

Additions to the lichenized and lichenicolous fungi in Bulgaria

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Abstract. Thirty-six taxa of lichenized fungi, *Acarospora irregularis*, *Arthonia mediella*, *Caloplaca asserigena*, *C. atroflava*, *C. subpallida*, *Catillaria detractula*, *Diplotomma hedinii*, *Endohyalina insularis*, *Lecanora rouxii*, *L. rupicola* subsp. *subplanata*, *Lecidea berengeriana*, *L. sarcogynoides*, *Leptra leucosora*, *Lepraria borealis*, *L. diffusa*, *L. elobata*, *L. nylanderiana*, *L. vouauxii*, *Ochrolechia arborea*, *Pertusaria flavicans*, *Protoparmeliopsis muralis* var. *dubyi*, *Pycnora praestabilis*, *Rinodina freyi*, *R. luridata* var. *immersa*, *R. occulta*, *R. roscida*, *R. sicula*, *R. teichophila*, *R. trevisanii*, *Rinodinella dubyanoides*, *Scoliosporum umbrinum* var. *corticicolum*, *Solorina bispora* var. *macrospora*, *Strigula affinis*, *Tephromela atra* var. *torulosa*, *Umbilicaria freyi*, and *U. maculata*, are reported for the first time from Bulgaria. The finding of *Rinodina sicula* represents the first record for the Balkan Peninsula.

Key words: biodiversity, Bulgaria, lichenicolous fungi, lichenized fungi, *Rinodina*, taxonomy

Introduction

The present paper is a contribution to the lichen biota of Bulgaria and the Balkan Peninsula. It includes 36 taxa of lichenized fungi new for Bulgaria. Additionally, some new records for

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distinct floristic regions are also reported. Eleven taxa previously synonymized by Mayrhofer et al. (2005) are resurrected following recent taxonomic treatments.

Material and methods

The specimens were collected during three short field trips by H. M. – two with S. O. Nikolova (2007, 2008) and one with A. Atanassova (2010) with the main focus on the *Physciaceae*. Further specimens were collected by A. Atanassova in 2009 and 2011. Most of the specimens are kept in the herbarium GZU. Thin-layer chromatography (TLC) was performed in solvents A, B', and C on selected taxa following Orange et al. (2001). The nomenclature follows Nimis et al. (2018) and for taxa not occurring in the Alps, Nimis (2016). In the case of nomenclatural changes, citations are followed by the name used in the original publication. The authors of taxa follow Nimis et al. (2018).

The genera and taxa within each genus are given in alphabetical order. The numbers within square brackets following the authors refer to the floristic regions of Bulgaria as used by Mayrhofer et al. (2005) from where the taxa are recorded. New records for Bulgaria are indicated by an asterisk (*). Corrections to taxa, published in *Catalogue of the lichenized and lichenicolous fungi in Bulgaria* (Mayrhofer et al. 2005), are indicated by a hash (#).

Results

Lichenized fungi

Acarospora cervina (Ach.) A. Massal. [5, 18]

Balkan Range, Mt. Ponor, Sofia Province, Dobravitsa village, Topilata neighbourhood, on limestone, 43°1'36"N 23°13'56"E, alt. 1000 m, 15 Jul 2007, leg. H. Mayrhofer 18605 & S. Nikolova; Thracian Lowland, Plovdiv Province, Besaparski Ridove, on limestone, 42°5'13"N 24°28'47"E, alt. 220 m, 13 May 2008, leg. H. Mayrhofer 18567 & S. Nikolova.

**Acarospora irregularis* H. Magn. [17]

The Rhodopes, Kurdzhali Province, dam of Stouden Kladenets Reservoir, on trachyte, 41°36'59"N 25°38'30"E, alt. 230 m, 14 May 2008, leg. H. Mayrhofer 18537 & S. Nikolova, det. K. Knudsen.

Amandinea punctata (Hoffm.) Coppins & Scheid. [9]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, SW of Padesh village, near a small riverbed, on red basalt, 41°54'22"N 22°57'50"E, alt. 655 m, 26 May 2010, leg. A. Atanassova 090301 & H. Mayrhofer.

**Arthonia mediella* Nyl. [14]

Pirin Mts, Blagoevgrad Province, on *Pinus peuce*, 41°45'48"N 23°25'13"E, alt. 1875 m, 10 Jul 2007, leg. H. Mayrhofer 18634 & S. Nikolova.

#*Aspicilia hoffmanniana* (S. Ekman & Fröberg ex R. Sant.) Cl. Roux & M. Bertrand [5]
Published by Szatala (1929: 91, as '*Aspicilia hoffmannii*' and '*A. caesioalba*'). Mayrhofer et al. (2005) treated this taxon as '*A. contorta* subsp. *hoffmanniana*'.

Brodoa intestiniiformis (Vill.) Goward [11]

Mt. Belasitsa, Blagoevgrad Province, Petrich, at Maluk Kongour Peak, on siliceous rock outcrops, 41°19'48"N 23°10'31"E, alt. 1839 m, 27 May 2010, leg. A. Atanassova 110902 & H. Mayrhofer.

Buellia disciformis (Fr.) Mudd [5]

Balkan Range, Lovech Province, Troyan, Beklemeto Mountain pass, along the road, on *Fagus sylvatica*, 42°48'35"N 24°38'22"E, alt. 1096 m, 19 Sep 2009, leg. A. Atanassova 051409.

Buellia griseovirens (Turner & Borrer ex Sm.) Almb. [14]

Pirin Mts, Blagoevgrad Province, trail to Vihren, on lignum of *Pinus heldreichii*, 41°46'22"N 23°25'35"E, alt. 2011 m, 11 Jul 2007, leg. H. Mayrhofer 18680 & S. Nikolova (filed under *Pycnora praestabilis*).

#*Caloplaca arnoldii* subsp. *oblitterata* (Pers.) Gaya [5, 17]

Published by Szatala (1930: 100, as '*Caloplaca pusilla* var. *obliterascens*') and Gaya (2009: 45). Mayrhofer et al. (2005) treated this taxon as synonym of *C. obliterans*.

**Caloplaca asserigena* (Stizenb. ex J. Lahm) Dalla Torre & Sarnth. [17]

The Rhodopes, Smolyan Province, above Trigrad Gorge, on *Acer pseudoplatanus*, 41°36'46"N 24°22'39"E, alt. 1200 m, 16 May 2008, leg. H. Mayrhofer 18574 & S. Nikolova, det. J. Vondrák.

**Caloplaca atroflava* (Turner) Mong. [17]

The Rhodopes, Kurdzhali Province, stonefield S of Stouden Kladenets village, on basalt, 41°36'10"N 25°38'21"E, alt. 190 m, 14 May 2008, leg. H. Mayrhofer 18513 & S. Nikolova, det. J. Vondrák.

Caloplaca demissa (Körb.) Arup & Grube [12]

Mt. Slavyanka, Blagoevgrad Province, SW of Petrovo village, Valley of Petrovska Reka River, S-facing open dry rocky slopes, on mica schist, 41°25'29"N 23°31'27"E, alt. 534 m, 28 May 2010, leg. A. Atanassova 120106 & H. Mayrhofer.

Caloplaca inconnexa (Nyl.) Zahlbr. var. *inconnexa* [18]

Thracian Lowland, Plovdiv Province, Besaparski Ridove, on limestone, 42°5'13"N 24°28'47"E, alt. 200 m, 13 May 2008, leg. H. Mayrhofer 18198 & S. Nikolova, det. J. Vondrák.

Caloplaca inconnexa var. *nesodes* Poelt & Nimis [17]

The Rhodopes, Smolyan Province, Gela village, forest edge above pastures, on calcareous earthy boulders, 41°39'53"N 24°34'5"E, alt. 1526 m, 1 Aug 2009, leg. A. Atanassova 171105, det. J. Vondrák.

Caloplaca marmorata (Bagl.) Jatta [18]

Thracian Lowland, Plovdiv Province, Besaparski Ridove, on limestone, 42°5'13"N 24°28'47"E, alt. 220 m, 13 May 2008, leg. H. Mayrhofer 19713 & S. Nikolova, det. J. Vondrák.

#*Caloplaca monacensis* (Leder.) Lettau [17, 20]

Published by Szatala (1930: 97, as '*Caloplaca cerina* f. *cyanolepra*'); Vondrák et al. 2009: 11; Šoun et al. 2011: 116). Mayrhofer et al. (2005) treated *C. cerina* f. *cyanolepra* as synonym of *C. cerina*.

#*Caloplaca pusilla* (A. Massal.) Zahlbr. [5, 17]

Published by Szatala (1929: 97, as '*Caloplaca pusilla* f. *calcicola*'; 1930: 100, as '*Caloplaca murorum* var. *pulvinatum*'). Mayrhofer et al. (2005) treated these taxa as synonyms of *C. saxicola*.

