

Lichenicolous Biota (Nos 201–230)

Josef HAFELLNER*

HAFELLNER Josef 2015: Lichenicolous Biota (Nos 201–230). – Fritschiana (Graz) 80: 21–41. - ISSN 1024-0306.

Abstract: The 9th fascicle (30 numbers) of the exsiccata 'Lichenicolous Biota' is published. The issue contains material of 20 non-lichenized fungal taxa (14 teleomorphs of ascomycetes, 4 anamorphic states of ascomycetes, 2 anamorphic states of basidiomycetes) and 9 lichenized ascomycetes, including paratype material of *Dimelaena lichenicola* K.Knudsen et al. (no 223), *Miriquidica invadens* Hafellner et al. (no 226, 227), and *Stigmidium xanthoparmeliarum* Hafellner (no 210). Furthermore, collections of the type species of the following genera are distributed: *Illosporopsis* (*I. christiansenii*), *Illosporium* (*I. carneum*), *Marchandiomyces* (*M. corallinus*), *Marchandiobasidium* (*M. aurantiacum*, sub *Erythricium aurantiacum*), *Microcalicium* (*M. disseminatum*), *Nigropuncta* (*N. rugulosa*), *Paralecanographa* (*P. grumulosa*), *Phaeopyxis* (*P. punctum*), *Placocarpus* (*P. schaeferi*), *Rhagadostoma* (*R. lichenicola*), and *Stigmidium* (*S. schaeferi*).

*Institut für Pflanzenwissenschaften, NAWI Graz,
Karl-Franzens-Universität, Holteigasse 6, 8010 Graz, AUSTRIA
e-mail: josef.hafellner@uni-graz.at

Introduction

The exsiccata 'Lichenicolous Biota' is continued with fascicle 9, containing 30 numbers.

The exsiccata covers all lichenicolous biota, i.e., it is open not only 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], Saint Petersburg [LE], Munich [M], and Prague [PRM] (her-

barium acronyms sec. Holmgren et al. (1990), continued and updated as electronic database by Thiers (2015 onwards) and hosted at New York Botanical Garden <http://sweetgum.nybg.org/science/ih/>). Also in the future, it is planned to publish at least one fascicle per year, consisting of a variable number of decades.

The grid reference preceded by the abbreviation 'GF' often used in the label text of Central European localities refers to the grid used by the project 'Floristische Kartierung Mitteleuropas' (floristic mapping of Middle Europe, e.g. Ehrendorfer & Hamann 1965).

For the 9th issue, I gratefully acknowledge the contribution of 2 collections by Jana KOCOURKOVÁ and Kerry KNUDSEN, and 1 collection by Walter OBERMAYER. In fieldwork I received support by Angela HAFELLNER, Jana KOCOURKOVÁ, Markus MÖSLINGER, and Lucia MUGGIA. Kerry KNUDSEN and Walter OBERMAYER contributed to the scientific content of the fascicle by the identification of either lichenicolous fungi or hosts or by providing data on the secondary chemistry. Walter OBERMAYER and Christian SCHEUER are 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.

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201. *Arthonia varians* (Davies) Nyl.

in Lichenes Scandinaviae: 260 (1861). – Bas.: *Lichen varians* Davies in Transact. Linn. Soc., Bot., 2: 284 (1794). – Syn.: *Celidium varians* (Davies) Arnold in Flora (Regensburg) 45: 313 (1862). – *Arthonia glaucomaria* Nyl. in Mem. Soc. Imp. Sci. Nat. Cherbourg 4: 98 (1856), non *Lecidea glaucomaria* Nyl. (1852) quid est *Phacographa glaucomaria* (Nyl.) Hafellner.

Host: *Lecanora rupicola* (apothecia)

Europe, Albania: Northern Albania, Malësi e Madhe distr., Bjeshkët e Nemuna (Prokletije) mountains, saddle N above the village Theth, somewhat E above the saddle, 42°26'40"N / 19°46'20"E, c. 1750 m alt., low outcrops on slopes exposed to the W, pastures somewhat above the tree line, on layers of a siliceous limestone ("Kieselkalk").

Note 1: *Lecanora rupicola* is the type host of *Arthonia varians* (Hafellner, Fritschiana 76: 49, 2013).

15. VIII. 2007 leg. J. Hafellner (80361), det. J. Hafellner
(field trip together with M. Tretiach, L. Muggia, M. Piccotto & J. Marka)
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

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202. *Carbonea aggregantula* (Müll.Arg.) Diederich & Triebel

in Diederich, Herzogia 16: 51 (2003). – Bas.: *Lecidea aggregantula* Müll.Arg. in Flora (Regensburg) 57: 533 (1874). – Syn.: *Nesolechia aggregantula* (Müll.Arg.) Rehm in Rabenh. Krypt.-Fl., 2. ed., 1(3): 318 (1889).

