2) Durmitor National Park, on freshly cut beech trees or on logs and other larger material (KARADŽIĆ 1995); 3) Biogradska Gora National Park, on a beech stump, 30 September 2001; Biogradska Gora National Park, around Biogradsko Jezero Lake, 1100 m above sea level, on *Fagus sylvatica*, 20 November 2001 (PERIĆ & PERIĆ 2003). KARADŽIĆ & ANĐELIĆ (2002) consider the species to be relatively rare in beech stands in Montenegro, growing on recently cut beech trees or on logs and other larger material.

It is red-listed in Denmark, Norway, Germany, Great Britain, the Netherlands and Poland (BODDY *et al.* 2011; ARTDATABANKEN 2019). In the Balkan Peninsula, this species is present on the red lists/books of Bulgaria (GYOSHEVA *et al.* 2006) with a Near Threatened category, in Croatia (TKALČEC *et al.* 2008) and North Macedonia, it appears on both lists with an Endangered category (EN) (TOFILOVSKA *et al.* 2020); in Serbia, this species is protected by national legislation (OFFICIAL GAZETTE RS 2010–2016).

The *Hericium coralloides* population is facing a significant threat of decline essentially due to habitat loss and fragmentation and a lack of dead wood. The removal of old, injured or broken trees with a large diameter lowers the availability of a suitable host for the fungus. Final felling, forest thinning or other wood extraction at the species site resulting in a changed local climate poses a direct threat, as does the transfer from deciduous to coniferous forest (TKALČEC *et al.* 2008; ARTDATABANKEN 2019; TOFILOVSKA *et al.* 2020).

***Hericium flagellum* (Scop.) Pers., fam. Hericiaceae (fungus, saprotrophic)**

Contributor: Gordana KASOM

Geographical focus: Montenegro

New records and noteworthy data: *Hericium flagellum* is recorded in Europe, mostly in mountainous regions, in the area of silver fir – *Abies alba* (KUJAWSKA *et al.* 2021). It is included on the red lists of numerous European countries (KUJAWSKA *et al.* 2019). The species is present on the Preliminary Red List of Macromycetes of Montenegro (PERIĆ & PERIĆ 2004). This is the first record of this taxon for Mt. Visitor.

Specimen data: Mts. Prokletije, Mt. Visitor, in a mixed forest, on the trunk of *Abies alba*, N 42.627399°, E 19.899572°, ca. 1428 m a.s.l., 4 October 2005; leg./det. Kasom G. (KASOM 2013).

Voucher: photo documentation by G. Kasom.

Hericium flagellum is a highly host-dependent wood-inhabiting fungus in Europe, and its occurrence is strongly connected to the distribution of silver fir (*Abies alba*) (KUJAWSKA *et al.* 2021). To date, it has been recorded in 14 European countries (KUJAWSKA *et al.* 2021).

According to observations in southern Poland conducted by KROTOSKI (2012), spruce (*Picea abies*) appears to be a suitable substitute for *H. flagellum* in the absence of silver fir wood (*Abies alba*). Also, *H. flagellum* was reported as growing on *Pinus cembra* L. (NIKOALEVA 1961) and *Pinus sylvestris* (KUBIAK 2002). However, KUJAWSKA *et al.* (2021) consider the renewed verification of these latter records (NIKOALEVA 1961; KUBIAK 2002) impossible for several reasons (poor documentation and a lack of herbarium material from these studies), therefore urging caution when considering this information.

KUJAWSKA *et al.* (2021) found that more than half of *H. flagellum* records in Poland (109 out of 190 records, 57%) were from forests protected by the highest conservation regime (national parks and strict protection reserves). Also, the occurrence of the fungi may be considered as an indicator of desired or undesired trends in the functioning of forest ecosystems (KUJAWSKA *et al.* 2021). According to the same authors, the predictions of *H. flagellum* occurrence in Europe indicate that a suitable habitat for the fungus is located in most of the mountainous and upland regions of Europe.

In Montenegro, up to now it is known from Durmitor National Park **1**) the surroundings of Zminje Jezero and Crno Jezero Lakes, on dry fir trees or on leftover logs after felling in the forest (KARADŽIĆ 1995); **2**) near Crno Jezero Lake, on a cut fir tree (*Abies alba*), 8 May 1994 (PERIĆ & PERIĆ 2004); **3**) the surroundings of Crno Jezero Lake, in a spruce and fir forest, 18 September 2003 (ČETKOVIĆ *et al.* 2011).

Hericium flagellum is included on the red lists of numerous European countries (e.g. Austria, the Czech Republic, Germany, Poland, Russia, Switzerland and Ukraine) (KUJAWSKA *et al.* 2019). In the Balkan Peninsula, this species is present on the red lists/books of Bulgaria (PEEV *et al.* 2015) and Croatia (TKALČEC *et al.* 2008) with an Endangered category; in Serbia, this species is protected by national legislation (OFFICIAL GAZETTE RS 2010–2016).

It was found in three localities on dead wood in old coniferous (spruce – *Picea*, fir – *Abies*) and mixed (fir – *Abies*, beeches – *Fagus*) forests in the mountains in Bulgaria (PEEV *et al.* 2015); while in Croatia, it was found in ten localities in old forests (most often rainforest type) with fir (*Abies alba*), as a saprotrophic of large woody remains and dead parts of old fir trees (TKALČEC *et al.* 2008).