#*Caloplaca rouxii* Gaya, Nav.-Ros. & Llimona [17]

Published by Szatala 1930: 99–100, as '*Caloplaca murorum* var. *miniatum*'). Mayrhofer et al. (2005) treated this taxon as synonym of *C. saxicola*.

**Caloplaca subpallida* H. Magn. [17]

The Rhodopes, Haskovo Province, along the road between Borislavtsi and Madzharovo, on trachyte, 41°39'51"N 25°54'6"E, alt. 220 m, 13 May 2008, leg. H. Mayrhofer 18162 & S. Nikolova; near Madzharovo, steep N-facing slope, on basalt, 41°38'24"N 25°50'48"E, alt. 160 m, 14 May 2008, leg. H. Mayrhofer 18179 & S. Nikolova, det. J. Vondrák.

Caloplaca variabilis (Pers.) Müll. Arg. [6, 18]

Sofia Region, Sofia Province, hills near Beledie Han, on calcareous outcrops, 42°53'28"N 23°9'48"E, alt. 765 m, 15 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26420); Thracian Lowland, Plovdiv Province, Besaparski Ridove, on limestone, 42°5'13"N 24°28'47"E, alt. 200 m, 13 May 2008, leg. H. Mayrhofer 18160 & S. Nikolova.

Candelariella reflexa (Nyl.) Lettau [10, 17, 18]

Valley of River Strouma, Blagoevgrad Province, Kresna Gorge, Tisata Nature Reserve, on trachyte, 41°45'16"N 23°9'10"E, alt. 220 m, 12 Jul 2007, leg. H. Mayrhofer 18592 & S. Nikolova; the Rhodopes, Smolyan Province, above Trigrad Gorge, on *Juniperus communis*, 41°36'46"N 24°22'39"E, alt. 1200 m, 16 May 2008, leg. H. Mayrhofer 18502 & S. Nikolova; Thracian Lowland, Haskovo Province, Mineralni Bani village, Aida Peak, deciduous forest, on *Quercus robur*, 41°54'26"N 25°18'34"E, alt. 778 m, 12 Sep 2009, leg.

A. Atanassova 174606; Haskovo, Kenana, on *Quercus frainetto*, 41°57'32"N 23°30'53"E, alt. 248 m, 28 Sep 2009, leg. A. Atanassova 180205.

Candelariella vitellina (Hoffm.) Müll. Arg. [9]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, SE-facing pasture with scattered *Quercus pubescens*, on siliceous rock outcrops, 41°57'49"N 23°3'3"E, alt. 445 m, 26 May 2010, leg. A. Atanassova 090105 & H. Mayrhofer.

**Catillaria detractula* (Nyl.) H. Olivier [17]

The Rhodopes, Haskovo Province, Kravevo village, at *Quercus* forest edge, on hard calcareous earthy boulders, 41°47'7"N 25°40'49"E, alt. 280 m, 12 Sep 2009, leg. A. Atanassova 174805.

Catillaria lenticularis (Ach.) Th. Fr. [17]

The Rhodopes, Kurdzhali Province, the dam of Stouden Kladenets Reservoir, on trachyte, 41°36'59"N 25°38'30"E, alt. 230 m, 14 May 2008, leg. H. Mayrhofer 18539 & S. Nikolova.

Cetraria muricata (Ach.) Eckfeldt [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, N-facing siliceous rock outcrops below Maluk Kongour, on earth, 41°19'18"N 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanassova 110705 & H. Mayrhofer, det. Fernando Fernandez Mendoza.

Cladonia fimbriata (L.) Fr. [1, 9]

Black Sea coast, Bourgas Province, Sinemorets village, Silistar Protected Area, deciduous forest above the beach, on earth, 42°2'13"N 28°0'9"E, alt. 8 m, 23 Sep 2009, leg. A. Atanassova 010603; West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, beneath scattered *Quercus cerris* SW along the main road, on earth, 41°53'56"N 22°56'52"E, alt. 830 m, 26 May 2010, leg. A. Atanassova 090225 & H. Mayrhofer.

Cladonia symphyarpa (Flörke) Fr. [14]

Pirin Mts, Blagoevgrad Province, near Mountain Shelter Kazana, on soil, 41°46'12"N 23°24'24"E, alt. 2408 m, 11 Jul 2007, leg. H. Mayrhofer 18646 & S. Nikolova.

Collema flaccidum (Ach.) Ach. [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Hut, beech forest, on *Fagus sylvatica*, 41°20'38"N 23°11'12"E, alt. 1370 m, 27 May 2010, leg. A. Atanassova 110304 & H. Mayrhofer.

Cornicularia normoerica (Gunnerus) Du Rietz [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, on N-facing siliceous rock outcrops below Maluk Kongour, 41°19'18"N 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanassova 110716 & H. Mayrhofer.

Dermatocarpon miniatum (L.) W. Mann [10]

Valley of River Strouma, Blagoevgrad Province, Kresna Gorge, on siliceous rocks, 41°45'48"N 23°09'10"E, alt. 220 m, 12 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26442).

Diploschistes muscorum (Scop.) R. Sant. [9, 12]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, SE-facing pasture with scattered *Quercus pubescens*, on siliceous rock outcrops, 41°57'49"N 23°3'3"E, alt. 445 m, 26 May 2010, leg. A. Atanassova 090104 & H. Mayrhofer; Mt. Slavyanka, Blagoevgrad Province, SW of Petrovo village, Valley of Petrovska reka River, S-facing open dry rocky slopes, on earth upon mica schist, 41°25'29"N 23°31'27"E, alt. 534 m, 28 May 2010, leg. A. Atanassova 120113 & H. Mayrhofer.

Diploschistes scruposus (Schreb.) Norman [12]

Mt. Slavyanka, Blagoevgrad Province, SW of Petrovo village, Valley of Petrovska Reka River, S-facing open dry rocky slopes, on mica schist, 41°25'29"N 23°31'27"E, alt. 534 m, 28 May 2010, leg. A. Atanassova 120105 & H. Mayrhofer.

Diplotomma chlorophaeum (Hepp ex Leight.) Kr.P. Singh & S.R. Singh [9, 10]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, SW of Padesh village, near a small riverbed, on red basalt, 41°54'22"N 22°57'50"E, alt. 655 m, 26 May 2010, leg. A. Atanassova 090302 & H. Mayrhofer; Valley of River Strouma, Blagoevgrad Province, Kresna Gorge, Tisata Nature Reserve, on trachyte, 41°45'16"N 23°9'10"E, alt. 220 m, 12 Jul 2007, leg. H. Mayrhofer 18597 & S. Nikolova.

**Diplotomma bedinii* (H. Magn.) P. Clerc & Cl. Roux [6, 12, 17]

Sofia Region, Sofia Province, Beledie Han, on limestone, 42°53'27"N 23°09'48"E, alt. 770 m, 15 July 2007, leg. H. Mayrhofer 18578 & S. Nikolova; Mt. Slavyanka, Blagoevgrad Province, SW of Petrovo village, Valley of Petrovska Reka River, S-facing open dry rocky slopes, on gneiss, 41°25'29"N 23°31'27"E, alt. 534 m, 28 May 2010, leg. A. Atanassova 120126 & H. Mayrhofer; the Rhodopes, Smolyan Province, Gela village, forest edge above pastures, on calcaceous earthy boulders, 41°39'53"N 24°34'5"E, alt. 1526 m, 1 Aug 2009, leg. A. Atanassova 171102.

Diplotomma venustum (Körb.) Körb. [18]

Thracian Lowland, Plovdiv Province, Besaparski Ridove, on limestone, 42°5'13"N 24°28'47"E, alt. 200 m, 13 May 2008, leg. H. Mayrhofer 18197 & S. Nikolova.

**Endohyalina insularis* (Arnold) Giralt, van den Boom & Elix [11, 14, 15] (syn. *Rinodina insularis* (Arnold) Hafellner)

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, N-facing siliceous rock outcrops below Maluk Kongour, on mica schist, lichenicolous on *Lecanora rupicola*, 41°19'18"N, 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanassova 110722 & H. Mayrhofer; Pirin Mts, Blagoevgrad Province, above Vihren Hut, near Okoto Lake, shaded siliceous rocks,

lichenicolous on *Lecanora rupicola*, 41°44'57"N 23°24'48"E, alt. 2065 m, 10 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26440); Rila Mts, Kyustendil Province, free ascent to the Seven Rila Lakes, SW above Dolnoto Ezero Lake, exposed alpine meadow, on mica schist, lichenicolous on *Lecanora rupicola*, 42°12'58"N 23°19'13"E, alt. 2158 m, 25 May 2010, leg. A. Atanassova 151004 & H. Mayrhofer.

#*Graphis pulverulenta* (Pers.) Ach. [15, 17]

Published by Suza (1929: 9, as '*Graphis scripta* var. *pulverulenta*') and Popnikolov & Zhelezova (1964: 108, as '*G. scripta* var. *abietina*' and '*G. scripta* var. *pulverulenta*'). Mayrhofer et al. (2005) treated these taxa as synonyms of *G. scripta*.