Host: *Lecanora subaurea* (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Niedere Tauern, Schladminger Tauern, Kleinsölk-Obertal, by the trail from Schwarzensee to Rettingscharte, Großer Gnasen, at the base of a rock wall exposed to the S, 47°17'50"N / 13°50'50"E, c. 1940 m alt., GF 8749/1; scree on a steep slope, on inclined rock faces of boulders of iron-rich gneiss.

Note 1: The type host of *Carbonea aggregantula* is *Lecanora polytropa*.

Note 2: Lichen substances in host thallus: rhizocarpic acid, pannarin, zeorin (W. Obermayer, by T.L.C.).

8. IX. 1993 leg. J. Hafellner (41812) & M. Möslinger, det. J. Hafellner
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

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203. *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 aipolia* (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Steirisches Randgebirge, Grazer Bergland, Sattelberg NW of the town Weiz, Wachthausattel, somewhat E of a wayside shrine, 47°15'35"N / 15°33'30"E, c. 950 m alt., GF 8759/1, row of trees along secondary dirt road at the edge of a pasture, on bark of young *Fraxinus excelsior*.

Note 1: The type host of *Illosporiopsis christiansenii* is *Candelaria concolor*.

12. X. 2013 leg. J. Hafellner (82426) & A. Hafellner, det. J. Hafellner
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

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204. *Lichenochora aipoliae* Etayo, Nav.-Ros. & Coppins

in Etayo & Navarro-Rosinés, Rev. Catalana Micol. 30: 31 (2008).

Host: *Physcia aipolia* (thallus)

Europe, Austria: Steiermark (= Styria), Oststeirisches Riedelland, 6.7 km NE of the centre of Graz, along the road from the village Stifting via Rohrbach to Schillingsdorf, 47°06'07"N / 15°30'55"E, c. 445 m alt., GF8859/3; row of trees along a brook, on twigs of *Salix fragilis* recently fallen to the ground.

Note 1: *Physcia aipolia* is the type host of *Lichenochora aipoliae*.

10. V. 2014 leg. W. Obermayer (13167), det. J. Hafellner
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

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205. *Marchandiomyces corallinus*
(Roberge) Diederich & D.Hawksw.

in Diederich, Mycotaxon 37: 312 (1990). – Bas.: *Illosporium corallinum* Roberge in Desmazières, Pl. crypt. Fr., ed. 1, fasc. 32, no. 1551 (1847) resp. Desmazières, Ann. Sci. Nat. Bot. sér. 3, 10: 342 (1848).

Hosts: *Xanthoparmelia stenophylla* (thallus) and *X. tinctina* (thallus)

Europe, France: Corsica, Dept. Haute-Corse, by the road from Corte to Ajaccio, c. 1.5 km S of the village Venaco, 42°12'55"N / 09°10'40"E, c. 460 m alt.; garrigue with granite boulders on slope exposed to the SE, on inclined rock faces.

Note 1: The type host as seen on the type specimen is *Physcia tenella* (fide Hawksworth, Bull. Brit. Mus. (Nat. Hist.), Bot. ser. 6(3): 236, 1979).

Note 2: The material distributed here is mainly in the sclerotial state.

6. XI. 1993 leg. J. Hafellner (41814), det. J. Hafellner
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

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206. *Microcalicium disseminatum* (Ach.) Vain.

in Acta Soc. Fauna Flora Fennica 57(1): 77 (1927). – Bas.: *Cyphelium disseminatum* Fr. ex Ach. in Kongl. Vetensk. Akad. Handl. 1817: 227 (1817). – Syn.: *Calicium disseminatum* (Ach.) Fr. in Sched. Critic.: 7 (1824).

Hosts: *Chaenotheca trichialis* (thallus) and *Ch. chrysocephala* (thallus)

Europe, Germany: Bayern (= Bavaria): Eastern Alps, Ammergauer Alpen (Ammergebirge), c. 14.5 km SW of the village Oberammergau, NW foot of Kreuzspitze, „Bei den sieben Quellen“, 47°32'20"N / 10°54'00"E, c. 1080 m alt., mixed forest dominated by conifers, on bark of *Picea abies*.

Note 1: Lichenicolous behaviour is not mentioned in the protologue.

Note 2: The distributed material contains both conidiomata and ascomata.

5. IX. 2004 leg. J. Hafellner (79703), det. J. Hafellner
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

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207. *Plectocarpon lichenum* (Sommerf.) D.Hawksw.

in Hawksworth & Galloway, Lichenologist 16: 86 (1984). – Bas.: *Dothidea lichenum* Sommerf. in Supplementum Florae Lapponicae: 224 (1826); Fries, Elenchus Fungorum 2: 123 (1828). – Syn.: *Lichenomyces lichenum* (Sommerf.) R.Sant. in Svensk Bot. Tidskr. 54(4): 501 (1960). – *Celidium lichenum* (Sommerf.) J.Schröt. in Cohn, Kryptogamenflora Schlesien 3(2): 135 (1893).

