



Original Scientific Paper

New records and noteworthy data of plants, algae and fungi in SE Europe and adjacent regions, 14

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ABSTRACT:

This paper presents new records and noteworthy data on the following taxa in SE Europe and adjacent regions: diatom algae *Cyclostephanos invisitatus*, *Cyclotella meduanae*, and *Stephanodiscus lacustris*, mycorrhizal fungi *Alessioporus ichnusanus* and *Amanita mairei*, saprotrophic fungi *Diaporthe oncostoma*, *Stropharia albonitens* and *Pseudomassaria chondrospora*, lichenised fungus *Acrocordia subglobosa*, stonewort *Chara connivens*, mosses *Buxbaumia viridis*, *Tortella fasciculata* and *Tortula protobryoides*, monocots *Epipactis pontica* *Gymnadenia frivaldii*, and *Orchis italica* and dicots *Callitriche brutia*, *Callitriche platycarpa* and *Epilobium nutans* are given within SE Europe and adjacent regions.

Keywords:

new report, *Acrocordia subglobosa*, *Alessioporus ichnusanus*, *Amanita mairei*, *Buxbaumia viridis*, *Callitriche brutia*, *Callitriche platycarpa*, *Chara connivens*, *Cyclostephanos invisitatus*, *Cyclotella meduanae*, *Diaporthe oncostoma*, *Epilobium nutans*, *Epipactis pontica*, *Gymnadenia frivaldii*, *Orchis italica*, *Pseudomassaria chondrospora*, *Stephanodiscus lacustris*, *Stropharia albonitens*, *Tortella fasciculata*, *Tortula protobryoides*, SE Europe

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Acrocordia subglobosa* (Vězda) Vězda & Poelt, fam. Monoblastiaceae (fungus, lichenised)*Contributor:** Veselin V. SHIVAROV**Geographical focus:** Bulgaria**New record and noteworthy data:** The finding of *Acrocordia subglobosa* represents the first record of this saxicolous lichen from Bulgaria and the Balkan Peninsula.**Specimen data:** Balkan Range, Bulgarka Nature Park, a shaded calcareous boulder near the road along the Suhata Reka River, N 42.76000°, E 25.51310°, 1023 m a.s.l.; 21 June 2012; leg./det. Shivarov V.V. (SOMF).**Vouchers:** Mycological Collection of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF), 28061, 28069, 28070.

MASSALONGO (1854) segregated two species from the polymorphic genus *Arthopyrenia* into a new genus *Acrocordia* A. Massal based on the presence of cylindrical asci with uniseriate, uniseptate spores with equal cells, and the presence of pseudoparaphyses. Widely accepted as a section in *Arthopyrenia* by later authors, it is clear now that it is a well-distinguished genus in *Monoblastiaceae* (NELSEN *et al.* 2009). The genus currently includes ten lichen species distributed in temperate areas with a preference for basic substrata. They grow epibiotic or semi-immersed on the bark of broad-leaved trees or on mostly vertical calcareous rock surfaces.

Acrocordia subglobosa is reported here for the first time from the Balkan Range, Bulgaria, growing on a limestone boulder together with *Verrucaria caerulea* DC. The species is distributed in mountainous regions on vertical calcareous surfaces. It is known from the British Isles, the Czech Republic, Austria, Poland, Finland, Ukraine (PYKÄLÄ 2008), the Asian part of Turkey (KOCAKAYA & HALICI 2015), and now from Bulgaria.

It is a rare species differing from all other species in the genus by the small ascospores and perithecia, and with the involucrellum incurved around the exciple.

The record from Turkey seems doubtful and most probably belongs to *Acrocordia conoidea* (Fr.) Körb., following the larger ascospores and the photograph (KOCAKAYA & HALICI 2015: fig. 1A) showing a conical involucrellum and pinkish thallus, which is typical for *A. conoidea*. However, a revision of the specimen from Turkey is needed to confirm that assumption and to correct the distribution.

Alessioporus ichnusanus* (Alessio, Galli & Littini) Gelardi, Vizzini & Simonini, fam. Boletaceae (fungus, mycorrhizal)*Contributor:** Boris ASSYOV**Geographical focus:** Bulgaria**New records and noteworthy data:** Those are additional records of *Alessioporus ichnusanus* in Bulgaria, clarifying its northern and eastern limits on the Eastern Balkan Peninsula.

Specimen data: 1) Varna province, the Dolni Chiflik municipality, in the vicinity of Shkorpilovtzi village, N 42.956591°, E 27.877083°, ca. 25 m a.s.l., close to *Quercus* sp., on calcareous soil, 7 September 2014; leg. Assyov B; det. Assyov B; Plovdiv province, the Parvomay municipality, in the vicinity of Ezerovo village, N 41.993152°, E 25.299219°, close to *Quercus* sp., on calcareous soil, ca. 285 m a.s.l., 30 August 2015; leg. Galabova S; det. Assyov B.; 2) Haskovo province and municipality, the city of Haskovo, Kenana Park, approx. N 41.948212°, E 25.540088°, close to *Quercus* sp., on calcareous soil, ca. 255 m a.s.l.; 13 July 2013; leg. Nankova E; det. Assyov B.; 3) Pernik province, between Zhedna village and the town of Bobov Dol, N 42.404146°, E 22.971199°, close to *Quercus* sp., on calcareous soil, ca. 880 m a.s.l.; 4 September 2022; leg. Assyov B, Penchev I; det. Assyov B; 4) Blagoevgrad province and municipality, in the vicinity of the Padesh settlement, N 41.955480°, E 23.016732°, close to *Quercus* sp., on siliceous soil, ca. 660 m a.s.l.; 23 September 2014; leg./det. Assyov B; 5) Blagoevgrad province, the Petrich municipality, above the village of Ribnik, N 41.494513°, E 23.241257°, close to *Quercus suber* L., on siliceous soil, ca. 230 m a.s.l.; 30 June 2018; leg. Assyov B, Assyova I; det. Assyov B.

Vouchers: Mycological Collection of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF), 30900, 30901, 30902, 30903, 30904, 30905.

