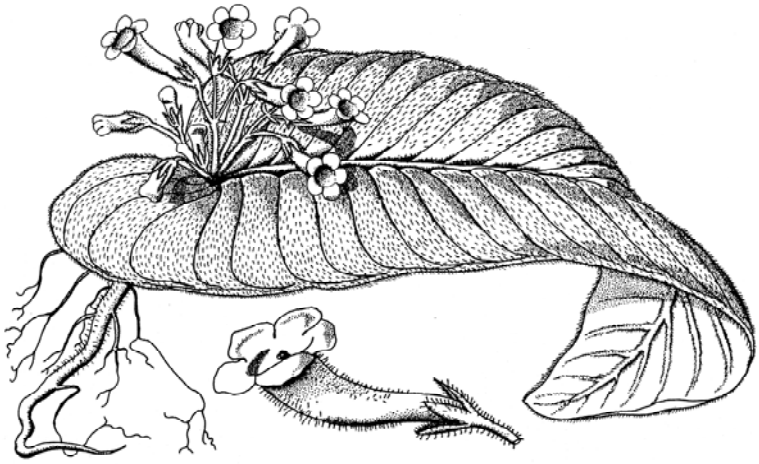
# FRITSCHIANA

## 67



Veröffentlichungen aus dem
Institut für Pflanzenwissenschaften
der Karl-Franzens-Universität Graz

Jan VONDRÁK

**Selected exsiccates of Caloplaca, Fasc. 2 (Nos 26–50)**

Josef HAFELLNER

**Lichenicolous Biota (Nos 81–100)**

Peter O. BILOVITZ, Roman TÜRK & Helmut MAYRHOFER

**Additional lichens and some lichenicolous fungi from the Una National Park (Bosnia and Herzegovina)**

Graz, 15. September 2010

# Hofrat Prof. Dr. Karl FRITSCH

(∗ 24.2.1864 in Wien, † 17.1.1934 in Graz)

Karl FRITSCH studierte nach einem Jahr in Innsbruck an der Universität Wien Botanik und wurde dort 1886 zum Dr.phil. promoviert; 1890 habilitierte er sich. Nach Anstellungen in Wien wurde FRITSCH 1900 als Professor für Systematische Botanik an die Universität Graz berufen, wo er aus bescheidenen Anfängen ein Institut aufbaute. 1910 wurde er Direktor des Botanischen Gartens, 1916 wurde das neu errichtete Institutsgebäude bezogen. Aus der sehr breiten wissenschaftlichen Tätigkeit sind vor allem drei Schwerpunkte hervorzuheben: Floristisch-systematische Studien, besonders zur Flora von Österreich, monographische Arbeiten (besonders über *Gesneriaceae*) und Arbeiten zur systematischen Stellung und Gliederung der Monocotylen. An Kryptogamen interessierten ihn besonders Pilze und Myxomyceten.

Nachrufe: KNOLL F. 1934: Karl Fritsch. - Berichte der Deutschen Botanischen Gesellschaft 51: (157)–(184) [mit Schriftenverzeichnis]. - KUBART B. 1935: Karl Fritsch. - Mitteilungen des Naturwissenschaftlichen Vereins für Steiermark 71: 5–15 [mit Porträt]. - TEPPNER H. 1997: Faszination versunkener Pflanzenwelten. Constantin von Ettingshausen - ein Forscherportrait. - Mitteilungen Geologie und Paläontologie am Landesmuseum Joanneum 55: 133–136. - Im übrigen vgl. STAFLEU F.A. & COWAN R.S. 1976, Taxonomic Literature 1: 892 und BARNHART J.H. 1965: Biographical Notes upon Botanists 2: 12.

Graz, November 1997 Herwig TEPPNER

Die Serie FRITSCHIANA wurde als Publikationsorgan für die zahlreichen Aktivitäten im Zusammenhang mit der botanischen Sammlung des Institutes für Pflanzenwissenschaften, Bereich Systematische Botanik und Geobotanik (vormals Institut für Botanik), der Karl-Franzens-Universität Graz (GZU) gegründet. Vor allem Schedae-Hefte der von den Mitarbeitern herausgegebenen Exsiccatenwerke sollten hier erscheinen, aber auch Exkursionsberichte sowie Listen und Indices besonders wertvoller Bestände in GZU. Das Spektrum wurde mittlerweile auf floristische und kleinere taxonomische Arbeiten (zwischenzeitlich auch auf das Samentauschverzeichnis des Botanischen Gartens) ausgeweitet. Die Schedae-Hefte des von Prof. Dr. Josef POELT begründeten, inzwischen abgeschlossenen Exsiccatenwerkes Plantae Graecenses sind die Vorläufer dieser Schriftenreihe.

Gesamtredaktion:

Dr. Christian SCHEUER, Mag. Dr. Walter OBERMAYER
Karl-Franzens-Universität Graz, Institut für Pflanzenwissenschaften
Bereich Systematische Botanik und Geobotanik, Holteigasse 6
A-8010 Graz, Österreich/Austria

ISSN 1024-0306
Key title = Abbreviated title: Fritschiana (Graz)

Umschlagsbild: *Carolofritschia diandra* ENGL. (= *Acanthonema strigosum* HOOK.f.); nach einer Zeichnung in HUTCHINSON, J. & HEPPER, F.N. 1963, Flora of West Tropical Africa, Ed. 2, Vol. II: 382.

# FRITSCHIANA

**Veröffentlichungen aus dem**
**Institut für Pflanzenwissenschaften**
(Bereich Systematische Botanik und Geobotanik)
**der Karl-Franzens-Universität Graz**

67



Jan VONDRÁK
**Selected exsiccates of Caloplaca, Fasc. 2 (Nos 26–50)**
pp. 1–10

Josef HAFELLNER
**Lichenicolous Biota (Nos 81–100)**
pp. 11–26

Peter O. BILOVITZ, Roman TÜRK & Helmut MAYRHOFER
**Additional lichens and some lichenicolous fungi from the Una National Park (Bosnia and Herzegovina)**
pp. 27–32



Graz, 15. September 2010

ISSN 1024-0306
Key title = Abbreviated title: Fritschiana (Graz)

© 2010 by the authors. All rights reserved.
Date of publication: 15.IX.2010
Printed by: Druckerei Khil Ges.m.b.H., Neutorgasse 26, 8010 Graz, Austria

# Selected exsiccates of *Caloplaca*, Fasc. 2 (Nos 26–50)

Jan VONDRÁK*

VONDRÁK J. 2010: Selected exsiccates of *Caloplaca*, Fasc. 2 (Nos 26–50). - Fritschiana (Graz) 67: 1–10. - ISSN 1024-0306.

**Abstract**: Fascicle 2 of '*Selected exsiccates of Caloplaca*' comprises 25 collections of lichens from the following countries: Australia, Austria, Bulgaria, Croatia, Czech Republic, Greece, Hungary, Iran, Romania, Russia, Spain, Turkey, and Ukraine. Isotypes of *Caloplaca communis* and *Caloplaca concreticola* and topotype material of *Caloplaca albopustulata* and *Caloplaca borysthenica* are distributed. All samples were collected and identified by the author.

*Department of Botany, Faculty of Science,
University of South Bohemia, Branišovská 31,
370 05, České Budějovice, Czech Republic

## Introduction

The exsiccate collection '*Selected exsiccates of Caloplaca*' is aimed at the distribution of species of the genus *Caloplaca* (Teloschistales, lichenized fungi) from all over the world. Although the modern molecular phylogenetic studies find the genus *Caloplaca* paraphyletic, the classic concept used in most recent checklists is followed here.

'*Selected exsiccates of Caloplaca*' is distributed on exchange basis to the following 15 herbaria and private collections (herbarium abbreviations follow http://sciweb.nybg.org/science2/IndexHerbariorum.asp): ASU, B, C, CANB, CBFS, F, GZU, H, HMAS, LE, M, MIN, TNS, UPS, herb. Lendemer. Contributions to this exsiccate are welcome.

Abbreviations of authors of plant names are taken from http://asaweb.huh.harvard.edu:8080/databases/botanist_index.html. Names of countries and states (or provinces or principial subdivisions) are based upon a list from http://www.ars-grin.gov/cgi-bin/npgs/html/geolist.pl.