Host: *Lobaria pulmonaria* (thallus)

Europe, Albania: Southern Albania, Vlorë distr., Qafa e Llogorasë (Llogora pass) S of the town Vlorë, mountain ridge W above the pass, 40°12'00"N / 19°34'40"E, c. 1240 m alt., upper edge of a pine-fir forest with evergreen understorey on a slope exposed to the NE, on bark of *Abies borisii-regis*.

Note 1: *Lobaria pulmonaria* is the type host of *Plectocarpon lichenum*.

22. VIII. 2007 leg. J. Hafellner (83621), det. J. Hafellner
(field trip together with M. Tretiach, L. Muggia, M. Piccotto & J. Marka)
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

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208. *Rhagadostoma lichenicola* (De Not.) Keissl.

in Rabenh. Krypt.-Fl., 2. ed., Pilze 8, Flechtenparasiten: 320 (1930). – Bas.: *Bertia lichenicola* De Not. in Erbario Crittogamico Italiano no. 1190 (1864).

Host: *Solorina crocea* (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Niedere Tauern, Wölzer Tauern, mountains SE above the village Donnersbach, mountain ridge between Plannerknot and Hochrettelstein, E above the trail, 47°24'53"N / 14°13'20"E, c. 2030 m alt., GF 8551/3, open stands of dwarf shrub communities (*Loiseleurietum procumbentis*) over garnet mica schist bedrock on a slope exposed to the NW.

Note 1: *Solorina crocea* is the type host of *Rhagadostoma lichenicola*.

Note 2: The genus *Rhagadostoma* is based on *R. corrugatum* Körb., a later heterotypic synonym of *Bertia lichenicola* De Not.

29. VII. 2010 leg. J. Hafellner (76006), det. J. Hafellner
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

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209. *Sphaerellothecium minutum* Hafellner

in Herzogia 9: 760 (1993).

Host: *Sphaerophorus fragilis* (thallus)

Europe, Austria: Kärnten (= Carinthia), Eastern Alps, Saualpe W of the town Wolfsberg, Geierkogel S of the pass Klippitztörl, on the ridge running to the N somewhat NE below the summit cross, 46°55'25"N / 14°40'40"E, c. 1800 m alt., GF 9054/3, boulders of mica schist surrounded by dwarf shrub communities in the tree line ecotone, in fissures filled with soil.

Note 1: *Sphaerophorus fragilis* is the type host of the species.

8. VI. 2013

leg. J. Hafellner (81917), det. J. Hafellner

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

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210. *Stigmidium xanthoparmeliarum* Hafellner

Paratype

in Bull. Soc. Linn. Provence 45: 231 (1994).

Host: *Xanthoparmelia stenophylla* (thallus)

Europe, France: Corsica, Dept. Haute-Corse, by the road from Corte to Ajaccio, c. 1.5 km S of the village Venaco, 42°12'55"N / 09°10'40"E, c. 460 m alt., garrigue with granite boulders on a slope exposed to the SE, on inclined rock faces.

Note 1: *Xanthoparmelia stenophylla* (sub *X. somloensis*) is the type host of *Stigmidium xanthoparmeliarum*.

Note 2: *Lichenostigma cosmopolites* Hafellner & Calatayud is also present in all duplicates.

6. XI. 1993

leg. J. Hafellner (31841), det. J. Hafellner

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

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211. *Carbonea vitellinaria* (Nyl.) Hertel

in Mitt. Bot. Staatssamml. München 19: 442 (1983). – Bas.: *Lecidea vitellinaria* Nyl. in Bot. Notiser 1852: 177 (1852). – Syn.: *Nesolechia vitellinaria* (Nyl.) Rehm in Rabenh. Krypt.-Fl., 2. ed. 1(3): 319 (1890). – *Lecidella vitellinaria* (Nyl.) Kremp. in Denkschr. Bayer. Bot. Ges. 4(2): 287 (1861).

Host: *Candelariella vitellina* (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Steirisches Randgebirge, Grazer Bergland, Berge NW of the village Passail, Bründlkogel S of the Sommeralm, E side of the summit area, 47°20'00"N / 15°33'15"E, c. 1430 m alt., GF 8659/3, low outcrops of palaeozoic rocks in a pasture, on inclined rock faces of a lens of a siliceous schist.

Note 1: *Candelariella vitellina* is the type host of the species.

6. XI. 2010 leg. J. Hafellner (76624) & L. Muggia, det. J. Hafellner
distributed to: BR, CANB, E, GZU, LE, M, NY, PRM, UPS

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212. *Erythricium aurantiacum* (Lasch) D.Hawksw. & A.Henrici

in Field Mycology 16(1): 16 (2015). – Bas.: *Illosporium aurantiacum* Lasch in Schlechtendal, Bot. Zeitung 17: 304 (1859). – Syn.: *Marchandiobasidium aurantiacum* Diederich & Schultze in Diederich et al., Mycol. Res. 107: 524 (2003).