Alessioporus ichnusanus is a southern bolete (GELARDI *et al.* 2014; ANGELINI *et al.* 2020), known in the Balkans from only a few records in Bulgaria, Greece and North Macedonia (KONSTANTINIDIS 2009; ASSYOV & STOYKOV 2011; KARADELEV & RUSEVSKA 2016; BOZOK *et al.* 2019). In Bulgaria it has been so far known by two collections from the extreme southwest of the country and the southern Bulgarian Black Sea coast, respectively (ASSYOV & STOYKOV 2011; BOZOK *et al.* 2019). The specimens studied here show that *A. ichnusanus* has a rather wide range in Bulgaria, although remaining more or less uncommon. Moreover, some of the collections listed here, coupled with the recent record from Kumanovo in North Macedonia (KARADELEV & RUSEVSKA 2016) strongly suggest that the species might occur at least in Southern Serbia, where it should be further sought. The studied specimens from the Northern Black Sea coast further imply that it may well also be present in Romania, especially considering that *Pulchroboletus roseoalbidus* (Alessio & Littini) Gelardi, Vizzini & Simonini, which often accompanies *A. ichnusanus* in its localities, is known to reach as far north as Crimea (SARKINA 2016). In the Balkans it is reasonable to expect that the species might also occur in Albania, Montenegro and Turkey. In general, the reported findings here infer that in the Balkans *A. ichnusanus* could probably be found up to the northern border of the peninsula, as outlined

by the Danube River, provided thermophilous oak forests are present. In Bulgaria the species seems to prefer calcareous soils, although collections from thermophilous habitats on siliceous soils even at higher elevations are not unknown. The basidiomata of the fungus seem to appear from June throughout the entire summer until at least the end of September as inferred from the so far known Bulgarian collections.

***Amanita mairei* Foley, fam. Amanitaceae (fungus, mycorrhizal)**

Contributors: Boris ASSYOV and Fuat BOZOK

Geographical focus: Albania

New records and noteworthy data: This is the first record of *A. mairei* from Albania (IVANČEVIĆ & KARADELEV 2013; MERSINLLARI *et al.* 2017; ASSYOV 2018) and the first finding of this species on the Balkan Peninsula, supported by nrITS-barcoded specimen (<https://www.ncbi.nlm.nih.gov/nuccore/?term=amanita+mairei>).

Specimen data: Albania, south of Ujëbardhë along the SH75 road between the junctions to Kamenicë and Pellash villages, N 40.507500°, E 20.685889°, in a plantation of *Pinus nigra* J.F. Arn., ca. 990 m a.s.l., 21 October 2016; leg. Assyov B., det. Assyov B., Bozok F.

Voucher: Mycological Collection of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF), 30811 (GenBank OR578401).

The barcode sequence of the nrITS-region was obtained from the studied Albanian sample, following the protocol proposed by BOZOK *et al.* (2020). The BLAST search (ALTSCHUL *et al.* 1990) returned seven publicly available GenBank sequences of *A. mairei* (MN490695, OP019480, OP019479, OP019478, MW426548, MN490682, MZ540417), released by HANSS & MOREAU (2020) and Tulloss and coll, as close matches. (<http://www.amanitaceae.org/?Amanita+mairei>). Compared throughout the pairwise alignment of the ITS1-5.8S-ITS2-region the sequence of the Albanian specimen is 100% identical to the first five of them. The remaining two differ by two indels (99.6% identity) and two indels and one substitution respectively (99.4% identity), a difference which is negligible considering the variation in the *Amanita* section *Vaginatae* QuéL.

The reported specimen was previously listed by ASSYOV (2018) as *A. lactea* Malençon, Romagn. & D.A. Reid as per morphologically-based identification. This poorly known southern species (TULLOSS & GMINDE 2000) must thus be excluded from the list of Albanian mycobiota for the time being. *Amanita mairei* was previously reported from some neighbouring countries, namely Greece, Montenegro and North Macedonia (ZERVAKIS *et al.* 2002; LAZAREVIĆ *et al.* 2011; KARADELEV *et al.* 2018). The present finding is also notable as it shows that certain ringless species of *Vaginatae* may occasionally exhibit an annulus-like structure and caution should be exercised when using this characteristic for species identification.

***Buxbaumia viridis* (Moug. ex DC.) Brid. ex Moug. & Nestl., fam. Buxbaumiaceae (moss, bryophyte)**

Contributors: Gabriela TAMAS and Sorin ȘTEFĂNUȚ

Geographical focus: Romania

New record and noteworthy data: Rare and Red listed species. Bern Convention Species. This is the first record for the Hășmaș Mountains, Romania

Specimen data: Eastern Carpathians, the Cheile Bicazului-Hășmaș National Park, Cheile Bicăjelului, Neamț County, N 46.807472°, E 25.826639°, 984 m a.s.l.; 23 January 2023; det. Tamas G, Ștefănuț S.

Voucher: photo documentation by Tamas G. and Ștefănuț S.

Buxbaumia viridis is a Natura 2000 bryophyte species reported from over 80 localities in Romania, including, but not limited to, mountain massifs, such as Rodna, Giupalău, Rarău, Călimani, Bârgău, Bistrița, Ceahlău, Vrancea, Penteleu, Siriu, Ciucaș, Grohotiș, Baiului, Piatra Mare, Postăvaru, Bucegi, Leaota, Piatra Craiului, Iezer-Păpușa, Făgăraș, Cibin, Căpățînii, Parâng, Șureanu, Retezat, Țarcu and Apuseni. On the recently published distribution maps of the species in Romania, a large area with no data can be seen in the central part of the Eastern Romanian Carpathians. The presence of *B. viridis* in Cheile Bicăjelului from the Cheile Bicazului-Hășmaș National Park reported here confirms the old records from the Neamț County region and our supposition that some areas of the central part of the Eastern Romanian Carpathians provide a suitable habitat for this species (ȘTEFĂNUȚ *et al.* 2023). Conservation efforts targeting *B. viridis* will be included in the management plan of the Cheile Bicazului-Hășmaș National Park.

The conservation status of *B. viridis* in Romania has changed from Endangered – EN A3c; C1 (ȘTEFĂNUȚ & GOIA 2012) to Vulnerable – VU A3c (ȘTEFĂNUȚ *et al.* 2023).

***Callitriche brutia* Petagna, fam. Plantaginaceae (dicot, vascular plants)**

Contributors: Ranko PERIĆ and Jelena KNEŽEVIĆ

Geographical focus: Serbia

New records and noteworthy data: The first record of the species for Serbia and the second for the Pannonian Plain.

