

Dupla Graecensia Lichenum (2006, nos 401–480)

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OBERMAYER W. 2006: Dupla Graecensia Lichenum (2006, nos 401–480). - Fritschiana (Graz) 52: 7–29. – ISSN 1024-0306.

Abstract: Dupla Graecensia Lichenum (2006, nos 401–480) comprises 80 collections of lichen duplicates from Armenia (Kotayk' Marz), Australia (New South Wales; Tasmania), Austria (Styria; Salzburg; Tirol; Upper Austria), China (Tibet, prov. Xizang; prov. Sichuan), Czech Republic (South Bohemia), Greece (Aegean Islands), New Zealand (North Island), Russia (Komi Republic; Krasnoyarsk Territory; Murmansk Region), Turkey (Hatay), and Uruguay (Artigas; Rocha; Salto; San José). TLC-investigations were carried out for 9 lichenized taxa (*Alectoria ochroleuca*, *Bryoria bicolor*, *Cladonia macrophyllodes*, *C. mitis*, *Lepraria caesia*, *L. lobificans*, *Lobaria orientalis*, *Megalania pulverea*, and *Nephromopsis morrisonicola*). *Nephromopsis morrisonicola* and *Tuckneraria laureri* are issued as part of the results of the 'Sino-Austrian Joint Expedition to the SE-Tibetan Fringe Mountains (=Hengduan Shan), Sichuan Province, China (July/August 2000)'. *Lobaria orientalis* is presented as part of the results of the 'Sino-German Joint Expedition to Southeastern and Eastern Tibet 1994'.

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The dwarf-exsiccata 'Dupla Graecensia Lichenum' are issued by the herbarium of the Institute for Plant Sciences of the Karl-Franzens-University, Graz, Austria (international abbreviation: GZU). It includes lichens and lichenicolous fungi from all over the world with five to ten duplicates of each collection. Each institution receiving a duplicate is cited (at the bottom line of each individual label) with its international herbarium abbreviation (see <http://sciweb.nybg.org/science2/IndexHerbariorum.asp>): The herbaria in Canberra (CANB), Graz (GZU), Munich (M), New York (NY), and Uppsala (UPS) are receiving all distributed specimens continuously. To make every single specimen unique, the abbreviation of the herbarium, where the specimen should be housed, is underlined on the labels. Abbreviations of authors of plant names are taken from http://brimsa.huh.harvard.edu/cms-wb/botanist_index.html. Names of countries and states (or provinces or principal subdivisions) can be found under <http://www.ars-grin.gov/cgi-bin/npgs/html/geolist.pl>. Dupla Graecensia Lichenum is published as text version under <http://www-ang.kfunigraz.ac.at/~oberma/dupl-graec.htm>. Label texts originally drafted in a local language have been translated into English by the author.

I wish to thank all the collectors and keepers of private herbaria for their contributions, in particular Josef Hafellner, Shahane Harutyunyan, Volker John, Michaela Lambauer, Helmut Mayrhofer, Héctor S. Osorio, Harrie Sipman, Roman Türk, and Mikhail Zhurbenko. Thanks are also due to several colleagues, who helped with determinations (Teuvo Ahti, Pieter van den Boom, Thorsten Lumbsch, and Tiina Randlane). Field works in Tibet (1994 and 2000) were supported by the 'Austrian Science Fund' (project numbers P09663-BIO and P13676-BIO).

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401. *Alectoria ochroleuca* Nyl.

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Stubalpe, 17.5 km W of Köflach, 2 km SW of Salztiegelhaus (Hirscheggertal), near the cross on a lower peak 0.5 km SE of the mountain Speikkogel, 47°03'20"-25"N / 014°51'05"-10"E, MTB 8955/1, 1950 m alt., alpine meadows with amphibolitic (and gneissic) boulders, on soil (over rocks). – 24.X.2004, leg. & det. W. Obermayer (10498).

Note: TLC: Usnic acid, diffractaic acid.

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402. *Biatora turgidula* (Fr.) Nyl.

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, Pfaffenstein N of Eisenerz, along the path 'Markussteig', below the striking rock ridge SE in front of the mountain Kesselmauer, 47°33'20"N / 014°54'05"E, MTB 8455/1, 1300 m alt., forest with *Picea abies* (steep S-exposed slope), on wood of decaying stumps. – 3.VIII.2004, leg. & det. J. Hafellner (63441).

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403. *Brodoa intestiniformis* (Vill.) Goward

RUSSIA, Komi Republic, Northern Ural, 165 km ESE of Troitsko-Pechorsk, upper stream of Pechora river, Pechora-Ilych state reserve, top of Yanypupuner range, 62°05'N / 059°06'E, 750-800 m alt., wet moss-lichen-dwarf-shrub tundra with stone field, on small rocks. – 3.VII.1997, leg. & det. M. Zhurbenko (9778).

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404. *Bryoria bicolor* (Ehrh.) Brodo & D. Hawksw.

AUSTRIA, Oberösterreich (=Upper Austria), Dachstein-Gruppe, 4.2 km SSW of Hallstatt, path between the refuges Tiergartenhütte and Wiesberghaus, 47°31'47"N / 013°37'10"E, MTB 8447/4, 1600 m alt., on bark of *Larix decidua*. – 11.VIII.2005, leg. & det. R. Türk (37880).

Note: TLC: Fumarprotocetraric acid.

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405. *Bryoria capillaris* (Ach.) Brodo & D.Hawksw.