The main threats to this species are currently its disjunctive range, the risk of extinction of tree hosts associated with habitat loss, the lack of large woody remains (logs, dead standing and fallen trees) of fir due to in-

adequate forest management and the removal of dead wood from forests, insufficient areas covered by rain-forest-type forests, air pollution, tourism/recreational infrastructure development, fires, collection for private consumption and the limited spread of *H. flagellum* propagules (TKALČEC *et al.* 2008; PEEV *et al.* 2015; KUJAWSKA *et al.* 2021).

In Montenegro, the species *H. flagellum* can be expected in other localities in areas where there are communities with preserved old fir trees.

***Juglanconis juglandina* (Kunze) Voglmayr & Jaklitsch, fam. Juglanconidaceae (fungus, hemibiotrophic)**

Contributor: Dimitar STOJKOV

Geographic focus: Bulgaria

New records and noteworthy data: The first report of the genus *Juglanconis* Voglmayr & Jaklitsch for Bulgaria (VOLGMAYR *et al.* 2017).

Specimen data: **1**) Forebalkan, Lovech district, Golyama Zhelyazna village, Lakite locality, N 42.983583°, E 24.480417°, alt. ca. 410 m, on the dead corticated branches of *Juglans regia* L. still attached to the tree; 14 June 2022; leg./det. Stoykov D.; **2**) *ibid.*, on the dry branches of *J. regia*; 26 August 2023; leg./det. Stoykov D.

Vouchers: Mycological Collection of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF) 31140, 31149.

The species is reported for the first time in Bulgaria. The conidiomata of this species were easily observable as small black circular zones on the surface of the branches. The conidia are (12.5–) 13.5–23 (–25.5) × (8.5–) 11.5–14.5 (–17) μm, l/w ratio 1.1–2.2, n = 158, which is in accordance with the data in VOLGMAYR *et al.* (2017). The reports of *Melanconis juglandis* (Ellis & Everh.) A.H. Graves (in STOJKOV 2012; as *Melanconium oblongum* Berk.) may also belong to *J. juglandina* and require confirmation.

***Micarea lignaria* (Ach.) Hedl. var. *lignaria*, fam. Pilocarpaceae (lichenised fungus)**

Contributor: Dimitar STOJKOV

Geographic focus: Bulgaria

New records and noteworthy data: The first record of *Micarea lignaria* var. *lignaria* from the Rhodopi Mts. (DENCHEV *et al.* 2022) and the southernmost find of this species in the Balkans (ARCADIA 2023).

Specimen data: Mts. Rhodopi, Kupena Reserve, above Rozovo village, near the peat-bog mire dominated by *Equisetum* sp., N 41.984361°, E 24.319111°, on a small fallen, apical branch of a pine tree, ca. 1370 m a.s.l.; 2 July 2014; leg./det. Stoykov D.

Voucher: Mycological Collection of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF) 29405.

Genus *Micarea* Fr. is still poorly known in Bulgaria (DENCHEV *et al.* 2022). To date, only *Micarea denigrata* (Fr.) Held. and *M. prasina* Fr. were known from Mts. Rhodopi (DENCHEV *et al.* 2022). *Micarea lignaria* var. *lignaria* was known from our country on plant debris in the Vitosha region, on Mt. Vitosha (CZARNOTA 2007). Here, we present the first southernmost collection of this lichenised fungus in Bulgaria, found on a small dead branch of a pine-tree in the Kupena Reserve. This species is also expected to occur in similar habitats from other Bulgarian mountains.

***Opopanax chironium* (L.) W.D.J. Koch subsp. *bulgaricum* (Velen.) Andreev, fam. Apiaceae (dicot, vascular plants)**

Contributor: Desislav DIMITROV

Geographical focus: Bulgaria

New record and noteworthy data: A new locality of the endemic species is described in the area of the protected zone of the Provadiisko – Rojasko plateau (BG0000104), west of the town of Provadia.

Specimen data: Northeast Bulgaria, Varna district, Provadia municipality, protected area of the Provadiisko – Rojasko plateau, along the old road connecting the town of Provadia with the village of Krivnia, N 43.17996°, E 27.43620°, 137.6 m a.s.l.; 24 June 2023; leg./det. Dimitrov D.

Voucher: Vascular plant Collection of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOM) 178913.

A new locality of the Balkan endemic *Opopanax chironium* subsp. *bulgaricum* is reported west of the town of Provadia. It is located right next to the town within the Provadiisko plateau, which forms part of the Provadiisko – Rojasko plateau protected area of the European ecological network Natura 2000. The population has a low number of individuals (only four), in a generative state, in an area of 15 m², and is located at the foot of an eroded slope, with clearly defined outcrops of lower and upper cretaceous limestone, in some places with stony outcrops. The height of some of the specimens reaches 3 meters. The soil is poor, shallow, humus-carbonate, and the exposure is to the east. Accompanying species in the phytocenosis were *Achillea millefolium* L., *Cichorium intybus* L., *Galium album* Mill., *Potentilla reptans* L., *Malva sylvestris* L., *Prunus mahaleb* L., *Lactuca serriola* L., *Medicago sativa* L., *Apera spica-venti* (L.) P. Beauv., *Clematis vitalba* L., *Elymus caninus* L. and *Isatis tinctoria* L. The population was also visited in the month of September during the fruit-bearing period, and the scattering of seeds around the mother plants was recorded. In the vicinity and around the deposit, there is an unregulated landfill, which, together with the characteristic shallow and calcareous soils, may in

some way have a limiting effect on the possible seed reproduction of the species. Overgrowth with trees and shrubs, as well as anthropogenic factors in view of the proximity of the city, may also lead to the deterioration of the existence of the population, and negatively affect its habitat.