Specimen data: 1) Vojvodina, Banat, Sečan, Boka village, Siget, saltmarsh, N 45.330494°, E 20.795627°, MGRS 34T DR81, in trampled places among tussocks, *Beckmannion eruciformis* vegetation with *Cirsium brachycephalum*, solonetz, 72 m a.s.l.; 22 June 2023; leg./det. Perić R.; 2) Vojvodina, Banat, Sečan, Boka village, Siget, N 45.330867°, E 20.796033°, MGRS 34T DR81, on the margins of the saltmarsh, in trampled places among tussocks, *Beckmannion eruciformis* vegetation, solonetz, 71 m a.s.l.; 03 July 2023; leg./det. Perić R.

Vouchers: Herbarium of the Institute for Nature Conservation of the Vojvodina province (PZZP), s/n.

The typical habitats of this species are ephemeral water-bodies or the margins of lakes (LANSDOWN 2008) in European countries surrounding the Mediterranean and the Atlantic Seas, while towards the east its presence becomes increasingly scattered, with few records from NE, E and SE Europe (HASSLER 2004-2023; UOTILA 2017). Our record from the vicinity of Boka in the valley of the Tamiš river represents the first data for Serbia and the second known habitat of this species on the Pannonian Plain, which is located approximately 250 km from its nearest record in E Hungary (PRANČL *et al.* 2020). The population near Boka consists of hundreds of plants, forming dense carpet-like terrestrial formations covering the dried holes among the tussocks. Having in mind that *Beckmannion* vegetation stands are quite common in Serbian Banat, the species is expected to be more widespread, but overlooked in the field due to its ephemeral nature, small size and superficial similarity to other *Callitriche* species. Its most prominent characteristics are narrowly winged fruits on distinctly long peduncles (up to 20 mm long) (LANSDOWN *et al.* 2017).

***Callitriche platycarpa* Kütz., fam. Plantaginaceae (dicot, vascular plants)**

Contributors: Ranko PERIĆ and Siniša ŠKONDRIĆ

Geographical focus: Serbia

New records and noteworthy data: The first record for Serbia since 1856.

Specimen data: Vojvodina, Srem, Šid, Vašica village, Kablarovac forest, N 45.072420°, E 19.156198°, MGRS 34T CQ59, in drying puddles on the firebreak forest road, in a riparian forest with *Quercus robur*, *Populus alba* and *Ulmus laevis*, 91 m a.s.l.; 12 July 2023; leg./det. Perić R.

Vouchers: Herbarium of the Institute for Nature Conservation of the Vojvodina province (PZZP), s/n.

This species with characteristic European sub-Atlantic distribution appears to be rare in the Mediterranean and SE Europe (PRANČL *et al.* 2020). The only published record for Serbia dates back to the mid-19th century and originates from the vicinity of Kragujevac (Grabovac, along the Ribež [„Ribeš“] river) (PANČIĆ 1856). However, this record remains questionable, because Pančić later omitted it from his standard publications covering the flora of Serbia (PANČIĆ 1874, 1884). In the region of Srem (the Kablarovac forest near Vašice village), this species forms dense mats covering a few square meters in drying pools and puddles on the forest firebreak road. Our record confirms the occurrence of this species in Serbia and represents its only known finding in the country.

***Chara connivens* Salzm. ex A. Braun 1835, fam. Characeae (charophyte algae)**

Contributors: Ivana TRBOJEVIĆ and Vanja MILOVANOVIĆ

Geographical focus: Serbia

New record and noteworthy data: This is the fourth record for Serbia.

Specimen data: Sava Lake, Belgrade, N 44.788873°, E 20.414865°; 2 June, 2022; leg./det. Trbojević I, Milovanović V & Petrović Đurić M.

Voucher: Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade (BEOU), Charophyte collection 2833.

Chara connivens is currently known in Serbia from three localities. The first is Srebrno Lake near Veliko Gradište, where it was recorded in 1983 and 1984 and no later records are known (BLAŽENČIĆ 2014). The second record was made in Dulin Pond at the Labudovo Okno Ramsar site (the Deliblato Sands Nature Reserve) where it was first recorded in 2017, in a stable population (dominating this shallow waterbody) (TRBOJEVIĆ *et al.* 2020). In the following seasons this population was monitored by the authors. In 2022, the almost complete drying of this (otherwise permanent) waterbody (surface area > 10 ha) was detected, and consequently the disappearance of the *C. connivens* population. In 2020, female specimens of *C. connivens* were recorded in the saline pond Slatina near Baranda, and in 2021 the presence of the species at the locality was confirmed in a small but stable population (TOMOVIĆ *et al.* 2021). However, this locality was also described as under strong anthropogenic pressure and is considered degraded (ČIRIĆ *et al.* 2021; TOMOVIĆ *et al.* 2021), reflecting concerns about the survival of *C. connivens* population.

Here we report the finding of *C. connivens* – both female and male specimens in the Sava Lake in Belgrade. The Sava Lake is a shallow urban reservoir, made by the embanking of the right arm of the Sava River. It is a recreation centre hosting up to 100,000 visitors per day in the summer season, subsequently being subjected to strong anthropogenic pressure. It is about 4.5 m (maximum 12 m) deep, approximately 4.4 km in length and 250 m in width (TRBOJEVIĆ *et al.* 2017, 2019). However, this waterbody is well managed, thus maintaining its ecological status as good (TRBOJEVIĆ *et al.* 2021), despite intensive exploitation. The population of *C. connivens* detected in the Sava Lake was not numerous – a few specimens were collected, but we assume that in this environment *C. connivens* has a good opportunity to thrive and stabilise, particularly as this locality was recently designated a III (third) category natural area, as the Ada Ciganlija Area of Exceptional Characteristics for protection procedures. Given that the current population of *C. connivens* in the Sava Lake could be the only one in Serbia with the potential for sustainability, the continuation of monitoring efforts in this, as well as in all known localities, is essential to accurately assess the threat status and to protect this species in Serbia. BLAŽENČIĆ (2014) estimated this species as Critically Endangered (CR, A1ae) in Serbia.

Chara connivens is considered common in the western and rather rare in the other parts of Mediterranean area, and apart from its distribution in Europe, it is also known from Africa and Asia (CIRUJANO *et al.* 2007; BECKER 2016; RYBAK & WOYDA-PLOSZCZYCA 2019). However, in northern Europe, and particularly the Baltic region, *C. connivens* is considered alien (non-native) and despite its rare local distribution, its status as an endangered species was recently challenged by GRUSZKA *et al.* (2023) in a comprehensive historical review of the development of *C. connivens* in the Baltic coastal waters.