AUSTRIA, Steiermark (=Styria), Seetaler Alpen, 10 km WNW of Obdach, road from Schmelz to Winterleitenhütte, 47°05'45"N / 014°34'40"E, MTB 8953/1, 1650 m alt., close to a forest road in a high montane forest with *Picea abies* and *Pinus cembra*, on twigs of *Pinus cembra* (SSE-exposed; shadowed). – 1.VI.2005, leg. & det. W. Obermayer (10976).

Note: Associated *Bryoria implexa* chemotype 2 (= *Bryoria kuemmerleana*) with K+ red thallus (nor-stictic acid crystals) has been separated and is issued in the present fascicle..

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406. *Bryoria implexa* (Hoffm.) Brodo & D.Hawksw.

[chemotype 2 = *B. kuemmerleana*]

AUSTRIA, Steiermark (=Styria), Seetaler Alpen, 10 km WNW of Obdach, road from Schmelz to Winterleitenhütte, 47°05'45"N / 014°34'40"E, MTB 8953/1, 1650 m alt., close to a forest road in a high montane forest with *Picea abies* and *Pinus cembra*, on twigs of *Pinus cembra* (SSE-exposed; shadowed). – 1.VI.2005, leg. & det. W. Obermayer (10977).

Note: Associated specimens of *Bryoria capillaris* (thallus K+ yellow) have been separated and are issued in the present fascicle. The cited species and *B. subcana* can be partly intermixed.

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407. *Buellia ocellata* (Flot.) Körb.

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Joglland, 6 km NE of Pöllau, Masenberg, summit area, 47°20'55"N / 015°52'30"E, MTB 8661/3, 1260 m alt., mixed forest with low siliceous outcrops, on SE-exposed, sunny faces of mica slate. – 19.X.2003, leg. & det. J. Hafellner (61915).

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408. *Caloplaca cerina* (Ehrh. ex Hedw.) Th.Fr.

AUSTRIA, Steiermark (=Styria), Sausal, 9 km W of Leibnitz, NW of Kitzeck, 46°47'35"N / 015°26'00"E, MTB 9258/2, 480 m alt., old orchard, on stem bark of *Juglans regia*. – 25.III.2000, leg. & det. J. Hafellner (50713).

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409. *Caloplaca coccinea* (Müll.Arg.) Poelt

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, 7.5 km NW of Aflenz, Fölzstein, just W of the summit, upper edge of the S-exposed rock surfaces, 47°35'45"N / 015°10'30"E, MTB 8457/1, 1900 m alt., limestone rocks and *Caricetum firmae*, on inclined rock faces. – 20.IX.2003, leg. & det. J. Hafellner (62641).

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410. *Caloplaca haematites* (St.-Amans) Zwackh

GREECE, Aegean Islands, Nomos Samos, Ikaria Island, above Ag.Paraskevi, along the road from the airport to Perdiki, 37°40.32'N / 026°19.47'E, 225 m alt., old orchard, on trunk of *Olea europaea*. – 15.IX.2002, leg. H. Sipman (48466) & T. Raus, det. H. Sipman.

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411. *Caloplaca saxicola* (Hoffm.) Nordin

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Fischbacher Alpen, Kleiner Pfaffenbachgraben NE of Retteneegg, near the first hairpin bend of the road to Pfaffen-sattel, 47°33'25"N / 015°48'25"E, MTB 8460/2, 1040 m alt., steep calcareous rocks in a mixed forest, on shadowed overhanging rock faces. – 24.VII.2002, leg. & det. J. Hafellner (59512).

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412. *Catillaria nigroclavata* (Nyl.) Schuler

AUSTRIA, Steiermark (=Styria), Niedere Tauern, Schladminger Tauern, Obertal S of Schladming, between Hopfriesen and the inn Tauerngold, 47°19'05"N / 013°41'20"E, MTB 8648/3, 1060 m alt., *Alnus incana* trees near the brookside, on *Alnus incana*. – 25.VIII.2001, leg. & det. J. Hafellner (56867), W. Obermayer & R. Stordeur.

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413. *Chaenotheca hispidula* (Ach.) Zahlbr.

AUSTRIA, Steiermark (=Styria), Niedere Tauern, Triebener Tauern, S of Trieben, Großer Grießstein, gently inclined slopes at the N-facing foot of the mountain, S above the shrine near the farm building 'Eberl', 47°24'35"N/014°33'05"E, MTB 8553/3, 1160 m alt., forest with *Picea abies* and some *Acer pseudoplatanus*, on bark of *Acer pseudoplatanus*. – 15.VIII.2000, leg. & det. J. Hafellner (58711).

Note: Partly associated with *Chaenotheca trichialis*. All specimens with *Chrysothrix candelaris*.

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414. *Chaenotheca stemonea* (Ach.) Müll.Arg.

AUSTRIA, Steiermark (=Styria), Niedere Tauern, Schladminger Tauern, Obertal S of Schladming, valley of Giglachbach, on the path to Lackneralm, 47°18'50"N/013°41'10"E, MTB 8648/3, 1100 m alt., *Picea abies* forest with *Alnus incana* (wet foot of a slope), on bark of *Larix decidua*. – 25.VIII.2001, leg. J. Hafellner (56802), W. Obermayer & R. Türk, det. J. Hafellner.

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415. *Chaenothecopsis pusilla* (Ach.) A.F.W.Schmidt

CZECH REPUBLIC, Jihočeský Kraj (=South Bohemia), Böhmerwald (=Šumava), Plöckenstein (=Plechý) mountain, 11 km NNW of Ulrichsberg, 48°46'20"N/013°51'30"E, MTB 7243, 1310 m alt., on wood of *Picea abies*. – 05.IV.1994, leg. J. Poelt & R. Türk (20323), det. R. Türk.