Host: *Xanthoria parietina* (thallus, apothecia)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Steirisches Randgebirge, Grazer Bergland, Hauenstein N von Graz-Mariatrost, slopes exposed to the SW, N of the village Wenisbuch, 47°07'20"N / 15°28'45"E, c. 550 m alt., GF 8858/4, row of old fruit trees along a secondary paved road, on branches in the lower canopy of *Pyrus communis*.

Note 1: In the distributed material the lichenicolous fungus is present with its sclerotial morph for which in more recent years the name *Marchandiomyces aurantiacus* (Lasch) Diederich & Etayo had been used.

Note 2: According to a phylogenetic analysis of molecular data (Diederich et al., Mycologia 103: 528, 2011), the type species of *Marchandiomyces*, *M. corallinus*, and *Marchandiobasidium aurantiacum* do not form a monophyletic clade.

Note 3: According to a phylogenetic analysis of molecular data (Ghobad-Nejhad et al., Taxon 50: 1519–1534, 2010), *Marchandiobasidium aurantiacum* forms a clade with *Erythricium laetum* (P.Karst.) J.Erikss. & Hjortstam.

24. XII. 2014 leg. J. Hafellner (83547), det. J. Hafellner
distributed to: BR, CANB, GZU, LE, NY, PRM, UPS

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213. *Illosporium carneum* Fr.

in Systema Mycologicum 3(1): 259 (1829).

Host: *Peltigera elisabethae* (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Niedere Tauern, Wölzer Tauern, Schreinl E above the village Donnersbachwald, summit area, 47°22'50"N / 14°10'05"E, c. 2150 m alt., GF 8651/1, uppermost slope exposed to the N with scattered low cliffs of schist containing some calcium, in fissures filled with soil.

Note 1: The type host as seen on the lectotype specimen is *Peltigera rufescens* (fide Hawksworth, Bull. Brit. Mus. (Nat. Hist.), Bot. ser. 6(3): 232, 1979).

Note 2: The genus *Illosporium* is based on *I. roseum* Mart., a heterotypic synonym of *I. carneum* Fr.

Note 3: In the duplicate kept in GZU, the teleomorphic state *Pronectria robergei* (Mont. & Desm.) Weese is also present.

30. VII. 2010

leg. J. Hafellner (75985), det. J. Hafellner

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

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214. *Licheniconium lecanorae* (Jaap) D.Hawksw.

in Bull. Brit. Mus. (Nat. Hist.), Bot. 6(3): 270 (1979). – Bas.: *Coniosporium lecanorae* Jaap in Lindau, Verh. Bot. Vereins Prov. Brandenburg 47: 71 (1906).

Host: *Lecanora mughicola* (apothecia)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Niedere Tauern, Triebener Tauern, by the trail from Beisteiner Alm ('Peilsteiner Alm') to the Griesmoar Kogel, somewhat N below the ridge, 47°25'10"N / 14°36'50"E, c. 1750 m alt., GF 8553/4, open *Picea abies-Larix decidua* forest in the tree line ecotone, on wood of dead branches in the lower canopy of *Larix decidua*.

Note 1: The type host of *Licheniconium lecanorae* is *Lecanora chlarotera*.

4. III. 2000

leg. J. Hafellner (51794), det. J. Hafellner

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

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215. ***Nigropuncta rugulosa*** D.Hawksw.

in Bull. Brit. Mus. (Nat. Hist.), Bot. 9(1): 46 (1981).

Host: *Bellemeria cinereorufescens* c. ap. (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Steirisches Randgebirge, Koralpe, Bärenalpe c. 16.6 km W of the town Deutschlandsberg, c. 1 km W of Grünangerhütte, moraine of a Pleistocene local glacier at the bottom of the cirque, 46°48'45"N / 14°59'45"E, c. 1700 m alt., GF 9155/4, scattered boulders of schistose gneiss ('Plattengneis') in subalpine pasture, on subvertical rock faces.

Note 1: *Bellemeria cinereorufescens* is the type host of *Nigropuncta rugulosa* (isotype in GZU). However, the host had remained undetermined when the lichenicolous fungus was described, because the infection strongly suppresses the formation of host apothecia.

Note 2: A strain of *Muellerella pygmaea* (Körb.) D.Hawksw., also on *Bellemeria cinereorufescens*, is present as admixture on all duplicates.

21. IX. 2013 leg. J. Hafellner (82496) & J. Kocourková, det. J. Hafellner
distributed to: BR, CANB, GZU, LE, NY, PRM, UPS

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

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

Host: *Cladonia digitata* (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Murberge, Gstoder c. 12.5 km WNW of the town Murau, slopes exposed to the E, Asterriegel N above of the Michlbauerhütte, 47°08'35"N / 14°01'05"E, c. 1500 m alt., GF 8850/3, *Picea abies*-*Larix decidua* forest, on decaying stumps.

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

Note 2: An isotype has been restudied by Rambold & Triebel (l.c.), but the host species is not indicated either.