The *Chara connivens* specimens from the Dulin Pond in Serbia were subjected to the *matK* region barcoding and the results showed that it clusters more closely with *C. globularis* and not with the other *C. connivens* specimens included in the study (TRBOJEVIĆ *et al.* 2020). Thus, finding more populations in remote localities in Serbia and comparing barcode results is highly important to resolve this peculiarity of the Dulin Pond population.

***Cyclostephanos invisitatus* (M.H.Hohn & Hellerman) E.C.Theriot, Stoermer & Håkanasson 1988, fam. Stephanodiscaceae (diatom, algae)**

Contributors: Danijela VIDAKOVIĆ and Jelena KRIZMANIĆ

Geographical focus: Serbia

New records and noteworthy data: The first record for Serbia.

Specimen data: 1) Sava River, coordinates N 44.9139655°, E 19.7487992°, N 44.852265°, E 19.724054°, 13 September 2021, leg. Vidaković D, Ćirić M.; coordinates N 44.7661455°, E 20.3512210°; N 44.796870°, E 20.405334°; N 44.805115°, E 20.442123°; N 44.824368°, E 20.445191°, 27 September 2021, leg. Vidaković D, Božanić M.; **2)** Tisa River, coordinates N 46.1239730°, E 20.0719095°; N 46.0826196°, E 20.0386270°; N 46.0528663°, E 20.0906414°; N 46.0098315°, E 20.0360360°; N 45.9351410°, E 20.0912476°; N 45.8782112°, E 20.1162380°; N 45.8494282°, E 20.0845578°; N 45.7886205°, E 20.1456498°; N 45.7550090°, E 20.1506414°; N 45.7129089°, E 20.0926587°; N 45.6104622°, E 20.0632024°; N 45.5946020°, E 20.1285963°; N 45.577812°, E 20.124015°, 21 September 2021, leg. Vidaković D, Marković A.; coordinates N 45.457291588586955°, E 20.193361846608823°; N 45.441059°, E 20.222218°; N 45.390638°, E 20.205545°, 26 September 2021, leg. Vidaković D.; coordinates N 45.285849°, E 20.238548°; N 45.206523°, E 20.312210°; N 45.1914076°, E 20.3129948°; N 45.1425225°, E 20.2807540°, 28 September 2021, leg. Vidaković D, Gavrilović B.

Voucher: Diatom Collection of Serbia (DCSR), Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Accession No.: Sava River, Slide DCSR 000349/A, 000354/A, 000388/A, 000389/A, 000390/A, 000391/A, Tisa River Slide DCSR 000369/A, 000370/A,

000372/A, 000374/A, 000375/A, 000376/A, 000377/A, 000378/A, 000379/A, 000380/A, 000381/A, 000382/A, 000383/A, 000384/A, 000385/A, 000387/A, 000392/A, 000393/A, 000394/A, 000395/A.

The valve of *Cyclostephanos invisitatus* is circular, with a flat valve face, 6–13 µm in diameter. The striae are fine, delicate, and radiate. In SEM, the radial striae are uniseriate in the central region and multiseriate toward the margins. Elongated marginal spines are situated at the mantle and valve surface junction. One fultoportula on the valve face is located near the centre.

Cyclostephanos invisitatus is a cosmopolitan, planktonic species, but also observed in the benthos. It is known from eutrophic rivers and lakes, with moderate alkalinity and moderate to higher trophic conditions (KISS *et al.* 2012; HOUK *et al.* 2014; BILOUS *et al.* 2021). It was observed in Serbia for the first time in two large lowland rivers, the Sava and Tisa, on approx. 0.50 m deep mud and gravel/sand substrate. The water of the Sava and Tisa rivers was slightly alkaline, with a moderate concentration of electrolytes.

***Cyclotella meduanae* H.Germain 1981. fam. Stephanodiscaceae (diatom, algae)**

Contributors: Danijela VIDAKOVIĆ and Jelena KRIZMANIĆ

Geographical focus: Serbia

New records and noteworthy data: The first record for Serbia.

Specimen data: 1) Sava River, coordinates N 44.973420°, E 19.594758°; N 44.912976°, E 19.754044°; N 44.890559°, E 19.752025°; N 44.852265°, E 19.724054°, N 44.744878°, E 19.754912°, 13 September 2021, leg. Vidaković D, Ćirić M.; coordinates N 44.706523°, E 20.308066°; N 44.744265°, E 20.325140°, 19 September 2021, leg. Vidaković D, Jelić M.; coordinates N 44.7661455°, E 20.3512210°; N 44.796870°, E 20.405334°; N 44.805115°, E 20.442123°; N 44.824368°, E 20.445191°, 27 September 2021, leg. Vidaković D, Božanić M.; **2)** Tisa River, coordinates N 46.1239730°, E 20.0719095°; N 46.0826196°, E 20.0386270°; N 46.0528663°, E 20.0906414°; N 46.0098315°, E 20.0360360°; N 45.9351410°, E 20.0912476°; N 45.8782112°, E 20.1162380°; N 45.8494282°, E 20.0845578°; N 45.7886205°, E 20.1456498°; N 45.7550090°, E 20.1506414°; N 45.7129089°, E 20.0926587°; N 45.6104622°, E 20.0632024°; N 45.5946020°, E 20.1285963°; N 45.577812°, E 20.124015°, 21 September 2021, leg. Vidaković D, Marković A.; coordinates N 45.457291588586955°, E 20.193361846608823°; N 45.441059°, E 20.222218°; N 45.390638°, E 20.205545°, 26 September 2021, leg. Vidaković D.; coordinates N 45.285849°, E 20.238548°; N 45.206523°, E 20.312210°; N 45.1914076°, E 20.3129948°; N 45.1425225°, E 20.2807540°, 28 September 2021, leg. Vidaković D, Gavrilović B.

Voucher: Diatom Collection of Serbia (DCSR), Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Accession No.: Sava River, Slides DCSR 000344/A, 000351/A, 000352/A, 000354/A, 000361/A, 000366/A, 000367/A, 000388/A, 000389/A, 000390/A, 000391/A; Tisa River Slides DCSR 000369/A, 000370/A, 000372/A, 000374/A, 000375/A, 000376/A, 000377/A, 000378/A, 000379/A, 000380/A, 000381/A, 000382/A, 000383/A, 000384/A, 000385/A, 000387/A, 000392/A, 000393/A, 000394/A, 000395/A.

