



Original Scientific Paper

New records and noteworthy data of plants, algae and fungi in SE Europe and adjacent regions, 11

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ABSTRACT:

This paper presents new records and noteworthy data on the following taxa in SE Europe and adjacent regions: red algae *Sheathia confusa*, parasitic fungus *Anthracoidea caryophylleae*, mycorrhizal fungus *Hydnellum caeruleum*, bryoparasitic fungus *Octospora erzbergeri*, liverwort *Cephaloziella baumgartneri*, mosses *Hamatocaulis vernicosus*, *Streblotrichum convolutum* var. *commutatum* and *Ulotia crispula*, monocots *Ophrys bertolonii* subsp. *bertolonii*, *Ophrys scolopax* subsp. *cornuta* and *Spiranthes spiralis* and dicots *Androsace hedraeantha*, *Hieracium mrazii*, *Ramonda nathaliae* and *Triglochin palustris* are given within SE Europe and adjacent regions.

Keywords:

new report, *Androsace hedraeantha*, *Anthracoidea caryophylleae*, *Cephaloziella baumgartneri*, *Hamatocaulis vernicosus*, *Hieracium mrazii*, *Hydnellum caeruleum*, *Octospora erzbergeri*, *Ophrys bertolonii* subsp. *bertolonii*, *Ophrys scolopax* subsp. *cornuta*, *Ramonda nathaliae*, *Sheathia confusa*, *Spiranthes spiralis*, *Streblotrichum convolutum* var. *commutatum*, *Triglochin palustris*, *Ulotia crispula*, SE Europe

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Androsace hedraeantha* Griseb., fam. Primulaceae (dicot, vascular plants)*Contributors:** Marjan NIKETIĆ and Gordana TOMOVIĆ
Geographical focus: Serbia**New records and noteworthy data:** This is confirmation of the presence of this species for Mt. Stara Planina, more than 145 years after the first collection by Josif Pančić in 1876.**Specimen data:** Eastern Serbia, Mt. Stara Planina, Midžor peak, N 43.3941353°, E 22.681314°, MGRS 34T FP30, ass. *Seslerietum coeruleantis*, silicate, 2170 m a.s.l.; 15 July 2022; leg. Niketić M, Tomović G, Ranimirović M.; det. Niketić M, Tomović, G.**Vouchers:** Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade (BEOU), vascular plant collection BBD_7263; Natural History Museum in Belgrade, General Herbarium of the Balkan Peninsula (BEO), 100138.

Androsace hedraeantha was first collected on Mt. Stara Planina (Midžor peak) by Josif Pančić in the year 1876 (PANČIĆ 1883); it was also found on the same mountain on Sveti Nikola peak (DEGEN 1905) and these two species sites are the only ones in Serbia proper. In Kosovo and Metohija, it is present in Mts. Prokletije and in Mts. Šar Planina (NIKOLIĆ 1972; NIKOLIĆ *et al.* 1986).

On Midžor peak this species inhabits rocks and rocky ground on silicate. The population is represented by a small number of individuals (ca. 150–200), spatially restricted and requiring certain conservation measures. This record, based on the herbarium specimens deposited at the BEOU and BEO, represents confirmation of its presence in the area 145 year after its first finding.

Anthracoidea caryophylleae* Kukkonen, fam. Anthracoideaceae (fungus, parasitic)*Contributors:** Teodor T. DENCHEV and Cvetomir M. DENCHEV**Geographical focus:** Greece**New record and noteworthy data:** This is the first record of *Anthracoidea caryophylleae* from Greece.**Specimen data:** 1) Western Macedonia, Kastoria, SE of Vogatsiko, N 40.400278°, E 21.407222°, on *Carex caryophylleae* Latourr., 690 m a.s.l.; 6 May 2004; leg. Willing R & E, no. 125 352; det. Denchev TT, Denchev CM; 2) Western Macedonia, Kozani, SE of Dicheimarro, N 40.3°, E 21.235°, 750 m a.s.l.; 3 June 2012; leg. Willing R & E, no. 225 412; det. Denchev TT, Denchev CM; 3) Kozani, N of Sisani, N 40.443333°, E 21.514444°, 1080 m a.s.l.; 4 June 2012; leg. Willing R & E, no. 225 802; det. Denchev TT, Denchev CM; 4) Central Macedonia, Serres, SW of Theodorio, N 41.200833°, E 22.892222°, 560 m a.s.l.; 27 April 2006; leg. Willing R & E, no. 155343; det. Denchev TT, Denchev CM; 5) Eastern Macedonia and Thrace, Drama, 14 km from Kato Nevrokopi, along the road to Mikrokli-soura, N 41.391667°, E 23.980556°. 680 m a.s.l.; 17 June1992; leg. Greuter W *et al.*, W. Greuter, Plantae Graeciae borealis, no. 23509; det. Denchev TT, Denchev CM.**Vouchers:** Herbarium of the Botanic Garden and Botanical Museum Berlin, vascular plant collection (B) 10 0170416, 10 0501596, 10 0501594, 10 0233801, 10 0474084. Some of the female flowers of these specimens are infected by *Anthracoidea caryophylleae*. This smut fungus was examined during a visit to B, in March 2022, within the framework of the SYNTHESYS+ Project.

