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Original Scientific Paper

New records and noteworthy data of plants, algae and fungi in SE Europe and adjacent regions, 10

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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 *Lemanea rigida* and *Paralemanea torulosa,* mycorrhizal fungi *Amanita simulans* and *Terfezia pseudoleptoderma*, parasitic fungus *Microbotryum vinosum,* saprotrophic fungus *Sarcoscypha jurana,* stonewort *Chara tenuispina*, mosses *Brachytheciastrum collinum* and *Meesia longiseta,* monocots *Dactylorhiza romana* and *Neotinea maculata* and dicots *Adenophora liliifolia, Ambrosia artemisiifolia* and *Tanacetum corymbosum* subsp. *cinereum* are given within SE Europe and adjacent regions.

Keywords:
new report, *Adenophora liliifolia, Amanita simulans, Ambrosia artemisiifolia, Brachytheciastrum collinum, Chara tenuispina, Dactylorhiza romana, Lemanea rigida, Meesia longiseta, Microbotryum vinosum, Neotinea maculata, Paralemanea torulosa, Sarcoscypha jurana, Tanacetum corymbosum* subsp. *cinereum, Terfezia pseudoleptoderma,* SE Europe

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***Adenophora liliifolia* (L.) A. DC., fam. Campanulaceae (dicot, vascular plant)**
Contributors: Irina Irimia
Geographical focus: Romania
New record and noteworthy data: It is the first mention for the Vrancei Mts. and the ROSCI 0208 Putna-Vrancea Natura 2000 site.
Specimen data: Curvature Subcarpathians, Vrancei Mts., forest edge, N 45.848060°, E 26.465412°; 30 July 2016; leg. Irimia I, Roman F, Munteanu F, Rusu M, Săcrieru R.; det. Irimia I.
Voucher: Herbarium of Alexandru Ioan Cuza University (I) 184231.

Adenophora liliifolia is a South-Siberian floristic element, adapted to the continental climate of Europe (Vaculná *et al.* 2021). It is considered a probable Late Glacial - Early Holocene relict species (Vaculná *et al.* 2021). Both at European and Romanian level, recent studies have warned about the threat to the evolution of *A. liliifolia* populations. Prausová *et al.* (2016) mentioned that *A. liliifolia* populations in Central Europe are declining not only in terms of the number of locations, but also in the number of plants per population, with intense anthropogenic activity considered to be the main cause. Also in Romania, despite being known from many localities, Manole *et al.* (2015) mentioned the decreasing trend of these populations, reconfirming the presence of these species in only two localities.

In July 2016, a very small population (six individuals) of *A. liliifolia* was found in the Vrancei Mts., in an open spot on the forest edge, well lit, near the road.

Adenophora liliifolia is a plant species of European Community interest (code: 4068) and it is protected by European legislation: Annex II of the EU Habitats Directive and revised Annex I of the Bern Convention. In Romania, this species is under protection in 9 Natura 2000 sites (EUNIS 2022).

It is marked as a species of Least Concern (LC) according to the IUCN Red List (Bilz *et al.* 2011). However, Witkowski *et al.* (2003) considered this species as Vulnerable (VU) in the Romanian Carpathians and Endangered (EN) for the Carpathians as a whole. In Romania this species is mentioned as Vulnerable (Dihoru & Dihoru 1994; Negrean 2001; Oprea 2005) or rare (Sârbu & Chifu 2003).

***Amanita simulans* Contu, fam. Amanitaceae (fungus, mycorrhizal)**
Contributors: Hatıra Taşkın and Eva Zupan
Geographical focus: Slovenia
New records and noteworthy data: This is the first record of *A. simulans* from Slovenia (Jurc *et al.* 2005; https://boletusinformaticus.si/sre_seznam.aspx) and the first finding in the southern parts of Central Europe, supported by nrITS-barcoded specimen (Vizzini *et al.* 2016; Hanss & Moreau 2020).
Specimen data: Municipality of Kozje, Podsreda, N 46.048124°, E 15.598064°, in grassland next to a mixed forest, dominated by *Fagus sylvatica* L., ca. 290 m a.s.l.; 6 November 2021; leg. Dobrotič B.; det. Taşkın H, Zupan E.
Voucher: Bulgarian Academy of Sciences, Mycological Collection of the Institute of Biodiversity and Ecosystem Research (SOMF) 30429 (GenBank ON377336).

