



Original Scientific Paper

Noteworthy lichens recorded in the Balkan Peninsula

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ABSTRACT:

Selected locations in four Balkan countries (Serbia, Albania, North Macedonia and Greece) were visited. One hundred and twenty one lichen species were recorded in fourteen locations. *Cladonia cervicornis* is reported new to Serbia, as well as *Cladonia squamosa*, *Pertusaria leioplaca*, *Xanthoparmelia angustiphylla* and *Polycaulonia polycarpa* to Albania. One lichenicolous fungus *Plectocarpon lichenum* was recorded. A brief description of the new or interesting records of these species is also provided.

Keywords:

biodiversity, lichenized fungi, Balkan, new species, Southeastern Europe, Ascomycetes

UDC: 582.29(292.464)

Received: 15 February 2021

Revision accepted: 18 March 2021

INTRODUCTION

The natural conditions in the Balkan Peninsula are suitable for a wide range of lichen species. However, it is only in the last few decades that this region has become the focus of intensive lichenological research. The Balkan Peninsula climate is predominantly temperate-nemoral with the Mediterranean influence near the coast lines. This means a shift from warm humid summers and cold winters to dry hot summers and cold wet winters inland (HAFELLNER 2018). Calcareous rocks with extensive forests dominate the landscape together with agricultural land. Lichen diversity in these countries is rich and not fully understood. The recent study carried out by KALTENBÖCK (2019) revealed 114 new species for North Macedonia alone, thus indicating significant gaps in the knowledge of lichen species in this region.

In the last 15 years, checklists for all of the countries we visited have been published: North Macedonia (MAYRHOFER *et al.* 2013), Albania (HAFELLNER 2007), Greece (ABBOTT 2009; ARCADIA 2020) and Serbia (SAVIĆ & TIBELL 2006). There have also been additions to these checklists, e.g., SVOBODA *et al.* (2012) for Albania, MALÍČEK & MAYRHOFER (2017) and KALTENBÖCK (2019) for North

Macedonia, or BILOVITZ & MAYRHOFER (2008) for Serbia. Data and records of the presence of lichen species in the Balkans are also available (JOHN 1996; CIURCHEA 1998; SUPPAN *et al.* 2000; MAYRHOFER *et al.* 2005, 2016, 2018; KNEŽEVIĆ & MAYRHOFER 2009; BILOVITZ & MAYRHOFER 2010).

This paper presents a list of the lichen species recorded during a field trip around the Balkan Peninsula, to Serbia, North Macedonia, Greece and Albania.

MATERIALS AND METHODS

The field research was conducted in May 2018. The sampling sites (see the list of locations and Fig. 1) were selected according to habitat heterogeneity so as to achieve the highest diversity of species. GPS coordinates are provided for each location in the WGS84 coordination system. For lichen identification, we used light microscopy, spot-tests, and UV reaction according to WIRTH *et al.* (2013). Some of the specimens were verified by thin layer chromatography (TLC using solvents A, B, C following ORANGE *et al.* 2001, in the list of species indicated by an asterisk - *) or DNA sequencing (in the list of species indicated by an exclamation point - !). The voucher specimens are depos-

ited in the Herbarium of the Botanical Garden of Pavol J. Šafárik University, Košice, Slovakia (acronym KO, according to THIERS 2021) as a special part of the lichen collection named *Iter Balcanicum* 2018.

The list of taxa consists of alphabetically arranged taxa with each assigned location numbers (1-3 Serbia, 4-6 North Macedonia, 7-9 Greece and 10-14 Albania), the type of substratum and the voucher specimen number deposited in the KO herbarium. Species new to a country are indicated by a (+) sign before the name. If the specimen was not determined by us, we provide the following initials – AA for Adriana Atanassova (Graz, Austria), AB for Anna Béréšová (Bratislava, Slovakia) and MB for Michaela Bačovčinová (Košice, Slovakia). The nomenclature follows the NIMIS (2016) database (<http://dryades.units.it/italic>).

Molecular analysis. Total DNA was isolated from the cleaned lobes of the specimens using the DNeasy® Plant Mini Kit (Qiagen, Hilden, Germany) according to the manufacturer's protocol. Fungal ITS rDNA was amplified using the primers ITS1F and ITS2-KL (GARDES & BRUNS 1993; LOHTANDER *et al.* 1998) and sequenced via Sanger sequencing (Sanger Cycle Sequencing, Microsynth AG, Switzerland).