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 26. Caloplaca albopruinosa (Arnold) H.Olivier (1909)

Bas.: *Pyrenodesmia agardhiana* var. *albopruinosa* Arnold (1860)

**ROMANIA**, Dobruja: Tulcea, Enisala, limestone outcrops 250 m SE of Enisala castle ruin, alt. c. 70 m, 44°52'56.03"N, 28°50'12.41"E.

On limestone outcrops.

Note: Based on ITS sequence data, endolithic members of the *Caloplaca variabilis* group are very similar in morphology and therefore taxonomically difficult to separate. This specimen may be different from *C. albopruinosa* s.str.

3.IV.2008 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 27. Caloplaca albopustulata Khodos. & S.Y.Kondr. (2002)

in KHODOSOVTSEV & al. (2002), Graphis Scripta 13(1): 6

- topotype -

**UKRAINE,** Crimean Peninsula: Alushta, S slope of Demerji Yayla above Luchistoye, alt. c. 600 m, 44°44'42.56"N, 34°24'27.91"E.

On calcareous conglomerates.

28.V.2007 leg. & det. Alexander Khodosovtsev & Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 28. Caloplaca ammiospila (Ach.) H.Olivier (1909)

Bas.: *Lecidea cinereofusca* var. *ammiospila* Ach. (1808)
Syn.: *Caloplaca cinnamomea* (Th.Fr.) H.Olivier (1909)

**ROMANIA**, Retezat Mts: Lupeni, Câmpu lui Neag, Retezatul Mic Mts, limestone outcrops around Mt Piule, alt. 1900–2080 m.

On plant debris.

25.VI.2005 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 29. Caloplaca borysthenica Khodos. & S.Y.Kondr. (2006)

in KONDRATYUK & al. (2006), Mycologia Balcanica 3(2–3): 96

- topotype -

**UKRAINE**, Kherson region: Belozerka, close to Shirokaya Balka village, loess gorge to maritime lake Dneprovskyi liman, alt. 10–20 m, 46°34'35"N, 32°11'4"E.

On sun-exposed loess slopes with restricted plant cover.

12.X.2009 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 30. Caloplaca carphinea (Fr.) Jatta (1900)

Bas.: *Parmelia carphinea* Fr. (1831)

**TURKEY**, Sea of Marmara coast: Armutlu, coastal rocks 2.5 km SE of Fıstıklı, 40°28'20.31"N, 28°54'23.93"E.

On quartzite outcrops.

13.IV.2007 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 31. Caloplaca cerina (Ehrh. ex Hedw.) Th.Fr. (1861)

Bas.: *Lichen cerinus* Ehrh. ex Hedw. (1789)

**IRAN**, East Azerbaijan: Hashtpar (Talesh), forest near the road from Asalem to Khalkhal, alt. 1150 m, 37°39'23.88"N, 48°49'10.61"E.

On bark of *Acer.*

Note: *Caloplaca cerina* is a heterogeneous species. This Iranian sample is surprisingly phylogenetically close to some Scandinavian populations (J. Šoun, unpublished data).

5.V.2007 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 32. Caloplaca cerinelloides (Erichsen) Poelt (1992)

Bas.: *Caloplaca pyracea* (Ach.) Th.Fr. var. *cerinelloides* Erichsen (1930)

**AUSTRIA**, Styria: Schladming, Aich, lake Bodensee, at a parking place, c. 800 m down stream from the lake, 47°22'52.228"N, 13°49'34.209"E.

On lower eutrophicated spruce twigs.

7.IX.2009 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 33. Caloplaca cinnabarina (Ach.) Zahlbr. (1908)

Bas.: *Lecanora cinnabarina* Ach. (1810)

**AUSTRALIA**, Queensland: Mt Garnet, Undara Volcanic National Park, at central camp, alt. 750 m, 18° 9'39.11"S, 144°37'51.22"E.

On granite outcrops.

31.VIII.2006 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 34. Caloplaca communis Vondrák, Říha, Arup & Søchting (2009)

in VONDRÁK et al. (2009), The Lichenologist 41(6): 591

- isotype -

**BULGARIA**, Black Sea coast: Burgas, Tsarevo, coastal rocks SE of town, near small boat-factory, 42°08'49.7"N, 27°52'48.2"E.

On siliceous rock in supralittoral zone.

30.XI.2005 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 35. Caloplaca concreticola Vondrák & Khodos. (2008)

in VONDRÁK et al. (2008), The Lichenologist 40(2): 98

- isotype -

**UKRAINE**, Kherson region: protected area Askaniya-Nova, c. 4.5 km W of village Zaozerne, bank of Kachovskiy canal, alt. c. 30 m, 46°35'44.37"N, 33°53'13.21"E.

On concrete panel on canal bank, c. 1 m above water level.

7.VI.2006 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 36. Caloplaca crenularia (With.) J.R.Laundon (1984)

Bas.: *Lichen crenularius* With. (1801)

**TURKEY**, Marmara Sea coast: Bandırma, coastal rocks near Yenice, 40°22' 44.78"N, 28°04'16.09"E.

Saxicolous on schist coastal cliff.

13.IV.2007 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 37. Caloplaca ferruginea (Huds.) Th.Fr. (1861)

Bas.: *Lichen ferrugineus* Huds. (1762)

**SPAIN**, Andalucía: Tarifa, San Bartolo rocks c. 4 km E of El Santiscal, alt. c. 250 m, 36° 5'7.47"N, 5°42'58.87"W.

On bark of *Eucalyptus.*

29.II.2008 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 38. Caloplaca granulosa (Müll.Arg.) Jatta (1900)

Bas.: *Amphiloma granulosum* Müll.Arg. (1862)

**ROMANIA**, Dobruja: Tulcea, Enisala, limestone outcrops 250 m SE of Enisala castle ruin, alt. c. 70 m, 44°52'56.03"N, 28°50'12.41"E.

On limestone outcrops.

3.IV.2008 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 39. Caloplaca haematites (Chaub. ex St.-Amans) Zwackh (1862)

Bas.: *Lecanora haematites* Chaub. ex St.-Amans (1821)

**GREECE**, Crete: Mires, Kali Limenes, valley c. 3 km W of the village, alt. c. 30 m, 34°55'36"N, 24°46'43"E.

On bark of *Ceratonia siliqua*.

Note: Based on ITS sequence data, *Caloplaca haematites* is a corticolous variant of the saxicolous *C. viridirufa* (Ach.) Zahlbr. (Syn.: *C. aractina* (Fr.) Häyrén).

2.V.2005 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 40. Caloplaca haematites (Chaub. ex St.-Amans) Zwackh (1862)

Bas.: *Lecanora haematites* Chaub. ex St.-Amans (1821)

**GREECE**, Crete: Mires, Kali Limenes, valley c. 3 km W of the village, alt. c. 30 m, 34°55'36"N, 24°46'43"E.

On bark of *Pistacia*.

Note: Based on ITS sequence data, *Caloplaca haematites* is a corticolous variant of the saxicolous *C. viridirufa* (Ach.) Zahlbr. (Syn.: *C. aractina* (Fr.) Häyrén).

2.V.2005 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 41. Caloplaca haematites (Chaub. ex St.-Amans) Zwackh (1862)

Bas.: *Lecanora haematites* Chaub. ex St.-Amans (1821)

**UKRAINE**, Crimean Peninsula: Sevastopol, cape "Mis Aya", submediterranean forest on seaward slope, alt. c. 200 m, 44°25'N, 33°39'E.

On bark of *Pistacia mutica.*

Note: Based on ITS sequence data, *Caloplaca haematites* is a corticolous variant of the saxicolous *C. viridirufa* (Ach.) Zahlbr. (Syn.: *C. aractina* (Fr.) Häyrén).

11.X.2009 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 42. Caloplaca isidiigera Vězda (1979)

**UKRAINE**, Eastern Carpathians: Svidovets Mts, N slope at bottom of glacial cirque near glacial lake, alt. c. 1300 m, 48°15'41"N, 24°13'22"E.

On sun-exposed base-rich sandstone boulders.

Note: *Caloplaca isidiigera* is a well-defined taxon, clearly distinguished both phenotypically and genotypically from the sorediate/blastidiate *C. chlorina* (Flot.) Sandst.; the concept in the new British flora, where both names are synonymized, is incorrect.