Gyalolechia flavovirescens (Wulfen) Søchting, Frödén & Arup [5] (syn. *Caloplaca flavovirescens* (Wulfen) Dalla Torre & Sarnth.)

Balkan Range, Mt. Ponor, Sofia Province, Dobravitsa village, Topilata neighbourhood, on basalt, 43°1'35"N 23°13'55"E, alt. 1000 m, 15 Jul 2007, leg. H. Mayrhofer 18616 & S. Nikolova.

Hypogymnia physodes (L.) Nyl. [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, N-facing siliceous rock outcrops below Maluk Kongour, on dwarf shrubs, 41°19'18"N 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanassova 110704 & H. Mayrhofer.

Lambiella insularis (Nyl.) T. Sprib. [11, 14] (syn. *Rimularia insularis* (Nyl.) Rambold & Hertel)

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, on N-facing siliceous rock outcrops below Maluk Kongour, lichenicolous on *Lecanora rupicola*, 41°20'3"N 23°10'39"E, alt. 1698 m, 27 May 2010, leg. A. Atanassova 110608 & H. Mayrhofer; Pirin Mts, Blagoevgrad Province, above Vihren Hut, near Okoto Lake, shaded siliceous rocks, lichenicolous on *Lecanora rupicola*, 41°44'57"N 23°24'48"E, alt. 2065 m, 10 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26439).

Lecanora bicincta Ramond [10]

Valley of River Strouma, Blagoevgrad Province, W of Purvomay village, NW-facing open dry rocky slope, on mica schist, 41°24'10"N 23°6'48"E, alt. 185 m, 29 May 2010, leg. A. Atanassova 100709 & H. Mayrhofer.

Lecanora chlarotera Nyl. [9, 15, 17]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, SE-facing pasture with scattered *Quercus pubescens*, 41°57'49"N 23°3'3"E, alt. 445 m, 26 May 2010, leg. A. Atanassova 090119 & H. Mayrhofer; same locality, on *Fraxinus ornus*, leg. A. Atanassova 090125 & H. Mayrhofer; Rila Mts, Kyustendil Province, Panichishte Resort, *Populus* plantation along the road, on *Populus alba*, 42°16'57"N 23°16'15"E, alt. 875 m, 24 May 2010, leg. A. Atanassova 150116 & H. Mayrhofer; the Rhodopes, Haskovo Province, Malko

Gradishte village, cemetery with solitary trees, on *Quercus robur*, 41°46'2"N 25°59'13"E, alt. 195 m, 23 Jul 2009, leg. A. Atanassova 170211.

Lecanora gangaleoides Nyl. [1]

Published by Poelt & Vězda (1981: 180), without locality.

Black Sea coast, Bourgas Province, Sinemorets village, on volcanic rock, 42°02'59"N 27°59'26"E, alt. 3 m, 15 Aug 2011, leg. A. Atanassova 011011, det. J. Malíček.

Lecanora intumescens (Rebent.) Rabenh. [20]

Mt. Strandzha, Bourgas Province, Varovnik village, roadside near the village, on *Quercus cerris*, 42°12'47"N 27°13'31"E, alt. 364 m, 22 Sep 2009, leg. A. Atanassova 201509.

Lecanora mughicola Nyl. [8]

Vitosha Region, Sofia City, near Aleko Hut, on *Pinus sylvestris*, 42°34'18"N 23°18'2"E, alt. 1868 m, 9 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26476).

**Lecanora rouxii* S. Ekman & Tønsberg [5]

Balkan Range, Mt. Ponor, on limestone, 43°01'36"N 23°14'46"E, alt. 1100 m, 15 Jul 2007, leg. H. Mayrhofer 18608 & S. Nikolova.

**Lecanora rupicola* subsp. *subplanata* (Nyl.) Leuckert & Poelt [11]

Mt. Belasitsa, Blagoevgrad Province, along the marked path from Kongour Hut to Kongour Peak just below Maluk Kongour, on N-facing siliceous rocks, 41°20'03"N 23°10'39"E, alt. 1698 m, 27 May 2010, leg. A. Atanassova 110606 & H. Mayrhofer.

TLC: atranorin, roccellic acid, xanthones.

Lecanora saligna (Schrad.) Zahlbr. [9]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, scattered deciduous trees SW along the main road, on *Prunus padus*, 41°53'56"N 22°56'52"E, alt. 830 m, 26 May 2010, leg. A. Atanassova 090210 & H. Mayrhofer.

Lecanora sulphurea (Hoffm.) Ach. [12]

Mt. Slavyanka, Blagoevgrad Province, SW of Petrovo village, Valley of Petrovska Reka River, S-facing open dry rocky slopes, on mica schist, 41°25'29"N 23°31'27"E, alt. 534 m, 28 May 2010, leg. A. Atanassova 120108 & H. Mayrhofer.

Lecanora swartzii (Ach.) Ach. [17]

The Rhodopes, Haskovo Province, near Madzharovo, steep N-facing slope, on basalt, 41°38'24"N 25°50'48"E, alt. 160 m, 14 May 2008, leg. H. Mayrhofer 18183 & S. Nikolova.

Lecanora varia (Hoffm.) Ach. [8]

Vitosha Region, Sofia City, near Aleko Hut, on *Pinus sylvestris*, 42°34'18"N 23°18'2"E, alt. 1868 m, 9 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26477).

**Lecidea berengeriana* (A. Massal.) Nyl. [14]

Pirin Mts, Blagoevgrad Province, near Mountain Shelter Kazana, on soil and plant debris, 41°46'12"N 23°24'24"E, alt. 2408 m, 11 Jul 2007, leg. H. Mayrhofer 18689 & S. Nikolova.

#*Lecidea grisella* Flörke [17]

Published by Szatala (1930: 71). Mayrhofer et al. (2005) treated this taxon as synonym of *Lecidea fuscoatra*.

**Lecidea sarcogynoides* Körb. [9]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, SE-facing pasture with scattered *Quercus pubescens*, on siliceous rock outcrops, 41°57'49"N 23°3'3"E, alt. 445 m, 26 May 2010, leg. A. Atanassova 090103 & H. Mayrhofer.

The record of Szatala (1930: 73), also cited by Hertel (2006: 46), refers to *Lecidella stigmatea*, according to Hertel (1971: 256).

Lecidella asema (Nyl.) Knoph & Hertel [17]

The Rhodopes, Kurdzhali Province, the dam of Stouden Kladenets Reservoir, on trachyte, 41°36'59"N 25°38'30"E, alt. 230 m, 14 May 2008, leg. H. Mayrhofer 18549 & S. Nikolova.

Lepra amara (Ach.) Hafellner [10] (syn. *Pertusaria amara* (Axch.) Nyl.)

Valley of River Strouma, Blagoevgrad Province, Kresna Gorge, Tisata Nature Reserve, on trachyte, 41°45'16"N 23°9'10"E, alt. 220 m, 12 Jul 2007, leg. H. Mayrhofer 18600 & S. Nikolova.

**Lepra leucosora* (Nyl.) Hafellner [17] (syn. *Pertusaria leucosora* Nyl.)

The Rhodopes, Haskovo Province, near Madzharovo, steep N-facing slope, on basalt, 41°38'24"N 25°50'48"E, alt. 160 m, 14 May 2008, leg. H. Mayrhofer 18182 & S. Nikolova.

**Lepraria borealis* Loht. & Tønsberg [11, 14]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, on N-facing siliceous rock outcrops below Maluk Kongour, 41°19'18"N 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanassova 110708a & H. Mayrhofer; Pirin Mts, Blagoevgrad Province, along the trail to Vihren, on bryophytes, 41°44'56"N 23°24'48"E, alt. 2031 m, 10 Jul 2007, leg. H. Mayrhofer 18667 & S. Nikolova.

Lepraria caesioalba (B. de Lesd.) J.R. Laundon [14]

Pirin Mts, Blagoevgrad Province, roadside between Bansko and Bunderitsa Hut, on bryophytes, 41°46'35"N 23°26'21"E, alt. 1751 m, 9 Jul 2007, leg. H. Mayrhofer 18683 & S. Nikolova.

TLC: atranorin, fumarprotocetraric and roccellic acids.

**Lepraria diffusa* (J.R. Laundon) Kukwa [14, 17]

Pirin Mts, Blagoevgrad Province, below Vihren, on soil, 41°16'13"N 23°24'40"E, alt. 2408 m, 11 Jul 2007, leg. H. Mayrhofer 18677 & S. Nikolova; the Rhodopes, Smolyan Province, roadside between Chepelare and Pamporovo resort, on bryophytes, 41°39'31"N 24°42'15"E, alt. 1500 m, 16 May 2008, leg. H. Mayrhofer 18557 & S. Nikolova.