Amanita simulans is relatively little-known and morphologically variable species of the section *Vaginatae* Quél. (Fraiture & de Beuckeleer 2014; Vizzini *et al.* 2016; Hanss & Moreau 2020). Among its phylogenetically related taxa it is recognized by a combination of a greyish to whitish coloured pileus, a semi-friable and sometimes greying universal veil, leaving a well-developed, but easily disintegrating volva, lamellae often with dark margins, velar tissues with abundant spherical elements, and globose to subglobose basidiospores (Fraiture & de Beuckeleer 2014; Vizzini *et al.* 2016). The morphological features of the Slovenian collection conform to the recent descriptions in Fraiture & de Beuckeleer (2014) and Vizzini *et al.* (2016).

The barcoding sequence of the nrITS-region was obtained from the studied Slovenian sample, following the protocol in Bozok *et al.* (2020). The initial BLAST search returned several publicly available sequences of *A. simulans* as close matches on GenBank. Among these, the sequence KX834261 from the United Kingdom showed 100% identity at 100% cover. Further comparison of the Slovenian sequence to the accession from the epitype of *A. simulans* (KX834255) produced identity of 99.81% throughout the pairwise alignment of the ITS1-5.8S-ITS2-region. These two sequences differ by a single substitution, which is not deemed as significant. The results of the comparison thus unequivocally support the placement of the Slovenian specimen in *A. simulans*.

Knowledge on the distribution of *A. simulans* is still incomplete. Published DNA-barcoded European findings are so far known from Estonia, France, Italy and the United Kingdom (Vizzini *et al.* 2016; Hanss & Moreau 2020). For further published records, based on materials identified by the morphological approach the reader may refer to the accounts in Fraiture & de Beuckeleer (2014) and Vizzini *et al.* (2016). Here we report the first molecularly verified finding of the species in Slovenia.

***Ambrosia artemisiifolia* L., fam. Asteraceae (dicot, vascular plant)**
Contributors: Petya Boycheva and Dobri Ivanov
Geographical focus: Bulgaria
New records and noteworthy data: The spread of invasive species.
Specimen data: Northeastern Bulgaria, the VelikoTarnovo region, Strazhitsa municipality, N 43.155450°, E 26.042659°; 25 September 2021; leg./det. Boycheva P, Ivanov D.

Voucher: Herbarium of Sofia University St. Kliment Ohridski (SO) 108157.

The habitat is registered next to Republican Road I-4 (E772), 37 km east of the town of Veliko Tarnovo, in the Strazhitsa municipality. The registration is of a population of over 10 individuals in the fruiting phase. The habitat is located on the border between two floristic regions – Northeastern Bulgaria and Eastern Stara Planina. *Ambrosia artemisiifolia* is widespread in most floristic regions of Bulgaria (Vladimirov *et al.* 2009, 2011, 2017; Stoyanov *et al.* 2021), including in the floristic region of Northeastern Bulgaria (Assyov *et al.* 2012; Petrova *et al.* 2013), but so far there are no data on its distribution in the region of Eastern Stara Planina. We report the potential danger of the species spreading to a new area. *Ambrosia artemisiifolia* is a North American species introduced in parts of South America, Europe, Asia, Africa, and Australia. In most European countries, it is considered a naturalised and invasive species (Petrova *et al.* 2013). The species is included on the list of the most dangerous invasive alien species threatening biodiversity in Europe (Annex 1, Anonymous 2007), as well as in the list of invasive species of EPPO (2012).

***Brachytheciastrum collinum* (Schleich. ex Müll.Hal.) Ignatov & Huttunen, fam. Brachytheciaceae (moss, bryophyte)**

Contributors: Beata Papp and Jovana Pantović

Geographical focus: North Macedonia

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

Specimen data: Jablanica Mts., from Gorna Belica towards Čumin Vrv, N 41.22322°, E 20.54106°, acidic grassland, 1623 m a.s.l.; 24 June 2018; leg. Papp B, Pantović J, Sabovljević M.; det. Papp, B.

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

The species is newly recorded in Northern Macedonia (Hodgetts & Lockhart 2020). It is a widespread species but easy to overlook and misidentify. However, it can be easily recognized by its broadly ovate leaves, usually smaller than 1 mm long, and julaceous branches (Orgaz *et al.* 2013). It is known from Africa, North America, South America, Asia and Europe and thus its location in North Macedonia is not surprising. The huge range of this species in Europe is not often accompanied by reports. Moreover, it the Balkans, this species has been found in Bulgaria, Greece, Romania, and Serbia, and according to Orgaz *et al.* (2013), reports from Croatia and Slovenia need to be confirmed.