28.VI.2007 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 43. Caloplaca limonia Nimis & Poelt (1994)

**CZECH REPUBLIC**, Podřipsko: Budyně nad Ohří, Martíněves, alt. 250 m, 50°22'24.411"N, 14°9'8.755"E.

On lime-rich mortar of dust-impregnated old wall.

Note: The identity of the species is confirmed by ITS nrDNA molecular data.

22.VIII.2009 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 44. Caloplaca pollinii (A.Massal.) Jatta (1900)

Bas.: *Blastenia pollinii* A.Massal. (1852)

**IRAN**, East Azerbaijan: Hashtpar (Talesh), old orchard in Asalem, alt. c. 40 m, 37°43'04.20"N, 48°57'38.49"E.

On bark of *Cerasus.*

5.V.2007 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 45. Caloplaca pyracea (Ach.) Th.Fr. (1867)

Bas.: *Parmelia cerina* var. *pyracea* Ach. (1803)

**AUSTRIA**, Styria: Leoben, Proleb, Grillbichler Alm c. 2 km NW of the village, alt. 800 m, 47°24'30"N, 15°06'40"E

On bark of *Populus tremula.*

25.7.2004 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 46. Caloplaca pyracea (Ach.) Th.Fr. (1867)

Bas.: *Parmelia cerina* var. *pyracea* Ach. (1803)

**HUNGARY**, Bükk Mts: Borsod-Abaúj-Zemplén county, Mályinka, Látó-kövek rock, alt. c. 730 m, 48°07'28.7"N, 20°31'37.3"E.

On shaded limestone outcrop.

Note: Saxicolous occurrences are exceptional in this species.

2.VI.2008 leg. Jan Vondrák & Alexander Khodosovtsev
det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 47. Caloplaca scythica Khodos. & Søchting (1998)

**RUSSIA**, Taman Peninsula: salt marsh SW of Primorskiy near Taman' Bay coast, 45°15'16.05"N, 36°53'40.46"E

On *Halocnemum strobilaceum.*

Note: Based on ITS sequence data, *Caloplaca scythica* is conspecific with *C. phlogina*. However, the name "*C. scythica*" can be used for populations with whitish soralia which lack anthraquinone, occurring in salt marshes along the northern Black Sea coast.

20.V.2007 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 48. Caloplaca teicholyta (Ach.) J.Steiner (1895)

Bas.: *Lecanora teicholyta* Ach. (1810)

**UKRAINE**, Crimean Peninsula: Yalta, Oliva village, Efigenia coastal cliff, 44° 24'16"N, 33°53'4"E.

On ultrabasic diorite rock.

Note: A richly fertile specimen, but ascospores in apothecia poorly developed.

30.VI.2009 leg. Jan Vondrák & Alexander Khodosovtsev
det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

## 49. Caloplaca ulcerosa Coppins & P.James (1979)

**CROATIA**, Istria: Poreč, Špadići, at sea coast, 45°14'59"N, 13°35' 27.04"E.

On bark of *Carpinus betulus.*

11.IX.2009 leg. & det. Jan Vondrák

Vondrák J. 2010: **Selected exsiccates of *Caloplaca***, Fasc. 2 (Nos 26–50). Fritschiana 67: 1–10.
Distributed by the *Institut für Pflanzenwissenschaften, Karl-Franzens-Universität*, Graz (GZU)

# 50. Caloplaca variabilis (Pers.) Müll.Arg. (1862)

Bas.: *Lichen variabilis* Pers. (1794)

**UKRAINE**, Kherson region: Berislav, Burgunka, shallow valley "Burgunskaya Balka", alt. 20–40 m, 46°48'30.37"N, 33°13'10.01"E.

On limestone outcrops.

Note: Based on ITS sequence data, *Caloplaca variabilis* in a recent sense is a complex of phenotypically similar species. This specimen may be different from *C. variabilis* s.str.

16.VI.2008 leg. & det. Jan Vondrák

# Lichenicolous Biota (Nos 81–100)

Josef HAFELLNER*

HAFELLNER J. 2010: Lichenicolous Biota (Nos 81–100). – Fritschiana (Graz) 67: 11–26. - ISSN 1024-0306.

**Abstract**: The fourth fascicle (20 numbers) of the exsiccata "Lichenicolous Biota" is published. This issue contains material of 20 non-lichenized fungal taxa (13 ascomycetes, 3 basidiomycetes, 4 anamorphic fungi), including isotype material of *Polycoccum minutulum* Kocourk. & F.Berger (no 86) and of *Stigmidium hesperium* Kocourk., K.Knudsen & Diederich (no 89), as well as paratype material of *Chaenothecopis kalbii* Tibell & K.Ryman (no 93), furthermore collections of the type species of *Arborillus* (*A*. *ilimonae*), *Marchandiobasidium* (*M. aurantiacum*), *Illosporiopsis* (*I*. *christiansenii*), *Phacographa* (*P*. *glaucomaria*), *Phacothecium* (*P*. *varium*), *Phaeopyxis* (*P*. *punctum*), and *Sclerococcum* (*S*. *sphaerale*).

*Institut für Pflanzenwissenschaften, Karl-Franzens-Universität Graz, Holteigasse 6, A-8010 Graz, AUSTRIA.

e-mail: josef.hafellner@uni-graz.at

## Introduction

With fascicle 4 the first centuria of "Lichenicolous Biota" is completed. Previously published fascicles appeared in the period 2007–2009 (see HAFELLNER 2007, 2008, 2009).

The exsiccata "Lichenicolous Biota" covers all lichenicolous biota. The exsiccata is open to non-lichenized and lichenized fungi, but also to myxomycetes, bacteria, and even animals, whenever they cause a characteristic symptom on their host (e.g., discoloration or galls). Consequently, the exsiccata contains both highly host-specific and plurivorous species, as long as the individuals clearly grow upon a lichen and the collection is homogeneous, so that identical duplicates can be prepared.

The five complete sets are sent to herbaria of the following regions: Central Europe (Graz [GZU]), Northern Europe (Uppsala [UPS]), Western Europe (Bruxelles [BR]), North America (New York [NY]), Australasia (Canberra [CANB]). Incomplete sets will preferably be distributed to Barcelona [BCN], Edinburgh [E], Leningrad [LE], Munich [M], and Prague [PRM] (herbarium acronyms sec. HOLMGREN et al. 1990, continued and updated as electronic database by THIERS 2010,

onwards and hosted at New York Botanical Garden http://sciweb.nybg.org/science2/IndexHerbariorum.asp). It is planned to publish at least one fascicle per year, consisting of a variable number of decades.

For the 4th issue, I gratefully acknowledge the contribution of four collections by Jana KOCOURKOVÁ (syn. J. HORÁKOVÁ) [one together with Pavel KOCOUREK], two collections by Rainer CEZANNE and Marion EICHLER, two collections by Walter OBERMAYER, two collections by Paul DIEDERICH and Damien ERTZ, one collection each by Jan VONDRÁK (together with Jaroslav ŠOUN) and Franz PRIEMETZHOFER (together with Franz BERGER). In fieldwork I received support by Angela HAFELLNER, Walter OBERMAYER, and Roderick ROGERS. Paul DIEDERICH, Damien ERTZ, Jana KOCOURKOVÁ, Laurens SPARRIUS, and Leif TIBELL contributed to the scientific content of the fascicle by the identification of either lichenicolous fungi or hosts. Walter OBERMAYER is thanked for critically reading the manuscript.

I would be much obliged to colleagues who send material of lichenicolous biota for distribution in future fascicles. The collections should be divided up into at least 5 (up to 10) duplicates, preferably already prepared. Unprepared collections should be rich enough to obtain at least 5 duplicates.

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 81. ***Cladosporium arthoniae*** M.S.Christ. & D.Hawksw.

in Hawksworth, Bull. Brit. Mus. (Nat. Hist.) Bot. ser. 6(3): 210 (1979).

Host: *Dirina stenhammari* (thallus)

**Europe**, **Ukraine**: Crimean Peninsula, Bakhchysarai, Mashino, limestone cliff 500 m NW of the village, 44°42’04’’N / 33°54’26’’E, *c*. 350 m alt.; on base of the cliff, on limestone in overhangs.

Note 1: The type host of *Cladosporium arthoniae* is *Arthonia impolita* of which it infests the apothecia.

Note 2: *Dirina stenhammari* is regarded by some lichenologists as a synonym of *Dirina massiliensis* f. *sorediata*.