26. VIII. 2000 leg. J. Hafellner (52419), det. J. Hafellner
distributed to: BR, CANB, GZU, M, NY, UPS

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217. *Stigmidium cerinae* Cl.Roux & Triebel

in Bull. Soc. Linn. Provence 45: 480 (1994).

Host: *Caloplaca stillicidiorum* (apothecia)

Europe, Slovenia: Southern Alps, Julian Alps, massif of Mangart NE of Bovec, slopes of large doline S of Mangartska koča (Mangart refuge), below Rdeča skala, 46°26'10"N / 13°38'45"E, c. 1880 m alt., alpine vegetation and rocks of bright (triassic) limestone, partly slightly siliciferous, on saxicolous bryophytes.

Note 1: *Caloplaca stillicidiorum* is the type host of *Stigmidium cerinae*.

2. VIII. 2003 leg. J. Hafellner (75311), det. J. Hafellner

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

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218. *Stigmidium schaeferi* (A.Massal.) Trevis.

in Conspectus Verrucarinarum: 17 (1860). – Bas.: *Sphaeria schaeferi* A.Massal. in Sulla *Lecidea hookeri* nota: 8 (1853) [as '*schaererii*']. – Syn.: *Pharcidia schaeferi* (A.Massal.) Arnold in Verh. Zool.-Bot. Ges. Wien 19: 638 (1896). – *Verrucaria schaeferi* (A. Massal.) Nyl. in Flora (Regensburg) 53: 358 (1865). – *Sphaerella schaeferi* (A. Massal.) Anzi in Atti Soc Ital. Sci. Nat. 11: 180 (1868). – *Epicymatia schaeferi* (A.Massal.) Sacc. in Sylloge Fungorum 1: 571 (1882). – *Sphaerulina schaeferi* (A.Massal.) Sacc. & D.Sacc. in Sylloge Fungorum 17: 695 (1905).

Host: *Dacampia hookeri* (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Niedere Tauern, Wölzer Tauern, mountains ca. 4 km W of the village Pusterwald, northern slopes of the ridge connecting Steineck and Stubenberg, 47°17'45"N / 14°17'55"E, c. 2040 m alt., low outcrops of marble in alpine vegetation, in fissures filled with soil.

Note 1: *Dacampia hookeri* is the type host of *Stigmidium schaeferi*.

Note 2: *Dacampia hookeri* is lichenicolous itself, usually upon species of the *Solorina bispora* group (see Henssen, Crypt. Bot. 5: 149–158, 1995), but often, as is the case in the material distributed here, the primary host is not recognizable anymore.

29. VII. 2012 leg. J. Hafellner (80932), det. J. Hafellner

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

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219. *Xenonectriella leptaleae* (J.Steiner) Rossman & Lowen

in Rossman et al., Stud. Mycol. 42: 169 (1999). – Bas.: *Pharcidia leptaleae* J.Steiner in Fritsch, Denkschr. Akad. Wiss., Math.-nat. Kl.: 238 (1900). – Syn.: *Nectriella leptaleae* (J.Steiner) R.Sant. in Publ. Herbarium University Uppsala 13: 11 (1984). – *Pronectria leptaleae* (J.Steiner) Lowen in Mycotaxon 39: 462 (1990).

Host: *Physcia stellaris* (apothecia)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Nördliche Kalkalpen, Hochschwab-Gruppe, Seetal W of Seewiesen, c. 10 km NE of the village Aflenz, 47°37'15"N / 15°15'20"E, c. 930 m alt., GF 8357/4, row of trees along a meadow, on branches in the lower canopy of *Fraxinus excelsior*.

Note 1: The type host of *Xenonectriella leptaleae* is *Physcia leptalea*.

18. XI. 2007

leg. J. Hafellner (69399), det. J. Hafellner

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

Hafellner J. 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana 80: 21–41.

220. *Zwackhiomyces sphinctrinaeformis* Grube & Hafellner

in Nova Hedwigia 51(3–4): 325 (1990).

Host: *Romjularia lurida* (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Ennstaler Alpen, Haller Mauern N of the town Admont, Grabnerstein N above of the Buchauer Sattel, NE above of the Grabneralmhaus, 47°37'45"N / 14°30'20"E, c. 1500 m alt., GF 8353/3, stands of knee pine (*Pinus mugo*) on slopes exposed to the S with solitary boulders on clearings, on boulders of limestone.

Note 1: *Romjularia lurida* is the type host of the species.

26. X. 2006

leg. J. Hafellner (67102) & L. Muggia, det. J. Hafellner

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

Hafellner J. 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana 80: 21–41.

221. *Caloplaca epithallina* Lyngé

in Skrifter Svalbard Ishavet 81: 113 (1940).

Hosts: thalli of various silicicolous lichens (see below)

Northern America, U.S.A.: California, San Bernardino County, Transverse Range, San Bernardino Mountains, near Highway 38 and Rainbow Lane, 34° 10'23"N / 116°43'05"W, c. 2440 m alt., conifer and oak woodland, on a large granite outcrop.