Substrata:

cor	on bark
cal	on limestone and calcareous schists
sil	on siliceous rocks
ter-sil	on soil covering siliceous rocks
ter-cal	on soil covering calcareous rocks
bry/dtr	on bryophytes and plant remnants

List of locations:

Serbia. **1. Titelski Breg** is a loess plateau in the northern lowlands of Serbia characterised by steep cliffs alongside the river Tisa. Northern Serbia, South Bačka Distr.: near the village of Vilovo, N 45.2365106°, E 20.1771081°, alt. 100-128 m a.s.l.; southwest facing cliff in the middle of agricultural land; leg. M. Goga & M. Bačkor; **2. Deliblatska Peščara** is a large sand area also in the lowlands of Serbia, near the Danube River, formed as part of the former Pannonian Sea and later a desert. Today, the area is forested by *Pinus* spp. and has been declared a protected nature reserve full of endemic higher plant species. Northern Serbia, South Banat Distr.: near the village of Deliblata, N 44.8968006°, E 21.1055708°, alt. 250 m a.s.l.; mostly open grassy area, sand; leg. M. Goga & M. Bačkor; **3. Jelašnička Klisura** is a limestone gorge in South East Serbia near the city of Niš known as the habitat of relict and endemic species of higher plants. Southern Serbia, Nišava Distr.: near the village of Jelašnica, N 43.2788908°, E 22.0671533°, alt. 500 m a.s.l.; the top of the south-facing limestone cliff; leg. M. Goga & M. Bačkor.

North Macedonia. **4. Treskavec Monastery** is characterised by its rocky-mountain-top location near the city of



Fig. 1 Map of the collection sites. For the names of each location see the list of locations.

Prilep. Central North Macedonia, Pelagonia Reg.: near the monastery, N 41.4001497°, E 21.5358186°, alt. 1220 m a.s.l.; open, grassy plateau with solitary boulders; leg. M. Goga & M. Bačkor; **5. Baba Mountain above Bitola village** is another high elevation area in the southern part of North Macedonia with its highest peak at 2601 m. It is also part of the Pelister National Park, the oldest and second largest national park in the country. The main substrate of this locality is siliceous granite with stands or forests mainly of *Pinus peuce*. South North Macedonia, Pelagonia Reg.: the northern slope of Baba Mountain, N 41.0369903°, E 21.2082672°, alt. 1420 m a.s.l.; an old rockslide of granite boulders in the middle of the forest; leg. M. Goga & M. Bačkor; **6. The Galičica National Park** was founded in 1958 and is located on the territory of Mount Galičica, situated in North Macedonia on the North Macedonian-Albanian borders. Along with the North Macedonian and Greek national parks, there is also a large area protected by law around the lakes of Ohrid and Prespa. The flora of the higher plants in this locality is mountainous with the highest elevation above over 2000 m. Southwestern North Macedonia, Southwestern Reg.: near the St. George Chapel viewpoint, N 40.9561117°, E 20.8141756°, alt. 1620 m a.s.l.; southwestern, open, grassy slope with occasional outcrops, leaning towards Lake Ohrid; leg. M. Goga & M. Bačkor.

Greece. All three Greek locations are located in the Pindos Mountains around Vikos Gorge in Northern Greece. The predominant bedrock is limestone and dolomite. **7. Mikro Papingo**; Northern Greece, Epirus Adm. Reg.: part of

Papingo village near the northern end of the Vikos Gorge, N 39.9679756°, E 20.7290636°, alt. 960 m a.s.l.; the immediate surroundings of the village, west facing slope with a deciduous forest; leg. M. Goga & M. Bačkor; **8. Oxia Viewpoint**; Northern Greece, Epirus Adm. Reg.: viewpoint over Vikos Gorge, N 39.9073561°, E 20.7523989°, alt. 1320 m a.s.l.; forested edge of the Vikos Gorge, deciduous trees on limestone; leg. M. Goga & M. Bačkor; **9. Agia Pareskevi Monastery**; Northern Greece, Epirus Adm. Reg.: near Monodendri village, N 39.8865808°, E 20.7537400°, alt. 1060 m a.s.l.; the edge of the Vikos Gorge, mainly limestone outcrops with occasional vegetation; leg. M. Goga & M. Bačkor.