Opopanax chironium subsp. *bulgaricum* is a subspecies distributed mainly in Eastern Bulgaria in the following floristic regions: Northeastern Bulgaria, Stara Planina (eastern), the Black Sea coast, the Thracian lowlands, and the Tundzhan hilly plain (ASSYOV *et al.* 2012). *Opopanax chironium* is of Mediterranean origin, distributed as far as the northernmost parts of France, and south to Libya. Some literary data (ZAHARIEV 2011, 2012) provide insights into the floristic wealth of the Provadiisko plateau, and more general information about the distribution of *O. chironium* subsp. *bulgaricum*, while failing to specify its potential localities. According to the Red book of the Republic of Bulgaria, the deposits near the village of Sindel and the town of Provadia have not been confirmed in recent years (PEEV *et al.* 2015). The species is included in Appendix 3 of the Law on Biological Diversity. It is also included in the Red Book of the Republic of Bulgaria as a vulnerable -VU taxon (PEEV *et al.* 2015).

***Pertusaria flavicans* Lamy, fam. Pertusariaceae (lichenised fungus)**

Contributor: Gordana R. ALEKSIĆ

Geographical focus: Kosovo

New record and noteworthy data: This is the first record for Kosovo.

Specimen data: Kosovo, Banjska village, 12 km north of Zvečan, N 42.972777°, E 20.7825°, on siliceous rock in shrubby vegetation, 650 m a.s.l.; 15 May 2023; leg./det. Aleksić G.

Voucher: Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade, lichen collection (BEOU) 702.

The species was found in the immediate vicinity of the medieval Banjska Monastery (14th century). The site is ca. 50 m west of the monastery on an exposed rocky hill, with various rocks with loamy soil between. According to the literature data, this is the first record for Kosovo (TIBELL & TIBELL 2006; MAYRHOFER *et al.* 2016). The nearest records of this species are in Bosnia and Herzegovina (BILOVITZ & MAYRHOFER 2010), Croatia (Dalmatia) with an unknown location (MURATI 1992), Greece (SIPMAN & RAUS 2002), Italy (NIMIS 2016), and the Alps, on lime-free but mineral-rich siliceous rocks, mostly on sheltered, steeply inclined surfaces. The species exhibits a wide distribution throughout the Alps (NIMIS *et al.* 2018).

Placidiopsis custnani* (A. Massal.) Körb., fam. Verrucariaceae (lichenised fungus)*Contributor:** Gordana R. ALEKSIĆ**Geographical focus:** Kosovo**New record and noteworthy data:** This is the first record for Kosovo.**Specimen data:** Kosovo, Banjska village, 12 km north of Zvečan, N 42.972777°, E 20.7825°, 650 m a.s.l., 15 May 2019; leg./det. Aleksić G.**Voucher:** Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade, lichen collection (BEOU) 703.

The species was found on loamy soil at the base of a south-facing rocky limestone slope, ca. 50 m west of the medieval Banjska Monastery. According to the literature data, this is the first record for Kosovo (TIBELL & TIBELL 2006; MAYRHOFER *et al.* 2016). The species is known in Greece (SIPMAN & RAUS 2002) and Italy (NIMIS 2016). Often overlooked this terricolous lichen is found on calciferous soil and calcicolous mosses, and seems to be most common in the sub-mediterranean area (NIMIS *et al.* 2018).

Rosellinia corticium* (Schwein.) Sacc., fam. Xylariaceae (fungus, saprotrophic)*Contributors:** Dimitar STOYKOV & Pablo ALVARADO**Geographical focus:** Bulgaria**New records and noteworthy data:** These are the first records of *Rosellinia corticium* from Bulgaria, the second report from the Balkans, and the first collection on *Tilia* as the host (AKATA *et al.* 2013; PETRINI 2013).**Specimen data:** 1) The Black Sea coast, Dolni Chiflik municipality, near Novo Oryahovo village, N 42.987583°, E 27.826056°, on dead bark from *Tilia* sp., ca. 19 m a.s.l.; 24 October 2017; leg. Assyov B.; det. Stoykov D.; 2) Forebalkan, Vratsa district, in the vicinity of Mezdra town, N 43.137277°, E 23.6971501°, on the fallen dead branch of a deciduous tree, ca. 245 m a.s.l.; 1 March 2016; leg. Assyov B.; det. Stoykov D. [GenBank OR673092]; 3) Rila Mts., Blagoevgrad district, Rilomanastirska Gora Reserve, above the Ilijna River, on a small fallen dead branch of oak, ca. 1200 m a.s.l.; 2 June 2015; leg./det. Stoykov D.**Vouchers:** Mycological Collection of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF) 31160, 31158, 31159.

The identity of newly recorded species in Bulgaria is confirmed by molecular comparison. The protocol presented in STOYKOV & ALVARADO (2019) was followed for DNA isolation, amplification and the analyses of the nrITS-region sequence. The resulting sequence [GenBank OR673092] is almost identical (99.78% to 99.82% of similarity) to previously deposited sequence records of *Rosellinia corticium* in GenBank (MN538339, MT509992, MT823480, OL635178, MN984623).

The records of *Rosellinia corticium* from Bulgaria consist of ascospores sized $(17.5\text{--}23.5 \pm 2.4\text{--}30) \times (7.5\text{--}9.2 \pm 0.7\text{--}12) \mu\text{m}$, $n = 90$, with two oil drops ca. $4.5\text{--}7 \mu\text{m}$ in diameter, or with one central guttula ca. $10 \mu\text{m}$ in diameter. Our measurements of the characteristic of *R. corticium* are in accordance with the data provided by FOURNIER & MAGNI (2003) and PETRINI (2013). Hyaline spore sheaths and longitudinal spore germ-slits were observed in the water from the fresh stromata of the specimen collected near Mezdra town.