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416. *Cladonia anaemica* (Nyl.) Ahti

URUGUAY, Rocha, 59 km NE of Rocha, 6 km N of Palmar de Castillos, Cerro de los Rochas, 34°09'15"S/053°51'35"W, 100 m alt., S-facing slope, on rocks. – 25.IV.2003, leg. H.S. Osorio (9658) & G. Geymonat, det. T. Ahti (2003).

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417. *Cladonia digitata* (L.) Hoffm.

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Gleinalpe, Mugel S of Niklasdorf, slopes below Ochsenstall, 47°22'15"N/015°11'25"E, MTB 8657/1, 1060 m alt., *Picea abies* forest, on bryophytes covering a siliceous rock. – 6.X.2001, leg. & det. J. Hafellner (57286).

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418. *Cladonia dilleniana* Flörke

CUBA, Holguin, Sierra de Moa, 200 m alt., on ground. – IV.1981, leg. O. Miersch (C-1981-2), det. T. Ahti (1981).

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419. *Cladonia furcata* (Huds.) Schrader ssp. *furcata*

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Stubalpe, 15 km W of Köflach, 7.5 km NW of Hirscheegg, 0.4 km NW of Kochbauer, 47°03'35"N/014°52'50"E, MTB 8955/1, 1340 m alt., mixed forest with *Picea abies*, *Fagus sylvatica*, and *Larix decidua*, on ground. – 30.VII.2005, leg. & det. W. Obermayer (10894).

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420. *Cladonia macrophylla* (Schaer.) Stenh.

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, Polster E of Eisenerz, ridge and NW-facing slopes straight below the summit, 47°32'05"N/014°57'50"E, MTB 8455/4, 1840 m alt., siliceous bedrock ('Präbichlschichten', 'Werfener Schiefer'), on ground (wind exposed). – 10.IX.2004, leg. & det. J. Hafellner (63158).

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421. *Cladonia macrophyllodes* Nyl.

AUSTRIA, Steiermark (=Styria), Seetaler Alpen, 10,5 km W of Obdach, path from Großer Winterleitensee via Ochsenboden to Kreiskogel, 47°05'05"N/014°33'35"E, MTB 8953/1, 1970 m alt., alpine meadows with boulders, on ground. – 16.V.2002, leg. & det. W. Obermayer (10182).

Note: TLC (all specimens tested): atranorin, fumarprotocetraric acid, protocetraric acid (min.), terpenoid (5/5-6/5-6).

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422. *Cladonia mitis* Sandst.

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Stubalpe, 17,5 km W of Köflach, 2 km SW of Salzstiegelhaus (Hirscheeggertal), near the cross on a lower peak 0,5 km SE of the mountain Speikkogel, 47°03'20-25"N/014°51'05-10"E, MTB 8955/1, 1940-1960 m alt., alpine meadows with amphibolitic (and gneissic) boulders, on ground (over rocks). – 24.X.2004, leg. & det. W. Obermayer (10499).

Note: TLC: Usnic acid (maj.), fatty acids of the rangiformic/norrangiformic acid complex (maj./min.).

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423. *Cladonia pocillum* (Ach.) Grognot

RUSSIA, Krasnoyarsk Krai (N of Central Siberia), Severnaya Zemlya Archipelago, N extremity of Bol'shevik Island, W coast of Mikoyan Bay, 200 m off the bay coast, 79°18'N/101°55'E, 10 m alt., moist to mesic silt-gravelly slope of a coastal terrace with well developed porous microrelief of small knobs and *Papaver*-graminoid-lichen-bryophyte vegetation in micro-depressions, on soil. – 21.VII.1996, leg. & det. M. Zhurbenko (96468).

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424. *Cladonia uncialis* (L.) Weber ex F.H.Wigg. ssp. *biuncialis* (Hoffm.) M.Choisy

RUSSIA, Krasnoyarsk Krai (N of Central Siberia), Severnaya Zemlya Archipelago, N part of Bol'shevik Island, W-coast of Akhmatov Bay, 6 km SSW of the Bazovaya river mouth, 1 km off the bay coast, 79°04'N/102°42'E, 40 m alt., moist silt-gravelly flat coastal plain with sparse lichen-bryophyte-graminoid (cushions) vegetation, on soil. – 17.VII.1996, leg. & det. M. Zhurbenko (96434).

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425. *Dermatocarpon miniatum* (L.) W.Mann

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Fischbacher Alpen, Kleiner Pfaffenbachgraben NE of Rettenegg, near the first hairpin bend of the road to Pfaffensattel, 47°33'25"N/015°48'25"E, MTB 8460/2, 1040 m alt., steep calcareous rocks in a mixed forest, on shadowd, strongly inclined rock surfaces. – 24.VII.2002, leg. & det. J. Hafellner (59513).

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

AUSTRIA, Oberösterreich (=Upper Austria), N of Bad Ischl, Hinterhaaleswiesalm N of Leonsberg, 47°46'18"N/013°32'30"E, MTB 8247/1, 820 m alt., pasture wall (with calcareous rocks), on bryophytes and parasitic on squamules of *Cladonia pyxidata*. – 19.VIII.2004, leg. & det. R. Türk (35159).

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

[lichenicolous lichen on squamules of *Cladonia*]

AUSTRIA, Steiermark (=Styria), SSE-facing slopes of Schöckl, 2 km N of St.Radegund, forest area between Römerweg and Schöcklkopf, 47°12'00"N/015°29'00"E, MTB 8758/4, 1100 m alt., slopes of a forest road and adjacent mixed forest (with *Fagus sylvatica*, *Pinus sylvestris*, and *Picea abies*), above calcareous ground and rocks, on decayed stump. – 8.VI.2005, leg. & det. W. Obermayer (10680).