**Lepraria elobata* Tønsberg [8, 15]

Vitosha Region, Sofia City, near Aleko Hut, on *Picea abies*, 42°34'16"N 23°17'58"E, alt. 1838 m, 9 Jul 2007, leg. H. Mayrhofer 18681 & S. Nikolova; Rila Mts, Kyustendil Province, free ascent to the Seven Rila Lakes, *Picea abies* forest, on fallen trunk, 42°13'56"N 23°19'24"E, alt. 1903 m, 25 May 2010, leg. A. Atanassova 150502 & H. Mayrhofer.

Lepraria finkii (B. de Lesd.) R.C. Harris [8, 17] (syn. *L. lobificans* Nyl.)

Vitosha Region, Sofia City, near Aleko Hut, on soil, 42°34'16"N 23°17'58"E, alt. 1838 m, 9 Jul 2007, leg. H. Mayrhofer 18682 & S. Nikolova; the Rhodopes, Smolyan Province, above Trigrad Gorge, on soil, 41°36'46"N 24°22'39"E, alt. 1200 m, 16 May 2008, leg. H. Mayrhofer 18573 & S. Nikolova.

Lepraria nivalis J.R. Laundon [10] (syn. *L. crassissima* auct.)

Valley of River Strouma, Blagoevgrad Province, Roupite near Petrich, on steep W-facing volcanic rocks above the man-made stone cross, on trachyte, 41°27'32"N 23°15'42"E, alt. 100 m, 26 May 2010, leg. A. Atanassova 100211 & H. Mayrhofer; on huge sandstone tomb near the Strouma River bridge, 41°29'17"N 23°15'35"E, alt. 110 m, 26 May 2010, leg. A. Atanassova 1003015 & H. Mayrhofer.

**Lepraria nylanderiana* Kümmerl. & Leuckert [10]

Valley of River Strouma, Blagoevgrad Province, Kresna Gorge, Tisata Nature Reserve, on trachyte, 41°45'16"N 23°9'1"E, alt. 210 m, 12 Jul 2007, leg. H. Mayrhofer 18603 & S. Nikolova.

**Lepraria vouauxii* (Hue) R.C. Harris [17]

The Rhodopes, Haskovo Province, Kromlekh near Dolni Glavanak village, on *Quercus robur*, 41°40'54"N 25°48'46"E, alt. 310 m, 15 May 2008, leg. H. Mayrhofer 18524 & S. Nikolova.

Megaspora verrucosa (Ach.) Hafellner & V. Wirth [15]

Rila Mts, Kyustendil Province, above Rilski Ezera Hut, NE-facing rocky slope, on moss upon amphibolite, 42°13'13"N 23°19'12"E, alt. 2140 m, 25 May 2010, leg. A. Atanassova 150804 & H. Mayrhofer.

Melanelia stygia (L.) Essl. [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, on N-facing siliceous rock outcrops below Maluk Kongour, 41°19'18"N 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanasova 110712 & H. Mayrhofer (filed under *Protoparmelia badia*).

Melanelixia glabratula (Lamy) Sandler & Arup [10, 17, 19] (syn. *Melanelia fuliginosa* subsp. *glabratula* (Lamy) Coppins)

Valley of River Strouma, Blagoevgrad Province, Kresna Gorge, Tisata Nature Reserve, on *Juniperus communis*, 41°45'16"N 23°9'1"E, alt. 210 m, 12 Jul 2007, leg. H. Mayrhofer 18581 & S. Nikolova; the Rhodopes, Pazardzhik Province, Yundola village, Haidushka Cheshma, on *Prunus* sp., 42°5'25"N 24°48'15"E, alt. 1747 m, 6 Aug 2009, leg. A. Atanasova 171507; Haskovo Province, Krалеvo village, deciduous forest, on *Prunus* sp., 41°47'2"N 25°40'55"E, alt. 330 m, 12 Sep 2009, leg. A. Atanasova 175102; Toundzha Hilly Country, Bourgas Province, Sredets, Malka Reka eco-path, deciduous forest, on fence out of young wood, 42°19'32"N 27°11'11"E, alt. 88 m, 3 Sep 2009, leg. A. Atanasova 201405.

Melanelixia subargentifera (Nyl.) O. Blanco et al. [10, 12] (syn. *Melanelia subargentifera* (Nyl.) Essl.)

Valley of River Strouma, Blagoevgrad Province, Kresna Gorge, Tisata Nature Reserve, on *Juniperus communis*, 41°45'16"N 23°9'1"E, alt. 210 m, 12 Jul 2007, leg. H. Mayrhofer 18583 & S. Nikolova; Mt. Slavyanka, Blagoevgrad Province, Izvora Hut, SW of Petrovo village, on *Fraxinus ornus*, 41°24'53"N 23°33'27"E, alt. 707 m, 28 May 2010, leg. A. Atanasova 120306 & H. Mayrhofer.

Melanelixia subaurifera (Nyl.) O. Blanco et al. [10] (syn. *Melanelia subaurifera* (Nyl.) Essl.)

Valley of River Strouma, Blagoevgrad Province, W of Purvomay village, NW-facing open dry rocky slope with shrubs destructed by grazing stock, on *Carpinus orientalis*, 41°24'10"N 23°6'48"E, alt. 185 m, 29 May 2010, leg. A. Atanasova 100729 & H. Mayrhofer.

Melanohalea exasperata (De Not.) O. Blanco et al. [12] (syn. *Melanelia exasperata* (De Not.) Essl.)

Mt. Slavyanka, Blagoevgrad Province, Izvora Hut, SW of Petrovo village, on *Fraxinus ornus*, 41°24'53"N 23°33'27"E, alt. 707 m, 28 May 2010, leg. A. Atanasova 120319 & H. Mayrhofer.

Miriquidica invadens Hafellner, Obermayer & Tretiach [14]

Pirin Mts, Blagoevgrad Province, above Vihren Hut, on *Sporastatia polyspora* on granite, 41°44'56"N 23°24'48"E, alt. 2031 m, 10 Jul 2007, leg. H. Mayrhofer 18665 & S. Nikolova, det. J. Hafellner.

TLC: miriquidic and stictic acids.

Monerolechia badia (Fr.) Kalb [9, 10, 17] (syn. *Buellia badia* (Fr.) A. Massal.)

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, SE-facing pasture with scattered *Quercus pubescens*, on siliceous rock outcrops, 41°57'49"N 23°3'3"E, alt. 445 m, 26 May 2010, leg. A. Atanassova 090102 & H. Mayrhofer; Valley of River Strouma, Blagoevgrad Province, Roupite, on steep W-facing volcanic rocks above the man-made stone cross, on trachyte, 41°27'32"N 23°15'42"E, alt. 100 m, 26 May 2010, leg. A. Atanassova 100202 & H. Mayrhofer; the Rhodopes, Haskovo Province, near Madzharovo, steep N-facing slope, on basalt, 41°38'24"N 25°50'48"E, alt. 160 m, 14 May 2008, leg. H. Mayrhofer 18184 & S. Nikolova; Kurdzhali Province, the dam of Stouden Kladenets Reservoir, on trachyte, 41°36'59"N 25°38'30"E, alt. 230 m, 14 May 2008, leg. H. Mayrhofer 18544 & S. Nikolova.

Myriolecis reuteri (Schaer.) Šliva, Zhao Xin & Lumbsch [5] (syn. *Lecanora reuteri* Schaer.)

Balkan Range, Mt. Ponor, Sofia Province, Dobravitsa village, Topilata neighbourhood, on limestone, 43°1'35"N 23°14'45"E, alt. 1100 m, 15 Jul 2007, leg. H. Mayrhofer 18610 & S. Nikolova.

Myriolecis sambuci (Pers.) Clem. [17] (syn. *Lecanora sambuci* (Pers.) Nyl.)

The Rhodopes, Haskovo Province, Malko Gradishte village, cemetery with solitary trees, on *Juglans regia*, 41°46'2"N 25°59'13"E, alt. 195 m, 23 Jul 2009, leg. A. Atanassova 170207.

**Ochrolechia arborea* (Kreyer) Almb. [17]

The Rhodopes, Smolyan Province, above Trigrad Gorge, on *Juniperus communis*, 41°36'46"N 24°22'39"E, alt. 1200 m, 16 May 2008, leg. H. Mayrhofer 18508 & S. Nikolova.

Parmelia submontana Nadv. ex Hale [9]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, beneath scattered *Quercus cerris* SW along the main road, on earth, 41°53'56"N 22°56'52"E, alt. 830 m, 26 May 2010, leg. A. Atanassova 090212 & H. Mayrhofer.