***Chara tenuispina* A. Braun 1835, fam. Characeae (charophyte algae)**

Contributors: Aleksandra Marković

Geographical focus: Serbia

New records and noteworthy data: Three new sites are reported for Serbia. So far, only four records are known for *C. tenuispina*, a rare and strictly protected species in Serbia. It is one of the rarest charophyte species in Europe, red-listed in Serbia as Critically Endangered.

Specimen data: 1) Banat, Opovo, Velika Slatina, near the bridge, N 45.052967°, E 20.493390°; a saline degraded pond, converted into a canal, muddy substrate; oogonia and antheridia present on the same plant; 3 Jun 2020; leg. Marković A, Ćirić M, Vidaković D, Gavrilović B.; det. Marković A.; **2)** Banat, Opovo, Velika Slatina, near the bridge, N 45.052967°, E 20.493390°; a saline degraded pond, converted into a canal, muddy substrate; only sterile specimens found; 29 March 2021; leg. Marković A, Ćirić M, Vidaković D, Gavrilović B.; det. Marković A.; **3)** Banat, Opovo, Velika Slatina, near the bridge, N 45.052967°, E 20.493390°; a saline degraded pond, converted into a canal, muddy substrate; only sterile specimens found; 12 April 2021; leg. Vidaković D, Ćirić M; det. Marković A.; **4)** Banat, Opovo, Velika Slatina, near the bridge, N 45.052967°, E 20.493390°; a saline degraded pond, converted into a canal, muddy substrate; only sterile specimens found; 26 April 2021; leg. Marković A, Ćirić M, Vidaković D, Gavrilović B.; det. Marković A.; **5)** Banat, Opovo, Velika Slatina, near the bridge, N 45.052967°, E 20.493390°; a saline degraded pond, converted into a canal, muddy substrate; oogonia and antheridia present on the same plant; 8 Jun 2021; leg. Marković A, Vidaković D.; det. Marković A.; **6)** Bačka, Selevenjske Pustare Special Nature Reserve, Kilapoš, N 46.135983°, E 19.895083°; a wet meadow, salty, with muddy substrate; only sterile specimens found; 20 April 2021; leg. Marković A, Ćirić M.; det. Marković A.; **7)** Bačka, Selevenjske Pustare Special Nature Reserve, Kilapoš, N 46.135983°, E 19.895083°; a wet meadow, salty, with muddy substrate; oogonia and antheridia present on the same plant; 24 May 2021; leg. Marković A, Vidaković D.; det. Marković A.; **8)** Bačka, Selevenjske Pustare Special Nature Reserve, East Degelica, N 46.160926° E 19.918062°; a saline watering hole with muddy substrate; oogonia and antheridia present on the same plant; 25 May 2021; leg. Marković A, Vidaković D.; det. Marković A.

Vouchers: University of Belgrade, Institute of Chemistry, Technology and Metallurgy, charophyte collection 47, 56, 59, 61, 67, 71, 75, 87.

The new findings of *Chara tenuispina* reported here represent three new records of this species for Serbia, that is, eight specimens collected at three new sites. Previously, *C. tenuispina* was found four times in Serbia. The first record is very old and known only from the literature data, dating back to the beginning of the 20th century, from the locality "Veliko Jezero over Crepuljanik" (Košanin 1907). There are no data about later findings of charophytes at

the same site. The second record, from the lake by Kelebija (Blaženčić *et al.* 1995), supported by herbarium samples, dating back to 1989, is also rather old. Two recent records are also published in the literature and supported by herbarium samples. One is from 2012, from a sandpit near Lofej, close to Bački Vinogradi (Vesić *et al.* 2016), and the other from 2013, from the River Čik, near Bačko Petrovo Selo (Blaženčić 2014). Both findings were also from slightly saline or saline water bodies. The finding in a sandpit near Lofej was not confirmed in the 2021 survey, even though this site is relatively close to the new sites in Degelica and Kilapoš. The reason for this is probably because the sandpit is overgrown with emergent plants with a very low water level. However, we could state that the area of the Selevenjske Pustare SNR and its surroundings is ecologically favourable for *C. tenuispina*. The locality of the River Čik was not reinvestigated.