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428. *Fellhanera bouteillei* (Desm.) Vězda

AUSTRIA, Steiermark (=Styria), Niedere Tauern, Schladminger Tauern, Obertal S of Schladming, valley of Giglachbach, on the path to Lackneralm, 47°18'50"N/013°41'10"E, MTB 8648/3, 1100 m alt., *Picea abies* forest with *Alnus incana* (wet bottom of a slope), on needles of *Picea abies* (edge of a wood). – 25.VIII.2001, leg. J. Hafellner (56816), W. Obermayer & R. Türk, det. J. Hafellner.

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429. *Flavoparmelia caperata* (L.) Hale

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Stubalpe, 14.5 km W of Köflach, 6.3 km NW of Hirscheegg, valley of the brook Rafflerbach, 0.7 km SE below Kochbauer, 47°03'10"N/014°53'30"E, MTB 8955/1, 1100 m alt., *Salix* trees along the brookside, on *Salix caprea*. – 24.X.2004, leg. & det. W. Obermayer (10500).

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430. *Graphis scripta* (L.) Ach.

AUSTRIA, Steiermark (=Styria), Oststeirisches Riedelland, 12 km E of the centre of Graz, Laßnitzhöhe, 300 m NE of the tavern 'Höchs Schmied', 47°04'00"N/015°35'40"E, MTB 8959/2, 470 m alt., mixed forest (close to a small tunnel), on bark of *Corylus avellana*. – 16.XII.2004, leg. & det. W. Obermayer (10558).

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431. *Halecania australis* Lumbsch

AUSTRALIA, New South Wales, Nelson Bay, Boulder Bay / Snapper Point, 32°45'33"S / 152°09'43", 10 m alt., spray zone, N exposed, on granitic rocks. – 23.X.2003, leg. M. Lambauer (0075) & R. Filson, det. P.P.G. van den Boom (2004).

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432. *Halecania australis* Lumbsch

AUSTRALIA, Tasmania, Midland Highway, Dysart N of Bagdad, 42°35'S / 147°13'E, 250 m alt., sandstone cliffs, on rocks. – 6.VIII.1992, leg. H. Mayrhofer (12072) & E. Hierzer, det. P.P.G. van den Boom (2004).

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433. *Hypogymnia bitteri* (Lynge) Ahti

AUSTRIA, Steiermark (=Styria), Niedere Tauern, Seckauer Tauern, Speikbichl N of Knittelfeld, S-facing slopes towards Feistrizgraben, above Schwaigerhütte, 47°20'55"N / 014°49'05"E, MTB 8854/4, 1540 m alt., forest with *Picea abies* and *Larix decidua*, on bark of *Larix decidua*. – 22.VI.2000, leg. J. Hafellner (51718) & A. Hafellner, det. J. Hafellner.

Note: Lobes unusually pale coloured.

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434. *Hypocenomyce leucococca* R.Sant.

AUSTRIA, Steiermark (=Styria), Niedere Tauern, Triebener Tauern, Vordertriebental SSE of Trieben, 1 km SE of the tavern Brodjäger, N-facing foot of the mountain Tierkogel, 47°26'30"N / 014°31'25"E, MTB 8553/3, 1050 m alt., waterside grove, on bark of *Alnus incana*. – 26.VIII.2002, leg. J. Hafellner (58985) & J. Miadlikowska, det. J. Hafellner.

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435. *Icmadophila ericetorum* (L.) Zahlbr.

RUSSIA, Komi Republic, Northern Ural, Pechora-Ilych state reserve, upper stream of Pechora River, valley between Mt. Medvezh'ya and Yanypuner Range, 62°05'N / 059°06'E, spruce taiga forest, on moribund mosses, rotten wood and pebbles. – 4.VII.1997, leg. & det. M. Zhurbenko (97137).

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436. *Lecania hyalina* (Fr.) R.Sant.

[Syn.: *Bacidia globulosa* (Flörke) Hafellner & V.Wirth]

AUSTRIA, Steiermark (=Styria), Niedere Tauern, Triebener Tauern, S of Trieben, Großer Griefstein, gently inclined slopes at the N-facing base area of the mountain, S above the shrine near the farm building 'Eberl', 47°24'35"N / 014°33'05"E, MTB 8553/3, 1160 m alt., forest with *Picea abies* and some *Acer pseudoplatanus*, on bark of *Acer pseudoplatanus*. – 15.VIII.2000, leg. & det. J. Hafellner (57202).

Note: Partly associated with *Chaenotheca trichialis* and *Ch. hispidula*. All specimens with *Chrysothrix candularis*.

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437. *Lecanora argentata* (Ach.) Malme

AUSTRIA, Steiermark (=Styria), Niedere Tauern, Triebener Tauern, Vordertriebental SSE of Trieben, 1 km SE of the tavern Brodjäger, N-facing base of Tierkogel, 47°26'30"N / 014°31'25"E, MTB 8553/3, 1050 m alt., waterside grove, on bark of *Alnus incana*. – 26.VIII.2002, leg. J. Hafellner (58971) & J. Miadlikowska, det. J. Hafellner.

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438. *Lecidea fuscoatra* (L.) Ach.

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Joglland, 6 km NE of Pöllau, Masenberg, summit area, 47°20'55"N / 015°52'30"E, MTB 8661/3, 1260 m alt., mixed forest with low siliceous outcrops, on SE-exposed, sunny faces of mica slate. – 19.X.2003, leg. & det. J. Hafellner (61916).

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439. *Lecidea nylanderi* (Anzi) Th.Fr.