10. VI. 2006 leg. J. Vondrák (4613) & J. Šoun, det. L. Sparrius

distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 82. ***Illosporiopsis christiansenii*** (B.L.Brady & D.Hawksw.) D.Hawksw.

in Sikaroodi et al., Mycol. Res. 105: 457 (2001). – Bas.: *Hobsonia christiansenii* B.L.Brady & D.Hawksw. in Lowen et al., Mycologia 78: 842 (1986).

Host: *Physcia adscendens* (thallus) and *Phaeophyscia orbicularis* (thallus)

**Europe**, **Germany**: Hessen, Hessische Rheinebene, SW of Riedstadt-Leeheim, 49°50’35’’N / 8°23’50’’E, *c*. 85 m alt., MTB 6116/3; orchard, on twigs of *Malus domestica*.

Note: The type host of *Illosporiopsis christiansenii* is *Candelaria concolor*.

31. X. 2009 leg. R. Cezanne & M. Eichler, det. R. Cezanne & M. Eichler

distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 83. ***Lichenochora aipoliae*** Etayo, Nav.-Ros. et Coppins

in Etayo & Navarro-Rosinés, Revista Catalana de Micologia 30: 31 (2008).

Host: *Physcia aipolia* (thallus, apothecial margins)

**Europe**, **Austria**: Styria, Oststeirisches Riedelland, 8 km E of the centre of Graz, 3.3 km WNW of Laßnitzhöhe, Äußere Ragnitz, 47°04’40’’N / 15°32’20’’E, c. 460 m alt., GF 8959/1, deciduous trees along a grain field, on canopy branches of *Salix* spec.

Note 1: The infection of *Physcia aipolia* with *Lichenochora aipoliae* induces the formation of more or less conspicuous galls.

Note 2: The basidiomycete *Syzygospora physciacearum* Diederich is developed on several lobes of Physcia aipolia on the specimen in GZU and may also be present on the duplicates. Material of *Syzygospora physciacearum* is distributed under Lichenicolous Biota no. 100.

30. IV. 2006 leg. W. Obermayer (11369), det. J. Hafellner

distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 84. ***Marchandiobasidium aurantiacum*** Diederich & Schultheis

in Diederich et al., Mycol. Res. 107: 524 (2003).

Host: *Physcia adscendens* (thallus) and *Physcia tenella* (thallus)

**Europe**, **Germany**: Hessen, Hessische Rheinebene, SW of Riedstadt-Leeheim, 49°50’35’’N / 8°23’50’’E, *c*. 85 m alt., MTB 6116/3; orchard, on twigs of *Malus domestica*.

Note: *Physcia tenella* is the type host of *Marchandiobasidium aurantiacum*.

31. X. 2009 leg. R. Cezanne & M. Eichler, det. R. Cezanne & M. Eichler

distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 85. ***Paranectria oropensis*** (Ces.) D.Hawksw. & Piroz.

in Can. J. Bot. 55: 2555 (1977). – Bas.: *Sphaeria Nectria oropensis* Ces. in Rabenhorst, Bot. Zeitung 15: 406 (1857); Rabenhorst, Herb. Mycol., ed. 2, no. 524 (1863). – Syn.: *Nectria oropensis* (Ces.) Tul. & C.Tul. in Sel. Fung. Carp. 3: 95 (1865). – *Ciliomyces oropensis* (Ces. in Rabenh.) Höhn. in Sitzungsber. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 115: 25 (1906).

Host: *Phaeophyscia orbicularis* (thallus)

**Europe**, **Austria**: province of Styria, Graz, Schubertstraße avenue near junction with Holteigasse, 47°04’55’’N / 15°27’30’’E, *c*. 375 m alt., GF8958/2; roadside trees, on bark of *Aesculus hippocastanum*.

Note: *Paranectria oropensis* has become more common in Central Europe in recent times. Infections with this aggressive lichenicolous fungus have considerable importance as succession factor in corticolous lichen synusiae comparable to that of *Athelia arachnoidea*. (compare Hafellner & Obermayer, Herzogia 22: 177–190, 2009).

15. V. 2006 leg. J. Hafellner (73127), det. J. Hafellner

distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 86. ***Polycoccum minutulum*** Kocourk. & F.Berger
## **Isotype**

in Czech Mycology 51: 171 (1999).

Host: *Trapelia placodioides* (thallus)

**Europe**, **Czech Republic**: Central Bohemia, Distr. Rakovník, Roztoky, valley of Klucná brook, 50°0’46.114’’N / 13°51’56.768’’E, *c*. 280 m alt.; on west-facing slope, on rhyolite.

Note: *Trapelia placodioides* is the type host of *Polycoccum minutulum*.

31. VIII. 1997 leg. P. Kocourek & J. Kocourková (PRM 842975), det. J. Kocourková

distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 87. ***Sclerococcum sphaerale*** (Ach.) Fr.

in Scleromyceti suecici no. 179 (1821). – Bas.: *Spiloma sphaerale* Ach. in Synopsis Method. Lich.: 2 (1814). – Syn.: *Acolium sphaerale* (Ach.) Rehm in Ascomyceten: Hysteriaceen und Discomyceten, Rabenhorst's Kryptogamen-Flora, 2. Aufl., Bd. 1(3): 400 (1889). – *Spilomium sphaerale* (Ach.) H.Olivier in Exposé Lich. Ouest France 2: 402 (1903). – *Coniothecium sphaerale* (Ach.) Keissl. in Flechtenparasiten, Rabenhorst's Kryptogamen-Flora, 2. Aufl., Bd. 8: 616 (1930).

Host: *Pertusaria corallina* (thallus)

**Europe**, **Czech Republic**: Central Bohemia, Distr. Benešov, Louňovice pod Blaníkem, below top of Velký Blaník Mt., 49°38’29.903’’N / 14°52’24.305’’E, *c*. 620 m alt.; in beech forest, on semi-shady boulder scree, on granite.

Note: *Pertusaria corallina* is the type host of *Sclerococcum sphaerale*.

24. VI. 1995 leg. J. Horáková (PRM 915686), det. J. Horáková

distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 88. ***Sphinctrina anglica*** Nyl.

in Synopsis Methodica Lichenum 1: 143 (1860).

Host: *Protoparmelia hypotremella* (thallus)

**Europe**, **Austria**: Lower Austria, Thayatal National Park, *c*. 0.8 km SW of Hardegg, rocky hilltop exposed to SW above the creek Fugnitz, 48°50’55’’N / 15° 51’E, *c*. 350 m alt.; open mixed forest, on dead decorticated branches of *Pinus sylvestris*.

Note 1: Originally the species was not recognized as being lichenicolous. *S. anglica* is based on a type originating from eastern North America (New England).

Note 2: Löfgren & Tibell (Lichenologist 11: 122, 1979) regarded the name as a nomen novum for the invalidly published *Lichen microcephalus* Sm. and simultaneously proposed a neotype. The bibliographic source cited by them (Nylander, Mém. Soc. Imp. Sci. Nat. Cherbourg 5: 334, 1857) in my opinion does not allow this interpretation.

5. IV. 2009 leg. F. Priemetzhofer & F. Berger, det. F. Berger

distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 89. ***Stigmidium hesperium*** Kocourk., K.Knudsen & Diederich
## **Isotype**

in Kocourková & Knudsen, Czech Mycology 61(1): 76 (2009).

Host: *Caloplaca coralloides* (thallus, apothecial margins)

**North America**, **U.S.A.**: California, Monterey Co., along coast S of Asilomar, China Rock, 36°35'28"N / 121°57'53"W, *c*. 5 m alt.; on a costal rock.

Note: *Caloplaca coralloides* is the type host of *Stigmidium hesperium*.

19. VII. 2008 leg. P. Diederich (16787) & D. Ertz, det. P. Diederich

distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 90. ***Weddellomyces xanthoparmeliae*** Calatayud et Nav.-Ros.

in Mycotaxon 69: 505 (1998).

Host: *Xanthoparmelia conspersa* (thallus, partly also apothecia)

**Europe**, **Czech Republic**: South Moravia, Distr. Znojmo, Chvalatice, dam Vranov, near Chvalatická zátoka bay, 48°56’24.038’’N / 15°45’58.549’’E, *c*. 360 m alt.; boulder scree on south-facing slope, on quartzitic rock.