Cyclotella meduanae is a centric diatom species with a cylindrical frustule, and flat valve face, 5–9 µm in diameter. Radial striae are present and depending on the focus can be observed on every to the third interstria when using LM. In SEM, the fuloportulae are located marginally on every second interstria (costa) with the rimoportula positioned on a costa between marginal fuloportulae. The central area lacks a fuloportula.

Cyclotella meduanae resembles a small *C. meneghiniana*, very frequent and abundant in rivers and lakes in Serbia (e.g., MARINKOVIĆ *et al.* 2016; ZLATKOVIĆ *et al.* 2022). It can be clearly distinguished by the absence of a central fuloportula.

HOUK *et al.* (2010) described it as a common species of eutrophic waters in the littoral and pelagic zone. In Serbia it was observed for the first time in the slightly alkaline, with a moderate concentration of electrolytes, Sava and Tisa rivers, on approx. 0.50 m deep mud and gravel/sand substrate.

***Diaporthe oncostoma* (Duby) Fuckel, fam. Diaporthaceae (fungus, saprotrophic)**

Contributor: Dimitar STOYKOV

Geographic focus: Greece

New records and noteworthy data: This is the second report of *Diaporthe oncostoma* from Greece and the first time it was recorded with a sexual morph (MICHALOPOULOS-SKARMOUTSOS & SKARMOUTSOS 1999).

Specimen data: Greece, Chalkidiki Peninsula, near Kliomeri, by the trail to coastal dunes, N 40.479694°, E 23.820444°, on a fallen dead branch of *Robinia pseudoacacia* L., 6 m a.s.l., 14 October 2017; leg./det. Stoykov D.

Voucher: Mycological Collection of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF) 31157.

This species is characterised by perithecia usually rising in groups and projecting through the bark periderm. Perithecial beaks are visible as small papilla, elongate, often up to 150 µm wide at the base. Asci 70–80 × 9.5–10 µm, cylindrical-clavate, with a small apical ring, 8-spored. Ascospores (13–) 15.3 ± 1.7 (–19) × (3.5–) 4.3 ± 0.4 (–5.5) µm, Q ratio (3.1–4.1), n = 15, hyaline, elongate-ellipsoid, constricted at the septum, guttulate, overlapping biseri-ate in the ascus.

According to VAJNA (2002), *Diaporthe oncostoma* is considered a saprotrophic or weak parasite. The conidial form of *D. oncostoma*, *Phomopsis oncostoma* has been found during examinations of *Robinia* trees in northern Greece, and is considered as a causal agent of severe die-back disease and stem canker of black locust (MICHALOPOULOS-SKARMOUTSOS & SKARMOUTSOS 1999; VAJNA 2002).

***Epilobium nutans* F. W. Schmidt, fam. Onagraceae Juss. (dicot, vascular plant)**

Contributors: Simona STRGULC KRAJŠEK and Branka TRČAK

Geographical focus: Slovenia

New record and noteworthy data: New record for a rare species in Slovenia

Specimen data: Koroška, Koprivna Zadnji travnik peat bog, N 46.459048°, E 14.687752°, the southern edge of the peat bog, 1330 m a. s. l.; 17 July 2023; leg./det. Strgulc Krajšek S. Trčak B.

Voucher: Herbarium of the University of Ljubljana (LJU), s/n.

Epilobium nutans is a European species whose distribution area extends over the Pyrenees, Alps, Vosges, Sudetes, and Carpathians (SMEJKAL 1997). In Slovenia, it is known only from Pohorje, where it was found in four localities (STRGULC KRAJŠEK & JOGAN 2008). The data pertaining to the thriving of the species in Velo Polje in the Julian Alps (WRABER 1964) turned out to be erroneous, as the revision of herbarium material and additional botanical fieldwork at the locality resulted in the discovery that only *Epilobium palustre* L. grows at that site (STRGULC KRAJŠEK & JOGAN 2008). The species is considered rare (R) in the Slovene National Red List (ANONYMOUS 2002). It has no conservation status in Austria (FISCHER *et al.* 2008; SCHRATT-EHRENDORFER *et al.* 2022) and Italy (ROSSI *et al.* 2013; PIGNATTI 2017), while it does not thrive in Croatia (NIKOLIĆ 2020) and Hungary (SIMON 2002).

We found a few specimens of *E. nutans* on the southern edge of the peat bog Zadnji travnik in Koroška. It grows among *Sphagnum* moss on the edge of a raised peat bog alongside the small stream. The species is recognisable by its small habitus, with one or a few flowers only at the top of the stem. The leaves are mostly glabrous, ovate-lanceolate, with sparsely denticulate leaf edges. The surface of the ovary is densely covered with simple appressed trichomes and scattered unicellular glandular trichomes (STRGULC KRAJŠEK *et al.* 2006). The plant is also recognisable by underground stolons with pairs of green leaves. The presence of such stolons is the most reliable characteristic to distinguish the species from *E. palustre*, which has thin, thread-like underground stolons ending in a globular bud (STRGULC KRAJŠEK 2007).

The Zadnji travnik peat bog is the first locality of the species in Slovenia outside the region of Pohorje. The ecology of all known Slovene localities is similar; all above 1100 m a.s.l. (STRGULC KRAJŠEK & JOGAN 2008).

The Zadnji travnik peat bog is a well-preserved site with rich flora, including bryophytes, pteridophytes and vascular plants. The area is worth protecting. There is a pasture on the western side of the peat bog. It would be advisable to move the fence which prevents cows from accessing the bog to the ridge above the Zadnji travnik, as the impact of eutrophication is already noticeable on the western edge of the wetland.

***Epipactis pontica* Taubenheim, fam. Orchidaceae (monocot, vascular plant)**

Contributors: Vladan DJORDJEVIĆ

Geographical focus: Serbia

New records and noteworthy data: This is the second record of this species in Serbia and the Central Balkans, representing the southernmost limit of the species' distribution in Serbia.

Specimen data: Central Serbia, Mt. Kopaonik, Vrletnica – Panički Jelak (Malo Metođe), N 43.30405°, E 20.86040°, MGRS 34T DN89, ass. *Piceo-Fago-Abietetum*, sericite-chlorite schists, exp. NW, incl. 30°, 1169 m a.s.l.; 6 July 2023; leg./det. DJORDJEVIĆ V.