Anthracoidea is a large genus of smut fungi, comprising 112 species (DENCHEV *et al.* 2021). *Anthracoidea caryophylleae* is distributed in Europe, Asia, North America, and Australia, on sedges in *Carex* sect. *Mitratae* and *Carex* sect. *Lamprochlaenae* (DENCHEV *et al.* 2013). On the Balkan Peninsula, it is known from Slovenia, Bosnia and Herzegovina, and Bulgaria (LINDTNER 1950; DENCHEV 2001; DENCHEV *et al.* 2013). Detailed information on the taxonomy and distribution of this smut fungus was presented by DENCHEV *et al.* (2013). This species is reported here for the first time from Greece.

Cephaloziella baumgartneri* Schiffn., fam. Cephaloziellaceae (liverwort, bryophyte)*Contributors:** Aneta D. SABOVLJEVIĆ and Marko S. SABOVLJEVIĆ**Geographical focus:** Montenegro**New record and noteworthy data:** confirmation of presence and the first record for Montenegro in 50 years.**Specimen data:** Žabljak Crnojevića, N 42.317930°, E 19.157836°, within the cracks in the walls of an old fortress, 17 m a.s.l.; 17 February 2023; leg./det. Sabovljević AD, Sabovljević MS.**Voucher:** Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade (BEOU), bryophyte collection Bryo s/n.

Cephaloziella baumgartneri is a tiny leafy liverwort mentioned for the coastal region of Montenegro in BISCHLER & JOVET-AST (1973) but without a precise location. Its presence in Montenegro was not clear to date. Here we confirm its presence. A huge patch was recorded in the rock crevice of the fortress. The species is not of conservation concern in Europe (SERGIO & PORLEY 2019), and it has a strong Atlantic Mediterranean affinity i.e. distribution type.

As a habitat specialist, it is very sensitive to habitat degradation and changes such as the loss of bare rock surfaces, scrub invasion or the progress of closed plant communities. Known population monitoring and urgent ecological research of this species is required (SERGIO & PORLEY 2019) since there is a huge lack of knowledge on the biology of this species and evidence of prolonged drought duration as well as global climate change.

This species is considered Critically Endangered (CR) in Romania, Endangered (EN) in Great Britain,

Vulnerable (VU) in Madeira and rare in the Netherlands (SERGIO & PORLEY 2019). Although its overall European population trend is unknown, it remains neglected at European level.

***Hamatocaulis vernicosus* (Mitt.) Hedenäs, fam. Amblystegiaceae (moss, bryophyte)**

Contributors: Sorin ȘTEFĂNUȚ and Gabriela TAMAS

Geographical focus: Romania

New record and noteworthy data: These are the first records for the Bucegi Massif, Romania; Species of high international importance (the Bern Convention).

Specimen data: 1) The South-Eastern Carpathians, the Bucegi Massif, Horoaba Valley, Dâmbovița County, N 45.390722°, E 25.433694°, 1521 m a.s.l.; 6 September 2022; det. Ștefănuț S.; 2) The South-Eastern Carpathians, the Bucegi Massif, Lăptici Peatbog, Dâmbovița County, N 45.371806°, E 25.436306°, 1468 m a.s.l.; 6 September 2022; det. Ștefănuț S, Tamas G.

Vouchers: photo documentation of Ștefănuț S. and Tamas G.