Note 1: The type host of *Weddellomyces xanthoparmeliae* is *Xanthoparmelia* cf. *protomatrae*.

Note 2: *Lichenostigma cosmopolites* Hafellner & Calatayud (det. J. Hafellner) is also present on all duplicates but its ascomata may be poorly developed.

6. IX. 1998 leg. J. Kocourková (PRM 758529), det. J. Kocourková

distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 91. ***Arborillus llimonae*** Munt.-Cvet. et Gómez-Bolea

in Mycotaxon 64: 152 (1998).

Host: *Diploschistes scruposus* (thallus)

**Europe**, **Czech Republic**: Central Bohemia, Distr. Rakovník, Roztoky, Stříbrný luh Nature Reserve, above the Berounka River, 50°1'9''N / 13°53'41''E, *c*. 280 m alt., MTB 5949 C14; on west-facing slope in mixed thin forest, on shale.

Note: The type host of *Arborillus llimonae* is *Diploschistes diacapsis*.

23. VII. 2000 leg. J. Kocourková (PRM 915687), det. J. Kocourková

distributed to: BCN, BR, CANB, GZU, NY, PRM, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 92. ***Athelia arachnoidea*** (Berk.) Jülich

in Willdenowia, Beiheft 7: 53 (1972). – Bas.: *Corticium arachnoideum* Berk. in Ann. Mag. Nat. Hist. 13: 345 (1844). – Syn.: *Athelia bispora* (J.Schröt.) Donk, in Fungus 27: 12 (1957).

Host: *Phaeophyscia orbicularis* (thallus)

**Europe**, **Austria**: Styria, Graz, Schubertstraße avenue near junction with Holteigasse, 47°04'55''N / 15°27'30''E, *c*. 375 m alt., GF8958/2; roadside trees, on bark of *Aesculus hippocastanum*.

Note: A type host is not given in the protologue. It was described as creeping over mosses and lichens on fallen sticks.

15. V. 2006 leg. J. Hafellner (73126), det. J. Hafellner

distributed to: BCN, BR, CANB, GZU, M, NY, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 93. ***Chaenothecopsis kalbii*** Tibell & K.Ryman
## **Paratype**

in Nova Hedwigia 60: 206(1995).

Host: *Lecanora caesiorubella* (thallus / apothecial margins)

**Australia**: Queensland, Tandora, about 25 km ENE of Maryborough, 25°27'S / 152°52'E, at sea level; mangroves.

Note 1: The type host of *Chaenothecopsis kalbii* is a neotropical *Lecanora* only determined to genus level.

Note 2: Material from the same large collection has also been distributed in Santesson, Fungi lichenicoli exsiccati no. 259.

23. VIII. 1986 leg. J. Hafellner (17926) & R. Rogers, det. L. Tibell

distributed to: BR, CANB, GZU, NY, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 94. ***Chaenothecopsis parasitaster*** (Bagl. & Carestia) D.Hawksw.

in Notes R. Bot. Garden, Edinburgh 36: 184 (1978). – Bas.: *Calicium pusillum* var. *parasitaster* Bagl. & Carestia in Atti Soc. Crittog. Ital. 2: 246 (1880).

Host: *Cladonia digitata* (thallus)

**Europe**, **Austria**: Styria, Eastern Alps, Niedere Tauern, Triebener Tauern, in the small valley Schleifgraben E above the village St. Johann am Tauern, 47°21'40''N / 14°29'05''E, *c*. 1280 m alt., GF 8652/2, montane spruce forest, on rotten stumps.

Note: The type host of *Chaenothecopsis parasitaster* is *Cladonia deformis*.

29. IX. 2001 leg. J. Hafellner (57551), det. J. Hafellner

distributed to: BR, CANB, GZU, NY, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 95. ***Opegrapha geographicola*** (Arnold) Hafellner

in Herzogia 10: 12 (1994). – Bas.: *Phaeospora geographicola* Arnold in Verh. Zool.-Bot. Ges. Wien 46: 140 (1896). – Syn.: *Leptosphaeria geographicola* (Arnold) Sacc. & D.Sacc. in Sylloge Fungorum 17: 731 (1905). – *Weddellomyces geographicola* (Arnold) Alstrup & D. Hawksw. in Meddel. om Grønland, Biosci. 31: 74 (1990).

Host: *Rhizocarpon geographicum* (thallus)

**Europe**, **Austria**: Styria, Eastern Alps, Niedere Tauern, Schladminger Tauern, E slopes of the ridge between the mountains Gasselhöhe and Rippetegg SW of the town Schladming, by the trail from the refuge Gasselhöhehütte to the lake Mittersee, 47°21’10’’N / 13°35’50’’E, *c*. 1800 m alt., GF 8647/2, mossy boulders of micaschist in dwarf shrub communities at the treeline, on inclined rock faces.

Note: *Rhizocarpon geographicum* is the type host of *Opegrapha geographicola*.

24. VIII. 2001 leg. J. Hafellner (64108) & W. Obermayer, det. J. Hafellner

distributed to: BR, CANB, GZU, NY, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 96. ***Phacographa glaucomaria*** (Nyl.) Hafellner

in Bibliotheca Lichenologica 100: 102 (2009). – Bas.: *Lecidea glaucomaria* Nyl. in Bot. Notiser 1852: 177 (1852). – Syn.: *Opegrapha glaucomaria* (Nyl.) Källsten ex Hafellner in Bull. Soc. Linn. Provence 45: 227 (1994).

Host: *Lecanora bicincta* (thallus)

**Europe**, **Austria**: Styria, Eastern Alps, Niedere Tauern, Schladminger Tauern, Krahbergzinken SE of the town Schladming, steep slopes exposed to SW short below the summit, 47°21’20’’N / 13°44’30’’E, *c*. 2050 m alt., GF 8648/1; small cliffs of micaschist surrounded by alpine meadows, on vertical rock faces.

Note: The type host of *Phacographa glaucomaria* is *Lecanora rupicola*.

13. VIII. 2001 leg. J. Hafellner (56404), det. J. Hafellner

distributed to: BR, CANB, GZU, NY, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 97. ***Phacothecium varium*** (Tul.) Trevis.

in Linnaea 28: 298 (1856). – Bas.: *Phacopsis varia* Tul. in Ann. Sci. Nat., Bot., sér. 3., 17: 125 (1852). – Syn.: *Lecidea physciaria* Nyl. in Suppl. Lich. Paris: 8 (1897). – *Opegrapha physciaria* (Nyl.) D.Hawksw. & Coppins in Coppins et al., Lichenologist 24: 367 (1992).

Host: *Xanthoria calcicola* (thallus)

**Africa**, **Canary Islands**: Lanzarote, Peña de la Pequeña NE above the village Los Valles, El Agujero, summit area, 29°07’20’’N / 13°29’50’’W, *c*. 500 m alt., boulders and low cliffs of basaltic rock in succulent shrub community, on inclined rock faces exposed to the S.

Note: The type host of *Phacothecium varium* is *Xanthoria parietina*.

8. IV. 1999 leg. A. Hafellner & J. Hafellner (47668), det. J. Hafellner

distributed to: BR, CANB, GZU, NY, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 98. ***Phaeopyxis punctum*** (A.Massal.) Rambold, Triebel & Coppins

in Rambold & Triebel, Notes Roy. Bot. Garden Edinburgh 46: 384 (1990). – Bas.: *Nesolechia punctum* A.Massal. in Sched. Crit. Lich. Exs. Italiae 5: 96 (1856). – Syn.: *Lecidea punctum* (A.Massal.) Jatta in Sylloge Lichenum Italicorum: 353 (1900).

Host: *Cladonia sulphurina* (thallus)

**North America**, **Canada**: British Columbia, Wells Gray Provincial Park, Trophy Mountain, around "Trophy Meadows", 51°45’N / 119°56’W, *c*. 1750 m alt.; coniferous forest, on rotten trunk

Note 1: In the protologue the host is only given to genus level (*Cladonia*).

Note 2: Type material has been distributed in Massalongo, Lich. Ital. Exs. 153. Rambold & Triebel (l.c.) revised two isotypes stored in M but did not mention the type host either.