To our knowledge, the record from the Black Sea coast also appears to be the first report of this species on the bark of *Tilia*.

Sauteria alpina* (Nees) Nees, fam. Cleveaceae (liverwort, bryophyte)*Contributors:** Žan LOBNIK CIMERMAN and Dren DOLNIČAR**Geographical focus:** Slovenia**New record and noteworthy data:** Rarely reported taxon, endangered.**Specimen data:** Koroška, Karavanke, Mount Olševa, Potočka zijalka, cave entrance, N 46.445908°, E 14.668405°, limestone, 1663 m a.s.l., 16. July 2023; leg. Dolničar D.; det. Lobnik Cimerman Ž.**Voucher:** Herbarium of the University of Ljubljana, bryophyte collection (LJU) s.n.

Sauteria alpina is a rare complex thalloid liverwort (Marchantiopsida), typical of high elevation and pristine mountainous sites. In Slovenia, it is listed as Endangered (EN) in the national Red List (MARTINČIČ 2016), with the same status in Italy (HODGETTS & LOCKHART 2020). However, in Austria, it has no conservation status (HODGETTS & LOCKHART 2020).

Our specimen was collected from a large limestone boulder at the entrance to the Potočka zijalka cave. Potočka zijalka (cadastre number 634) is a 108 m long and 21 m deep horizontal cave located at 1663 m above sea level (IZRK 2022) in the western part of the southern slope of Mount Olševa near the Slovene-Austrian border. Since the location of the boulder is not deep within the cave, it receives ample sunlight, allowing for the growth of numerous other plant species in its crevices.

Known historical records of this species are from the Alpine phytogeographical region – the Julian, Karavanke, and Kamnik–Savinja Alps (MARTINČIČ 2011, 2014). In contrast, those records from lower altitudes outside the Alpine region or without herbarium specimens are considered questionable (MARTINČIČ 2011). Since 2023, some recent observations of *S. alpina* in Slovenia have occurred. In addition to our report from the Karavanke Alps, S. Gey (iNATURALIST 2024) also reports it from four sites in the Julian Alps. We assume the species is not as rare or limited in distribution as previously thought, but under-recorded in the past.

The arctic-alpine species has an overall distribution in Europe restricted to mountain ranges such as the Alps or the Scandinavian Mountains (GBIF SECRETARIAT 2023). *Sauteria alpina* is characterised by a light green thallus without any purple colouration, the presence of oil bodies, and simple pores with bordering cells exhibiting thickened radial call walls (HUGONNOT & CHAVOUTIER 2021).

***Stegocintractia luzulae* (Sacc.) M. Piepenbr., Begerow & Oberw., fam. Anthracoideaceae (fungus, parasitic)**

Contributors: Teodor T. DENCHEV & Cvetomir M. DENCHEV

Geographical focus: North Macedonia

New record and noteworthy data: This is the first record of *Stegocintractia luzulae* from North Macedonia.

Specimen data: Mts. Šar Planina, on *Luzula luzulina* (Vill.) Racib., 1800 m a.s.l.; 24 August 1948; leg. Kitanov B., s.n. (as '*Luzula* sp. '), fungus comm. & det. Denchev TT, Denchev CM.

Voucher: Mycological Collection at the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF) 31401.

Stegocintractia is a small genus in the Anthracoideaceae family, with parasitic species on hosts in *Juncus* and *Luzula* (Juncaceae) (VÁNKY 2012). *Stegocintractia* species form sori in all the spikelets or around the pedunculi of an infected inflorescence. The young sori are covered by a fungal peridium. The spores are single, without an appendage (VÁNKY 2013). The morphological characteristics of the specimen reported here match the description of *Stegocintractia luzulae* in VÁNKY (2012). This smut fungus is known from Europe, East Asia, and North America, on hosts in *Luzula*. In the Balkan Peninsula, it is known from Serbia, on *Luzula forsteri* (Sm.) DC. (LINDTNER 1950, as '*Cintractia luzulae* (Sacc.) G.P. Clinton'), and Bulgaria, on *L. alpinopilosa* (Chaix) Breistr. and *L. luzulina* (DENCHEV 2001, as '*Ustilago luzulae* Sacc.'). *Stegocintractia luzulae* is recorded here for the first time from North Macedonia.