Vouchers: Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade, vascular plant collection (BEOU) 71205; photo documentation of DJORDJEVIĆ V.

Epipactis pontica is distributed on the Balkan Peninsula and in Central Europe, west to Austria, Slovenia and northern Italy (DELFORGE 2006). The range of the species is disjunct and divided into two parts: the first part of the range includes the Euxine region of Asia Minor and the Moesian region in the Balkans, whereas the second part of the range spreads from northern Italy, Slovenia, western Croatia, across eastern Switzerland, Austria and western Hungary to former Czechoslovakia (DJORDJEVIĆ *et al.* 2016 and references therein). The new finding of this species on Mt. Kopaonik is the second record of this species in Serbia and the Central Balkans and the first record of this species for the region of Central Serbia. At the same time, this is the first record of this species in the MGRS 34T DN89 10 × 10 km and also in DN 100 × 100 km UTM grid cells. This is the southernmost limit of the species' distribution in Serbia and the Central Balkans. Previously, the species was only recorded in western Serbia (Ivanjica, Lisa) in the MGRS 34T DP33 10 × 10 km grid cell (DJORDJEVIĆ *et al.* 2016).

The newly recorded population of this species on Mt. Kopaonik consisted of eight individuals within an area of 100 m². The species has the status of a critically endangered species in the Czech Republic, an endangered species in Bulgaria and Greece, and a vulnerable species in

Slovakia, whereas in Slovenia, Hungary and Austria it is considered a near threatened species (KULL *et al.* 2016). The estimated IUCN status of this species in Serbia is Critically Endangered (CR) (DJORDJEVIĆ *et al.* 2016).

***Gymnadenia frivaldii* Hampe ex Griseb., fam. Orchidaceae (monocot, vascular plants)**

Contributors: Sanja Z. DJUROVIĆ and Uroš BUZUROVIĆ

Geographical focus: Serbia

New records and noteworthy data: New sites in South-east Serbia are given for vulnerable *G. frivaldii*. The species is on the CITES list.

Specimen data: 1) Southeastern Serbia, Mt. Besna Kobila, N 42.533402°, E 22.245918°, MGRS 34T FN00, *Drosero-Sphagnetum*, 1656 a.s.l., 5 August 2022; leg. Buzurović U, Djurović S, Ranimirović M.; det. Buzurović U, Djurović S; conf. Djordjević V.; 2) Southeastern Serbia, Mt. Besna Kobila, N 42.533534°, E 22.24622°, MGRS 34T FN00, *Drosero-Sphagnetum*, 1663 a.s.l., 5 August 2022; leg. Buzurović U, Djurović S, Ranimirović M.; det. Buzurović U, Djurović S.; 3) Southeastern Serbia, Mt. Besna Kobila, N 42.534109°, E 22.248519°, MGRS 34T FN00, 7140 transition mires and quaking bogs, *Drosero-Sphagnetum*, 1619 a.s.l., 5 August 2022; leg./det. Djurović S, Buzurović U.; 4) Southeastern Serbia, Mt. Besna Kobila, Hajdučko krajište, N 42.505549°, E 22.218829°, MGRS 34T EN90, *Eriophoretum latifoliae*, 1661 a.s.l., 27 July 2022; leg. Buzurović U, Djurović S, Ranimirović M.; det. Buzurović U, Djurović S.

Vouchers: Natural History Museum in Belgrade, General Herbarium of the Balkan Peninsula (BEO) s/n. and photo documentation S. Djurović, U. Buzurović.

Gymnadenia frivaldii is distributed in Europe, with a relatively small range which includes the high mountains of the central and eastern Balkans and some disjunct populations in the southeastern Carpathians (DIKLIĆ 1976, DELFORGE 2006, REXHEPI 2013). The known range of this species in Serbia includes 16 10 × 10 km UTM grid cells on Mt. Golija in western Serbia, Mt. Kopaonik in central Serbia, Mt. Stara Planina in eastern Serbia, the Vlasina plateau in southeastern Serbia, Mt. Šar Planina and Mt. Prokletije in Kosovo (ĐORĐEVIĆ *et al.* 2017). It is listed in Appendix II of the Convention on the International Trade of Endangered Species of Fauna and Flora (CITES 2020).

In July and August 2022, new sites were discovered on Mt. Besna Kobila with several individuals as the first records in the FN00 and EN90 10 × 10 km UTM grid cells, as well as the EN 100 × 100 km and EN 1 50 × 50 km UTM grid cells.

***Orchis italica* Poir., fam. Orchidaceae (monocot, vascular plant)**

Contributors: Elvedin ŠABANOVIĆ and Vladan DJORDJEVIĆ

Geographical focus: Bosnia and Herzegovina

New records and noteworthy data: The second and third records of this species in Bosnia and Herzegovina.

Specimen data: 1) Bosnia and Herzegovina, Žitomislići, on the right bank of the Neretva river, by the side of the road, N 43.2028694°, E 17.7911306°, MGRS 33T YH28, ca. 20 m a.s.l.; a mixed deciduous forest and scrub with *Quercus pubescens* and *Carpinus betulus*; 5 April 2021; leg. Šahović Ć.; det. Šabanović E, Djordjević V.; 2) Bosnia and Herzegovina, Neum, Svitava - Cerovica, N 43.0050000°, E 17.8041667°, MGRS 33T YH26, ca. 250 m a.s.l.; on an embankment, beside the road; 29 April 2023; leg. Šabanović E, Ilić B.; det. Šabanović E, Djordjević V.

Vouchers: Museum of the Franciscan Monastery in Visoko - Herbarium Collection of Fr. Ivo Radman, 00317; private collections Ć. Šahović and E. Šabanović; photo documentation: E. Šabanović.

Orchis italica is a Mediterranean species distributed from the coasts of Portugal and Spain across the Apennine Peninsula to the northern coasts of Africa and eastwards to Turkey, Cyprus, Israel and Syria (DELFORGE 2006). The new findings of this species at the Žitomislići and Neum localities are the second and third records of this species for Bosnia and Herzegovina and also the first records of this species in the MGRS 33T YH26 and YH28 10 × 10 km and in the YH 100 × 100 km UTM grid cells. Previously, the species was recorded in Bosnia and Herzegovina only in the MGRS 33T BN83 10 × 10 km UTM grid cell at the Gljiva locality near Trebinje (ŠABANOVIĆ *et al.* 2021; ŠABANOVIĆ 2022 and references therein).