Hamatocaulis vernicosus is a Natura 2000 bryophyte species reported in Romania from Maramureș County, the Țibleș Mountains, Suceava County, the Călimani Mountains, the Rarău Mountains, Harghita County, Covasna County: Comandău, the Leaota Mountains, the Făgăraș Mountains, the Parâng Mountains, the Vlădeasa Massif and Cluj County. The sterile samples of *H. vernicosus* were found on the edge of *Sphagnum* peatbog, in water, along with other bryophytes such as *Marchantia polymorpha* L., *Bryum schleicheri* DC., *Palustriella decipiens* (De Not.) Ochyra, *Philonotis seriata* Mitt. and *Tomentypnum nitens* (Hedw.) Loeske and vascular plants such as *Caltha palustris* L., *Cardamine pratensis* L., *Carex diandra* Schrank, *C. lepidocarpa* Tausch, *C. nigra* (L.) Reichard, *C. rostrata* Stokes, *Cerastium sylvaticum* Waldst. & Kit., *Crepis paludosa* (L.) Moench, *Cruciata glabra* (L.) Ehrend., *Dactylorhiza cordigera* (Fr.) Soó, *Deschampsia cespitosa* (L.) P. Beauv., *Epilobium anagallidifolium* Lam., *Eriophorum gracile* W. D. J. Koch ex Roth, *E. vaginatum* L., *Equisetum palustre* L., *Galium palustre* L., *Juncus articulatus* L., *Lathyrus palustris* L., *Leontodon autumnalis* L., *Mentha aquatica* L., *Myosotis scorpioides* L., *Parnassia palustris* L. subsp. *palustris*, *Pinguicula vulgaris* L., *Triglochin palustris* L. and *Veronica beccabunga* L.

The localities of this species nearest to Romania are in Bulgaria, Serbia, Slovakia and Ukraine (HODGETTS & LOCKHART 2020). The conservation status of *H. vernicosus* in Romania has been changed from Vulnerable – VU A3c to Endangered – EN A3c (ȘTEFĂNUȚ & GOIA 2012).

***Hieracium mrazii* Szeląg, fam. Asteraceae (dicot, vascular plants)**

Contributor: Zbigniew SZELĄG

Geographical focus: Romania

New record and noteworthy data: The first record in Mts. Țarcu and a new record in Mts. Retezat.

Specimen data: 1) The Southern Carpathians, Mts. Retezat, the Bucura river valley, along a tourist road from Poiana Pelegii gallade to Bucura lake, N 45.345°, E 22.880°, *Picea abies* (L.) H. Karst forest margin, 1700–1750 m a.s.l.; 22 July 2021; leg./det. Szeląg Z.; 2) The Southern Carpathians, Mts. Țarcu, Culmea Tomeasa, a south-facing slope alongside a peat bog from Lake Gura Apelor to Mt. Zeicu, N 45.344°, E 22.712°, open grassy areas in *Picea abies* forest, 1650–1680 m a.s.l.; 26 July 2021; leg./det. Szeląg Z.

Vouchers: Private author's collection (Herb. Hierac. Z. Szeląg).

Hieracium mrazii Szeląg was described from the northern part of the Retezat Mountains and was hitherto known from the type locality only (SZELĄG 2016). It is considered a hybrid origin apomictic species between *H. transylvanicum* Heuff. and *H. umbellatum* L. The new findings suggest that *H. mrazii* is probably distributed more widely in Mts. Retezat and even in the adjacent Mts. Țarcu.

***Hydnellum caeruleum* (Hornem.) P. Karst., fam. Bankeraceae (fungus, mycorrhizal)**

Contributor: Boris ASSYOV

Geographical focus: Bulgaria

New records and noteworthy data: This is the first record of *Hydnellum caeruleum* in Bulgaria (DENCHEV & ASSYOV 2010).

Specimen data: Mts. Pirin, above Bansko town, along the road to Bunderitsa chalet (Bulgaria); in an old-growth forest of *Picea abies* H. Karst.; 22 August 2002; leg./det. Assyov B.

Voucher: Mycological Collection of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF) 30815.

Stipitate hydroid fungi and the genus *Hydnellum* P. Karst. in particular are given a great deal of attention in different parts of Europe due to the purported indicator value of some of its species, which are known to be sensitive to nitrogen pollution (PARFITT *et al.* 2007; ARNOLDS 2010; NITARE *et al.* 2021). The group seems to be less studied in Bulgaria with a mere six species of this latter genus being included so far on the *Checklist of the larger basidiomycetes in Bulgaria*, namely *H. aurantiacum* (Batsch) P. Karst., *H. compactum* (Pers.) P. Karst., *H. concrescens* (Pers.) Banker, *H. ferrugineum* (Fr.) P. Karst., *H. geogenium* (Fr.) Banker, and *H. suaveolens* (Scop.) P. Karst. (DENCHEV & ASSYOV 2010). Here we report the

first data for the occurrence of *H. caeruleum* in Bulgaria, a species easily distinguished by its gross morphology alone, featuring blue basidiomata with a two-coloured (blue in the upper part and orange in the stipe-like part), corky, zonate context (MAAS GEESTERANUS 1975).