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REFERENCES

- AKATA I, KALYONCU F & KALMIŞ E. 2013. A note on *Rosellinia corticium* (Schwein.) Sacc. in Turkey. *Ot Sistematiik Botanik Degrisi* **20**: 151–156.
- ARCADIA L. 2023. Linda's Simplified Checklist of Greek lichens and lichenicolous fungi, pp. 1–38. Ver. 26-Oct-2023. Available at: https://www.lichensofgreece.com/simple_checklist.pdf [Accessed 4 December 2023]
- ARTDATABANKEN 2020. *Heridium coralloides*. Artfakta 2020 Red List of Swedish Species online database. Available at: <https://artfakta.se/naturvard/taxon/heridium-coralloides-2014>. [Accessed 20 October 2023].
- ASSYOV B, PETROVA A, DIMITROV D & VASILEV R. 2012. *Conspectus of the Bulgarian vascular flora. Distribution maps and floristic elements*, 4th ed. Bulgarian Biodiversity Foundation, Sofia.
- BAISHEVA E, MEŽAKA A, SHIROKIKH P & MARTYNYENKO V. 2013. Ecology and distribution of *Dicranum viride* (Sull. & Lesq.) Lindb. (Bryophyta) in the Southern Ural Mts. *Arctoa* **22**: 41–45.
- BERGAMINI A, BISANG I, HODGETTS N, LOCKHART N, VAN ROOY J & HALLINGBÄCK T. 2019. Recommendations for the use of critical terms when applying IUCN red-listing criteria to bryophytes. *Lindbergia* **42**: 01117.
- BERNICCHIA A & GORJÓN SP. 2010. *Fungi Europaei 12, Corticiaceae* s.l. Edizioni Candusso.
- BILOVITZ PO & MAYRHOFER H. 2010. Catalogue of the Lichenized and Lichenicolous Fungi of Bosnia and Herzegovina. *Phyton* **51**: 1–67.
- BODDY L, CROCKATT ME. & AINSWORTH AM. 2011. Ecology of *Heridium cirrhatum*, *H. coralloides* and *H. erinaceus* in the UK. *Fungal Ecology* **4**: 163–173.
- CZARNOTA P. 2007. The lichen genus *Micarea* (Lecanorales, Ascomycota) in Poland. *Polish Botanical Studies* **23**: 1–199.
- ČETKOVIĆ I, KASOM G & MALIĐŽAN S. 2011. Collection of fungi at the Natural History Museum of Montenegro. *Natura Montenegrina* **10**: 359–376.
- DENCHEV CM. 2001. Classis Ustomycetes (Ordines Tilletiales, Ustilaginales et Graphiolales). In: FAKIROVA V (ed.), *Fungi Bulgariae* **4**, pp. 1–286, Editio Academica "Prof. Marin Drinov" & Editio Pensoft, Sofia, Bulgaria.
- DENCHEV CM, SHIVAROV VV, DENCHEV TT & MAYRHOFER H. 2022. Checklist of the lichenized and lichenicolous fungi in Bulgaria. *Mycobiota* **12**: 1–106.