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Fischbacher Alpen, Eibeggsattel N of St.Jakob bei Mixnitz, path to Ederkogel, 47°25'15"N / 015°27'00"E, MTB 8558/4, 1030 m alt., forest with *Picea abies* and *Larix decidua* (and some deciduous trees), on bark of *Picea abies*. – 29.IX.1999, leg. & det. J. Hafellner (59579).

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440. *Lecidea polytrichinella* Hertel, Obermayer & Poelt

AUSTRIA, Steiermark (=Styria), Eisenerzer Alpen, Blaseneck N of Treglwang, N-exposed cirque NE below the summit, 47°30'N / 014°37'15"E, MTB 8553/2, 1920 m alt., mossy dwarf shrub heath over paleozoic schist (Blaseneckporphyroid), on *Polytrichum*. – 2.IX.1997, leg. & det. J. Hafellner (59179).

Note: The immarginate, brownish apothecia of *L. polytrichinella* are often associated with the marginate (whitish yellow), mostly flat apothecia of *Lecanora leptacinella*. The latter has been issued from the same locality in 'Lichenotheca Graecensis' no. 200 (Obermayer 2002: Lichenotheca Graecensis, Fasc. 10 & 11 (Nos 181 - 220). – Fritschiana 33: 1-14).

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441. *Lecidella elaeochroma* (Nyl.) Hertel & Leuckert

AUSTRIA, Steiermark (=Styria), Oststeirisches Riedelland, 8.2 km E of the centre of Graz, Kainbach area, 'Auf der Ries', near Pfabenpeter, 47°06'05"N / 015°32'15"E, MTB 8859/3, 560 m alt., mixed forest with *Fagus sylvatica*, *Carpinus betulus*, *Quercus petraea*, and *Pinus sylvestris*, on bark of *Carpinus betulus* (E-exposed, 30-120 cm above ground). – 26.III.2005, leg. & det. W. Obermayer (10658).

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442. *Lepraria caesioalba* (de Lesd.) J.R.Laundon

[chemotype 1a - with atranorin, fumarprotocetraric acid and angardianic acid - present in all specimens]

AUSTRIA, Salzburg, Niedere Tauern, Schladminger Tauern, 24 km NW of Murau, SSW-facing slopes of Preber, path from Sattleben (near Grazer Hütte) to Trogleiteneck, 47°12'15"N / 013°53'00"E, MTB 8749/3, 2100-2200 m alt., alpine pastures with siliceous rocks, on moss cushions (in fissures of vertical rock surfaces). – 17.VIII.2005, leg. & det. W. Obermayer (10971).

Note: TLC investigations were carried out four times with each specimen (on different moss cushions).

Chemotype 1a (present in all specimens): atranorin, fumarprotocetraric acid, protocetraric ac. (tr.), angardianic ac.

Chemotype 1b [= *L. borealis*] (present in specimen in UPS): atranorin (maj.), fumarprotocetraric ac. (maj.), protocetraric ac. (tr.), rangiformic ac. (maj.), norrangiformic ac. (tr.).

Chemotype 1c (in UPS): atranorin (maj.), rangiformic ac. (maj.), norrangiformic ac. (tr.).

Lepraria neglecta s.str. (alectorialic acid, angardianic ac.) intermixed in specimens in GZU, CANB and M.

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443. *Lepraria lobificans* Nyl.

AUSTRIA, Steiermark (=Styria), Oststeirisches Riedelland, 8.2 km E of the centre of Graz, Kainbach-area, 'Auf der Ries', near Pfabenpeter, 47°06'05"N / 015°32'15"E, MTB 8859/3, 560 m alt., mixed forest with *Fagus sylvatica*, *Carpinus betulus*, *Quercus petraea*, and *Pinus sylvestris*, on bark of *Quercus petraea* (30-50 cm above ground, W-exposed, not strongly shaded). – 26.III.2005, leg. & det. W. Obermayer (10662).

Note: TLC: Atranorin, zeorin, stictic acid, constictic acid (all specimens tested at least three times); p.p. admixtures of *Lepraria eburnea* (alectorialic acid, protocetraric acid).

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444. *Lepraria lobificans* Nyl.

AUSTRIA, Steiermark (=Styria), Oststeirisches Riedelland, 8.2 km E of the centre of Graz, Kainbach area, 'Auf der Ries', near Pfabenpeter, 47°06'05"N / 015°32'15"E, MTB 8859/3, 560 m alt., mixed forest with *Fagus sylvatica*, *Carpinus betulus*, *Quercus petraea*, and *Pinus sylvestris*, on bark of *Quercus petraea* (E-exposed, strongly shaded, 5-20 cm above ground). – 26.III.2005, leg. & det. W. Obermayer (10654).

Note: TLC: Atranorin, zeorin, stictic acid, constictic acid (all specimens tested two or three times); one sample additionally contains pannaric-acid-6-methylester (admixture of *Leproloma vouauxii*).

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445. *Lichenomphalia* cf. *hudsoniana* (H.S.Jenn.) Redhead, Lutzoni, Moncalvo & Vilgalys

[Syn.: *Omphalina* h.]

RUSSIA, Komi Republic, Northern Ural, Pechora-Ilych state reserve, upper stream of Pechora River, valley between Mt. Medvezh'ya and Yanypupuner Range, 62°05'N / 059°06'E, 500 m alt., spruce taiga forest, on decaying bryophytes. – 4.VII.1997, leg. & det. M. Zhurbenko (97154).

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446. *Lobaria orientalis* (Asah.) Yoshim.