Chara tenuispina has been found only in Eastern and Southern Europe, while it is absent from Western Europe. It is one of the rarest and most threatened species in Europe (Palamar-Mordvintseva & Tsarenko 2004; Blaženčić *et al.* 2006; Auderset-Joye & Schwarcer 2012; Iakushenko & Borysova 2012; Korsch *et al.* 2013, Urbaniak & Gąbka 2014; Blaženčić & Stevanović 2015; Gregor & Becker 2016).

It is red-listed in Serbia as Critically Endangered (Blaženčić 2014) and a strictly protected species in Serbia according to the national legislation (Official Gazette RS 2010–2016).

Chara tenuispina is known mostly from freshwater habitats, but also from salty waters. It prefers shallow habitats in peatlands or marshes on organic substratum rich in calcium, but it can also be found in littoral zones (Krause 1997; Auderset-Joye & Schwarcer 2012; Iakushenko & Borysova 2012; Urbaniak & Gąbka 2014; Gregor & Becker 2016).

***Dactylorhiza romana* (Sebast.) Soó, fam. Orchidaceae (monocot, vascular plants)**

Contributors: Sanja Z. Djurović and Uroš Buzurović

Geographical focus: Serbia

New record and noteworthy data: The first record for *D. romana* in Central Serbia and the first confirmation of the species' occurrence in Serbia after almost 50 years. The species is on the CITES list.

Specimen data: Central Serbia, Mt. Vidojevica, Dobrotić, N 43.183611°, E 21.556861°, MGRS 34T EN48, a thermophilus oak forest, 605 a.s.l.; 2 April 2022; leg./det. Djurović S, Buzurović U.; conf. Djordjević V.

Voucher: Herbarium of the Natural History Museum in Belgrade, the General Herbarium of the Balkan Peninsula (BEO) 99319; photo documentation of S. Djurović and U. Buzurović.

Dactylorhiza romana is distributed in the Mediterranean and Sub-Mediterranean areas of Europe, Asia, and Africa. Literature data indicate the presence of this species in Southeastern Serbia (Diklić 1976) with no confirmation in herbarium specimens or field observations (Djordjević *et al.* 2018, 2021). It is included in the Convention on International Trade in Endangered Species of Wild Fauna and Flora in Appendix II (CITES) and it is listed as being of Least Concern in Europe in the IUCN Red List of Threatened Species (Rankou 2011).

In April 2021 one site on Mt. Vidojevica was discovered with only one flowering individual and several rosettes. In April 2022 twelve flowering individuals and several rosettes were recorded. This is the first record for Central Serbia EN48 10 × 10 km and EN 100 × 100 km UTM grid cell.

***Lemanea rigida* (Sirodot) De Toni fam. Lemanaceae (red algae)**

Contributors: Sanja Šovran and Ermin Mašić

Geographical focus: Bosnia and Herzegovina

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

Specimen data: Jajce, near Vlasinje village, the River Vrbas, N 44.43278°, E 17.23889°, 416 m. a.s.l.; 7 August 2021; leg./det. Šovran S.

Voucher: Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade (BEOU), Department of Algology, Micology and Lichenology – algae wet collection 6592.

According to the data, *Lemanea fluviatilis* (Protić 1908; Matoničkin & Pavletić 1959; Blagojević & Hafner 1979, 1980, 1981; Redžić 1991) and *L. sudetica* (Blagojević & Hafner 1981) have been registered in Bosnia and Herzegovina so far. This is the first finding of *L. rigida* for Bosnia and Herzegovina. The species was found at a site on the River Vrbas, as macroscopic aggregations on weakly alkaline (7.98) moderately cold (12.8°C), well-aerated (9.81 O_2 mg/l) stony substrates. The thallus consisted of thick, rough, curved filaments of varying length, olive green, at the base of a thin, simple or branched and disjunct stalk. The thallus length ranged from 4.8 to 15.2 cm, gradually narrowing toward the base. The spermatangial papillae were disturbed regularly, 3–6 in a whorl. The nodal diameter was in the range of 413 to 667 µm, the internodal diameter of 299 to 480 µm, and the nodal/internodal diameter ratio was 1.3. The carposporophyte zone was cylindrical, or strongly constricted. The carpospores were spherical, with the length ranging from 15.1 to 28.6 µm and the width from 10.2 to 19.8 µm. The *chantransia* stage was not observed.