- DENCHEV TT, DENCHEV CM, KEMLER M & BEGEROW D. 2021. *Erythraea eranthidis* sp. nov. on *Eranthis longistipitata* from Uzbekistan. *Mycotaxon* **136**: 373–385.
- DIMOPOULOS P, STRAUS T & STRID A. 2022. Flora of Greece Web. Vascular Plants of Greece. An Annotated Checklist. Available at: <https://portal.cybertaxonomy.org/flora-greece/> [Accessed 20 November 2023].
- DJORDJEVIĆ V, AČIĆ S, KABAŠ E, LAZAREVIĆ P, TSIFTSIS S & LAKUŠIĆ D. 2023. The orchids of wetland vegetation in the Central Balkans. *Diversity* **15**: 26.
- DJORDJEVIĆ V, LAKUŠIĆ D, JOVANOVIĆ S & STEVANOVIĆ V. 2017. Distribution and conservation status of some rare and threatened orchid taxa in the central Balkans and the southern part of the Pannonian Plain. *Wulfenia* **24**: 143–162.
- ELLIS LT, ALEFFI M, BAKALIN VA, BEDNAREK-OCZYRA H, BERGAMINI A, BEVERIDGE P, CHOI SS, FEDOSOV VE, GABRIEL R, GALLEGU MT, GRDOVIC S, GUPTA R, NATH V, ASTHANA AK, JENNINGS L, KÜRSCHNER H, LÉBOUVIER M, NAIR MC, MANJULA M, RAJESH KP, NOBIS M, NOWAK A, PARK J, SUN BY, PLASEK V, CHÍAL LC, POPONESSI S, MARIOTTI MG, SABOVljević A, SABOVljević MS, SAWICKI J, SCHNYDER N, SCHUMACKER R, SIM-SIM M, SINGH DK, SINGH D, MAJUMDAR S, SINGH DEO S, ŠTEFĀNUŢ S, SULEIMAN M, SENG CM, CHUA MS, VANA J, VENANZONI R, BRICCHI E & WIGGINTON MJ. 2015. New national and regional bryophyte records, 42. *Journal of Bryology* **37**: 68–79.
- FOURNIER J & MAGNI J-F. 2003. Pyrenomycetes from south-western France. Available at: http://pyrenomycetes.free.fr/rosellinia/html/Rosellinia_corticium.htm. [Accessed 10 November 2023].
- GBIF SECRETARIAT. 2023. *Sauteria alpina* (Nees) Nees. GBIF Backbone Taxonomy. Checklist dataset <https://doi.org/10.15468/39omei> [Accessed 02 September 2023]
- GYOSHEVA MM, DENCHEV CM, DIMITROVA EG, ASSYOV B, PETROVA RD. & STOICHEV GT. 2006. Red List of fungi in Bulgaria. *Mycologia Balcanica* **3**: 81–87.
- HODGETTS N, CALIX M, ENGLEFIELD E, FETTES N, GARCIA CRIADO M, PATIN L, NIETO A, BERGAMINI A, BISANG I, BAISHEVA E, CAMPISI P, COGONI A, HALLINGBACK T, KONSTANTINOVA N, LOCKHART N, SABOVljević M, SCHNYDER N, SCHROCK C, SERGIO C, SIM SIM M, VRBA J, FERREIRA CC, AFONINA O, BLOCKEEL T, BLUM H, CASPARI S, GABRIEL R, GARCIA C, GARILLETI R, GONZALEZ MANCEBO J, GOLDBERG I, HEDENAS L, HOLYOAK D, HUGONNOT V, HUTTUNEN S, IGNATOV M, IGNATOVA E, INFANTE M, JUUTINEN R, KIEBACHER T, KOCKINGER H, KUČERA J, LONNELL N, LUTH M, MARTINS A, MASLOVSKY O, PAPP B, PORLEY R, ROTHERO G, SODERSTROM L, ŠTEFĀNUŢ S, SYRJANEN K, UNTEREINER A, VAŇA J, VANDERPOORTEN A, VELLAK K, ALEFFI M, BATES J, BELL N, BRUGUES M, CRONBERG N, DENYER J, DUCKETT J, DURING HJ, ENROTH J, FEDOSOV V, FLATBERG KI, GANEVA A, GORSKI P, GUNNARSSON U, HASSEL K, HESPANHOL H, HILL M, HODD R, HYLANDER K, INGERPUU N, LAAGA-LINDBERG S, LARA F, MAZIMPAKA V, MEŽAKA A, MULLER F, ORGAZ JD, PATINO J, PILKINGTON S, PUCHE F, ROS RM, RUMSEY F, SEGARRA-MORAGUES JG, SENECA A, STEBEL A, VIRTANEN R, WEIBULL H, WILBRAHAM J & ŽARNOWIEC J. 2019. *A miniature world in decline: European Red List of Mosses, Liverworts and Hornworts*. Brussels, Belgium.
- HODGETTS NG & LOCKHART N. 2020. *Checklist and country status of European bryophytes – update 2020*. Irish Wildlife Manuals, No. 123. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland.
- HUGONNOT V & CHAVOUTIER JL. 2021. *Les Bryophytes de France. Volume 1: Anthocérotes et Hépatiques*. Muséum national d'Histoire naturelle, Paris; Biotope, Mèze.
- IGNATOVA EA & FEDOSOV VE. 2008. Species of *Dicranum* (Dicranaceae, Bryophyta) with fragile leaves in Russia. *Arctoa* **17**: 63–83.
- INATURALIST 2024. iNaturalist Research-grade Observations. iNaturalist.org. Available at: <https://www.gbif.org/occurrence/4413676754> [Accessed 02 September 2023]
- IZRK. 2022. Osnovni podatki o podzemnih jamah (marec 2022). Inštitut za raziskovanje krasa ZRC SAZU. Izvajanje javnega pooblastila. Zapis o 14.695 jamah. Naročnik Agencija RS za okolje. <https://www.katasterjam.si/caves/3081> [Accessed 23 July 2023].
- JACQUEMYN H, BRYN R & HUTCHINGS MJ. 2014. Biological flora of the British Isles: *Epipactis palustris*. *Journal of Ecology* **102**: 1341–1355.
- KARADŽIĆ D. 1995. *Gljive Nacionalnog parka Durmitor, najčešće vrste*. Nacionalni park Durmitor, Žabljak i Šumarski fakultet, Beograd.
- KARADŽIĆ D & ANĐELIĆ M. 2002. *Najčešće gljive prouzrokovani truleži drveta u šumama i šumskim stovarištima*. Centar za zaštitu i unapređenje šuma Crne Gore, Podgorica, Montenegro.
- KARADŽIĆ D & VUJANOVIĆ V. 1994. Bolesti bukavih sastojina na području nacionalnog parka „Lovćen“. In: MIJUŠKOVIĆ M (ed.), *Nacionalni park „Lovćen“ – prirodna i kulturna dobra* **34**, pp. 175–183, Crnogorska Akademija Nauka i Umjetnosti, Podgorica.
- KASOM G. 2013. Makromicete razdjela Basydiomicota Crne Gore. PhD Thesis, University of Montenegro. Available at: <https://eteze.ucg.ac.me/application/showtheses?thesesId=13> [Accessed 15 October 2023]
- KASOM G & MILIČKOVIĆ N. 2010. Protected species of macromycetes in Montenegro. *Natura Montenegrina* **9**: 195–203.
- KROTOSKI T. 2012. Chronione i rzadkie gatunki grzybów wielkoowocnikowych rejonu projektowanego rezerwatu przyrody Głębokie Doły w Rybniku w latach 2006–2010. *Natura Silesiae Superioris* **13**: 57–72.
- KUBIAK D. 2002. Zagrozone i scisle chronione gatunki Macromycetes w rezerwacie Debno. *Przegląd Przyrodniczy* **13**: 71–74.
- KUJAWSKA MB, RUDAWSKA M, STASINSKA M, PIETRAS M & LESKI T. 2021. Distribution and ecological traits of a rare and threatened fungus *Hericium flagellum* in Poland with the prediction of its potential occurrence in Europe. *Fungal Ecology* **50**: 1–11.
- KUJAWSKA MB, STASIŃSKA M, LESKI T & RUDAWSKA M. 2019. First record of *Hericium flagellum* (Basidiomycota) from the “Olbina” nature reserve in Wielkopolska Voivodship, Poland. *Acta Mycologica* **54**: 6–13.
- KUTNAR L. 2011. Diversity of woody species on forest monitoring plots in Slovenia. *Gozdarski Vestnik* **69**: 271–278.
- KUTNAR L, KERMAVNAR J & SABOVljević MS. 2023. Bryophyte diversity, composition and functional traits in relation to bedrock and tree species composition in close-to-nature managed forests. *European Journal of Forest Research* **142**: 865–882.
- LINDTNER V. 1950. Gare Jugoslavije (Ustilaginales Jugoslaviae). *Glasnik Prirodnjačkog Muzeja Srpske Zemlje, Ser. B, Biološke Nauke* **3–4**: 1–110.
- MARTINČIČ A. 2011. Seznam jetrenjakov (Marchantiophyta) in rogovnjakov (Anthocerotophyta) Slovenije. *Scopolia* **72**: 1–38.
- MARTINČIČ A. 2014. Mahovna flora fitogeografskega podobmočja Karavanke (Slovenija). *Hacquetia* **13**: 307–353.