The newly recorded population of this species in Žitomislići consisted of two individuals within an area of 100 m², while the population in Neum comprised three individuals within an area of 100 m². The species has the status of endangered species (IUCN: EN) in Croatia, whereas the estimated IUCN conservation status of this species in Cyprus, Spain and Greece is Least Concern (LC) (KULL *et al.* 2016).

***Pseudomassaria chondrospora* (Ces.) Jacz., fam. Pseudomassariaceae (fungus, saprotrophic)**

Contributor: Dimitar STOYKOV

Geographic focus: Bulgaria

New records and noteworthy data: This is the first record in Bulgaria, and the northernmost finding known so far from the Balkans (ERDOĞDU 2020).

Specimen data: Eastern Forebalkan, the Lovech District, Troyan Municipality, Golyama Zhelyazna village, Lakite locality, N 42.983583°, E 24.480417°, on the leaves and petioles of overwintered leaves from *Tilia platyphyllos* Scop., 405 m a.s.l., 9 June 2022; leg./det. Stoykov D.

Voucher: Mycological Collection of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF) 31131.

Only two species of the genus *Pseudomassaria* were known in Bulgaria: *Pseudomassaria sepincoliformis* (De Not.) Arx (FAKIROVA 2004) and *P. islandica* (Johanson) M.E. Barr (DENCHEV *et al.* 2011). This new collection includes dark brown, globose ascomata, immersed in the petioles of overwintered leaves. They are visible under a dissecting binocular LM as small projections emerging through the host tissues. The asci were measured under LM in aqueous lactophenol with Cotton blue, 72–82 × 16.5–21.5 μm (75.5 ± 3.1 × 19.5 ± 1.8 μm), n = 10. The ascospores are 15–23 × 8–11 μm, n = 50, usually hyaline, two-celled, with a minute, short small cell oriented towards the ascus base, and a bigger, enlarged upper cell; the spore contents were usually multiguttulate. CANNON & MINTER (2014) presented information on *Pseudomassaria chondrospora*, known from amenity and protected zones (urban areas, botanical gardens, cemeteries, deciduous woodlands, scrub). In Bulgaria, *P. chondrospora* has also been observed on overwintered leaves also from rural areas. According to BARR (1964), DENNIS (1978), CANNON & MINTER (2014), and ERDOĞDU (2020) it is known from Asia (Turkey, on *Tilia rubra* DC.), Europe (Austria, Belgium, the Czech Republic, Denmark, Germany, Italy, Lithuania, Spain, Sweden and the United Kingdom), and North America (U.S.A.).

***Stephanodiscus lacustris* Klee & Houk 2014, fam. Stephanodiscaceae (diatom, algae)**

Contributor: Danijela VIDAKOVIĆ and Jelena KRIZMANIĆ

Geographical focus: Serbia

New record and noteworthy data: The first record for Serbia.

Specimen data: 1) Sava River, coordinates N 44.9206113°, E 19.346891°; N 44.942168°, E 19.369702°; N 44.973420°, E 19.594758°; N 44.9139655°, E 19.7487992°; N 44.912976°, E 19.754044°; N 44.852265°, E 19.724054°, 13 September 2021; leg. Vidaković D, Ćirić M.; coordinates N 44.674837°, E 20.296637°; N 44.706523°, E 20.308066°; N 44.744265°, E 20.325140°, 19 September 2021; leg. Vidaković D, Jelić M.; coordinates N 44.7661455°, E 20.3512210°; N 44.805115°, E 20.442123°; N 44.824368°, E 20.445191°; 27 September 2021, leg. Vidaković D, Božanić M.; 2) Tisa River, coordinates N 46.1239730°, E 20.0719095°; N 46.0826196°, E 20.0386270°; N 46.0528663°, E 20.0906414°; N 46.0098315°, E 20.0360360°; N 45.9351410°, E 20.0912476°; N 45.8782112°, E 20.1162380°; N 45.8494282°, E 20.0845578°; N 45.7886205°, E 20.1456498°; N 45.7550090°, E 20.1506414°; N 45.7129089°, E 20.0926587°; N 45.6104622°, E 20.0632024°; N 45.5946020°, E 20.1285963°; N 45.577812°, E 20.124015°, 21 September 2021; leg. Vidaković D, Marković A.; coordinates N 45.457291588586955°, E 20.193361846608823°; N 45.441059°, E 20.222218°; N 45.390638°, E 20.205545°, 26 September 2021; leg. Vidaković D.; coordinates N 45.285849°, E 20.238548°; N

45.206523°, E 20.312210°; N 45.1914076°, E 20.3129948°; N 45.1425225°, E 20.2807540°, 28 September 2021; leg. Vidaković D, Gavrilović B.

Voucher: Diatom Collection of Serbia (DCSR), Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Accession No.: Sava River, Slide DCSR 000341/A, 000342/A, 000344/A, 000349/A, 000351/A, 000354/A, 000365/A, 000366/A, 000367/A, 000388/A, 000390/A, 000391/A; Tisa River Slide DCSR 000369/A, 000370/A, 000372/A, 000374/A, 000375/A, 000376/A, 000377/A, 000378/A, 000379/A, 000380/A, 000381/A, 000382/A, 000383/A, 000384/A, 000385/A, 000387/A, 000392/A, 000393/A, 000394/A, 000395/A.

The distribution of *Stephanodiscus lacustris* is poorly known since it was described from Lake Großer Alpsee (Bavaria, Germany) by Klee & Houk (in Houk *et al.* 2014). It's very small valve dimensions and barely noticeable taxonomic characteristics under a light microscope have led to confusion with similar taxa *S. parvus* and *S. minutulus*.

The cells of *Stephanodiscus lacustris* are cylindrical, circular in valve view, 4–9 µm in diameter. The valve face is flat, with the spines located in a ring at the valve face/mantel junction, and radial striae. In SEM, the striae are radial with 2–4 areolae, becoming uniseriate in the centre. A single valve face fuloportula is present near the valve centre, opening externally as a simple pore, and internally by a short central tube surrounded by 3 satellite pores. Marginal fuloportulae are located on the valve edge between 2–4 spines. They are surrounded internally by 3 satellite pores. A single rimoportula is situated within the ring of spines, resembling a labiate slit.