Parmelina pastillifera (Harm.) Hale [9, 12, 15]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, scattered deciduous trees SW along the main road, on *Prunus padus*, 41°53'56"N 22°56'52"E, alt. 830 m, 26 May 2010, leg. A. Atanassova 090206 & H. Mayrhofer; Mt. Slavyanka, Blagoevgrad Province, SW of Petrovo village, Valley of Petrovska Reka River, S-facing open dry rocky slopes, on mica schist, 41°25'29"N 23°31'27"E, alt. 534 m, 28 May 2010, leg. A. Atanassova 120109 & H. Mayrhofer; Rila Mts, Kyustendil Province, Panichishte Resort, *Populus* plantation along the road, on *Populus alba*, 42°16'57"N 23°16'15"E, alt. 875 m, 24 May 2010, leg. A. Atanassova 150115 & H. Mayrhofer.

Parmelina quercina (Willd.) Hale [9, 11, 12, 18, 19]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, scattered deciduous trees SW along the main road, on *Prunus padus*, 41°53'56"N 22°56'52"E, alt. 830 m, 26

May 2010, leg. A. Atanassova 090207 & H. Mayrhofer; Mt. Belasitsa, Blagoevgrad Province, near Belasitsa Hut, on *Castanea sativa*, 41°22'9"N 23°11'43"E, alt. 690 m, 27 May 2010, leg. A. Atanassova 110103 & H. Mayrhofer; Mt. Slavyanka, Blagoevgrad Province, Izvora Hut, SW of Petrovo village, on *Ailanthus altissima*, 41°24'53"N 23°33'27"E, alt. 707 m, 28 May 2010, leg. A. Atanassova 120318 & H. Mayrhofer; Thracian Lowland, Haskovo Province, Haskovo, Kenana locality, on *Quercus frainetto*, 41°57'32"N 25°30'53"E, alt. 248 m, 28 Sep 2009, leg. A. Atanassova 180207; Toundzha Hilly Country, Bourgas Province, Sredets, Malka Reka eco-path, deciduous forest, on *Quercus robur*, 42°19'47"N 27°11'3"E, alt. 144 m, 3 Sep 2009, leg. A. Atanassova 201011.

Parmelina tiliacea (Hoffm.) Hale [9]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, SE-facing pasture with scattered *Quercus pubescens*, on siliceous rock outcrops, 41°57'49"N 23°3'3"E, alt. 445 m, 26 May 2010, leg. A. Atanassova 090102 & H. Mayrhofer.

Parmeliopsis hyperopta (Ach.) Vain. [8]

Vitosha Region, Sofia City, near Aleko Hut, on *Picea abies*, 42°34'52"N 23°17'47"E, alt. 1838 m, 9 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26503).

Peltigera elisabethae Gyeln. [1]

Black Sea coast, Bourgas Province, Sinemorets village, at a small beach, on earth above volcanic rocks, 42°2'59"N 27°59'26"E, alt. 3 m, 15 Aug 2011, leg. A. Atanassova 011002, det. P. Resl.

Peltigera malacea (Ach.) Funck [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, at Maluk Kongour Peak, on siliceous rock outcrops, 41°19'48"N 23°10'31"E, alt. 1839 m, 27 May 2010, leg. A. Atanassova 110901 & H. Mayrhofer.

Peltigera membranacea (Ach.) Nyl. [17]

The Rhodopes, Smolyan Province, Smolyan, orchard around Ezerata Hut, on earth, 41°36'22"N 24°40'12"E, alt. 1373 m, 5 Sep 2009, leg. A. Atanassova 174205, det. P. Resl.

Peltigera praetextata (Flörke ex Sommerf.) Vain. [17]

The Rhodopes, Smolyan Province, Chepelare, Choudnite Mostove rock formation, eco-path, on earth, 41°49'6"N 24°34'59"E, alt. 1403 m, 4 Sep 2010, leg. A. Atanassova 174008, det. P. Resl.

Peltigera rufescens (Weiss) Humb. [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, just below Maluk Kongour Peak, on soil between bryophytes, 41°19'18"N 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanassova 110707 & H. Mayrhofer.

**Pertusaria flavicans* Lamy [17]

The Rhodopes, Kurdzhali Province, the dam of Stouden Kladenets Reservoir, on trachyte, 41°36'59"N 25°38'30"E, alt. 230 m, 14 May 2008, leg. H. Mayrhofer 18543 & S. Nikolova.

Phlyctis argena (Ach.) Flot. [10]

Valley of River Strouma, Blagoevgrad Province, Purvomay village, Samouil's Fortress, on *Quercus pubescens*, 41°23'39"N 23°1'48"E, alt. 203 m, 29 May 2010, leg. A. Atanassova 100507 & H. Mayrhofer.

Physcia dubia (Hoffm.) Lettau [11]

Belasitsa mountain, Blagoevgrad Province, Maluk Kongour Peak, on siliceous rock outcrops, 41°19'48"N 23°10'31"E, alt. 1839 m, 27 May 2010, leg. A. Atanassova 110903 & H. Mayrhofer, det. T.L. Esslinger.

Pleurosticta acetabulum (Neck.) Elix & Lumbsch [12, 17]

Mt. Slavyanka, Blagoevgrad Province, Izvora Hut, SW of Petrovo village, on *Fraxinus ornus*, 41°24'53"N 23°33'27"E, alt. 707 m, 28 May 2010, leg. A. Atanassova 120309 & H. Mayrhofer; the Rhodopes, Haskovo Province, Malko Gradishte village, cemetery with solitary trees, on *Juglans regia*, 41°46'2"N 25°59'13"E, alt. 195 m, 23 Jul 2009, leg. A. Atanassova 170205; Mineralni Bani village, Aida Peak, deciduous forest, on *Quercus robur*, 41°54'26"N 25°18'34"E, alt. 778 m, 12 Sep 2009, leg. A. Atanassova 174605.

Porpidia cinereoatra (Ach.) Hertel & Knoph [17]

The Rhodopes, Kurdzhali Province, stonefield S of Stouden Kladenets village, on basalt, 41°36'10"N 25°38'21"E, 14 May 2008, leg. H. Mayrhofer 18515 & S. Nikolova, det. J. Malíček.

Porpidia crustulata (Zahlbr.) Hertel & A. J. Schwab [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, on silicate, 41°19'16"N 23°10'29"E, alt. 1951 m, 27 May 2010, leg. A. Atanassova 110803 & H. Mayrhofer.

Porpidia macrocarpa (DC.) Hertel & A.J. Schwab [10, 12]

Valley of River Strouma, Blagoevgrad Province, Kresna Gorge, Tisata Nature Reserve, on trachyte, 41°45'16"N 23°9'10"E, alt. 220 m, 12 Jul 2007, leg. H. Mayrhofer 18599 & S. Nikolova; Mt. Slavyanka, Blagoevgrad Province, SW of Petrovo village, valley of Petrovska Reka River, S-facing open dry rocky slopes, on mica schist, 41°25'29"N 23°31'27"E, alt. 534 m, 28 May 2010, leg. A. Atanassova 120112 & H. Mayrhofer.

Protoparmelia badia (Hoffm.) Hafellner [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, on N-facing siliceous rock outcrops below Maluk Kongour, 41°19'18"N 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanassova 110712 & H. Mayrhofer.

Protoparmelia montagnei (Fr.) Poelt & Nimis [10, 12] (syn. *P. psarophana* (Nyl.) Sancho & A. Crespo)

Valley of River Strouma, Blagoevgrad Province, Roupite, on huge sandstone tomb near the Strouma River bridge roadside to Roupite Monastery, 41°29'17"N 23°15'35"E, alt. 110 m, 26 May 2010, leg. A. Atanassova 100306 & H. Mayrhofer; Mt. Slavyanka, Blagoevgrad Province, SW of Petrovo village, valley of Petrovska Reka River, S-facing open dry rocky slopes, on mica schist, 41°25'29"N 23°31'27"E, alt. 534 m, 28 May 2010, leg. A. Atanassova 120115 & H. Mayrhofer.

**Protoparmeliopsis muralis* var. *dubyi* (Müll. Arg.) Hafellner & Türk [10, 17] (syn. *Lecanora muralis* var. *dubyi* (Müll. Arg.) Poelt)

Valley of River Strouma, Blagoevgrad Province, Roupite, on huge sandstone tomb near the Strouma River bridge roadside to Roupite Monastery, 41°29'17"N 23°15'35"E, alt. 110 m, 26 May 2010, leg. A. Atanassova 100317 & H. Mayrhofer; the Rhodopes, Haskovo Province, roadside between Borislavtsi and Madzharovo, on trachyte, 41°39'51"N 25°54'06"E, alt. 220 m, 13 May 2008, leg. H. Mayrhofer 18163 & S. Nikolova.

#*Protoparmeliopsis versicolor* (Pers.) M. Choisy [5, 17]

Published by Kasandzhiev (1900: 528, as '*Lecanora saxicola* var. *versicolor*'), Suza (1929: 19, as '*L. saxicola* var. *versicolor*'), and Szatala (1929: 94, 1930: 89, as '*Placodium murale* var. *versicolor*'). Mayrhofer et al. (2005) treated these taxa as synonyms of *Protoparmeliopsis muralis*.