[chemical race I]

CHINA, Tibet, prov. Xizang, Nyanqentanglha Shan, 360 km E of Lhasa near the bend of the river Tsangpo, N-side of Gyala Peri, 10 km S of Dongjug village, 29°54'N / 094°52'E, 3700 m alt., W-side of the glacier, near a mountain pasture hut, on *Abies* and bryophytes. – 20.VIII.1994, leg. & det. W. Obermayer (10580).

Note: TLC (all specimens tested): Stictic acid (maj.), constictic acid (maj.), gyrophoric acid (maj.), norstictic acid (tr.). Apothecia present in all specimens.

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447. *Megalaria pulverea* (Borrer) Hafellner & E.Schreiner

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, about 6.7 km E of Hieflau, Schwabeltal, close to the confluence of the brook Schwabelbach with a tributary brook, at the W-facing foot of the mountain Mitterkogel, 47°36'40"N / 014°50'20"E, MTB 8355/3, 730 m alt., mixed forest over limestone boulders, on *Acer pseudoplatanus*. – 16.VIII.2004, leg. & det. J. Hafellner (63629).

Note: TLC: Atranorin, zeorin, fumarprotocetraric acid, 3 fatty acids.

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448. *Melanelixia fuliginosa* (Fr. ex Duby) O.Blanco et al. ssp. *glabratula* (Lamy) ined.

AUSTRIA, Steiermark (=Styria), Niedere Tauern, Triebener Tauern, Vordertriebental SSE of Trieben, 1 km SE of the tavern Brodjäger, N-facing foot of Tierkogel, 47°26'30"N / 014°31'25"E, MTB 8553/3, 1050 m alt., waterside grove, on bark of *Alnus incana*. – 26.VIII.2002, leg. J. Hafellner (58969) & J. Miadlikowska, det. J. Hafellner.

Note: All specimens with apothecia.

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449. *Menegazzia terebrata* (Hoffm.) A.Massal.

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, about 5.5 km E of Hieflau, Schwabeltal, shortly W of the confluence of the brooks Schwabelbach and Schwarzenbach, 47°37'00"N / 014°49'00"E, MTB 8354/4, 670 m alt., mixed forest above limestone gravel, on *Alnus incana*. – 16.VIII.2004, leg. & det. J. Hafellner (41509).

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450. *Mycobilimbia hypnorum* (Lib.) Kalb & Hafellner

AUSTRIA, Steiermark (=Styria), Niedere Tauern, Triebener Tauern, SW of Wald am Schoberpass, Griesmoar Kogel, northern ridge between the saddle to Himmeleck and the summit, 47°25'15"N / 014°36'10"E, MTB 8553/4, 1950 m alt., low outcrops of mica slate (partly Ca-influenced) in alpine meadows, on naked soil. – 20.VIII.2002, leg. J. Hafellner (58925) & J. Miadlikowska, det. J. Hafellner.

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451. *Nephromopsis morrisonicola* M.J.Lai

CHINA, SE-Tibetan fringe mountains (=Hengduan Shan), prov. Sichuan, Daxue Shan, 57 km S of Kangding, Gongga Shan, Hailougou glacier and forest park, near Hailougou Station, 29°34'35"N / 101°59'50", 3000 m alt., *Abies fabri* forest, on *Rosa spec.* – 28.VII.2000, leg. & det. W. Obermayer (08271).

Note: TLC: Usnic acid, 3 fatty acids of the lichesterinic acid complex. Specimen in GZU with large apothecia (2 cm in diam.).

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452. *Normandina acroglypta* (Norman) Aptroot

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, about 7.5 km E of Hieflau, lowermost NW-facing slopes of the mountain Kaltmayer, north of the valley Wurmgraben, 47°36'30"N / 014°51'00"E, MTB 8355/3, 850 m alt., mixed forest over limestone boulders, on bark of *Fagus sylvatica*. – 16.VIII.2004, leg. & det. J. Hafellner (63717).

Note: The specimen in GZU shows a few perithecia.

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453. *Opegrapha rufescens* Pers.

AUSTRIA, Steiermark (=Styria), Sausal, 5 km W of Leibnitz, SE-facing base of Demmerkogel, lower part of Stumpfgraben NW of Heimschuh, 46°46'15"N / 015°28'45"E, MTB 9258/2, 300 m alt., mixed forest, on stem bark of *Carpinus betulus*. – 25.III.2000, leg. & det. J. Hafellner (51080).

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454. *Opegrapha vermicellifera* (Kunze) J.R.Laundon

AUSTRIA, Steiermark (=Styria), Sausal, E-facing foot area of Demmerkogel, hindmost part of Kreisgraben below Kitzeck, 46°47'20"N / 015°26'10"E, MTB 9258/2, 400 m alt., mixed forest, on stem bark of *Tilia*. – 25.III.2000, leg. & det. J. Hafellner (50859).

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455. *Parmelia submontana* Nádv. ex Hale

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, 4 km E of Eisenerz, Gsoll, path to Gsollhütte, near the junction of the Winterebengraben and the Gsollbachgraben, 47°33'05"N / 014°56'30"E, MTB 8455/2, 950 m alt., edge of a forest, on bark of *Acer pseudoplatanus*. – 18.IX.2003, leg. & det. J. Hafellner (62093).

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456. *Parmelina pastillifera* (Harm.) Hale

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, 8 km E of Eisenerz, W-facing slopes below Frauenmayer, NE above Gsollhütte, path to the westerly entrance of the cave 'Frauenmayerhöhle', 47°33'30"N / 014°58'15"E, MTB 8455/2, 1300 m alt., scattered remnants of an autochthonous forest with *Acer pseudoplatanus* and *Fagus sylvatica* (within a spruce forest), on bark of *Acer pseudoplatanus*. – 18.IX.2003, leg. & det. J. Hafellner (62738).