24. VII. 2008 leg. D. Ertz (12588) & P. Diederich, det. D. Ertz

distributed to: BR, CANB, GZU, LE, NY, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 99. ***Stigmidium congestum*** (Körb.) Triebel

in Triebel et al., Mycotaxon 42: 290 (1991). – Bas.: *Pharcidia congesta* Körb. in Parerga Lichenologica: 470 (1865).

Host: *Lecanora chlarotera* (hymenia)

**Europe**, **Austria**: Styria, Eastern Alps, Steirisches Randgebirge, Fischbacher Alpen, on the saddle between the mountains Ederkogel and Aibel, NE of the village St.Jakob bei Mixnitz, 47°25'00''N / 15°27'50''E, *c*. 1100 m alt., GF 8558/4, row of deciduous trees at the edge of a meadow, on bark of *Fraxinus excelsior*.

Note: *Lecanora chlarotera* (f. *rugosella*) is the type host of the species.

29. IX. 1999 leg. J. Hafellner (59544), det. J. Hafellner

distributed to: BR, CANB, GZU, M, NY, UPS

Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). - Fritschiana 67: 11–26.

## 100. ***Syzygospora physciacearum*** Diederich

in Biblioth. Lichenol. 61: 38 (1996).

Host: *Physcia aipolia* (thallus, apothecial margins)

**Europe**, **Austria**: Styria, Oststeirisches Riedelland, 8 km E of the centre of Graz, 3.3 km WNW of the village Laßnitzhöhe, Äußere Ragnitz, 47°04'40''N / 15°32'20''E, *c*. 460 m alt., GF 8959/1; row of deciduous trees along a grain field, on canopy branches of *Salix* spec.

Note: The pyrenomycete *Lichenochora aipoliae* Hafellner is developed on several lobes of *Physcia aipolia* on the specimen in GZU and may also be present on the duplicates. Material of *Lichenochora aipoliae* is distributed under Lichenicolous Biota no. 83.

30. IV. 2006 leg. W. Obermayer (11369a), det. J. Hafellner

distributed to: BCN, BR, CANB, GZU, NY, UPS

## Taxon Synopsis:

**Taxon** **Exs. no.**

Ascomycota

Arthoniomycetes

*Lichenostigma cosmopolites*....90

*Opegrapha geographicola*....95

*Phacographa glaucomaria*....96

*Phacothecium varium*....97

Leotiomycetes

*Phaeopyxis punctum*....98

Sordariomycetes (incl. Hypocreales, Sordariales)

*Lichenochora aipoliae*....83

*Paranectria oropensis*....85

Eurotiomycetes (incl. Verrucariales and Mycocaliciales)

*Chaenothecopsis kalbii*....93

*Chaenothecopsis parasitaster*....94

*Sphinctrina anglica*....88

Dothideomycetes

*Polycoccum minutulum*....86

*Stigmidium congestum*....99

*Stigmidium hesperium*....89

*Weddellomyces xanthoparmeliae*....90

Anamorphic Fungi

Hyphomycetes

*Arborillus llimonae*....91

*Cladosporium arthoniae*....81

*Illosporiopsis christiansenii*....82

*Sclerococcum sphaerale*....87

Basidiomycota

Agaricomycetes

*Athelia arachnoidea*....92

*Marchandiobasidium aurantiacum*....84

Tremellomycetes

*Syzygospora physciacearum*....100

## Host Index:

| Host taxon | Lichenicolous taxon | Exs. no. |
|---|---|---|
| *Caloplaca coralloides* | *Stigmidium hesperium* | 89 |
| *Cladonia digitata* | *Chaenothecopsis parasitaster* | 94 |
| *Cladonia sulphurina* | *Phaeopyxis punctum* | 98 |
| *Diploschistes scruposus* | *Arborillus llimonae* | 91 |
| *Dirina stenhammari* | *Cladosporium arthoniae* | 81 |
| *Lecanora bicincta* | *Phacographa glaucomaria* | 96 |
| *Lecanora caesiorubella* | *Chaenothecopsis kalbii* | 93 |
| *Lecanora chlarotera* | *Stigmidium congestum* | 99 |
| *Pertusaria corallina* | *Sclerococcum sphaerale* | 87 |
| *Phaeophyscia orbicularis* | *Athelia arachnoidea* | 92 |
| *Phaeophyscia orbicularis* | *Illosporiopsis christiansenii* | 82 |
| *Phaeophyscia orbicularis* | *Paranectria oropensis* | 85 |
| *Physcia adscendens* | *Illosporiopsis christiansenii* | 82 |
| *Physcia adscendens* | *Marchandiobasidium aurantiacum* | 84 |
| *Physcia aipolia* | *Lichenochora aipoliae* | 83 |
| *Physcia tenella* | *Marchandiobasidium aurantiacum* | 84 |
| *Protoparmelia hypotremella* | *Sphinctrina anglica* | 88 |
| *Rhizocarpon geographicum* | *Opegrapha geographicola* | 95 |
| *Trapelia placodioides* | *Polycoccum minutulum* | 86 |
| *Xanthoparmelia conspersa* | *Weddellomyces xanthoparmeliae* | 90 |
| *Xanthoparmelia conspersa* | *Lichenostigma cosmopolites* | 90 |
| *Xanthoria calcicola* | *Phacothecium varium* | 97 |

# Geographic Index:

**BIOGEOGRAPHIC UNITS** (see BRUMMITT 2001)


| Country (or Archipelago) | Lichenicolous taxon | Exs. no. |
|---|---|---|
| 1. EUROPE | | |
| Austria | | |
| | *Athelia arachnoidea* | 92 |
| | *Chaenothecopsis parasitaster* | 94 |
| | *Opegrapha geographicola* | 95 |
| | *Paranectria oropensis* | 85 |
| | *Phacographa glaucomaria* | 96 |
| | *Sphinctrina anglica* | 88 |
| | *Stigmidium congestum* | 99 |
| | *Syzygospora physciacearum* | 100 |
| Czech Republic | | |
| | *Arborillus llimonae* | 91 |
| | *Lichenostigma cosmopolites* | 90 |
| | *Polycoccum minutulum* | 86 |
| | *Sclerococcum sphaerale* | 87 |
| | *Weddellomyces xanthoparmeliae* | 90 |
| Germany | | |
| | *Illosporiopsis christiansenii* | 82 |
| | *Marchandiobasidium aurantiacum* | 84 |
| Spain (see under Africa, Canary Islands) | | |
| Ukraine | | |
| | *Cladosporium arthoniae* | 81 |
| 2. AFRICA | | |
| Canary Islands | | |
| | *Phacothecium varium* | 97 |
| 3. ASIA TEMPERATE | | |
| 4. ASIA TROPICAL | | |
| 5. AUSTRALASIA | | |
| Australia | | |
| | *Chaenothecopsis kalbii* | 93 |
| 6. PACIFIC | | |
| 7. NORTHERN AMERICA | | |
| Canada | | |
| | *Phaeopyxis punctum* | 98 |
| U.S.A. | | |
| | *Stigmidium hesperium* | 89 |
| 8. SOUTHERN AMERICA | | |
| 9. ANTARCTIC | | |

## References

BRUMMITT R.K. 2001: World geographical scheme for recording plant distributions. Edition 2. Plant Taxonomic Database Standards No. 2 Edition 2, August 2001 Published for the International Working Group on Taxonomic Databases For Plant Sciences (TDWG) by the Hunt Institute for Botanical Documentation Carnegie Mellon University, Pittsburgh. 137 pp.

HAFELLNER J. 2007: Lichenicolous Biota (Nos 1–20). - Fritschiana (Graz) 60: 35–49.

HAFELLNER J. 2008: Lichenicolous Biota (Nos 21–60). - Fritschiana (Graz) 61: 1–28.

HAFELLNER J. 2009: Lichenicolous Biota (Nos 61–80). - Fritschiana (Graz) 65: 33–46.

HOLMGREN P.K., HOLMGREN N.H. & BARNETT L.C. (eds.) 1990: Index herbariorum. Part I. The herbaria of the world. 8th edition. - Bronx, New York: New York Botanical Garden for the International Association for Plant Taxonomy. Regnum Vegetabile 120: 693 pp.

THIERS B. 2010 [continuously updated]: Index Herbariorum: A global directory of public herbaria and associated staff. New York Botanical Garden's Virtual Herbarium. - URL: http://sweetgum.nybg.org/ih/ [4.VIII.2010).