Albania. 10. Leskovik is a small town in South Albania near the Greek borders located at the foot of Mount Melesin at 913 m. The vegetation consists mostly of oak and fir forests. South Albania, Korçë County: alongside the SH75 road to the west of Leskovik, N 40.1625736°, E 20.5681847°, alt. 720 m a.s.l.; a small brook breakthrough, limestone gorge; leg. M. Goga & M. Bačkor; **11. The Llogara National Park** in Albania's Ceraunian Mountains is characterised by its seashore location, with variable elevation up to 2000 m, alpine meadows and open rock faces on the slopes facing west and humid forests facing east, rich in biodiversity. South Albania, Vlorë County: near Dukat village, N 40.2161669°, E 19.5670450°, alt. 960 m a.s.l.; primeval east-facing forest around Maja Gjikë Spiros hill; leg. M. Goga & M. Bačkor; **12. Outcrops near the village of Maraç** located in Northwestern Albania with an elevation of around 150 m. The outcrops are mainly formed of limestone and flysch with sparse vegetation. Northern Albania, Shkodër County: near the town of Vau i Dejës, N 41.9588597°, E 19.6643553°, alt. 80 m a.s.l.; valley above the river Gjadri, western grassy slopes with outcrops; leg. M. Goga & M. Bačkor; **13. Mëzi village** lies close to the Fierza reservoir in the middle of the Albanian northern mountain range with an elevation of up to 1500 m. Northern Albania, Shkodër County: alongside the SH22 road to the west of Mëzi village, N 42.2124119°, E 20.0889758°, alt. 620 m a.s.l.; north-facing limestone slope with shrubby vegetation; leg. M. Goga & M. Bačkor; **14. The Valbonë Valley National Park** in the Prokletije Mountains, also known as the Albanian Alps, follows the course of the Valbona River in Northern Albania and is characterised by an alpine landscape, various rock formations and dense untouched primeval forests with remarkable biodiversity. Northern Albania, Kukës County: N 42.4406083°, E 19.8818931°, alt. 980 m a.s.l.; mostly coniferous trees around the stony riverbank at the bottom of the valley; leg. M. Goga & M. Bačkor.

RESULTS AND DISCUSSION

The following 121 species were recorded during the field trip: 6 species in Serbia, 33 in North Macedonia, 58 in Greece and 65 in Albania. In Albania 1 lichenicolous fungus was also recorded.

Serbia:

+*Cladonia cervicornis* (Ach.) Flot.: 3 ter (KO 35447)
This species is reported for the first time in Serbia. Although is common in the Mediterranean area with its Euroasiatic distribution (BURGAZ *et al.* 2020), in Albania, for example, it is not very frequent (BURGAZ *et al.* 2019).
Peltigera rufescens (Weiss) Humb.: 3 ter (KO 35447)
Physcia tenella (Scop.) DC.: 2 cor
Physconia detersa (Nyl.) Poelt: 2 cor
Pleurosticta acetabulum (Neck.) Elix & Lumbsch: 2 cor
Squamarina cartilaginea (With.) P. James: 3 cal (KO 35414)

North Macedonia:

Candelariella vitellina (Hoffm.) Müll. Arg.: 4 sil
Cetraria aculeata (Schreb.) Fr.: 4 ter, 6 (KO 35465) ter
Circinaria calcarea (L.) A. Nordin, S. Savić & Tibell: 6 cal
Circinaria hoffmanniana (S. Ekman & Fröberg) A. Nordin: 6 cal (AB)
Cladonia chlorophaea (Sommerf.) Spreng.: 4 ter
Cladonia coccifera (L.) Willd.: 4 ter (* KO 35468)
Cladonia fimbriata (L.) Fr.: 5 ter
Cladonia foliacea (Huds.) Willd.: 4 ter (KO 35471), 6 ter-cal (KO 35388)
Cladonia furcata (Huds.) Schrad.: 4 ter-sil
Cladonia macroceras (Delise) Hav.: 4, 6 ter (KO 35474)
Evernia prunastri (L.) Ach.: 5 cor (KO 35390)
Hypogymnia tubulosa (Schaer.) Hav.: 5 cor
Lasallia pustulata (L.) Mérat: 4 sil
Melanelia stygia (L.) Essl.: 4 (AB) sil
Melanelixia fuliginosa (Duby) O. Blanco & al.: 4 sil
Parmelia saxatilis (L.) Ach.: 4 sil
Parmelia sulcata Taylor: 4, 5 cor
Peltigera canina (L.) Willd.: 4 ter (AB)
Peltigera horizontalis (Huds.) Baumg.: 5 ter
Peltigera membranacea (Ach.) Nyl.: 5 (KO 35466)
This species has so far been reported from North Macedonia only once by KALTENBÖCK (2019) from Shar Planina, in the north-western part of the country.
Peltigera rufescens (Weiss) Humb.: 4 ter (KO 35473)
Placidium rufescens (Ach.) A. Massal.: 6 ter (AB)
Protoparmeliopsis muralis (Schreb.) M. Choisy: 4 sil
Protoparmeliopsis versicolor (Pers.) M. Choisy: 6 cal (AB)
Pseudevernia furfuracea (L.) Zopf.: 5 cor (KO 35464)
Ramalina farinacea (L.) Ach.: 5 cor (KO 35467)
Ramalina pollinaria (Westr.) Ach.: 4 cor
Rhizocarpon polycarpum (Hepp) Th. Fr.: 4 sil
Tephromela atra (Huds.) Hafellner **var. atra**: 4 sil
Umbilicaria crustulosa (Ach.) Lamy: 4 sil (KO 35472)
Umbilicaria polyphylla (L.) Baumg.: 5 sil
Xanthoparmelia pulla (Ach.) O. Blanco & al.: 4 sil (KO 35469)
Xanthoparmelia stenophylla (Ach.) Ahti & D. Hawksw.: 4 sil (KO 35470)
Greece:
Anaptychia ciliaris (L.) Flot.: 7 cor, 8 cor (KO 35461)

Calogaya saxicola (Hoffm.) Vondrák: 9 cal
Caloplaca erythrocarpa (Pers.) Zwackh: 7 cal (KO 35419)
Circinaria calcarea (L.) A. Nordin, S. Savić & Tibell: 8 cal (KO 35452)
Cladonia fimbriata (L.) Fr.: 8 ter (* KO 35413)
Cladonia furcata (Huds.) Schrad.: 7 ter
Cladonia chlorophaea (Sommerf.) Spreng.: 8 ter (* KO 35463)
Cladonia pyxidata (L.) Hoffm.: 8 ter
Collema furfuraceum Du Rietz: 7 cor (KO 35462)
 The species is scattered throughout the whole of Greece, but there are only a few records from the northern part of the country (ABBOTT 2009; CHRISTENSEN 2014).
Collema nigrescens (Huds.) DC.: 7 cor
Dermatocarpon miniatum (L.) W. Mann: 7 cal (KO 35432)
Diploschistes muscorum (Scop.) R. Sant.: 7 bry/dtr (KO 35380)
Diplotomma hedinii (H. Magn.) P. Clerc & Cl. Roux: 8 cal (KO 35460)
Evernia prunastri (L.) Ach.: 7 cor
Hypogymnia physodes (L.) Nyl.: 7 cor
Hypogymnia tubulosa (Schaer.) Hav.: 7 cor
Lecidella elaeochroma (Ach.) M. Choisy: 7 cor, 8 cor
Leptra albescens (Huds.) Hafellner: 7 cor
Leproplaca xantholyta (Nyl.) Hue: 8 cal (KO 35445)
Leptogium saturninum (Dicks.) Nyl.: 7 cor (KO 35456)
Lobaria pulmonaria (L.) Hoffm.: 7 cor (KO 35426)
Lobarina scrobiculata (Scop.) Nyl.: 7 cor
Lobothallia radiosa (Hoffm.) Hafellner: 7 sil (KO 35450)
Melanelixia glabra (Schaer.) O. Blanco et al.: 7 cor
Melanohalea exasperata (De Not.) O. Blanco et al.: 7 cor (KO 35459), 8 cor
Myriolecis pruinosa (Chaub.) Sliwa, Zhao Xin & Lumbsch: 8 cal
Myriolecis reuteri (Schaer.) Sliwa, Zhao Xin & Lumbsch: 8 cal (KO 35411)
 In Greece, this is a rare species reported from only a handful of locations (POELT & VĚZDA 1977; CLAUZADE & ROUX 1985) and now from the Epirus region.
Nephroma laevigatum Ach.: 7 cor (KO 35379)
Parmelia submontana Hale: 7 cor (KO 35429)
Parmelia sulcata Taylor: 7 cor
Parmelina pastillifera (Harm.) Hale: 8 cor
Parmelina quercina (Willd.) Hale: 7 cor (KO 35453)
Parmelina tiliacea (Hoffm.) Hale: 7 cor
Pectenium plumbea (Lightf.) P. M. Jørg., L. Lindblom, Wedin & S. Ekman: 7 cor (KO 35457)
Peltigera leucophlebia (Nyl.) Gyeln.: 7 ter (KO 35421)
Physcia adscendens H. Olivier: 7 cor
Physcia aipolia (Humb.) Fűrnr.: 7 cor
Physcia leptalea (Ach.) DC.: 7 cor (KO 35425)
Physcia stellaris (L.) Nyl.: 7 cor
Physconia detersa (Nyl.) Poelt: 7 cor (KO 35427)
Physconia distorta (With.) J. R. Laundon: 7 cor (KO 35420), 8 cor
Physconia perisidiosa (Erichsen) Moberg: 7 cor