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457. *Parmeliopsis ambigua* (Wulfen) Nyl.

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Stubalpe, 15 km W of Köflach, 7.5 km NW of Hirscheegg, 0.4 km NW of Kochbauer, 47°03'35"N / 014°52'50"E, MTB 8955/1, 1340 m alt., border area of a ski-slope, on rotten trunk (vertical surface). – 30.VII.2005, leg. & det. W. Obermayer (10788).

Note: All specimens show the two other typical species of the *Parmeliopsis* detum ambiguae, *Parmeliopsis hyperopta* and *Vulpicida pinastris*.

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458. *Parmotrema delicatulum* (Vain.) Hale

URUGUAY, San José, Sierra Mahoma, 34°05'S / 056°56'W, 100-200 m alt., on top of a big boulder (locally abundant). – 31.VIII.1969, leg. & det. H.S. Osorio (6219b).

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459. *Pertusaria coronata* (Ach.) Th.Fr.

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, Hackentörl SW above Seewiesen, 47°36'20"N / 015°15'05"E, MTB 8357/4, 1290 m alt., mixed forest, on bark of *Fagus sylvatica*. – 11.IX.2004, leg. & det. J. Hafellner (63309).

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460. *Pertusaria werneriana* Boqueras

GREECE, Aegean Islands, Nomos Samos, Icaria Island, Kamara, ENE of Vathi, 37°45.98'N / 027°00.59'E, 160 m alt., macchia on NW-facing slope, on stunted *Quercus coccifera*. – 25.IX.2002, leg. H. Sipman (49605) & T. Raus, det. H. Sipman.

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461. *Petractis hypoleuca* (Ach.) Vězda

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, about 7.5 km E of Hieflau, lowermost NW-facing slopes of the mountain Kaltmayer, north of the valley Wurmgraben, 47°36'30"N / 014°51'00"E, MTB 8355/3, 850 m alt., mixed forest over limestone boulders, on shadowed limestone rocks. – 16.VIII.2004, leg. & det. J. Hafellner (63694).

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462. *Phaeorrhiza* cf. *sareptana* (Tomlin) H.Mayrhofer & Poelt

RUSSIA, Krasnoyarsk Krai (N of Central Siberia), Severnaya Zemlya Archipelago, N part of Bol'shevik Island, western coast of Akhmatov Bay, 7 km SW of the mouth of Bazovaia River, 100 to 200 m away from the bay coast, flat coastal terrace, 79°04'N / 102°45'E, 20 m alt., fine to medium gravel with silt, on soil. – 15.VII.1996, leg. M. Zhurbenko (96290-1), det. W. Obermayer.

Note: *Phaeorrhiza nimbose*, which has been issued from the same locality in 'Dupla Graecensia Lichenum' no 68 (Obermayer, W. 1999: Dupla Graecensia Lichenum (1999). - Fritschiana 21: 13–30), can be partly intermixed.

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463. *Physcia adscendens* (F.) H.Olivier

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Stubalpe, 15 km W of Köflach, 7.5 km NW of Hirscheegg, 0.4 km NW of Kochbauer, 47°03'35"N / 014°52'50"E, MTB 8955/1, 1340 m alt., border area of a ski-slope, on *Acer pseudoplatanus* (strongly shadowed stem base). – 30.VII.2005, leg. & det. W. Obermayer (10789).

Note: *Physcia dubia* var. *teretiusscula* is intermixed in some specimens.

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464. *Physcia biziana* (A.Massal.) Zahlbr.

ARMENIA, Kotayk' Marz, Jrvej, Yerevan-Geghard highway, 40°11'25"N / 044°38'25"E, 1300 m alt., road embankment along the highway, on bark of *Acacia* spec. – 2.X.2005, leg. S. Harutyunyan (00073), det. W. Obermayer.

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465. Physcia dubia (Hoffm.) Lettau
var. *teretiuscula* (Ach.) Clauzade & Cl.Roux

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Stubalpe, 15 km W of Köflach, 7.5 km NW of Hirscheegg, near the penultimate switchback before reaching the bottom station of the Salzstiegel ski-lifts (tavern Moasterboden), 47°03'40"N/014°53'00"E, MTB 8955/1, 1260 m alt., mixed forest with *Picea abies*, *Larix decidua*, *Fagus sylvatica*, and *Acer pseudoplatanus*, close to a brook, on *Acer pseudoplatanus*. – 30.VII.2005, leg. & det. W. Obermayer (10825).

Note: Contrary to *Physcia dubia* s.str., the medulla of var. *teretiuscula* becomes slowly pale yellow with KOH, the lobes are finger-shaped and strongly convex.

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466. Physconia perisidiosa (Erichsen) Moberg

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, 8 km E of Eisenerz, W-facing slopes below Frauenmauer, NE above Gsollhütte, path to the westerly entrance of the cave 'Frauenmauerhöhle', 47°33'30"N/014°58'15"E, MTB 8455/2, 1300 m alt., scattered remnants of an autochthonous forest with *Acer pseudoplatanus* and *Fagus sylvatica* (within a spruce forest), on bark of *Acer pseudoplatanus*. – 18.IX.2003, leg. & det. J. Hafellner (62745).

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467. Punctelia ulophylla (Ach.) Herk & Aptroot

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Stubalpe, 15 km W of Köflach, 7.5 km NW of Hirscheegg, 0.4 km NW of Kochbauer, 47°03'35"N / 014°52'50"E, MTB 8955/1, 1340 m alt., border area of a ski-slope, on *Fagus sylvatica*. – 30.VII.2005, leg. & det. W. Obermayer (10786).