***Octospora erzbergeri* Benkert, fam. Pyronemataceae (fungus, bryoparasitic)**

Contributors: Dragiša SAVIĆ and Lukáš JANOŠÍK

Geographical focus: Serbia

New record and noteworthy data: New localities in Serbia

Specimen data: 1) Fruška Gora, above Vrdnik near the ridge road, N 45.15359°, E 19.79709°, on the bark of *Quercus petraea* (Matt.) Liebl. with moss *Pseudoleskeella nervosa* (Brid.) Nyholm, 15 January 2023; leg./det. Savić D.; 2) Fruška Gora, Iriški venac, N 45.14981°, E 19.83165°, on the bark of *Tilia platyphyllos* Scop. and *Quercus* sp. with moss *Pseudoleskeella nervosa*, 19 January 2023; leg./det. Janošik L.; 3) Fruška Gora, on Stražilovo hill, near the grave of Branko Radičević, N 45.16641°, E 19.91373°, on the bark of *Quercus* sp. with *Pseudoleskeella nervosa*, 22 January 2023; leg./det. Janošik L.; 4) Fruška Gora, near the Debeli cer quarry, N 45.14708°, E 19.64304°, on the bark of *Tilia platyphyllos* with moss *Pseudoleskeella nervosa*, 25 January 2023; leg./det. Savić D.; 5) Fruška Gora, near Vrdnička kula, N 45.14399°, E 19.77825°, on the bark of *Quercus* sp. with moss *Pseudoleskeella nervosa*, 25 January 2023; leg./det. Janošik L.

Vouchers: Unregistered Herbarium of the Fruška Gora National Park s/n, Herbarium of Charles University in Prague (PRC) s/n.

Octospora erzbergeri is an obligate bryophilous ascomycete, parasitising exclusively on the moss *Pseudoleskeella nervosa*. The species was described based on a sample collected in Serbia in the area of Đerdap gorge (BENKERT 2006), and in addition to the type locality, the same author reported another finding from the south of Serbia (Mt. Kopaonik). After that, this species was also found in 13 localities in Hungary (SZŰCS 2010; NEMETH 2017), one locality in France (VAN VOOREN 2020), one locality in the Czech Republic and two localities in Slovakia (SOCHOROVÁ *et al.* 2020). During January 2023, *O. erzbergeri* was detected in large numbers in several localities in the area of Mt. Fruška Gora.

Since its host, the moss *Pseudoleskeella nervosa*, is widespread throughout the northern hemisphere (HODGETTS 2015) it is possible that *O. erzbergeri* is also more widespread, but for now the number of known records is still limited. However, this is not unusual when it comes to bryophilous fungi because they are generally very small, occurring during the winter months and are therefore difficult to find and can be easily overlooked.

***Ophrys bertolonii* Moretti subsp. *bertolonii*, fam. Orchidaceae (monocot, vascular plant)**

Contributor: Matej DUDÁŠ and Vladislav KOLARČIK

Geographical focus: Croatia

New record and noteworthy data: Record of a rare and threatened species (CITES, Annex B), and vulnerable species (VU) in Croatia (NIKOLIĆ & TOPIĆ 2005)

Specimen data: Sušci, between Split and Sinj, Dalmacija county, a small karst area near the Orthodox Church of V. Gospoina, N 43.6365833°, E 16.5656944°, 382 m a.s.l., 10 May 2016; leg. Dudáš M, Kolarčik V.; det. Dudáš M.

Voucher: contributor photo documentation.

This is a central-Mediterranean orchid species, known to occur in Sicily, across the Apennine Peninsula, Istria and Dalmatia to the Ionian Islands (NIKOLIĆ 2015). A small population of six flowering individuals were found on karstic terrain 100 m NW from the church in Sušci village. The trend of its overall populations remains unknown (RANKOU 2011a), and each new record is valuable (NIKOLIĆ & TOPIĆ 2005).

***Ophrys scolopax* Cav. subsp. *cornuta* (Steven) E. G. Camus, fam. Orchidaceae (monocot, vascular plant)**

Contributors: Milorad VELJKOVIĆ and Vladan DJORDJEVIĆ

Geographical focus: Serbia

New records and noteworthy data: These are the third and fourth records of this taxon for the Kosovo and Metohija province, and the first record for the region of Metohija, which represents the southernmost limit of the taxon's distribution in Serbia.

Specimen data: 1) Kosovo, Štrpce, Vrbeštica, N 42.236070°, E 20.985752°, MGRS 34T DM97, scrub vegetation with *Ostrya carpinifolia* Scop. and *Corylus avellana* L., limestone, 1045 m a.s.l., 19 June 2022; leg. Veljković M.; det. Djordjević V, Veljković M.; 2) Metohija, Mts. Šar-Planina, Ošljak peak, Mušnikovo, N 42.178792°, E 20.892463°, MGRS 34T DM96, ass. *Festucetum valesiaca* s.l., limestone, 1030 m a.s.l., 15 June 2022, leg. Veljković M.; det. Djordjević V, Veljković M.