Pleurosticta acetabulum (Neck.) Elix & Lumbsch: 7 cor (KO 35458), 8 cor
Porpidia macrocarpa (DC.) Hertel & A. J. Schwab: 7 sil (KO 35430)
Pseudevernia furfuracea (L.) Zopf.: 7 cor
Ramalina fastigiata (Pers.) Ach.: 7 cor (! KO 35424, AA), 8 cor (KO 35415)
Ramalina fraxinea (L.) Ach.: 7 cor (! KO 35416 AA, ! KO 35423, AA)
Ramalina panizzei De Not.: 8 cor (! KO 35422, AA)
 Previously reported only from Crete by SPRIBILLE *et al.* (2006).
Ramalina pollinaria (Westr.) Ach.: 8 cor (! KO 35417, AA)
 The species is scattered throughout Greece, but with only a few records (ABBOTT 2009).
Ramalina polymorpha (Lilj.) Ach.: 8 sil (! KO 35418, AA)
Rinodina bischoffii (Hepp) A. Massal.: 7 cal (KO 35451)
 This pioneer species is scattered throughout the whole of Greece, but there are only a few records from the northern part of the country. Probably common but overlooked (ABBOTT 2009; NIMIS 2016).
Rusavskia elegans (Link) S. Y. Kondr. & Kärnefelt: 8 cal (KO 35444)
Scytinium fragrans (Sm.) Otálora, P. M. Jørg. & Wedin: 7 cor (KO 35454)
 Previously reported only from Crete by CHRISTENSEN (2014).
Squamarina cartilaginea (With.) P. James: 8 cal
Tephromela atra var. *calcarea* (Jatta) Clauzade & Cl. Roux: 7 cal (KO 35455)
Thalloidima candidum (Weber) A. Massal.: 8 cal (KO 35433)
Thalloidima diffractum (A. Massal.) A. Massal.: 8 cal (KO 35431)
Xanthoria parietina (L.) Th. Fr.: 7 cor

Albania:

Agonimia tristicula (Nyl.) Zahlbr.: 14 bry/dtr
Amandinea punctata (Hoffm.) Coppins & Scheid.: 11 cor
Anaptychia ciliaris (L.) Körb.: 14 cor
Bacidia rubella (Hoffm.) A. Massal.: 14 cor (KO 35448)
Bagliettoa calciseda (DC.) Gueidan & Cl. Roux: 11 cal
Bagliettoa marmorea (Scop.) Gueidan & Cl. Roux: 11 cal
Blennothallia crispa (Huds.) Otálora, P. M. Jørg. & Wedin: 11 cal (KO 35402)
Cetraria aculeata (Schreb.) Fr.: 14 ter (KO 35393)
Cladonia chlorophaea (Sommerf.) Spreng.: 11 ter-cal, 14 ter-cal
Cladonia coniocraea (Flörke) Spreng.: 14 ter
Cladonia fimbriata (L.) Fr.: 14 ter (KO 35401)
Cladonia foliacea (Huds.) Willd.: 14 ter-cal
Cladonia furcata (Huds.) Schrad.: 12 ter-cal, 14 ter-cal (KO 35410)
 +*Cladonia squamosa* Hoffm.: 14 ter (KO 35400)
 Present in several Balkan countries including Greece,