Note: Diagnostic characters (against *P. subrudecta*) are the pruinose thallus margins and the (mostly) marginal soredia.

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468. Pycnora sorophora (Vain.) Hafellner

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, Pfaffenstein N of Eisenerz, along the path 'Markussteig', below the striking rock-ridge SE in front of the mountain Kesselmauer, 47°33'20"N / 014°54'05"E, MTB 8455/1, 1300 m alt., forest with *Picea abies* (steep S-exposed slope), on wood of decaying stumps. – 3.VIII.2004, leg. & det. J. Hafellner (63439).

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469. Pyrenula nitida (Weigel) Ach.

AUSTRIA, Steiermark (=Styria), Sausal, 5 km W of Leibnitz, SE-facing base of Demmerkogel, anterior part of Stumpfgraben NW of Heimschuh, 46°46'15"N/015°28'45"E, MTB 9258/2, 300 m alt., mixed forest, on stem bark of *Carpinus betulus*. – 25.III.2000, leg. & det. J. Hafellner (51088).

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470. Ramalina celastri (Spreng.) Krog & Swinscow

URUGUAY, Salto, Uruguay river and Itapeby brook, 31°12'S / 057°51'W, 10-50 m alt., marginal forest of the Uruguay river, on branches of shrubs. – 5.II.1972, leg. & det. H.S. Osorio (6755).

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471. Ramalina fastigiata (Pers.) Ach.

AUSTRIA, Steiermark (=Styria), Steirisches Randgebirge, Joglland, 6 km NE of Pöllau, Masenberg, summit area, 47°20'55"N / 015°52'30"E, MTB 8661/3, 1260 m alt., mixed forest with low siliceous outcrops, on bark of *Acer pseudoplatanus*. – 19.X.2003, leg. & det. J. Hafellner (61864).

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472. *Rinodina freyi* H.Magn.

AUSTRIA, Tirol, Osttirol, Deferegger Alpen, Defereggental, NW of the bottom station of Brunnalmbahn, W of Sankt Leonhard, 46°54'45"N / 012°20'55"E, MTB 9040/3, 1380 m alt., pasture fences, on pickets (vertical surfaces). – 11.VIII.2004, leg. & det. H. Mayrhofer (16016).

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473. *Rinodina oleae* Bagl.

NEW ZEALAND, North Island, Wellington, Island Bay, S of Wellington, 41°20'50"S / 174°46'48"E, 3-5 m alt., on siliceous coastal rocks. – 23.XI.2003, leg. & det. M. Lam-bauer (0216).

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474. *Sagiolechia protuberans* (Ach.) A.Massal.

AUSTRIA, Steiermark (=Styria), Nördliche Kalkalpen, Hochschwab-Gruppe, 9.5 km NE of Eisenerz, Brandstein, immediately N below the summit, 47°36'05"N / 014°59'00"E, MTB 8355/4, 1990 m alt., striking doline in the uppermost part of the N-facing slope (limestone), on N-exposed steep rock faces. – 5.VIII.2004, leg. & det. J. Hafellner (63338).

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475. *Sarcosagium campestre* (Fr.) Poetsch & Schied.

AUSTRIA, Salzburg, urban area of Salzburg, western area of the Faculty of Natural Sciences (University of Salzburg), 47°47'22"N / 013°03'38"E, MTB 8244/1, 420 m alt., on soil (small cracks in quartzitic porphyry). – 9.V.2005, leg. R. Türk (37487), det. J. Hafellner.

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476. *Stereocaulon condensatum* Hoffm.

RUSSIA, Murmansk Oblast, Barents Sea coast at the mouth of Voron'ya River, 69°15'-20'N / 033°25'-35'E, 10-20 m alt., sand dunes on the river terrace, on sand (abundant). – 30.VIII.1997, leg. & det. M. Zhurbenko (9748).

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477. *Strigula smaragdula* Fr.

URUGUAY, Artigas, Rio Uruguay, Isla Zapallo, 30°31'S / 057°53'W, 40 m alt., forest in the inner part of the island, on leaves of *Cupania vernalis*. – 17./18.VI.1976, leg. & det. H.S. Osorio (7388).

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478. *Tornabaea scutellifera* (With.) J.R.Laundon

TURKEY, Hatay, Dörtyol, between Payas and Hoppa, 36°56'N / 036°25'E, 1500 m alt., on twigs of *Abies silicicus*. – 29.VII.1990, leg. & det. V. John (s.n.1).

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479. *Tuckneraria laureri* (Kremp.) Randlane & Thell

[Syn.: *Nephromopsis laureri* (Kremp.) Kurok.]

CHINA, Tibet, prov. Sichuan, Tibetan fringe mountains (=Hengduan Shan), Shaluli Shan, 56 km NE of Batang, 30°17'10"N / 099°31'15"E, 4300 m alt., conifer forest at a brookside, on rock covered with bryophytes. – 5.VIII.2000, leg. W. Obermayer (08284), det. W. Obermayer, conf. T. Randlane (2001).

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480. Umbilicaria vellea (L.) Hoffm.

RUSSIA, Komi Republic, Northern Ural, 165 km ESE of Troitsko-Pechorsk, upper stream of Pechora river, Pechora-Ilych state reserve, top of Yanyupuner range, 62° 05'N / 059°06'E, 700 m alt., low-alpine heath, rock outcrops 10-20 m height "Zayachii Kamen", on rock faces. – 7.VII.1997, leg. & det. M. Zhurbenko (97145a).

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