Psilolechia lucida (Ach.) M. Choisy [11]

Mt. Belasitsa, Blagoevgrad Province, Belasitsa Hut, Leshnishki Waterfall, deciduous forest, on earthy granitic outcrops, 41°21'40"N 23°10'57"E, alt. 780 m, 29 May 2010, leg. A. Atanassova 111311 & H. Mayrhofer.

**Pycnora praestabilis* (Nyl.) Hafellner [14]

Pirin Mts, Blagoevgrad Province, near Bunderitsa Hut, on lignum of *Pinus heldreichii*, 41°46'03"N 23°25'24"E, alt. 1883 m, 10 Jul 2007, H. Mayrhofer 18675 & S. Nikolova; Blagoevgrad Province, trail to Vihren, on lignum of *Pinus heldreichii*, 41°46'22"N 23°25'35"E, alt. 2011 m, 11 Jul 2007, leg. H. Mayrhofer 18680 & S. Nikolova (associated with *Buellia griseovirens*).

Ramalina fastigiata (Pers.) Ach. [10, 11, 17]

Valley of River Strouma, Blagoevgrad Province, Purvomay village, Samouil's Fortress, on *Quercus pubescens*, 41°23'39"N 23°1'48"E, alt. 203 m, 29 May 2010, leg. A. Atanassova 100508 & H. Mayrhofer; Mt. Belasitsa, Blagoevgrad Province, near Belasitsa Hut, on *Castanea sativa*, 41°22'9"N 23°11'43"E, alt. 690 m, 27 May 2010, leg. A. Atanassova 110104 & H. Mayrhofer; the Rhodopes, Smolyan Province, near Trigrad, on *Robinia pseudacacia*, 41°36'16"N 24°22'40"E, alt. 1260 m, 16 May 2008, leg. H. Mayrhofer 18527 &

S. Nikolova; Chepelare, along the road to Pamporovo Resort, on *Abies alba*, 41°39'31"N 24°42'15"E, alt. 1500 m, 16 May 2008, leg. H. Mayrhofer 18555 & S. Nikolova.

Ramalina pollinaria (Westr.) Ach. [9, 10, 12]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, scattered deciduous trees SW along the road, on *Prunus padus*, 41°53'56"N 22°56'52"E, alt. 830 m, 26 May 2010, leg. A. Atanassova 090214 & H. Mayrhofer; Valley of River Strouma, Blagoevgrad Province, Roupite, on huge sandstone tomb near the Strouma River bridge, 41°29'17"N 23°15'35"E, alt. 110 m, 26 May 2010, leg. A. Atanassova 100316 & H. Mayrhofer; Mt. Slavyanka, Blagoevgrad Province, SW of Petrovo village, Valley of Petrovska Reka River, S-facing open dry rocky slopes, on mica schist, 41°25'29"N 23°31'27"E, alt. 534 m, 28 May 2010, leg. A. Atanassova 120111 & H. Mayrhofer.

Rhizocarpon distinctum Th. Fr. [10, 11]

Valley of River Strouma, Blagoevgrad Province, Roupite, on huge sandstone tomb near the Strouma River bridge, 41°29'17"N 23°15'35"E, alt. 110 m, 26 May 2010, leg. A. Atanassova 100309 & H. Mayrhofer; Purvomay village, Samouil's Fortress, NW-facing rock faces, on mica schist, 41°23'46"N 23°1'36"E, alt. 185 m, 29 May 2010, leg. A. Atanassova 100610 & H. Mayrhofer; Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, on N-facing siliceous rock outcrops below Maluk Kongour, 41°19'18"N 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanassova 110714 & H. Mayrhofer.

Rhizocarpon geminatum Körb. [15]

Rila Mts, Kyustendil Province, above Rilski Ezera Hut, NE-facing rocky slope, on amphibolite, 42°13'13"N 23°19'12"E, alt. 2140 m, 25 May 2010, leg. A. Atanassova 150807 & H. Mayrhofer.

Rhizocarpon reductum Th. Fr. [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, on N-facing siliceous rock outcrops below Maluk Kongour, 41°20'3"N 23°10'39"E, alt. 1698 m, 27 May 2010, leg. A. Atanassova 110605 & H. Mayrhofer.

Rinodina bischoffii (Hepp) A. Massal. [5]

Balkan Range, Mt. Ponor, Sofia Province, Dobravitsa village, Topilata neighbourhood, on calcareous rocks, 43°1'36"N 23°13'57"E, alt. 995 m, 15 Jul 2007, leg. H. Mayrhofer 18585 & S. Nikolova (GZU, SOMF 26444).

Rinodina calcarea (Hepp ex Arnold) Arnold [18]

Thracian Lowland, Plovdiv Province, Besaparski Ridove, on limestone, 42°5'13"N 24°28'47"E, alt. 200 m, 13 May 2008, leg. H. Mayrhofer 18195 & S. Nikolova.

Rinodina capensis Hampe [17]

The Rhodopes, Smolyan Province, above Trigrad Gorge, on *Acer pseudoplatanus*, 41°36'46"N 24°22'39"E, alt. 1200 m, 16 May 2008, leg. H. Mayrhofer 18576 & S. Nikolova.

**Rinodina freyi* H. Magn. [11, 17]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, N-facing siliceous rock outcrops below Maluk Kongour, 41°19'18"N 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanassova 110701 & H. Mayrhofer; the Rhodopes, Smolyan Province, above Trigrad Gorge, on *Juniperus communis*, 41°36'46"N 24°22'39"E, alt. 1200 m, 16 May 2008, leg. H. Mayrhofer 18503 & S. Nikolova; Haskovo Province, Malko Gradishte village, cemetery with solitary trees, on *Quercus robur*, 41°46'2"N 25°59'13"E, alt. 195 m, 23 Jul 2009, leg. A. Atanassova 170210.

Rinodina immersa (Körb.) J. Steiner [6]

Sofia Region, Sofia Province, Beledie Han, on calcareous outcrops, 42°53'28"N 23°9'48"E, alt. 765 m, 15 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26476).

Rinodina lecanorina (A. Massal.) A. Massal. [5, 17]

Balkan Range, Mt. Ponor, Sofia Province, Dobravitsa village, Topilata neighbourhood, on limestone, 43°1'36"N 23°13'56"E, alt. 1000 m, 15 Jul 2007, leg. H. Mayrhofer 18613 & S. Nikolova; same area, on limestone, 43°1'39"N 23°14'39"E, alt. 1100 m, leg. H. Mayrhofer 18624 & S. Nikolova (with *Rinodinella controversa*); the Rhodopes, Smolyan Province, above Trigrad Gorge, on limestone, 41°36'46"N 24°22'39"E, alt. 1200 m, 16 May 2008, leg. H. Mayrhofer 18506 & S. Nikolova; same area, on breccia, 41°36'16"N 24°22'40"E, alt. 1260 m, 16 May 2008, leg. H. Mayrhofer 18529 & S. Nikolova; eco-path along Trigrad Gorge, on calcareous vertical rocks, 41°36'44"N 24°22'47"E, alt. 1140 m, 25 Jul 2010, leg. A. Atanassova 174406.

**Rinodina luridata* var. *immersa* (H. Mayrhofer & Cl. Roux) Cl. Roux [17]

The Rhodopes, Smolyan Province, Gela village, forest edge above pastures, on calcareous earthy boulders, 41°39'53"N 24°34'5"E, alt. 1526 m, 1 Aug 2009, leg. A. Atanassova 171107 (with *Aspicilia calcarea*).

Rinodina milvina (Wahlenb.) Th. Fr. [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, on N-facing siliceous rock outcrops below Maluk Kongour, 41°20'3"N 23°10'39"E, alt. 1698 m, 27 May 2010, leg. A. Atanassova 110603 & H. Mayrhofer; same area, on mica schist, 41°19'18"N 23°10'28"E, alt. 1944 m, leg. A. Atanassova 110721 & H. Mayrhofer.

Rinodina obnascens (Nyl.) H. Olivier [10]

Valley of River Strouma, Blagoevgrad Province, W of Purvomay village, NW-facing open dry rocky slope, on mica schist, lichenicolous on *Aspicilia* sp., sterile, 41°24'10"N 23°6'48"E, alt. 185 m, 29 May 2010, leg. A. Atanassova 100706 & H. Mayrhofer.

**Rinodina occulta* (Körb.) Sheard [10]

Valley of River Strouma, Blagoevgrad Province, W of Purvomay village, NW-facing open dry rocky slope, on mica schist, 41°24'10"N 23°6'48"E, alt. 185 m, 29 May 2010, leg. A. Atanassova 100705 & H. Mayrhofer.

Rinodina oleae Bagl. [10] (syn. *R. gennarii* Bagl.)