Note 1: In the protologue, synonyms of *Montanelia disjuncta*, *Dimelaena oreina* and *Rhizoplaca melanophthalma* are listed as hosts of *C. epithallina*, but with an "etc." Lyngé indicated that he had observed the parasitic *Caloplaca* also on other lichen species.

Note 2: In the entire collection, the following lichens have been recognized as hosts: *Rhizoplaca melanophthalma*, *Dimelaena oreina*, *Acarospora* spec., *Lecidea atrobrunnea* agg. In the individual duplicates, these hosts may be present alone or in various combinations.

1. XI. 2013 leg. K. Knudsen (16264) & J. Kocourková, det. K. Knudsen
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana 80: 21–41.

222. *Carbonea distans* (Kremp.) Hafellner & Obermayer

in Obermayer, Mitt. Naturwiss. Ver. Steiermark 123: 116 (1993). – Bas.: *Lecidea distans* Kremp. in Flora (Regensburg) 38: 71 (1855). – Syn.: *Lecidella distans* (Kremp.) Körb. in Parerga Lichenologica: 205 (1861).

Host: *Orphniospora mosigii* (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Seetaler Alpen, Zirbitzkogel c. 9.5 km W of the village Obdach, surroundings of Lavantsee in the cirque S below the summit, small ridge next to SE shore of the lake, 47°03' 35"N / 14°34'40"E, c. 2060 m alt., GF 8953/1, outcrops of mica schist polished by a Pleistocene local glacier, on inclined rock faces.

Note 1: Krempelhuber (l.c.) did not recognize that *C. distans* starts its life cycle as a lichenicolous lichen.

Note 2: Hertel (Herzogia 1: 417, 1970) restudied the holotype and an isotype preserved in M, and confirmed the lichenicolous growth on *Orphniospora mosigii* (sub *Lecidea obscurissima*) for this authentic material.

26. VII. 2007 leg. J. Hafellner (82628) & A. Hafellner, det. J. Hafellner
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana 80: 21–41.

223. *Dimelaena lichenicola*

K.Knudsen, Sheard, Kocourk. & H.Mayrhofer

Paratype

in Bryologist 116(3): 259 (2013).

Host: *Dimelaena oreina* (thallus)

Northern America, U.S.A.: California, San Benito County, Mojave Desert, Joshua Tree National Park, Upper Covington Flats, small unnamed canyon, near the trail, 34°00'46"N / 116°18'10"W, 1431 m alt., pinyon pine and juniper woodland, on gneiss.

Note 1: *Dimelaena oreina* and *D. thysanota* are the type hosts of the species.

Note 2: *Endococcus oreinae* Hafellner is also present on the duplicates in GZU, NY, PRM, and UPS.

25. XI. 2012 leg. J. Kocourková (8180) & K. Knudsen, det. K. Knudsen
distributed to: BR, CANB, GZU, M, NY, PRM, UPS

Hafellner J. 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana 80: 21–41.

224. *Diploschistes muscorum* (Scop.) R.Sant.

in Hawksworth et al., Lichenologist 12(1): 106 (1980). – Bas.: *Lichen muscorum* Scop. in Flora Carniolica 2: 365 (1772). – Syn.: *Diploschistes scruposus* subsp. *muscorum* (Scop.) Clauzade & Cl.Roux in Bull. Soc. Bot. Centre-Ouest 7: 825 (1985).

Host: *Cladonia pyxidata* agg. (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Steirisches Randgebirge, Grazer Bergland, Streberkogel S above the village Gasen, c. 10 km W of the town Birkfeld, at SE end of summit ridge, 47°21'30"N / 15°34'40"E, c. 1440 m alt., GF 8659/1, low outcrops of calcareous schist in a subalpine pasture on the uppermost part of the slope exposed to the N, on soil and plant remnants.

Note 1: Lichenicolous growth is not mentioned in the protologue.

Note 2: Early stages of thallus development including a photobiont switch were investigated by Friedl (Lichenologist 19: 183–191, 1987).

13. XI. 2011 leg. J. Hafellner (79077), det. J. Hafellner
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana 80: 21–41.

225. *Miriquidica instrata* (Nyl.) Hertel & Rambold

in Mitt. Bot. Staatssammlung München 23: 385 (1987). – Bas.: *Lecidea instrata* Nyl. in Flora (Regensburg) 60: 224 (1877). – Syn.: *Biatora instrata* (Nyl.) Arnold in Verh. Zool.-Bot. Ges. Wien 29: 372 (1879). – *Lecidella instrata* (Nyl.) M.Choisy in Bull. Mens. Soc. Linn. Lyon 19: 18 (1950).

Host: *Aspicila* spec. (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Niedere Tauern, Schladminger Tauern, Kleinsölk-Obertal, by the trail from Schwarzensee to Rettingscharte, Großer Gnasen, at the base of a rock wall exposed to the S, 47°17'50"N / 13°50'50"E, c. 1940 m alt., GF 8749/1; scree on a steep slope, on inclined rock faces of gneiss boulders.