Vouchers: Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade (BEOU), vascular plant collection 17906, 17907; photo documentation of Veljković M.

Ophrys scolopax subsp. *cornuta* is a Mediterranean-Submediterranean taxon distributed mainly in the eastern Mediterranean region, extending from the Caucasus across the Crimea and the Balkan Peninsula to southern Hungary in the north, south to the Peloponnese, the Aegean Islands and Anatolia, west to Monte Gargano in Italy and east to the Caucasus and the Caspian Sea (Iran) (DELFORGE 2006; PEDERSEN & FAURHOLDT 2007). According to the recent annotated Checklist of Species of Vascular Flora of Serbia, its status in Kosovo and

Metohija is marked “±”, which means that its occurrence is unconfirmed (only literature data available), while its occurrence in central Serbia and Vojvodina is confirmed (DJORDJEVIĆ *et al.* 2018). The first confirmed records of this taxon for the Kosovo and Metohija province refer to the localities of Priština (Gračanica) and the Ibar river gorge (Kamen) (NIKETIĆ *et al.* 2021).

The new findings of *O. scolopax* subsp. *cornuta* in Štrpce (Vrbeštica) and Mt. Ošljak (Mušnikovo) are the first records of this taxon in the MGRS 34T DM97 and DM96 10 × 10 km UTM grid cells and also in the DM 100 × 100 km UTM grid cell. Previously, it was recorded in only two 10 × 10 km UTM grid cells in the Kosovo and Metohija province (EN11 and DN78; NIKETIĆ *et al.* 2021). Furthermore, the new finding of this taxon on Mt. Ošljak is the first record of this taxon for the Metohija region, which represents the southernmost limit of the taxon's distribution in Serbia and the Kosovo and Metohija province. The two newly recorded subpopulations of this taxon each comprise about 10 individuals.

***Ramonda nathaliae* Pančić & Petrović., fam. Gesneriaceae (dicot, vascular plants)**

Contributors: Marjan NIKETIĆ

Geographical focus: Serbia

New records and noteworthy data: A new relatively isolated population of important endemorelic species in Serbia.

Specimen data: Eastern Serbia, Mt. Palješki Kamen, the Treštena Čuka peak, N 43.318014°, E 22.434088°, MGRS 34T FN19, exp. N, rock crevices in ass. *Diantho-Seslerietum filifoliae* within the zone of the *Quercus pubescens* forest, Cretaceous limestone, 950–980 m a.s.l.; 08 January 2023; leg. & det. Niketić M.

Vouchers: Natural History Museum in Belgrade, General Herbarium of the Balkan Peninsula (BEO), 100140.

Ramonda nathaliae was originally found and described from eastern Serbia, from the locality of Radovanski Kamen above the Jelašnica gorge in the vicinity of Niš (PETROVIĆ 1882), and in the same region it is also known for Mt. Suva Planina, where the largest population is represented, as well as for the eastern part of the Sićevo gorge (STEVANOVIĆ *et al.* 1986, 1991a). This northern disjunct part of the range of the species also forms a sympatric zone with its sister species *R. serbica* Pančić, where hybrid individuals have also been found in two gorges (LAZAREVIĆ *et al.* 2014, 2022).

The newly discovered locality is situated between the Svrlijske Mountains in the west and Mt. Stara Planina in the east, while in the north it continues into Mt. Tresibaba. It is 19 km from the nearest locality of the species on the slopes of Mt. Suva Planina (Divljana) (LAZAREVIĆ *et al.* 2014) and as the only locality north of the river Nišava can be considered a separate population since the distances between the other localities in eastern Serbia

(in the wider area of Mt. Suva Planina) do not exceed 7 km. The nearest population of *R. serbica* (Čiflik village) (STEVANOVIĆ *et al.* 1991b) is only 9 km away. The location of *R. nathaliae* on Mt. Palješki Kamen is also the most eastern in the species range, and it is slightly further south than the northernmost point of the range in Sićevo gorge (Mt. Oblik) (STEVANOVIĆ *et al.* 1986).

Mt. Palješki Kamen has rocky cliffs which mostly face west, but in the southern part of this mountain, *R. nathaliae* was found on only one north-exposed cliff in the montane belt, with sufficient atmospheric moisture for the survival of this relict species. Several hundred individuals were observed within an area of ca. 10,000 m². As in the rest of eastern Serbia, the species inhabits steep rocky areas with *Sesleria filifolia* and *Dianthus petraeus* or builds its own communities on exposed cliffs. In contrast, the forest environment is more thermophilic, due to the western exposure of the surrounding rocks, which is why the species can also be found under the canopy of *Quercus pubescens* and other thermophilous trees.