Valley of River Strouma, Blagoevgrad Province, Kresna Gorge, Tisata Nature Reserve, on *Juniperus communis*, 41°45'16"N 23°9'1"E, alt. 210 m, 12 Jul 2007, leg. H. Mayrhofer 18580 & S. Nikolova; Purvomay village, Samouil's Fortress, NW-facing rock faces, on mica schist, 41°23'46"N 23°1'36"E, alt. 185 m, 29 May 2010, leg. A. Atanassova 100606 & H. Mayrhofer.

Rinodina pyrina (Ach.) Arnold [5, 9, 12, 15, 19]

Balkan Range, Mt. Ponor, Sofia Province, Dobravitsa village, Topilata neighbourhood, on *Salix alba*, 43°1'39"N 23°14'39"E, alt. 1096 m, 15 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26447); same locality, on *Juglans regia*, leg. H. Mayrhofer & S. Nikolova (SOMF 26446); West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, SE-facing pasture with scattered deciduous trees, on *Quercus pubescens*, 41°57'49"N 23°3'3"E, alt. 445 m, 26 May 2010, leg. A. Atanassova 090115 & H. Mayrhofer; same locality, on *Fraxinus ornus*, leg. A. Atanassova 090120 & H. Mayrhofer; SW of Padesh village, near a small riverbed, on *Populus* sp., 41°54'22"N 22°57'50"E, alt. 655 m, 26 May 2010, leg. A. Atanassova 090315 & H. Mayrhofer; Mt. Slavyanka, Blagoevgrad Province, SW of Petrovo village, Valley of Petrovska Reka River, S-facing open dry rocky slopes, on *Juniperus oxycedrus*, 41°25'29"N 23°31'27"E, alt. 534 m, 28 May 2010, leg. A. Atanassova 120130 & H. Mayrhofer; S of Goleshovo village, open pasture with scattered old deciduous trees, on *Cornus mas*, 41°24'25"N 23°35'15"E, alt. 997 m, 28 May 2010, leg. A. Atanassova 120417 & H. Mayrhofer; Rila Mts, Kyustendil Province, Panichishte Resort, meadow along the road, on *Juglans regia*, 42°16'57"N 23°16'15"E, alt. 875 m, 24 May 2010, leg. A. Atanassova 150205 & H. Mayrhofer; Toundzha Hilly Country, Bourgas Province, Sredets, Malka reka eco-path, deciduous forest, on fence out of young wood, 42°19'32"N 27°11'11"E, alt. 88 m, 3 Sep 2009, leg. A. Atanassova 201401.

**Rinodina roscida* (Sommerf.) Arnold [14]

Pirin Mts, Blagoevgrad Province, near Mountain Shelter Kazana, on soil and plant debris, 41°46'12"N 23°24'24"E, alt. 2408 m, 11 Jul 2007, leg. H. Mayrhofer 18644 & S. Nikolova.

**Rinodina sicula* H. Mayrhofer & Poelt [1]

Black Sea coast, Bourgas Province, Sinemorets village, Lipite Beach, on volcanic rocks, 42°2'45"N 27°59'34"E, alt. 10 m, 14 Aug 2011, leg. A. Atanassova 010903; same area, at a small beach along the eco-path, on volcanic rocks, 42°2'59"N 27°59'26"E, alt. 3 m, 15 Aug 2011, leg. A. Atanassova 011002; estuary of Veleka River, on volcanic rocks, 42°3'54"N 27°58'33"E, alt. 10 m, 22 Sep 2010, leg. A. Atanassova 010804.

First records from the Balkan Peninsula.

Rinodina sophodes (Ach.) A. Massal. [1, 5, 9, 10, 11, 12]

Black Sea coast, Bourgas Province, Emona village, Cape Emine, pastures with solitary trees and shrubs, on *Quercus pubescens*, 42°42'13"N 27°53'16"E, alt. 124 m, 13 Aug 2009, leg. A. Atanassova 011207; Irakli, on *Prunus dulcis*, 42°45'06"N 27°53'19"E, alt. 8 m, 13 Aug 2009, leg. A. Atanassova 010108; Balkan Range, Mt. Ponor, Sofia Province, Dobravitsa village, Topilata neighbourhood, on *Juglans regia*, 43°1'39"N 23°14'39"E, alt. 1096 m, 15 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26453); Lovech Province, Beklemeto mountain pass, along the road, on *Fagus sylvatica*, 42°48'35"N 24°38'22"E, alt. 1096 m, 19 Sep 2009, leg. A. Atanassova 051410; West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, SE-facing pasture with scattered *Quercus pubescens*, 41°57'49"N 23°3'3"E, alt. 445 m, 26 May 2010, leg. A. Atanassova 090116 & H. Mayrhofer; same area, SW of Padesh, scattered deciduous trees along the main road, on *Prunus padus*, 41°53'56"N 22°56'52"E, alt. 830 m, 26 May 2010, leg. A. Atanassova 090204 & H. Mayrhofer; Valley of River Strouma, Blagoevgrad Province, Kresna Gorge, Tisata Nature Reserve, on *Paliurus spina-christi*, 41°45'16"N 23°9'1"E, alt. 210 m, 12 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26465); Mt. Belasitsa, Blagoevgrad Province, Kongour Hut, beech forest, on dead branches of *Fagus sylvatica*, 41°20'43"N 23°11'16"E, alt. 1310 m, 27 May 2010, leg. A. Atanassova 110202 & H. Mayrhofer; same area, on *Acer heldreichii*, 41°20'28"N 23°11'7"E, alt. 1490 m, leg. A. Atanassova 110402 & H. Mayrhofer; Mt. Slavyanka, Blagoevgrad Province, Izvora Hut, SW of Petrovo village, on *Ailanthus altissima*, 41°24'53"N 23°33'27"E, alt. 707 m, 28 May 2010, leg. A. Atanassova 120317 & H. Mayrhofer; Goleshovo village, open pasture with scattered old deciduous trees, on *Acer campestre*, 41°24'25"N 23°35'15"E, alt. 997 m, 28 May 2010, leg. A. Atanassova 120410 & H. Mayrhofer.

**Rinodina teichophila* (Nyl.) Arnold [17]

The Rhodopes, Plovdiv Province, SE of Novakovo village, deciduous forest edge, on exposed granitic earthy rocks, 41°53'9"N 25°3'43"E, alt. 466 m, 15 Sep 2009, leg. A. Atanassova 175406.

**Rinodina trevisanii* (Hepp) Körb. [15]

Rila Mts, Kyustendil Province, Panichishte Resort, mixed forest and pasture along the road, on roots of *Pinus sylvestris*, 42°16'57"N 23°16'15"E, alt. 875 m, 24 May 2010, leg. A. Atanassova 150301 & H. Mayrhofer.

Rinodinella controversa (A. Massal.) H. Mayrhofer & Poelt [5, 18]

Balkan Range, Mt. Ponor, Sofia Province, Dobravitsa village, Topilata neighbourhood, on limestone, parasitic on *Rinodina lecanorina*, 43°1'39"N 23°14'39"E, alt. 1100 m, 15 Jul 2007, leg. H. Mayrhofer 18625 & S. Nikolova; Thracian Lowland, Plovdiv Province, Besaparski Ridove, on limestone, 42°5'13"N 24°28'47"E, alt. 220 m, 13 May 2008, leg. H. Mayrhofer 18566 & S. Nikolova.

**Rinodinella dubyanoides* (Hepp) H. Mayrhofer & Poelt [6]

Sofia Region, Sofia Province, Beledie Han, on limestone, 42°53'27"N 23°9'48"E, alt. 770 m, 15 Jul 2007, leg. H. Mayrhofer 18588 & S. Nikolova.

Schaereria fuscocinerea (Nyl.) Clauzade & Cl. Roux [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, earthy outcrops, on silicate, 41°19'16"N 23°10'29"E, alt. 1951 m, 27 May 2010, leg. A. Atanassova 110802 & H. Mayrhofer.

Schismatomma pericleum (Ach.) Branth & Rostr. [14]

Pirin Mts, Blagoevgrad Province, along the road to Bunderitsa Hut, on *Abies alba*, 41°46'35"N 23°26'21"E, alt. 1751 m, 9 Jul 2007, leg. H. Mayrhofer 18686 & S. Nikolova.

Scoliciosporum chlorococcum (Graewe ex Stenh.) Vězda [5]

Balkan Range, Mt. Ponor, Sofia Province, Dobravitsa village, Topilata neighbourhood, on *Juglans regia*, 43°1'39"N 23°14'39"E, alt. 1096 m, 15 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26407).