# Additional lichens and some lichenicolous fungi from the Una National Park (Bosnia and Herzegovina)

Peter O. BILOVITZ[1]*, Roman TÜRK[2] & Helmut MAYRHOFER[1]

BILOVITZ P.O., Türk R. & MAYRHOFER H. 2010: Additional lichens and some lichenicolous fungi from the Una National Park (Bosnia and Herzegovina). - Fritschiana (Graz) 67: 27–32. – ISSN 1024-0306

**Abstract:** A list of 62 taxa (61 species) of lichens and 7 species of lichenicolous fungi from the Una National Park in the north-western part of Bosnia and Herzegovina is presented. The lichens *Caloplaca crenulatella*, *Dimerella pineti*, *Lecanora expallens*, *Lopadium disciforme*, *Placynthiella icmalea*, *Toninia athallina* and the lichenicolous fungi *Abrothallus bertianus*, *A. parmeliarum*, *Cornutispora lichenicola*, *Endococcus rugulosus*, and *Sphaerellothecium parmeliae* are new to Bosnia and Herzegovina.

[1]Institute of Plant Sciences, Karl-Franzens-University Graz,
Holteigasse 6, A-8010 Graz, AUSTRIA
[2]Department of Organismic Biology, University of Salzburg,
Hellbrunnerstraße 34, A-5020 Salzburg, AUSTRIA
*Corresponding author (E-mail: pe.bilovitz@uni-graz.at)

## Introduction

Out of the three National Parks in Bosnia and Herzegovina (i.e. Sutjeska, Kozara, Una) the Una National Park, founded in 2008, is the most recent one. It covers 19,800 ha and is located in the Una-Sana Canton close to the city Bihać in the north-western part of Bosnia and Herzegovina near the border with Croatia (Fig. 1).

There are only few recent floristic papers dealing with the lichen flora of Bosnia and Herzegovina (CHRISTENSEN 1994, WECKESSER & VISNJIĆ 2005, BILOVITZ & MAYRHOFER 2009, BILOVITZ et al. 2009, BILOVITZ & MAYRHOFER 2010).

BILOVITZ et al. (2009) report 57 taxa of lichens (56 species) from the Una National Park. In the present contribution we add 39 new lichenized and 7 lichenicolous fungi, so there is a total of 96 taxa of lichens (95 species) and 7 lichenicolous fungi.

## Material and methods

The lichenized and lichenicolous fungi presented in this paper are based on a lichen collection made by Matthias SCHWAHN, who visited the Una National Park in October 2009.

The specimens have been identified (using routine light microscopy techniques) mainly with the aid of HAWKSWORTH (1983), WIRTH (1995) and IHLEN & WEDIN (2008). Some of the identifications required verification by using standardized thin-layer chromatography (TLC) following the protocols of WHITE & JAMES (1985) and ORANGE et al. (2001).

The specimens are preserved in the herbarium of the Institute of Plant Sciences, Karl-Franzens-University Graz (GZU), a smaller number of duplicates is housed at the University of Bihać.

The nomenclature follows NIMIS & MARTELLOS (2003), SANTESSON et al. (2004) or other modern treatments. New records for Bosnia and Herzegovina are marked with an asterisk (*).

Fig. 1. Location of the Una National Park

## List of sampling locations

Bosnia and Herzegovina, NW-Bosnia, Una-Sana, Una National Park, ...

| | |
|---|---|
| 01 | SE of Kulen Vakuf, surroundings of the mountain Osjecenica, 1370–1390 m, N 44°30,270'–44°30,292', E 16°15,490'–16°15,534', mixed woodland, 10.X. 2009, leg. M. Schwahn. |
| 02 | SE of Kulen Vakuf, surroundings of the mountain Osjecenica, 1450 m, N 44° 30,496', E 16°15,204', mixed woodland, 10.X.2009, leg. M. Schwahn. |
| 03 | SE of Kulen Vakuf, surroundings of the mountain Osjecenica, 1080 m, N 44° 30,823', E 16°13,233', rock-ridden pasture, 10.X.2009, leg. M. Schwahn. |

## List of substrates and their abbreviations

| | |
|---|---|
| Abi alb | *Abies alba* |
| Ace pse | *Acer pseudoplatanus* |
| Fag syl | *Fagus sylvatica* |
| cal | on calcareous rocks, in rock crevices |
| mus | on mosses |
| mus-cal | on mossy calcareous rocks |

## List of lichenized fungi

*Aspicilia contorta* (Hoffm.) Kremp.: 03 (cal)

*Buellia griseovirens* (Turner & Borrer ex Sm.) Almb.: 01 (Fag syl), 02 (Abi alb, Ace pse)

*Calicium abietinum* Pers.: 02 (Abi alb)
**Caloplaca crenulatella* (Nyl.) H.Olivier: 03 (cal)
*Caloplaca herbidella* (Hue) H.Magn.: 01 (Ace pse), 02 (Ace pse)
*Caloplaca variabilis* (Pers.) Müll.Arg.: 03 (cal)
*Candelariella aurella* (Hoffm.) Zahlbr.: 03 (cal)
*Cladonia coniocraea* (Flörke) Spreng.: 01 (Abi alb)
*Cladonia fimbriata* (L.) Fr.: 02 (Abi alb)
*Cladonia polydactyla* (Flörke) Spreng.: 02 (Abi alb)
*Cladonia pyxidata* (L.) Hoffm.: 01 (mus), 02 (Fag syl)
*Collema cristatum* (L.) Weber ex F.H.Wigg.: 03 (mus-cal)

**Dimerella pineti* (Ach.) Vězda: 02 (Abi alb)

*Evernia divaricata* (L.) Ach.: 01 (Fag syl)

*Fuscidea stiriaca* (A.Massal.) Hafellner: 01 (Fag syl)

*Hypogymnia farinacea* Zopf: 01 (Fag syl)
*Hypogymnia physodes* (L.) Nyl.: 01 (Abi alb, Fag syl), 02 (Abi alb)
*Hypogymnia tubulosa* (Schaer.) Hav.: 02 (Abi alb)

*Lecanora argentata* (Ach.) Malme: 01 (Fag syl), 02 (Ace pse)
*Lecanora carpinea* (L.) Vain.: 02 (Ace pse)
*Lecanora chlarotera* Nyl.: 01 (Abi alb, Fag syl), 02 (Abi alb, Ace pse)
**Lecanora expallens* Ach.: 02 (Abi alb)
*Lecanora horiza* (Ach.) Linds.: 01 (Fag syl)
*Lecanora persimilis* (Th.Fr.) Nyl.: 02 (Abi alb)
*Lecanora pulicaris* (Pers.) Ach.: 02 (Abi alb)
*Lecanora subrugosa* Nyl.: 02 (Fag syl)
*Lecidella achristotera* (Nyl.) Hertel & Leuckert: 02 (Ace pse)
*Lepraria rigidula* (de Lesd.) Tønsberg: 01 (Ace pse), 02 (Abi alb)
*Lobaria pulmonaria* (L.) Hoffm.: 01 (Ace pse), 02 (Ace pse)
**Lopadium disciforme* (Flot.) Kullh.: 02 (Ace pse)

*Melanelixia fuliginosa* (Fr. ex Duby) O.Blanco et al. subsp. *fuliginosa*: 01 (Ace pse)
*Melanelixia fuliginosa* subsp. *glabratula* (Lamy) J.R.Laundon: 01 (Ace pse), 02 (Ace pse)
*Melanelixia subaurifera* (Nyl.) O.Blanco et al.: 01 (Ace pse), 02 (Ace pse)
*Melanohalea exasperatula* (Nyl.) O.Blanco et al.: 02 (Abi alb)

*Nephroma resupinatum* (L.) Ach.: 02 (Ace pse)

*Ochrolechia subviridis* (Høeg.) Erichsen: 01 (Ace pse)