Lemanea rigida were recorded in North America (Vis & Sheath 1992) and Europe (Kumano 2002; Eloranta *et al.* 2011; Knappe & Huth 2014). Data on the distribution of *L. rigida* in Southeast Europe are very rare; *L. rigida* was recorded in Croatia (Koletić *et al.* 2020) and in Serbia (Mitrović *et al.* 2021).

***Meesia longiseta* Hedw., fam. Meesiaceae (moss, bryophyte)**
Contributors: Sorin Ștefănuț
Geographical focus: Romania
New record and noteworthy data: This is the first record for Romania in the last 50 years and a new record for the Parâng Mts.
Specimen data: Southern Carpathians, Parâng Mts., Găuri Valley, Vâlcea County, N 45.370559°, E 23.596933°, 1920 m a.s.l.; 27 July 2021; det. Ștefănuț S.
Voucher: Photo documentation of Ștefănuț S.

Meesia longiseta is a Natura 2000 bryophyte species and during the last 15 years this species has not been confirmed for old reports in Romania. The species was reported from the Maramureș Mts., the Rodna Mts., the Călimani Mts., Harghita county, the Bucegi Massif, the Făgăraș Mts., Sibiu County, the Lotru Mts., Cluj county and the Țarcu Mts., but the records are from the beginning of the 19th to the first half of the 20th centuries (Ștefureac 1948). The last record was from the Făgăraș Mts., in the Puha sub-alpine peatbogs, leg. B. Diaconeasa, det. T. Ștefureac (Diaconeasa 1972). The fertile samples with sporofites of *M. longiseta* were found on the edge of *Sphagnum* peatbog, below Găuri Peak, along with other bryophytes such as *Scorpidium revolvens* (Sw. ex anon.) Rubers and *Ptychostomum pseudotriquetrum* (Hedw.) J.R. Spence & H.P. Ramsay ex Holyoak & N. Pedersen.

This is the first record of *Meesia longiseta* for the Parâng Mts. The nearest locality of this species to Romania is in Bulgaria (Hodgetts & Lockhart 2020). The conservation status of *M. longiseta* in Romania is changed from Endangered – EN A3c to Critically Endangered – CR B2b(ii,iii,v); C1+2b (Ștefănuț & Goia 2012).

***Microbotryum vinosum* (Tul. & C. Tul.) Denchev, fam. Microbotryaceae (fungus, parasitic)**
Contributors: Teodor T. Denchev and Cvetomir M. Denchev
Geographical focus: Turkey
New record and noteworthy data: *Microbotryum vinosum* is reported for the first time from Turkey.
Specimen data: The Taurus Mts., Gërolle, 2800 m a.s.l., on *Oxyria digyna* (L.) Hill; leg. Siehe W., Siehe's botanische Reise nach Cilicien – 1895, no. 273; det. Denchev TT, Denchev CM.
Voucher: Herbarium of the Botanic Garden and Botanical Museum Berlin, vascular plant collection (B) 10 0506861. The flowers of this specimen are infected by *Microbotryum vinosum*. This smut fungus was examined during a visit to B, in March 2014, within the framework of the SYNTHESYS Project.

Microbotryum comprises 100 species on host plants belonging to ten asterid families. The species of this genus form sori in various organs of the infected plants: the flowers, anthers, ovules, filaments of stamens, pedicels, inflorescence branches, capitulum, stems or leaves (Kemler *et al.* 2020).

The sori of *Microbotryum vinosum* are produced in the four perianth-segments of each flower, swelling them considerably and filling them with pulverulent, vinaceous spore mass (Denchev *et al.* 2020). The infection is systemic and all the flowers of the infected inflorescence are affected. *Microbotryum vinosum* is a circumpolar-alpine species, known from Europe, Asia, and North America (Denchev *et al.* 2020). This smut fungus is reported here for the first time from Turkey (cf. Sesli *et al.* 2020).

***Neotinea maculata* (Desf.) Stearn, fam. Orchidaceae (monocot, vascular plant)**
Contributors: Elvedin Šabanović and Vladan Djordjević
Geographical focus: Bosnia and Herzegovina
New records and noteworthy data: A confirmed orchid species for the flora of Bosnia and Herzegovina.
Specimen data: Međugorje, the exit towards Ljubuški, N 43.2068361°, E 17.6642778°, MGRS 33T YH18, a *Pinus halepensis* forest, limestone, 190 m a.s.l.; 19 April 2022; leg. Šabanović E, Ilić B.; det. Šabanović E, Djordjević V.
Voucher: Museum of the Franciscan Monastery in Visoko – Herbarium Collection of Fr. Ivo Radman 00314; photo documentation: E. Šabanović.