***Sheathia confusa* (Bory) Salomaki & M.L.Vis fam. Batrachospermaceae (red algae)**

Contributors: Sanja ŠOVRAK and Ana KNEŽEVIĆ

Geographical focus: Bosnia and Herzegovina

New record and noteworthy data: The first record for Bosnia and Herzegovina

Specimen data: The River Janj, N 43.218611°, E 17.122222°, 557 m.a.s.l., 27 May 2022; leg. Šovrak S.; det. Knežević A.

Voucher: Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade, Department of Algology, Mycology and Lichenology – algae wet collection (BEO) 6634.

This is the first finding of *S. confusa* in Bosnia and Herzegovina. In May 2022 *S. confusa* was collected from the River Janj. At the time of sampling, the water of the River Janj was alkaline (7.88), slightly cold (13.6°C) and well-aerated (10.45 O₂ mg/l). *Sheathia confusa* is distributed mainly in slow-flowing waters in Europe and North America (ELORANTA *et al.* 2011).

The plants were monoecious, 2–9 cm high. They were moderately mucilaginous, more or less branched and yellow-orange to yellow-red. The internodes were 390 to 530 µm long and 44 to 90 µm wide. The nodi were spherical, 600–1350 µm in diameter. The carpogonium was 32–50 µm long and 8–11 µm in diameter. The carposporophytes were 90–140 µm in diameter.

This species is considered rare in Europe (CVIJAN 2002; KUMANO 2002; CVIJAN *et al.* 2003; ELORANTA *et al.* 2011; JOHN *et al.* 2011; CHIASSON *et al.* 2014; FOERSTER *et al.* 2018). *Sheathia confusa* is a protected species in some European countries, such as Bulgaria (TEMNISKOVA *et al.* 2008), Germany (FOERSTER *et al.* 2018) and Serbia (OFFICIAL GAZETTE RS 2010–2016). Unfortunately, despite be-

ing threatened, due to the increasingly intensive destruction of their habitats, freshwater red algae on the territory of Bosnia and Herzegovina are still not protected.

***Spiranthes spiralis* (L.) Chevall, fam. Orchidaceae (monocot, vascular plants)**

Contributors: Desislav DIMITROV

Geographical focus: Bulgaria

New record and noteworthy data: For the first time, we report the species for North-Eastern Bulgaria in the region of the Provadiysko plateau, which for the most part falls into the European NATURA 2000 ecological network in the protected area of the Provadiysko - Royaksko plateau (BG0000104). It is a protected species under the Biological Diversity Act, included in the CITES Appendix and assessed on the European Red List (RANKOV 2011b).

Specimen data: Varna district, Provadia municipality, north of the land around the village of Dobrina, N 43.199963°, E 27.479045°, 320 m a.s.l., 8 October 2022; leg./det. Dimitrov D.

Voucher: Herbarium of Sofia University St. Kliment Ohridski, (SO) 178005.

The species is new for the floristic region of Northeast Bulgaria according to the data provided by ASSYOV *et al.* (2012). It represents the first known occurrence to date in the protected area of the Provadiysko - Royaksko plateau. At present, the species was known for most floristic regions, except for the Mesta River valley, Strumska Dolina and North-Eastern Bulgaria. It has recently been reported for the Struma (South) River area (VLADIMIROV *et al.* 2021a) with a single population of about 20–30 individuals. Another population of about a hundred individuals has been reported (VLADIMIROV *et al.* 2021b) for the same area, in open dry grasslands, near the village of Rybnik, in the Petrich Municipality.

The population of the species reported here consists of 5–6 specimens scattered over a small area by forest roads, on the border between the complex coenotic characteristics of the area (BONDEV 1991), between the villages of Dobrina and Staroselets. The soils are shallow, humus-carbonate, and formed on a different rock base (BORISOV 1965). It can be assumed that the species has a wider distribution on the plateau due to the presence of suitable habitats and communities of the class *Festuco-Brometea*, with xerothermic grass formations dominated by the species *Chrysopogon gryllus* (L.) Trin. and *Dichantium ischaemum* (L.) Roberty. Populations of *Colchicum autumnale* L. and *Sternbergia colchiciflora* Waldst. & Kit. species were found nearby. In our opinion, the main threats to the species in the area are urbanisation, with the subsequent destruction of its habitats.

