

Further new or interesting lichens and lichenicolous fungi from Gran Canaria (Canary Islands, Spain)

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Accepted 12. January 2015

Key words: *Ascomycetes*. – Biodiversity, distribution, substrata. – Mycobiota of Macaronesia.

Abstract: One hundred taxa of lichens and lichenicolous fungi are recorded from Gran Canaria, raising the total number known from the island to 534. All species are new to the island and nineteen are new to the Canary Islands archipelago. An alphabetical species list with collection localities, substrate and occasional further annotations is presented.

Zusammenfassung: Einhundert Taxa von Flechten und lichenicolen Pilzen werden aus Gran Canaria aufgelistet. Damit erhöht sich die Gesamtzahl der von der Insel bekannten Arten auf 534. Alle Arten sind neu für Gran Canaria und 19 Arten sind neu für die Kanarischen Inseln. Die alphabetische Artenliste enthält Angaben zu Fundort, Substraten und weitere Anmerkungen.

The lichens and lichenicolous fungi of Gran Canaria have received considerable attention in recent years. For a survey of literature see HERNÁNDEZ-PADRÓN & PÉREZ-VARGAS (2010) and VAN DEN BOOM (2010 a), in which eighty-five additional species are recorded. A record of *Vahliella isidioidea* PÉREZ-VARGAS, C. HDEZ.-PADR., VAN DEN BOOM & P. M. JØRG., from Gran Canaria was added by PÉREZ-VARGAS & al. (2014) and eight additional *Buellia* s. l. records have been found in GIRALT & VAN DEN BOOM (2011), making a total of 434 species. Here we bring results from fieldwork by the first author in the winter of 2013 in the northern part of the island (for locality list see below). The material of the genus *Usnea* was subjected to a detailed study by one of us (PC). Hundred taxa appeared unrecorded for the island, and 19 unrecorded for the Canary Islands archipelago; they are presented here.

Materials and methods

More than 450 specimens of lichens and lichenicolous fungi were examined, mostly collected by the first author and his wife on volcanic rock, on soil and on trees and shrubs, in 17 localities in the northern part of the island Gran Canaria (Canary Islands). To establish whether a record is new for Gran Canaria or the Canary Islands, the most recent checklist for lichens and lichenicolous fungi of the Ca-

nary Islands (HERNÁNDEZ-PADRÓN & PÉREZ-VARGAS 2010) was consulted. The following more recent publications were also checked: APTROOT & SCHUMM (2012), VAN DEN BOOM (2010 a, b, 2013), VAN DEN BOOM & al. (2009), GIRALT & VAN DEN BOOM (2011), GIRALT & al. (2010 a, b, c), VAN DEN BOOM & ERTZ (2012), PÉREZ-VARGAS & al. (2013, 2014), TEHLER & al. (2013). Chemical constituents were identified by the standard methods of thin-layer chromatography (TLC) according to ORANGE & al. (2001) or CULBERSON & AMMANN (1979). Some specimens were checked by specialists, as noted under the pertinent species. The indicated voucher specimens are kept in the private herbarium of P. VAN DEN BOOM (herbarium numbers with B), and one in BG.

Annotated species list

First records for the Canary Islands are marked by an asterisk. The locality numbers before the collection number correspond with the list of localities below.

**Abrothallus chrysanthus* STEIN— 14, B49219, on *Cistus*; 16, B49280, on *Cistus* (both on *Usnea*). In a recently published key to lichenicolous fungi growing on *Usnea* in Macaronesia (VAN DEN BOOM & ERTZ 2014) only mentioned from the Azores.

Arthonia atra (PERS.) A. SCHNEID.— 8, B49052, on *Prunus dulcis*.

Arthonia cinnabarina (DC.) WALLR.— 7, B48994, on *Myrica faya*.

Arthonia molendoi (FRAUENF.) R. SANT.— 7, B48999, on *Witharia* (on *Xanthoria parietina*); 7, B49034, on volcanic outcrop (on *Caloplaca flavescens*).

Arthonia muscigena TH. FR.— 3, B48894, on an unidentified trunk.

**Arthonia punctella* NYL.— 12, B49172, on low volcanic outcrop (on *Diplotomma alboatrum*). According to SMITH & al. (2009) known from Great Britain, Ireland and North Europe.

Arthonia radiata (PERS.) ACH.— 8, B49050, on *Prunus dulcis*.

Asteroglobulus giselae BRACKEL— 10, B49099, 49103, on *Pinus* (on *Ramalina farinacea*).

Bacidia canariensis ERICHSEN— 7, B48992, on *Myrica faya*.

Bacidia scopulicola (NYL.) A. L. SM.— 3, B48890, on volcanic rock.