- MARTINČIČ A. 2016. Updated Red List of bryophytes of Slovenia. *Hacquetia* 15(1): 107–126.
- MAYRHOFER H, CZECH D, KOBALD E-M & BILOVITZ PO. 2016. Catalogue of the lichenized and lichenicolous fungi of Kosovo. *Herzogia* 29: 529–554.
- MURATI M. 1992. *Lichen flora of Slovenia, Croatia, Vojvodina, Bosnia and Herzegovina, Serbia, Montenegro, Kosovo and Metohija*. University of Priština, Priština.
- NIKOALEVA T. 1961. Ezovikovye griby. In: SAVIĆ V (ed.), *Flora Sporovyh Rastenij SSSR. 6 (Griby 2)*, p. 443, Akademii Nauk SSSR.
- NIMIS PL, HAFELLNER J, ROUX C, CLERC P, MAYRHOFER H, MARTELLOS S & BILOVITZ PO. 2018. The lichens of the Alps – an annotated checklist. *MycKeys* 3: 1–634.
- NIMIS PL. 2016. *The lichens of Italy, A second annotated catalogue*. EUT, Trieste.
- ODOR P & VAN DORT K. 2002. Beech dead wood inhabiting bryophyte vegetation in two Slovenian forest reserves. *Zbornik Gozdarstva in Lesarstva* 69: 155–169.
- OFFICIAL GAZETTE RS. 2010–2016. *Pravilnik o proglašenju i zaštiti strogo zaštićenih i zaštićenih divljih vrsta biljaka, životinja i gljiva*. 05/2010, 47/2011, 32/2016, 98/2016.
- PAVLOVIĆ S, ŠEVARDA AL, KUZNJECOVA G, ŽIVANOVIĆ P, JANČIĆ R & TODOROVIĆ B. 1985. *Calamintha vardarensis* Silic, nova vrsta za Floru SR Srbije, sa posebnim osvrtom na anatomske osobine organa i etarsko ulje. *Glasnik Prirodnjačkog Muzeja Serija B* 40: 33–59.
- PEEV D, PETROVA AS, ANCHEV M, TEMNISOVA D, DENCHEV CM, GANEVA A, GUSSEV C & VLADIMIROV V. (eds). 2015. *Red Book of the Republic of Bulgaria. Volume I. Plants and fungi*. BAS & Ministry of Education, Sofia, Bulgaria.
- PEGLER DN, ROBERTS PJ & SPOONER BM. 1997. *British Canterelles and Tooth-Fungi. An account of the British Cantharelloid and stipitate Hydroid Fungi*. Royal Botanic Gardens, Kew.
- PERIĆ B & PERIĆ O. 2003. Makromicete Crne Gore 36° prilog proučavanju. *Mycologia Montenegrina* 6: 73–95.
- PERIĆ B & PERIĆ O. 2004. Preliminarna Crvena lista makromiceta Crne Gore 2°. *Mycologia Montenegrina* 7: 7–33.
- PETRINI LE. 2013. *Rosellinia* – a world monograph. *Bibliotheca Mycologica* 205: 1–410.
- PHITOS D, CONSTANTINIDIS T & KAMARI G. 2009. *The Red Data Book of Rare and Threatened Plants of Greece, Vol. II (E-Z)*. Hellenic Botanical Society, Patra, Greece.
- POWO 2023. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Available at: <http://www.plantsoftheworldonline.org> [Accessed 18 October 2023].
- RADULOVIĆ NS & BLAGOJEVIĆ PD. 2010. Plant volatiles providing additional evidences to the occurrence of a wild-growing population of *Calamintha vardarensis* (Greuter et Burdet) Šilić outside of its natural habitat. *Chemistry & Biodiversity* 7: 2856–2868.
- RANDJELOVIĆ N & RANDJELOVIĆ V. 2002. Taxonomical and herological problems in the frame of the aggregate *Calamintha nepeta* sensu lato on the territory of Serbia. Proceeding of the 7th Symposium on Flora of Southeastern Serbia and Neighbouring Regions, pp. 35–38.
- SABOVljević MS, TOMOVIĆ G, PANTOVIĆ JP, DJUROVIĆ SZ, BUZUROVIĆ U, DENCHEV TT, DENCHEV CM, BOYCHEVA P, DIMITROVA T, MARKOVIĆ A, SABOVljević AD, ŠTEFĂNUȚ S, BIRSAN CC, SABANOVIĆ E, DJORDJEVIĆ V, NIKETIĆ M, ŠOVRAJN S, MAŠIĆ E, STOYKOV D, PAPP B, ASSYOV B & SLAVOVA M. 2022. New records and noteworthy data of plants, algae and fungi in SE Europe and adjacent regions, 9. *Botanica Serbica* 46: 311–320.
- SCHRÖCK C, BISANG I, CASPARI S, HEDENÄS L, HODGETTS N, KIEBACHER T, KUČERA J, ŠTEFĂNUȚ S & VANA J. 2019. *Dicranum viride*. The IUCN Red List of Threatened Species 2019: e.T84741252A87735693. Available at: <https://www.iucnredlist.org/species/84741252/87735693> [Accessed 23 December 2023].
- SERGIO C. & PORLEY RD. 2019. *Acaulon triquetrum (Europe assessment)*. The IUCN Red List of Threatened Species 2019: e.T84534645A87728936. [Accessed 12 February 2024].
- SIPMAN JMH & RAUS T. 2002. An inventory of the lichen flora of Kalimnos and parts of Kos (Dodecanisos, Greece). *Willdenowia* 32: 351–392.
- STOYKOV DY. 2012. *Diaporthales*. In: DENCHEV CM (ed.), *Fungi of Bulgaria. Volume 8*. Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia.
- STOYKOV DY & ALVARADO P. 2019. *Daldinia vernicosa* from the Eastern Forebalkan (Bulgaria). *Phytologia Balcanica* 25: 153–155.
- ŠTEFĂNUȚ S & GOIA I. 2012. Checklist and Red List of Bryophytes of Romania. *Nova Hedwigia* 95: 59–104.
- ŠTEFĂNUȚ S, ION CM, SAHLEAN T, TAMAS G, NICOARĂ G-R, VLADIMIRESCU M, MOROȘANU A-M, HELEPCIUC F-E, ȘTEFĂNUȚ M-M & BÎRSAN C-C. 2023. Population and conservation status of *Buxbaumia viridis* (DC.) Moug. & Nestl. in Romania. *Plants* 12: 473.
- ŠILIĆ Č. 1979. *Monografija rodova Satureja L., Calamintha Miller, Micromeria Benthham, Acinos Miller i Clinopodium L. u flori Jugoslavije*. Zemaljski muzej BiH, Sarajevo.
- TIBELL S & TIBELL L. 2006. Checklist of the lichens of Serbia. *Mycologia Balcanica* 3: 187–215.
- TKALČEC Z, MEŠIĆ A, MATOČEC N & KUŠAN I. 2008. *Crvena knjiga gljiva Hrvatske*. Ministarstvo kulture, Državni zavod za zaštitu prirode, Republika Hrvatska.
- TOFILOVSKA S, KARADELEV M & RUSEVSKA K. 2020. *Hericium coralloides*, species overview. The National Red List of the North Macedonia. Available at: <https://redlist.moepp.gov.mk/coral-tooth-fungus/> [Accessed 23 November 2023].
- TOMOVIĆ G, SABOVljević MS, NIKETIĆ M, BOYCHEVA P, LAZAREVIĆ P, KABAŠ E, VIDAKOVIĆ D, KRIZMANIĆ J, KUTNAR L, KERMAVNAR J, VELJKOVIĆ M, DJORDJEVIĆ V, ASSYOV B, BOZOK B, STRGULC KRAJŠEK S, LOBNIK CIMERMAN Ž, ŠTEFĂNUȚ S, BÎRSAN C-C, HAJRUDINOVIĆ-BOGUNIĆ A & BEGIĆ A. 2022. New records and noteworthy data of plants, algae and fungi in SE Europe and adjacent regions, 8. *Botanica Serbica* 46: 133–141.
- URBANČIĆ M, KUTNAR L, KRALJ T, KOBAL M & SIMONČIĆ P. 2009. Site characteristics of permanent plots on the Slovenian 16 km × 16 km net. *Gozdarski Vestnik* 67: 17–48.
- VÁNKY K. 1982. *Thecaphora androsacina* and *Entyloma gaillardianum*, new species of Ustilaginales. *Mycotaxon* 16: 103–106.
- VÁNKY K. 2012. *Smut fungi of the world*. APS Press, St. Paul, Minnesota.
- VÁNKY K. 2013. *Illustrated genera of smut fungi, 3rd edn*. APS Press, St. Paul, Min.
- VOLGMAYR H, CASTLEBURY LA & JAKLITSCH WM. 2017. *Juglanconis* gen. nov. on *Juglandaceae*, and the new family *Juglanconidaceae* (Diaporthales). *Persoonia* 38: 136–155.
- ZAHARIEV D. 2011. *The plants with protection statute, endemites and relicts of the Provadijsko Plateau*. Ovidius University Annals – Biology-Ecology Series, Vol. 15.
- ZAHARIEV D. 2012. *Flora of Northeastern Bulgaria. Volume 1. Flora of the Provadijsko plateau*. Chimera, Shumen.