*Parmelia saxatilis* (L.) Ach.: 01 (Abi alb, Ace pse, Fag syl), 02 (Abi alb, Ace pse)
*Parmelia sulcata* Taylor: 01 (Ace pse), 02 (Ace pse)
*Parmeliella triptophylla* (Ach.) Müll.Arg.: 02 (Ace pse)
*Parmeliopsis ambigua* (Wulfen) Nyl.: 01 (Abi alb, Fag syl), 02 (Abi alb)
*Parmeliopsis hyperopta* (Ach.) Arnold: 02 (Abi alb, Fag syl)
*Pertusaria albescens* (Huds.) M.Choisy & Werner: 01 (Ace pse, Fag syl), 02 (Ace pse)
*Pertusaria amara* (Ach.) Nyl.: 01 (Fag syl), 02 (Abi alb, Ace pse)
*Pertusaria coccodes* (Ach.) Nyl.: 02 (Abi alb)
*Pertusaria coronata* (Ach.) Th.Fr.: 02 (Ace pse)
*Pertusaria flavida* (DC.) J.R.Laundon: 01 (Ace pse), 02 (Ace pse)
*Pertusaria pertusa* (Weigel) Tuck.: 01 (Fag syl), 02 (Ace pse)
*Phaeophyscia orbicularis* (Neck.) Moberg: 02 (Ace pse)
*Phlyctis argena* (Spreng.) Flot.: 01 (Abi alb, Fag syl), 02 (Abi alb, Ace pse, Fag syl)
*Physconia distorta* (With.) J.R.Laundon: 01 (Ace pse)
**Placynthiella icmalea* (Ach.) Coppins & P.James: 02 (Abi alb)
*Platismatia glauca* (L.) W.L.Culb. & C.F.Culb.: 01 (Fag syl), 02 (Abi alb, Fag syl)
*Protoblastenia calva* (Dicks.) Zahlbr.: 03 (cal)
*Protoparmeliopsis muralis* (Schreb.) M.Choisy: 03 (cal)
*Pseudevernia furfuracea* (L.) Zopf: 02 (Abi alb)

*Ramalina farinacea* (L.) Ach.: 01 (Ace pse, Fag syl)
*Rinodina bischoffii* (Hepp) A.Massal.: 03 (cal)
*Rinodina immersa* (Körb.) Zahlbr.: 03 (cal)

*Scoliciosporum umbrinum* var. *corticolum* (Anzi) Bagl. & Carestia: 02 (Abi alb)
*Squamarina cartilaginea* (With.) P.James: 03 (cal)

**Toninia athallina* (Hepp) Timdal: 03 (cal)

*Verrucaria nigrescens* Pers.: 03 (cal)

## List of lichenicolous fungi

**Abrothallus bertianus* De Not.: 02 (teleomorph and anamorph; on *Melanelixia subaurifera*)

**Abrothallus parmeliarum* (Sommerf.) Arnold: 02 (only anamorph; on *Parmelia saxatilis*)

**Cornutispora lichenicola* D.Hawksw. & B.Sutton: 01 (on *Parmelia saxatilis*)

**Endococcus rugulosus* Nyl.: 03 (on *Verrucaria nigrescens*)

*Plectocarpon lichenum* (Sommerf.) D.Hawksw.: 01 (on *Lobaria pulmonaria*)

**Sphaerellothecium parmeliae* Diederich & Etayo: 01 (on *Parmelia saxatilis*), 02 (on *Parmelia saxatilis*, *P. sulcata*)

*Vouauxiella lichenicola* (Linds.) Petr. & Sydow: 02 (on *Lecanora chlarotera*)

## Acknowledgements

We would like to thank Matthias SCHWAHN for collecting the lichen material, Peter KOSNIK and Walter OBERMAYER for their technical support with TLC, and Josef HAFELLNER for the determination of some lichenicolous fungi. Financial support from the Austrian Science Foundation (project P20842-B16) is gratefully acknowledged.

## References

BILOVITZ P.O. & MAYRHOFER H. 2009: A contribution to the lichenized fungi of Bosnia and Herzegovina. - Fritschiana (Graz) 65: 53–56.

BILOVITZ P.O. & MAYRHOFER H. 2010: Lichenized and lichenicolous fungi from the Sutjeska National Park (Bosnia and Herzegovina), with special emphasis on the virgin forest reserve Perućica. - Bibliotheca Lichenologica 104: 65–76.

BILOVITZ P.O., TÜRK R. & MAYRHOFER H. 2009: Lichens from the Una National Park (Bosnia and Herzegovina). - Fritschiana (Graz) 65: 47–51.

CHRISTENSEN S.N. 1994: Lichens from Bosnia-Herzegovina. - Nova Hedwegia 59(3–4): 441–453.

HAWKSWORTH D.L. 1983: A key to the lichen-forming, parasitic, parasymbiotic and saprophytic fungi occuring on lichens in the British isles. - The Lichenologist 15(1): 1–44.

IHLEN P.G. & WEDIN M. 2008: An annotated key to the lichenicolous *Ascomycota* (including mitosporic morphs) of Sweden. - Nova Hedwigia 86(3–4): 275–365.

NIMIS P.L. & MARTELLOS S. 2003: A second checklist of the lichens of Italy with a thesaurus of synonyms. - Museo Regionale di Scienze Naturali Saint-Pierre, Valle d'Aosta Monografie 4: 1–192.

ORANGE A., JAMES P.W. & WHITE F.J. 2001: Microchemical methods for the identification of lichens. - British Lichen Society.

SANTESSON R., MOBERG R., NORDIN A., TØNSBERG T. & VITIKAINEN O. 2004: Lichen-forming and lichenicolous fungi of Fennoscandia. - Uppsala: Museum of Evolution.

WECKESSER M. & VISNJIĆ Ć. 2005: Moose und Flechten im Urwaldreservat "Ravna vala" (Bosnien-Herzegowina). - Herzogia 18: 223–229.

WHITE F.J. & JAMES P.W. 1985: A new guide to microchemical techniques for the identification of lichen substances. - Bulletin of the British Lichen Society 57 (Suppl.): 1–41.

WIRTH V. 1995: Flechtenflora: Bestimmung und ökologische Kennzeichnung der Flechten Südwestdeutschlands und angrenzender Gebiete. 2. Auflage. - Stuttgart: Ulmer.

## Bisher erschienen - hitherto published

for contents of Fritschiana 1–60: see earlier issues of Fritschiana; a complete table of contents (including pdf-files) is available under
http://www.uni-graz.at/botwww/journals/fritschiana/fritschiana.html

HAFELLNER J. 2008: Lichenicolous Biota (Nos 21–60). – Fritschiana (Graz) 61: 1–28.

BILOVITZ P.O., DRAGIĆEVIĆ S., KNEŽEVIĆ B., STEŠEVIĆ D., VITIKAINEN O. & MAYRHOFER H. 2008: New or otherwise interesting lichenized and lichenicolous fungi from Montenegro. – Fritschiana (Graz) 62: 1–44.

SCHEUER C. 2008: Mycotheca Graecensis, Fasc. 22 (Nos 421–440). – Fritschiana (Graz) 63: 1–9.

BRAUN U. & SCHEUER C. 2008: *Ramularia gratiolae* sp. nov. (Hyphomycetes). – Fritschiana (Graz) 63: 11–13.

HAFELLNER J. 2008: Additions and corrections to the checklist and bibliography of lichens and lichenicolous fungi of insular Laurimacaronesia. IV. – Fritschiana (Graz) 64: 1–28.

OBERMAYER W. 2009: Lichenotheca Graecensis, Fasc. 17 (Nos 321–340). – Fritschiana (Graz) 65: 1–6.

OBERMAYER W. 2009: Dupla Graecensia Lichenum (2009, nos 581–680). – Fritschiana (Graz) 65: 7–32.

HAFELLNER J. 2009: Lichenicolous Biota (Nos 61–80). – Fritschiana (Graz) 65: 33–46.

BILOVITZ P.O., TÜRK R. & MAYRHOFER H. 2009: Lichens from the Una National Park (Bosnia and Herzegovina) ). – Fritschiana (Graz) 65: 47–51.

BILOVITZ P.O. & MAYRHOFER H. 2009: A contribution to the lichenized fungi of Bosnia and Herzegovina. – Fritschiana (Graz) 65: 53–56.

SCHEUER C. 2009: Mycotheca Graecensis, Fasc. 23 (Nos 441–460). – Fritschiana (Graz) 66: 1–9.

SCHEUER C. 2009: Dupla Graecensia Fungorum (2010, Nos 101–200). – Fritschiana (Graz) 66: 10–46.

SCHEUER C. 2009: Scheda emendata. – Fritschiana (Graz) 66: 47.

ISSN 1024-0306