**Scoliciosporum umbrinum* var. *corticolum* (Anzi) Bagl. & Carestia [9, 11]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, SW of Padesh village, near a small riverbed, on *Populus* sp., 41°54'22"N 22°57'50"E, alt. 655 m, 26 May 2010, leg. A. Atanassova 090317 & H. Mayrhofer; Mt. Belasitsa, Blagoevgrad Province, near Belasitsa Hut, deciduous forest, on *Betula pendula*, 41°22'9"N 23°11'43"E, alt. 690 m, 27 May 2010, leg. A. Atanassova 110109 & H. Mayrhofer.

#*Scytinium pulvinatum* (Hoffm.) Otálora, P.M. Jørg. & Wedin [17]

Published by Suza (1929: 10, as '*Leptogium lichenooides* var. *pulvinatum*') and Szatala (1930: 68, as '*Leptogium pulvinatum*'). Mayrhofer et al. (2005) treated these taxa as synonyms of *Leptogium lichenooides*.

#*Scytinium turgidum* (Ach.) Otálora, P.M. Jørg. & Wedin [5]

Published by Szatala (1929: 87, as '*Leptogium turgidum*'). Mayrhofer et al. (2005) treated this taxon as synonym of *Leptogium plicatile*.

Solenopsora candicans (Dicks.) J. Steiner [17]

The Rhodopes, Smolyan Province, eco-path along Trigrad Gorge, on calcareous vertical rocks, 41°36'44"N 24°22'47"E, alt. 1140 m, 25 Jul 2010, leg. A. Atanassova 174410.

**Solorina bispora* var. *macrospora* (Harm.) H. Olivier [14]

Pirin Mts, Blagoevgrad Province, near Mountain Shelter Kazana, on soil, 41°46'12"N 23°24'24"E, alt. 2408 m, 11 Jul 2007, leg. H. Mayrhofer 18649 & S. Nikolova.

**Strigula affinis* (A. Massal.) R.C. Harris [17]

The Rhodopes, Haskovo Province, Kralevo village, in deciduous forest, on *Quercus* sp., 41°47'02"N 25°40'55"E, alt. 330 m, 12 Sep 2009, leg. A. Atanassova 175105.

Tephromela atra (Huds.) Hafellner var. *atra* [12]

Mt. Slavyanka, Blagoevgrad Province, SW of Petrovo village, Valley of Petrovska Reka River, S-facing open dry rocky slopes, on mica schist, 41°25'29"N 23°31'27"E, alt. 534 m, 28 May 2010, leg. A. Atanassova 120110 & H. Mayrhofer.

**Tephromela atra* var. *torulosa* (Flörke ex Flot.) Hafellner [14]

Pirin Mts, Blagoevgrad Province, between Vihren Hut and Bunderitsa Hut, on *Pinus heldreichii*, 41°46'3"N 23°25'24"E, alt. 1883 m, 10 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26419); tourist road from Bunderitsa Hut to Kazanite Circus, on *Pinus heldreichii*, 41°46'22"N 23°25'35"E, alt. 1867 m, 11 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26492).

Thalloidima opuntioides (Vill.) Kistenich et al. [17] (syn. *Toninia opuntioides* (Vill.) Timdal)

The Rhodopes, Smolyan Province, Chudnite Mostove rock formation, on bryophytes, 41°49'06"N 24°34'59"E, alt. 1403 m, 4 Sep 2010, leg. A. Atanassova 174004.

Thelenella modesta (Nyl.) Nyl. [10]

Valley of River Strouma, Blagoevgrad Province, W of Purvomay village, NW-facing open dry rocky slope with shrubs destructed by grazing stock, on *Carpinus orientalis*, 41°24'10"N 23°6'48"E, alt. 185 m, 29 May 2010, leg. A. Atanassova 100730 & H. Mayrhofer.

Thrombium epigaeum (Pers.) Wallr. [11]

Belasitsa Mt., Blagoevgrad Province, Kongour Peak, N-facing siliceous rock outcrops below Maluk Kongour, on soil, 41°20'3"N 23°10'39"E, alt. 1698 m, 27 May 2010, leg. A. Atanassova 110609 & H. Mayrhofer.

Toninia philippea (Mont.) Timdal [17]

The Rhodopes, Smolyan Province, near Trigrad, on breccia, 41°36'16"N 24°22'40"E, alt. 1260 m, 16 May 2008, leg. H. Mayrhofer 18528 & S. Nikolova; Kurdzhali Province, the dam of Stouden Kladenets Reservoir, on trachyte, 41°36'59"N 25°38'30"E, alt. 230 m, 14 May 2008, leg. H. Mayrhofer 18540 & S. Nikolova.

Trapeliopsis wallrothii (Flörke ex Spreng.) Hertel & Gotth. Schneid. [15]

Rila Mts, Kyustendil Province, Panitschishte Resort, mixed forest and pasture along the road, on earth, 42°16'57"N 23°16'15"E, alt. 875 m, 24 May 2010, leg. A. Atanassova 150303 & H. Mayrhofer.

Umbilicaria crustulosa (Ach.) Frey [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, on N-facing siliceous rock outcrops below Maluk Kongour, 41°19'18"N 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanassova 110710 & H. Mayrhofer.

**Umbilicaria freyi* Codogno, Poelt & Puntillo [14, 17]

Pirin Mts, Blagoevgrad Province, near Vihren Hut, on underhanging siliceous rock, 41°44'56"N 23°24'48"E, alt. 2031 m, 10 Jul 2007, leg. H. Mayrhofer 18673 & S. Nikolova, det. E.A. Davydov; the Rhodopes, Haskovo Province, near Madzharovo, steep N-facing rocks, on basalt, 41°38'24"N 25°50'48"E, alt. 160 m, 14 May 2008, leg. H. Mayrhofer 18178 & S. Nikolova, det. E.A. Davydov.

Umbilicaria hirsuta (Sw. ex Westr.) Ach. [10]

Valley of River Strouma, Blagoevgrad Province, Kresna Gorge, on siliceous rocks, 41°45'48"N 23°9'10"E, alt. 220 m, 12 Jul 2007, leg. H. Mayrhofer & S. Nikolova (SOMF 26470).

**Umbilicaria maculata* Krzew., M.P. Martín & M.A. García [11, 15]

Mt. Belasitsa, Blagoevgrad Province, N-facing siliceous rock outcrops below Maluk Kongour, on mica schist, 41°19'18"N 23°10'28"E, alt. 1944 m, 27 May 2010, leg. A. Atanassova 110723 & H. Mayrhofer, det. E. Davydov; Rila Mts, Kyustendil Province, Seven Rila Lakes, SW above the Dolnoto Ezero, on mica schist, 42°12'58"N 23°19'13"E, alt. 2158 m, 25 May 2010, A. Atanassova 151003 & H. Mayrhofer, det. E. Davydov.

Usnea substerilis Motyka [14]

Pirin Mts, Blagoevgrad Province, between Bunderitsa Hut and Vihren Hut, on *Pinus peuce*, 41°45'48"N 23°25'13"E, alt. 1875 m, 10 Jul 2007, leg. H. Mayrhofer 18635 & S. Nikolova.

Xanthoparmelia pulla (Ach.) O. Blanco et al. [10]

Valley of River Strouma, Blagoevgrad Province, W of Purvomay village, NW-facing open dry rocky slope, on mica schist, 41°24'10"N 23°6'48"E, alt. 185 m, 29 May 2010, leg. A. Atanassova 100717 & H. Mayrhofer.

Xanthoparmelia stenophylla (Ach.) Ahti & D. Hawksw. [9, 10]

West Frontier Mts, Mt. Vlahina, Blagoevgrad Province, Padesh village, SE-facing pasture with rock outcrops, on earth, 41°57'49"N 23°3'3"E, alt. 445 m, 26 May 2010, leg. A. Atanassova 090106 & H. Mayrhofer; Valley of River Strouma, Blagoevgrad Province, W of Purvomay village, NW-facing open dry rocky slope, on mica schist, 41°24'10"N 23°6'48"E, alt. 185 m, 29 May 2010, leg. A. Atanassova 100712 & H. Mayrhofer.

Xanthoparmelia tinctina (Maheu & A. Gillet) Hale [1]

Black Sea coast, Bourgas Province, Sinemorets village, estuary of Veleka River, on volcanic rocks, 42°3'54"N 27°58'33"E, alt. 10 m, 22 Sep 2010, leg. A. Atanassova 010807.

#*Xylographa pallens* (Nyl.) Harm. [17]

Published by Szatala (1930: 65, as '*Xylographa abietina* f. *pallens*'). Mayrhofer et al. (2005) treated this taxon as synonym of *X. parallela*.

*Lichenicolous fungus**Carbonea vitellinaria* (Nyl.) Hertel [11]

Mt. Belasitsa, Blagoevgrad Province, Kongour Peak, on N-facing siliceous rock outcrops below Maluk Kongour, lichenicolous on *Candelariella vitellina*, 41°20'3"N 23°10'39"E, alt. 1698 m, 27 May 2010, leg. A. Atanassova 110604 & H. Mayrhofer.

Host: *Candelariella vitellina*

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