REZIME

Novi i značajni podaci o biljkama, algama i gljivama iz JI Evrope i susednih regiona, 17

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U radu su prikazani novi i značajni podaci sa područja JI Evrope i susednih regiona o sledećim taksonima: hemibiotrofnoj gljivi *Juglanconis juglandina*, lihenizovanim gljivama *Micarea lignaria* var. *lignaria*, *Pertusaria flavicans* i *Placidiopsis custnani*, parazitskim gljivama *Entyloma gaillardianum* i *Stegocintractia luzulae*, saprofitskim gljivama *Hericium coralloides*, *Hericium flagellum* i *Rosellinia corticium*, jetrenjači *Sauteria alpina*, mahovinama *Acaulon triquetrum*, *Buxbaumia aphylla* i *Dicranum viride*, monokotilama *Epipactis palustris* i dikotilama *Clinopodium vardarense*, *Helichrysum doerfleri* i *Opopanax chironium* subsp. *bulgaricum*.

Ključne reči: novi nalaz, *Acaulon triquetrum*, *Buxbaumia aphylla*, *Clinopodium vardarense*, *Dicranum viride*, *Entyloma gaillardianum*, *Epipactis palustris*, *Helichrysum doerfleri*, *Hericium coralloides*, *Hericium flagellum*, *Juglanconis juglandina*, *Micarea lignaria* var. *lignaria*, *Opopanax chironium* subsp. *bulgaricum*, *Pertusaria flavicans*, *Placidiopsis custnani*, *Rosellinia corticium*, *Sauteria alpina*, *Stegocintractia luzulae*, JI Evropa