Neotinea maculata is a Mediterranean-Atlantic species, distributed in Northwestern Europe, Macaronesia, the Mediterranean region and the Near East (Delforge 2006; WCSP 2022). In Bosnia and Herzegovina, it was recorded for the first time in the Čitluk locality, which is supported by photographic material (Zelenika 2012; Šabanović *et al.* 2021). The new finding of *N. maculata* in the Međugorje locality is the second record of this species on the territory of Bosnia and Herzegovina and at the same time the first confirmed record in the form of herbarium material in this country. Moreover, the new locality represents the southernmost limit of the species' distribution in Bosnia and Herzegovina.

During the floristic survey conducted at the Međugorje site in April 2022, approximately 40 individuals of *N. maculata* were found within an area of 500 m². However, it is assumed that the species is more widespread and has a larger population size in the southern part of the country due to the availability of suitable habitats.

***Paralemanea torulosa* (Roth) C. A. Agardh fam. Lemanaceae (red algae)**
Contributor: Sanja Šovran
Geographical focus: Serbia
New records and noteworthy data: The second record for Serbia, two new localities, a rare species.

Specimen data: 1) Eastern Serbia, Mt. Stara Planina, the River Visočica near Braćevci village, N 43.122246°, E 22.869331°, 757 m a.s.l.; 1 July 2021; leg. Stojanović K.; det. Šovran S.; **2)** Eastern Serbia, Mt. Stara Planina, the River Jelovička near Jelovica village, N 43.210621°, E 22.833048°, 921 m a.s.l.; 30 June 2021; leg. Stojanović K.; det. Šovran S.
Vouchers: Herbarium of the Institute of Botany and Botanical Garden Jevremovac, University of Belgrade (BEOU), Department of Algology, Micology and Lichenology – algae wet collection 6584, 6588.

Paralemanea torulosa has been recorded in Serbia at only two localities on the River Drina, at low altitudes (174 m and 182 m a.s.l.), attached to the river bottom at a depth of 2.5 m. The water temperature was 15°C (Blagojević *et al.* 2017). The findings in the Stara Planina Nature Park represent the second records for Serbia, at two new localities. The altitude is significantly higher in relation to the findings of this species on the River Drina. The plants grew in tufts, as macroscopic aggregations on stony substrates. The thallus was 3.2 to 8.7 cm long, olive, unstalked and unbranched, distinctly narrowing at the base. Axial and cortical filaments were observed in the longitudinal and cross section. The nodal diameter was in the range of 478 to 663 µm, the internodal diameter of 362 to 499 µm, and the nodal/internodal diameter ratio ranged from 1.3 to 1.4. Spermatangial zones formed a narrow, irregular, often discontinuous ring in the centre of the node. The *chantransia* stage was brush-forming, about 3 mm long.

To date, *P. torulosa* has been recorded at only one locality in Germany (Schnittler *et al.* 1994), the Czech Republic (Kučera & Marvan 2004), Romania (Caraus 2012) and Turkey (Aysel 2005) as *Lemanea torulosa*. In Belgium, the Czech Republic, France, Germany, Ireland and Switzerland (Eloranta *et al.* 2011), as well as in Britain (Whitton *et al.* 2003; Eloranta *et al.* 2011; John *et al.* 2011), Bulgaria (Temniskova *et al.* 2008), Romania (Caraus 2012) and Croatia (Koletić *et al.* 2020) it was recorded as *Paralemanea torulosa*. In all those countries, this species is registered in only one or two localities. The species is considered rare in Europe and is included on the Red Lists of some European countries (Ludwig *et al.* 1996; Temniskova *et al.* 2008).

***Sarcoscypha jurana* (Boud.) Baral, fam. Sarcoscyphaceae (fungus, saprotrophic)**
Contributor: Dimitar Stoykov
Geographical focus: Bulgaria
New records and noteworthy data: These are the first records of *Sarcoscypha jurana* on *Tilia* sp. and *Tilia platyphyllos* Scop. in Bulgaria, and the southernmost and easternmost known findings of the species in the Balkans (Matoček & Kušan 2007; Perić & Perić 2007; Savić *et al.* 2018).