It was observed in Serbia for the first time in the Sava and Tisa rivers, on approx. 0.50 m deep mud or gravel/sand substrate. The Sava and Tisa are large lowland rivers, slightly alkaline and with moderate concentrations of electrolytes.

***Stropharia albonitens* (Fr.) Quél., fam. Strophariaceae (fungus, saprotrophic)**

Contributors: Aleksandar KNEŽEVIĆ and Sanja ŠOVRAŃ
Geographical focus: Serbia

New record and noteworthy data: This is the first record of *Stropharia albonitens* in Serbia and the second known locality reported for Southeast Europe to date.

Specimen data: Central Serbia, Mt. Kopaonik, N 43.165981°, E 20.480598°, inhabiting a bog, in the protected area of National Park Kopaonik, 1703 m a.s.l.; 21 September 2022; leg. Šovran S.; det. Knežević A.

Voucher: Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade (BEOU), Myco/640.

In September 2022, two sporocarps of *Stropharia albonitens* were collected from only one site on Mt.

Kopaonik inhabiting a bog as part of a boreal ecosystem but not together with *Sphagnum* mosses. It occurs generally in grassy soil, in open woodlands, meadows, heaths and parks (PHILLIPS 2010). In Europe the species is generally described as rare. It is Red Listed as critically endangered in the Czech Republic, and as near threatened in Denmark (JORDAN *et al.* 2017). According to the Global Biodiversity Information Facility - GBIF database, it is reported occasionally from North America, Northern and Central Europe, the United Kingdom, Ukraine and the Russian Federation. The southernmost locality for this species is recorded in Montenegro (KASOM G. pers. comm). This new finding represents the first record for Serbia and the second known locality reported for Southeast Europe to date.

***Tortella fasciculata* (Culm.) Culm., fam. Pottiaceae (moss, bryophyte)**

Contributors: Beata PAPP and Jovana PANTOVIĆ

Geographical focus: North Macedonia

New records and noteworthy data: Newly recorded for N. Macedonia.

Specimen data: 1) southwestern part of North Macedonia, Mts. Jablanica, between the villages of Gorna Belica and Vevčani, at Jankov kamen around a lake, on limestone rocks, N 41.23175°, E 20.572139°, 1198 m, 21 June 2018; leg. Papp B, Pantović J, Sabovljević M.; det. Papp B.; 2) southwestern part of North Macedonia, Mts. Jablanica, towards Vevčani lake, in an alpine zone with siliceous rocks, N 41.247028°, E 20.547528°, 1684 m, 22 June 2018; leg. Papp B, Pantović J, Sabovljević M.; det. Papp B.

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

This is a newly reported species for Northern Macedonia. Since it was recently segregated from the species *Tortella bambergensis* (Schimp.) Broth. (KÖCKINGER & HEDENÄS 2017), the general distribution of this taxon remains obscure. The same authors assume its suboceanic-submediterranean distribution type and so far it is considered to be a European endemic. It was recently recorded in nearby Albania (PAPP *et al.* 2018) and Serbia (PAPP *et al.* 2019a), and from the Balkans it is confirmed for Bosnia-Herzegovina (PANTOVIĆ *et al.* 2022), Croatia (ALEGRO *et al.* 2019) and Montenegro (PAPP *et al.* 2019b).

***Tortula protobryoides* R. H. Zander fam. Pottiaceae (moss, bryophyte)**

Contributors: Marko S. SABOVLJEVIĆ and Aneta D. SABOVLJEVIĆ

Geographical focus: Serbia

New records and noteworthy data: The second recent record in Serbia, the first record from the Banat region.

Specimen data: Banat, Deliblatska Sands, Zagajička Brda, N 44.922199°, E 21.184009°, 218 m, 6 March 2023; leg./det. Sabovljević MS, Sabovljević AD.

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

Tortula protobryoides is a widely but scattered distributed species in Europe (BAISHEVA & IGNATOV 2019). It is also known from Asia and North America. It is easily overlooked since it is small in size and exhibits a shuttle life strategy, i.e. moving to new sites and unstable substrate. It is redlisted in many European countries [namely Bulgaria (EN); Switzerland (CR), Slovenia (EN), Estonia (VU), Lithuania (VU), the Netherlands (EN)] and near-threatened (NT) in Sweden, Slovakia and Romania. It is also considered regionally extinct (RE) in Ireland including Northern Ireland (HODGETTS & LOCKHART 2020).

In Serbia, the species is recorded around Belgrade (Topčider hill) and Niš (Gorica hill) (JURIŠIĆ 1900). The recent records come from the area surrounding Senta (Padej, Trešnjevac, Velebit) (PAPP *et al.* 2016). Here we report the second recent record in Serbia and the first one from the Banat region. Previously it was not recorded in the studied area (SABOVLJEVIĆ 2003), probably due to its ephemeral and shuttle life strategy.

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REZIME



Botanica
SERBICA

Novi i značajni podaci o biljkama, algama i gljivama iz JI Evrope i susjednih regiona, 14

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U radu su prikazani novi i značajni podaci sa područja JI Evrope i susjednih regiona o sledećim taksonima: dijatomejskim algama *Cyclostephanos invisitatus*, *Cyclotella meduanae* i *Stephanodiscus lacustris*, mikorizalnim gljivama *Alessioporus ichnusanus* i *Amanita mairei*, saprofitskim gljivama *Diaporthe oncostoma*, *Stropharia albonitens* i *Pseudomassaria chondrospora*, lihenizovanoj gljivi *Acrocordia subglobosa*, pršljenčici *Chara connivens*, mahovinama *Buxbaumia viridis*, *Tortella fasciculata* i *Tortula protobryoides*, monokotilama *Epipactis pontica* *Gymnadenia frivaldii* i *Orchis italica* i dikotilama *Callitriche brutia*, *Callitriche platycarpa* i *Epilobium nutans*.

Ključne reči: novi nalaz, *Acrocordia subglobosa*, *Alessioporus ichnusanus*, *Amanita mairei*, *Buxbaumia viridis*, *Callitriche brutia*, *Callitriche platycarpa*, *Chara connivens*, *Cyclostephanos invisitatus*, *Cyclotella meduanae*, *Diaporthe oncostoma*, *Epilobium nutans*, *Epipactis pontica*, *Gymnadenia frivaldii*, *Orchis italica*, *Pseudomassaria chondrospora*, *Stephanodiscus lacustris*, *Stropharia albonitens*, *Tortella fasciculata*, *Tortula protobryoides*, JI Evropa