***Streblotrichum convolutum* (Hedw.) P. Beauv. var. *commutatum* (Jur.) J.J. Amann, fam. Pottiaceae (moss, bryophyte)**

Contributors: Beata PAPP and Jovana PANTOVIĆ

Geographical focus: North Macedonia

New records and noteworthy data: Newly recorded for North Macedonia

Specimen data: south-western part of North Macedonia, Mts. Jablanica, between Gorna Belica and Vevčani, on Jankov Kamen around the lake, N 41°13'54.3", E 20°34'19.7", limestone grassland, 1198 m a.s.l., 21 June 2018; leg. Papp B, Pantović J, Sabovljević M.; det. Papp B.

Voucher: Department of Botany, Hungarian Natural History Museum, s/n.

Streblotrichum convolutum var. *commutatum* [syn. *Streblotrichum commutatum* (Jur.) Hilp., *Barbula commutata* Jur., *Barbula convoluta* Hedw. var. *sardoa* Schimp., *Barbula sardoa* (Schimp.) J.-P. Frahm] is a taxon recorded for the first time in North Macedonia (HODGETTS & LOCKHART 2020). Even though the species has recently been treated as a variety, it is easily recognised from the type variety (i.e. var. *convolutum*) in the field by its size, habitus, leaf shape and colour (BOMLE 2018). It can be found on rocks and walls, but also in ruderal habitats and arable fields. It is probably overlooked and more widespread not only in North Macedonia, but also in the area of SE Europe, where it was recorded in Albania, Croatia, Greece, Serbia and Slovenia (ROS *et al.* 2013). In Slovenia, it is considered a vulnerable species (MARTINČIČ 2016).

***Triglochin palustris* L., fam. Juncaginaceae (dicot, vascular plant)**

Contributors: Predrag LAZAREVIĆ and Eva KABAŠ

Geographical focus: Serbia

New records and noteworthy data: This is the first confirmed record for the region of central Serbia and Mt. Kopaonik after Pančić in 1856. The taxon is of special conservation interest.

Specimen data: Central Serbia, Mt. Kopaonik, Kopaonik Tourist Centre, close to the meteorological station, N 43.283364°, E 20.800944°, mire, 1749 m a.s.l., 14 July 2021; leg./det. Lazarević P, Kabaš E.

Voucher: Herbarium of the Institute of Botany and Botanical Garden, University of Belgrade (BEOU), vascular plant collection (BEOU) 17809.

Triglochin palustris is widespread in the temperate and cold zones of Eurasia, and North and South America. In Serbia, its distribution is very fragmented, usually within very restricted wetland areas. It is distributed in the Vojvodina province: near Horgoš, Palić, and Ludaško Lake; NW Serbia: Tara region; SW Serbia, Pešter region: Koštam Polje (Jaz Potok), Štavalj, Peštersko Polje (numerous small localities below Mt. Trojan, near Borošti-

ca, Suvi Do, Leskova-Djerekare, etc. - Lazarević P. pers. comm.), Tutin (Štavica, Dubovo, Pope), and in Kosovo: Mts. Šar-Planina (Brod) (BOŽA 1999; TOMOVIĆ *et al.* 2009; LAZAREVIĆ 2014; VUKOJIČIĆ *et al.* 2014). *Triglochin palustris* can be considered as extinct or not confirmed for a longer period from many localities where it has previously been recorded: Senta (Gornji Breg), Bečej, Novi Sad (Kovilj, Liman, and Ratno ostrvo), Bačko Gradište, Kikinda, Deliblato sands (Vrela, Majur bara), Kruševac (Kriva Bara), Pirot (Barje Čiflik, Obrenovac, and Sukovo), and Basara (Careva Česma) (ADAMOVIĆ 1908; BOŽA 1999). According to national legislation, it is a strictly protected species in Serbia. The latest assessment on its conservation status is: EN A3; B1ab(i,ii,iii); B2 ab(i,ii,iii); C1 (TOMOVIĆ *et al.* 2009).

BOŽA (1999) interprets Josif Pančić's citation for *T. palustris* (PANČIĆ, J. BEOU! - "Kriva Bara"; PANČIĆ 1856) as the locality of Kriva Bara near Kruševac where the population is assessed as extinct. While Pančić noted the locality of Kriva Bara in the herbarium BEOU!, in his paper from 1856 he mentioned taxon from Mlinski jarci Krive Reke in the Kruševac district. VUKOJIČIĆ *et al.* (2014) interpreted the former record as a locality on Mt. Kopaonik due to the existence of the river and village with the same name Kriva Reka on Mt. Kopaonik.

The record of *T. palustris* on Mt. Kopaonik is the first confirmed finding for this mountain and the central Serbia region since 1856. It is recorded within a very small mire area at the very edge of the Kopaonik Tourist Centre, close to the meteorological station. The whole population is estimated to be fewer than 50 mature individuals. Due to its small population, restricted habitat area, and geographical position within the ski centre with an increasingly developing tourist infrastructure, a newly recorded population on Mt. Kopaonik can be considered as highly threatened. Since there are many small wetlands scattered all over Mt. Kopaonik, it is still possible that this site is not the only one in this region.