Note 1: Lichenicolous growth is not mentioned in the protologue.

Note 2: Congruence in morpho-anatomical characters makes it likely that *Miriquidica instrata* and the sorediate *M. intrudens* (H.Magn.) Hertel & Rambold constitute a species pair in the sense of Poelt (Vorträge Gesamtgebiet Botanik, N. F. [Deutsch. Bot. Ges.] 4: 187–198, 1970).

8. IX. 1993 leg. J. Hafellner (41808) & M. Möslinger, det. J. Hafellner
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana 80: 21–41.

226. *Miriquidica invadens* Hafellner, Obermayer & Tretiach **Paratype**

in Lichenologist 46(3): 309 (2014).

Host: *Sporastatia polyspora* (thallus)

Europe, Austria: Kärnten (= Carinthia), Eastern Alps, Saualpe W of the town Wolfsberg, Forstalpe, on the ridge facing N, 46°54'10"N / 14°39'55"E, c. 1950 m alt., GF 9053/4; cliffs of gneissic schist rich in disthen surrounded by dwarf shrub communities, on vertical rock faces exposed to the E.

Note 1: *Sporastatia polyspora* is the type host of *Miriquidica invadens*.

Note 2: Lichen substances in *Miriquidica invadens*: miriquidic acid, stictic acid, constictic acid (W. Obermayer, by T.L.C.)

18. X. 2011 leg. J. Hafellner (79177) & A. Hafellner, det. J. Hafellner
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana 80: 21–41.

227. *Miriquidica invadens* Hafellner, Obermayer & Tretiach
Paratype

in Lichenologist 46(3): 309 (2014).

Host: *Sporastatia polyspora* (thallus)

Europe, Austria: Steiermark (= Styria), Eastern Alps, Niedere Tauern, Wölzer Tauern, Greim c. 11 km NW of the town Oberwölz, summit area, 47°14'50"N / 14°09'05"E, c. 2470 m alt., GF 8750/4; boulder field and low outcrops of mica schist surrounded by alpine meadows and patches of dwarf shrub stands, on steep rock faces exposed to the E.

Note 1: *Sporastatia polyspora* is the type host of *Miriquidica invadens*.

Note 2: Lichen substances in *Miriquidica invadens*: miriquidic acid, stictic acid, constictic acid (W. Obermayer, by T.L.C.).

Note 3: On the duplicates distributed to the herbaria GZU and UPS, *Sporastatia polyspora* is also infested by *Polycoccum sporastatae* (Anzi) Arnold, on that in NY by *Rhizocarpon pusillum* Runemark.

30. VII. 2006 leg. J. Hafellner (67975) & L. Muggia, det. J. Hafellner
distributed to: BR, CANB, GZU, NY, UPS

Hafellner J. 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana 80: 21–41.

228. *Paralecanographa grumulosa* (Dufour) Ertz & Tehler

in Fungal Diversity 49(1): 57 (2011). – Bas.: *Opegrapha grumulosa* Dufour in J. Physiol. Chim. Hist. Nat. Arts 87: 214 (1818). – Syn.: *Lecanactis grumulosa* (Dufour) Fr. in Lichenographia Europaea Reformata: 375 (1831). – *Lecanactis monstrosa* var. *grumulosa* (Dufour) Lettau in Feddes Rep., Beih. 69(1): 47 (1932). – *Lecanographa grumulosa* (Dufour) Egea & Torrente in Biblioth. Lichenol. 54: 134 (1994).

Host: *Roccella phycopsis* (thallus)

Europe, France: Corsica, Dept. Corse du Sud, Punta de la Parata WSW of Ajaccio, on the NE side of the hill somewhat below of the Tour de la Parata, 41°53'44"N / 08°36'30"E, c. 50 m alt; cliffs of volcanic rock exposed to the NE, on shaded vertical rock faces.

Note 1: Lichenicolous growth is not mentioned in the protologue.

5. XI. 1993 leg. J. Hafellner (41809), det. J. Hafellner
distributed to: BCN, BR, CANB, E, GZU, LE, M, NY, PRM, UPS

Hafellner J. 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana 80: 21–41.

229. *Placocarpus schaeferi* (Fr.) Breuss

in Pl. Syst. Evol. 148 (3–4): 314 (1985). – Bas.: *Parmelia schaeferi* Fr. in Lichenographia Europaea Reformata: 106 (1831). – Syn.: *Endocarpon schaeferi* (Fr.) Nyl. in Bot. Notiser 1853: 156 (1853). – *Catapyrenium schaeferi* (Fr.) R.Sant. in The Lichens of Sweden and Norway: 83 (1984).

Host: *Protoparmeliopsis muralis* auct. (thallus)

Europe, Albania: Northern Albania, Shkodër distr., Shkodër, Rozafa (castle hill) on the southern edge of the town, 42°02'55"N / 19°29'40"E, c. 50 m alt., rocky slope exposed to the N, on low outcrops of limestone.