Specimens data: 1) Northeast Bulgaria, above the town of Shumen, near the Shumens Fortress, on fallen branches of *Tilia* sp.; 29 December 2018; leg. Dimitrov D.; det. Stoykov D.; **2)** Vitosha region, Mt. Vitosha, near the Boyana Waterfall, on fallen branches of *T. platyphyllos*; 8 April 2018; leg./det. Stoykov D.
Vouchers: Bulgarian Academy of Sciences, Mycological Collection of the Institute of Biodiversity and Ecosystem Research (SOMF) 30457, 30458.

According to Perić & Perić (2007) and Baral (1984, 2004), *S. jurana* is a mountaneous, red listed cup fungus in North and Central Europe, very rarely found on *Tilia platyphyllos* in Southern Europe (Serrano *et al.* 2007) and *T. tomentosa* Moench in Southeastern Europe (Savić *et al.* 2018). Matoček & Kušan (2007) also considered it quite rare in Croatia, strictly confined to the branches and wood of *Tilia* L. in Europe (Baral 1984; Perić & Perić 2007; Serrano *et al.* 2007). However, recent records of *S. jurana* were reported on pieces of wood from deciduous trees (Ďuriška 2010). Other species of the genus *Sarcoscypha* (Fr.) Boud., which are macroscopically similar to *S. jurana,* have been associated with different broadleaf trees or shrubs in Europe. *Sarcoscypha coccinea* (Jacq.Fr.) Lamb. is usually known on the branches of *Acer* L., *Alnus* Mill., *Carpinus* L., *Corylus* L., *Fagus* L., *Fraxinus* L., *Juglans* L., *Ostrya* Scop., *Populus* L., *Prunus* L., *Quercus* L., *Rhamnus* L., *Robinia* L., *Rubus* L., *Sambucus* L., *Sorbus* L., *Tilia*, and *Viburnum* L., while *S. austriaca* (Sacc.) Boud. can be found on various wooden substrata and conifers, preferably *Acer*, *Alnus*, *Carpinus*, *Robinia*, *Salix* L., and *Ulmus* L. (Baral 1984, 2004; Matoček & Kušan 2007; Perić & Perić 2007). *Sarcoscypha dudley* (Peck) Baral, similar in ecology and appearance to our findings, known on the fallen branches of *Tilia americana* L. in North America (Baral 1984), was distinguished from the other members of *Sarcoscypha* and *S. jurana* with the help of molecular studies (Harrington 1998; Baral 2004). The Bulgarian collections are in accordance with *S. jurana* in terms of disc size, colour and microscopic characters, 8-spored asci with hyaline, ellipsoid-cylindric, rounded to truncated ascospores 22–31 × 11–15 µm, containing two polar lipid bodies (4.5–) 5–7 µm in diameter, a saddle-like depression at the ends, and a persistent ephemeral mucous sheath around the spore cell observable in living condition.

***Tanacetum corymbosum* subsp. *cinereum* (Griseb.) Grierson, fam. Asteraceae (dicot, vascular plants)**
≡ *Pyrethrum cinereum* Griseb.
Contributors: Marjan Niketić and Gordana Tomović
Geographical focus: Serbia
New records and noteworthy data: A new site is presented for this insufficiently known subspecies, previously recorded from only one locality in Serbia. This is

the first record for the region of Southeastern Serbia.
Specimen data: 1) Southeastern Serbia, Bosilegrad, Mt. Dukat, Nazarička river gorge, N 42.392819°, E 22.403481°, MGRS 34T FM19, *Quercus petraea* forest, silicate, ca. 1050 m a.s.l.; 24 July 2022; leg. Niketić M, Tomović G.; det. Niketić M.
Vouchers: Natural History Museum in Belgrade, General Herbarium of the Balkan Peninsula (BEO), s/n.

Tanacetum corymbosum subsp. *cinereum* is a sub-endemic plant distributed in Bulgaria, Greece, Montenegro, North Macedonia, Romania, Serbia and Turkey (the Asian and European parts). In Serbia, the subspecies was known only from the surroundings of the town of Pirot in Eastern Serbia (Mt. Suva Planina, Mt. Vidlič) (Adamović 1911; Nikolić *et al.* 1986).