***Ulota crispula* Bruch, fam. Orthotrichaceae (moss, bryophyte)**

Contributors: Lado KUTNAR and Janez KERMAVNAR

Geographical focus: Slovenia

New records and noteworthy data: species confirmed for Slovenia

Specimen data: Krokara primeval forest reserve, Kočevsko, N 45.5468°, E 14.7653°, on beech tree bark in *Omphalodo-Fagetum* s. lat., 1132 m a.s.l., 6 July 2022; leg./det. Kutnar L, Kermavnar J, Sabovljević M.; rev. Sabovljević M.

Voucher: Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade (BEOU), bryophyte collection Bryo s/n; Herbarium of the Slovenian Forestry Institute s/n.

The genus *Ulota* is a large moss group, mainly distributed in temperate oceanic and to some extent also in tropical/subtropical mountainous areas of the globe (GARILLETI *et al.* 2015), mostly, but not exclusively, as epiphytic life forms. It contains 11 species in Europe (HODGETTS *et al.* 2020). Recently, three well differentiated species have been segregated from the *U. crispula* (Hedw.) Brid. complex which is widely present in the Northern Hemisphere (CAPARROS *et al.* 2016). The three species co-occur only in Europe, namely *Ulota crispula* s.str., *U. crispula* Bruch and *U. intermedia* Schimp.. In Slovenia, the presence of the *Ulota crispula* complex is certain, and among the three new taxa only the presence of *U. intermedia* in Slovenia was confirmed by the revision of a very old sample from Mt. Snežnik (CAPARROS *et al.* 2016), although there are more literature records of this taxon from various other places in Slovenia (e.g. PAVLETIĆ 1955). The existence in Slovenia of the other two species from the complex remains obscure (i.e. *Ulota crispula* s. str., *U. crispula*), and HODGETTS & LOCKHART (2020) did not list these two species as present in Slovenia, although both taxa are recorded in PAVLETIĆ (1955) and MARTINČIČ (1968). In MARTINČIČ (2003), SABOVLJEVIĆ *et al.* (2008), KUTNAR & MARTINČIČ (2008) and ROS *et al.* (2013) the *U. crispula* complex is recorded as being present in Slovenia. In PAVLETIĆ (1955), *U. crispula* is referenced for at least 9 sites across Slovenia. Here, we confirm the presence of this species in Slovenia and add a new site to those already mentioned in PAVLETIĆ (1955). Thus, although the distribution of these three species in different European regions is still poorly known (LARA *et al.* 2022), the presence of all three taxa in Slovenia is certain according to the literature data. For the other two species (i.e. *U. crispula* and *U. intermedia*) from the complex there are no recent records, only herbarium and literature data. However, they are also expected to be reconfirmed in the recent flora of Slovenia, with further research on bryophyte flora. Still, the presence of the species needs to rely on fully developed samples since intermediate morphs are often present and the absence of fully developed sporophytes impede reliable identification (e.g. BARSUKOV 2020).

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Novi i značajni podaci o biljkama, algama i gljivama iz JI Evrope i susjednih regiona, 11

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U radu su prikazani novi i značajni podaci sa područja JI Evrope i susjednih regiona o sledećim taksonima: crvenoj algi *Sheathia confusa*, parazitskoj gljivi *Anthracoidea caryophylleae*, mikorizalnoj gljivi *Hydnellum caeruleum*, brioprazitskoj gljivi *Octospora erzbergeri*, jetrenjači *Cephaloziella baumgartneri*, mahovinama *Hamatocaulis vernicosus*, *Streblotrichum convolutum* var. *commutatum* i *Ulota crispula*, monokotilama *Ophrys bertolonii* subsp. *bertolonii*, *Ophrys scolopax* subsp. *cornuta* i *Spiranthes spiralis* i dikotilama *Androsace hedraeantha*, *Hieracium mrazii*, *Ramonda nathaliae* i *Triglochin palustris*.

Ključne reči: novi nalaz, *Androsace hedraeantha*, *Anthracoidea caryophylleae*, *Cephaloziella baumgartneri*, *Hamatocaulis vernicosus*, *Hieracium mrazii*, *Hydnellum caeruleum*, *Octospora erzbergeri*, *Ophrys bertolonii* subsp. *bertolonii*, *Ophrys scolopax* subsp. *cornuta*, *Ramonda nathaliae*, *Sheathia confusa*, *Spiranthes spiralis*, *Streblotrichum convolutum* var. *commutatum*, *Triglochin palustris*, *Ulota crispula*, JI Evropa