Note 1: Lichenicolous growth is not mentioned in the protologue.

23. VIII. 2007 leg. J. Hafellner (80800), det. J. Hafellner
(field trip together with M. Tretiach, L. Muggia, M. Piccotto & J. Marka)

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

Hafellner J. 2015: Lichenicolous Biota (Nos 201–230). - Fritschiana 80: 21–41.

230. *Ramboldia insidiosa* (Th.Fr.) Hafellner

in Hafellner & Türk, Carinthia II 185/105: 624 (1995). – Bas.: *Lecidea insidiosa* Th.Fr. in Bot. Notiser 1867: 153 (1867).

Host: *Lecanora varia* (thallus, apothecia)

Europe, Austria: Kärnten (= Carinthia), Eastern Alps, Steirisches Randgebirge, Stubalpe E of the town St. Leonhard, NE above of Görlitzer Alm, Kollmannsöfen, at Schieflinger Kreuz, 47°00'25"N / 14°52'55"E, c. 1745 m alt., GF 8955/3, cliffs and large boulders on a slope exposed to the W in the tree line ecotone, on a somewhat rotten wooden fence.

Note 1: *Lecanora varia* is the type host of *Ramboldia insidiosa*. *Lecanora 'subfusca'* is mentioned as a further host in the protologue, but this needs confirmation.

12. VI. 2005 leg. J. Hafellner (65091), det. J. Hafellner

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

Taxon Synopsis:

Taxon	Exs. no.
Ascomycota	
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<i>Lichenostigma cosmopolites</i>	210
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	<i>Diploschistes muscorum</i>	224
	<i>Erythrimum aurantiacum</i>	212
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References

- Brummitt, R.K. 2001: World geographical scheme for recording plant distributions. Edition 2. Plant Taxonomic Database Standards No. 2, Edition 2, August 2001. - Pittsburgh: Carnegie Mellon University. Published for the International Working Group on Taxonomic Databases For Plant Sciences (TDWG) by the Hunt Institute for Botanical Documentation. XV + 137 pp.
- Ehrendorfer, F. & Hamann, U. 1965: Vorschläge zu einer floristischen Kartierung von Mitteleuropa. - *Berichte der deutschen botanischen Gesellschaft* 78(1): 35–50.
- 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. 2015 [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/> [9. XII. 2015).

Bibliographic data of fascicles so far issued

- Hafellner J. 2007: Lichenicolous Biota (Nos 1–20). - *Fritschiana* (Graz) 60: 35–49. URL: <https://static.uni-graz.at/fileadmin/nawi-institute/Botanik/Fritschiana/fritschiana-60/lichenicolous-biota-nos-1-20.pdf>
- Hafellner J. 2008: Lichenicolous Biota (Nos 21–60). - *Fritschiana* (Graz) 61: 1–28. URL: <http://static.uni-graz.at/fileadmin/nawi-institute/Botanik/Fritschiana/fritschiana-61/hafellner-2008-lichenicolous-biota-21-to-60.pdf>
- Hafellner J. 2009: Lichenicolous Biota (Nos 61–80). - *Fritschiana* (Graz) 65: 33–46. URL: <https://static.uni-graz.at/fileadmin/nawi-institute/Botanik/Fritschiana/fritschiana-65/lichenicolous-biota-nos-61-80.pdf>
- Hafellner J. 2010: Lichenicolous Biota (Nos 81–100). – *Fritschiana* (Graz) 67: 11–26. URL: <https://static.uni-graz.at/fileadmin/nawi-institute/Botanik/Fritschiana/fritschiana-67/hafellner-2010-lichenicolous-biota-nos-81-100.pdf>
- Hafellner J. 2012: Lichenicolous Biota (Nos 101–120). – *Fritschiana* (Graz) 74: 1–17. URL: <https://static.uni-graz.at/fileadmin/nawi-institute/Botanik/Fritschiana/fritschiana-74/hafellner-2012-lichenicolous-biota-nos-101-120.pdf>
- Hafellner J. 2012: Lichenicolous Biota (Nos 121–150). – *Fritschiana* (Graz) 74: 19–41. URL: <https://static.uni-graz.at/fileadmin/nawi-institute/Botanik/Fritschiana/fritschiana-74/hafellner-2012-lichenicolous-biota-nos-121-150.pdf>
- Hafellner J. 2013: Lichenicolous Biota (Nos 151–180). – *Fritschiana* (Graz) 76: 47–68. URL: <https://static.uni-graz.at/fileadmin/nawi-institute/Botanik/Fritschiana/fritschiana-76/hafellner-2013-lichenicolous-biota-nos-151-180.pdf>
- Hafellner J. 2014: Lichenicolous Biota (Nos 181–200). – *Fritschiana* (Graz) 78: 9–24. URL: <https://static.uni-graz.at/fileadmin/nawi-institute/Botanik/Fritschiana/fritschiana-78/hafellner-2014-lichenicolous-biota-nos-181-200.pdf>