Montenegro and Bosnia-Herzegovina (BURGAZ *et al.* 2020). New to Albania.

Diploschistes muscorum (Scop.) R. Sant.: 14 bry/dtr

Evernia prunastri (L.) Ach.: 11 cor (KO 35385)

Flavoparmelia caperata (L.) Hale: 14 cor

Gyalolechia fulgens (Sw.) Søchting, Frödén & Arup: 13 cal

Gyalolechia fulgida (Nyl.) Søchting, Frödén & Arup: 10 cal

Hypogymnia tubulosa (Schaer.) Hav.: 14 cor (KO 35394)

Lathagrium cristatum (L.) Otálora, P. M. Jørg. & Wedin: 11 cal

Lecanora argentata (Ach.) Malme: 14 cor

Previously reported only from 2 locations (HAFELLNER 2007; SVOBODA *et al.* 2012), both from northern Albania. We are adding the location from the southern part of the country.

Lecanora carpinea (L.) Vain.: 14 cor

Lecidella elaeochroma (Ach.) M. Choisy: 11 cor, 14 cor

Leptra albescens (Huds.) Hafellner: 11 cor (KO 35408)

Leptra amara (Ach.) Hafellner: 11 cor (KO 35381), 14 cor (KO 35391)

Lobaria pulmonaria (L.) Hoffm.: 11 cor (KO 35382)

Melanelixia fuliginosa (Fr. ex Duby) O. Blanco *et al.*: 14 cal

Melanelixia glabra (Schaer.) O. Blanco *et al.*: 14 cor (KO 35412)

Melanohalea exasperatula (Nyl.) O. Blanco *et al.*: 14 cor (KO 35397)

Normandina pulchella (Borrer) Nyl.: 11 bry/dtr

To date this species has been reported in Albania only from this location, the Llogora National Park, by SVOBODA *et al.* (2012), and by us.

Pannaria conoplea (Ach.) Bory: 11 cor (KO 35404)

Parmelia sulcata Taylor: 11 cor (KO 35449), 14 cor

Parmeliella triptophylla (Ach.) Müll. Arg.: 11 cor (KO 35405)

Parmelina pastillifera (Harm.) Hale: 11 cor (KO 35387), 14 cor (KO 35398)

Parmelina quercina (Will.) Hale: 10 cor

+*Pertusaria leioplaca* (Ach.) DC.: 14 cor (KO 35392)

New to Albania.

Pertusaria pertusa (Weigel) Tuck.: 14 cor

Phlyctis argena (Spreng.) Flot.: 11 cor, 14 cor

Physcia leptalea (Ach.) DC.: 11 cor

Physconia distorta (With.) J. R. Laundon: 11 cor

Physconia venusta (Ach.) Poelt: 14 cor (AB)

Placidium squamulosum (Ach.) Breuss: 11 ter (AB)

Pleurosticta acetabulum (Neck.) Elix & Lumbsch: 11 cor

+*Polycauliona polycarpa* (Hoffm.) Frödén, Arup & Søchting: 14 cor

A widespread lichen frequently also reported from polluted built-up areas (MATWIEJUK & CHOJNOWSKA 2016) and present in the Balkan region (VOKOU *et al.* 2002; SAVIĆ & TIBELL 2006; BILOVITZ *et al.* 2008; STRASSER *et al.* 2015; MAYRHOFER *et al.* 2016). New to Albania.