On Mt. Dukat this plant inhabits rocky ground, pastures and tall-herb vegetation, as well as beech forests on limestone. The population is represented by a small number of individuals (ca. 50), spatially restricted and requires urgent conservation measures. Although several individuals were recorded within an area of 100 m², it is expected that this insufficiently known taxon has a wider distribution in Serbia bearing in mind the suitable habitats.

***Terfezia pseudoleptoderma* Bordallo, Ant. Rodr. & Muñ.-Moh., fam. Pezizaceae (fungus, mycorrhizal)**
Contributors: Monica Slavova and Boris Assyov
Geographical focus: Greece
New records and noteworthy data: This is the first record of *Terfezia pseudoleptoderma* in Greece and the Balkan Peninsula and the second after the original description of the species from the Iberian Peninsula (Bordallo *et al.* 2013).
Specimen data: Chalkidiki Peninsula, Stagira-Akanthos, the dunes between Stratoni and Krioneri villages, approx. N 40.479709°, E 23.819719°, ca. 3 m; 5 March 2022; leg. Slavova M.; det. Slavova M, Assyov B.
Voucher: Bulgarian Academy of Sciences, Mycological Collection of the Institute of Biodiversity and Ecosystem Research (SOMF) 30430.

Terfezia pseudoleptoderma was described almost a decade ago from Spain and to this very day remains unknown outside the limits of the Iberian Peninsula (Bordallo *et al.* 2013). This is its first record from a Balkan country, considerably expanding its geographic range and suggesting possible circum-Mediterranean distribution. It also appears to be the second finding after the description of the species. The occurrence of *T. leptoderma* in Greece is congruent with the known ranges of other species of the genus, known from this country and Spain (Bordallo *et al.* 2015). *Terfezia pseudoleptoderma* is deemed to be associated with Cistaceae (Bordallo *et al.* 2013) and the Greek finding confirms such a cisticolous habit, being found next to *Cistus* spp. thickets in a forest of *Pinus pinaster* Aiton, *P. pinea* L. with an understorey of *Quercus coccifera* L., and *Erica manipuliflora* Salisb.

The morphological features of the specimen reported here are in accordance with the original description of the species. The Greek collection macroscopically features a notably darker gleba than listed in the protologue (Bordallo *et al.* 2013) – approaching 'Purplish Chestnut' in the *Flora of British Fungi Colour Identification Chart* (Anonymous 1969). This difference, however, is attributed to the advanced stage of development of the ascomata, which is also corroborated by the lack of asci in the microscopic preparations.

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REZIME

Botanica SERBICA

Novi i značajni podaci o biljkama, algama i gljivama iz JI Evrope i susednih regiona, 10

Gordana Tomović, Marko S. Sabovljević, Irina Irimia, Hatıra Taşkın, Eva Zupan, Petya Boycheva, Dobri Ivanov, Beata Papp, Jovana Pantović, Aleksandra Marković, Sanja Z. Djurović, Uroš Buzurović, Sanja Šovran, Ermin Mašić, Sorin Ştefănuţ, Teodor T. Denchev, Cvetomir M. Denchev, Elvedin Šabanović, Vladan Djordjević, Dimitar Stoykov, Marjan Niketić, Monica Slavova i Boris Assyov

U radu su prikazani novi i značajni podaci sa područja JI Evrope i susednih regiona o sledećim taksonima: crvenim algama *Lemanea rigida* i *Paralemanea torulosa,* mikorizalnim gljivama *Amanita simulans* i *Terfezia pseudoleptoderma*, parazitskoj gljivi *Microbotryum vinosum,* saprofitnoj gljivi *Sarcoscypha jurana,* pršljenčici *Chara tenuispina*, mahovinama *Brachytheciastrum collinum* i *Meesia longiseta,* monokotilama *Dactylorhiza romana* i *Neotinea maculata* i dikotilama *Adenophora liliifolia, Ambrosia artemisiifolia* i *Tanacetum corymbosum* subsp. *cinereum*.

Ključne reči: novi nalaz, *Adenophora liliifolia, Amanita simulans, Ambrosia artemisiifolia, Brachytheciastrum collinum, Chara tenuispina, Dactylorhiza romana, Lemanea rigida, Meesia longiseta, Microbotryum vinosum, Neotinea maculata, Paralemanea torulosa, Sarcoscypha jurana, Tanacetum corymbosum* subsp. *cinereum, Terfezia pseudoleptoderma,* JI Evropa