Protoblastenia rupestris (Scop.) J. Steiner: 11 cal

Pseudevernia furfuracea (L.) Zopf: 14 cor (KO 35399)

Psora decipiens (Hedw.) Hoffm.: 11 ter-cal (AB)

Psora testacea Hoffm.: 11 cal (KO 35386)

Until now the species has only been reported from the Zall Gjocaj National Park in eastern Albania (SVOBODA *et al.* 2012).

Ramalina calicaris (L.) Fr.: 11 cor (KO 35407), 14 cor

Ramalina farinacea (L.) Ach.: 11 cor, 14 cor

Ramalina fastigiata (Pers.) Ach.: 11 cor

Ramalina fraxinea (L.) Ach.: 14 cor

Ricasolia amplissima (Scop.) De Not.: 11 cor (KO 35384, chloromorph)

Romjularia lurida (Ach.) Timdal: 11 ter-cal, 14 ter-cal

Scytinium lichenoides (L.) Otálora, P. M. Jørg. & Wedin: 11 bry-cal (KO 35383)

Squamarina cartilaginea (With.) P. James: 10 cal (AB), 11 cal

Squamarina gypsacea (Sm.) Poelt: 11, 14 (AB) – growing on *Romjularia lurida*

Thalloidima candidum (Weber) A. Massal.: 12 cal

Thalloidima sedifolium (Scop.) Kistenich, Timdal, Bendiksby & S. Ekman: 10 cal

Usnea perplexans Stirt.: 11 cor (* KO 35396)

+*Xanthoparmelia angustiphylla* (Gyeln.) Hale: 14 sil (KO 35403)

This species is rare in Europe, and more common in North America (STORDEUR *et al.* 2018). In the Balkans the species is present only in Romania (HAWKSWORTH *et al.* 2008). New to Albania.

Xanthoparmelia conspersa (Ehrh. ex Ach.) Hale: 12 sil

Xanthoparmelia stenophylla (Ach.) Ahti & D. Hawksw.: 12 sil

Xanthoria parietina (L.) Th. Fr.: 11 cor (KO 35409)

Lichenicolous fungus:

Plectocarpon lichenum (Sommerf.) D. Hawksw.: 11, host: *Lobaria pulmonaria* (!, MB)

The Balkan Peninsula provides a highly diverse landscape suitable for a wide range of lichen species, of which only a small part are known today. Altogether 121 species were recorded during this filed trip to four countries, where one species (*Cladonia cervicornis*) is new to Serbia and 4 species (*Cladonia squamosa*, *Pertusaria leioplaca*, *Polycauliona polycarpa* and *Xanthoparmelia angustiphylla*) are new to Albania. All of the new species for Albania were found in location 14, the primeval forest or riverbanks of the Valbonë Valley National Park in the Prokletije Mountains. The primeval and old-growth forests in Albania were the most interesting sites visited. *Pectenium plumbea*, *Ricasolia amplissima*, *Pannaria conoplea* and *Parmeliella triptophylla* were found in old-growth forests only. Here, oceanic species *Physcia leptalea* and *Physconia venusta* were also collected.

Acknowledgements – This work was supported by Ernst Mach Grant, Ernst Mach Grants Action Austria-Slovakia No. ICM-2018-11909 financed by Bundesministerium für Bildung, Wissenschaft und Forschung and by VVGS-PF-2020-1429. We would like to thank Anna Bérešová, Michaela Bačovčinová and Adriana Atanassova for their help with species identification and Matej Dudáš for his valuable comments on the manuscript.

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REZIME

Botanica
SERBICA

Značajni nalazi lišajeva na Balkanskom poluostrvu

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Istraživani su odabrani lokaliteti u četiri države na Balkanskom poluostrvu (Srbija, Albanija, Severna Makedonija i Grčka). Ukupno 121 vrsta lišajeva je zabeležena na 14 lokaliteta. *Cladonia cervicornis* je zabeležena prvi put za Srbiju, a *Cladonia squamosa*, *Pertusaria leioplaca*, *Xanthoparmelia angustiphylla* i *Polycauliona polycarpa* za Albaniju. Zabeležena je i jedna lignikolna gljiva *Plectocarpon lichenum*. Takođe, dat je kratak opis novih ili zanimljivih podataka o vrstama.

Ključne reči: biodiverzitet, lignikolne gljive, Balkan, nove vrste, jugoistočna Evropa, Ascomycetes