**Bacidia viridifarinosa* COPPINS & P. JAMES— 18 (42130, BG), xanثone (TLC). Identified by T. TØNSBERG. An easily overlooked species which is often sterile, at least in Great Britain where it is frequent (SMITH & al. 2009).

**Buellia abstracta* (NYL.) H. OLIVIER— 7, B49016, on volcanic outcrop. Not recognized in the recent revision of *Buellia* s. l. in the Canary Islands (GIRALT & VAN DEN BOOM 2011).

Buellia caloplacivora LLIMONA & EGEE— 12, B49175, acidic outcrops. Mentioned from several Canary Islands by GIRALT & VAN DEN BOOM (2011).

Buellia erubescens ARNOLD— 7, B49032, on *Erica*. Only mentioned from La Palma by GIRALT & VAN DEN BOOM (2011).

Calicium glaucellum ACH.— 16, B49267, on a mature *Pinus*.

**Caloplaca cerinelloides* (ERICHSEN) POELT— 7, B48997, on *Withania*. According to SMITH & al. (2009), a much overlooked species, known from Great Britain, Scandinavia and mid-Europe.

Caloplaca flavescens (HUDS.) J. R. LAUNDON— 7, B49031; 12, B49171; 13, B49180; all on volcanic outcrops.

- **Capronia triseptata* (DIEDERICH) ETAYO— 1, B48870, on *Castanea* (on *Parmelina* sp.). In Spain mentioned from Majorca (ETAYO 1996). Without published records from Portugal, but one specimen, hb v.d. BOOM 23225 from north Portugal, on *Parmelina quercina*, is confirmed by J. ETAYO. Previously not known from Macaronesia.
- Cladonia coniocraea* (FLÖRKE) SPRENG.— 16, B49261, on *Pinus*.
- Cladonia hammeri* AHTI— 10, B49140, on volcanic rock. Identified by R. PINO.
- **Cladonia polydactyla* (FLÖRKE) SPRENG.— 16, B49284, on *Erica*. On the Iberian Peninsula mainly distributed in the north (BURGAZ & AHTI 2009).
- Cladonia ramulosa* (WITH.) J. R. LAUNDON— 9, B49069, on stone of wall; 10, B49144, on volcanic rock; 14, B49230, on *Pinus*.
- Coenogonium pineti* (ACH.) LÜCKING & LUMBSCH— 7, B48986, on *Erica*.
- Collema polycarpon* HOFFM.— 6, B48955, on volcanic outcrop.
- **Cystobasidium usneicola* DIEDERICH & AHTI— 14, B49224, on *Cistus*; 15, B49243, on *Pinus* (both on *Usnea*). Identified by P. DIEDERICH. Previously only known from the western USA (DIEDERICH 1996).
- Diplotomma alboatrum* (HOFFM.) FLOT.— 12, B49167, on volcanic rock.
- Dirina massiliensis* DURIEU & MONT. f. *massiliensis*—12, B49170, on volcanic rock.
- Endococcus rugulosus* NYL.— 9, B49076, on volcanic rock (on *Aspicilia*).
- **Hypocenomyce anthracophila* (NYL.) P. JAMES & GOTTH. SCHNEID.— 16, B49265, on *Pinus*.
- Hypotrachyna rockii* (ZAHLEBR.) HALE— 7, B48970, on *Erica*.
- **Illosporopsis christiansenii* (B. L. BRADY & D. HAWKSW.) D. HAWKSW.— 8, B49064, on *Prunus dulcis* (on *Xanthoria parietina*). Widespread in western Europe (many specimens in hb v.d. BOOM).
- **Intralichen christiansenii* (D. HAWKSW.) D. HAWKSW. & M. S. COLE— 6, B48959, on volcanic rock (on *Catillaria chalybeia*).
- Lecania cyrtella* (ACH.) TH. FR.— 1, B48874, on *Castanea*; 3, B48898, on an unidentified tree.
- Lecania spadicea* (FLOT.) ZAHLEBR.— 17, B49311, on volcanic rock.
- Lecania turicensis* (HEPP) MÜLL. ARG.— 12, B49169, on volcanic rock.
- Lecanora chlarotera* NYL.— 8, B49053, on *Prunus dulcis*.
- Lecanora dispersa* (PER.) SOMMERF.— 2, B48884, on acidic stone; 4, B48927, on vertical outcrop; 12, B49176, on sheltered outcrop.
- Lecanora expallens* ACH.— 16, B49264, on *Pinus*. Identified by T. TØNSBERG.
- Lecanora muralis* (SCHREB.) RABENH.— 13, B49197, on volcanic rock.
- **Lecanora persimilis* (TH. FR.) NYL.— 1, B48878, on *Castanea*.
- Lecanora rubicunda* BAGL.— 7, B49026, on *Erica*.
- Lecanora sulphurea* (HOFFM.) ACH.— 4, B48926, on vertical outcrop.
- Lecidea fuscoatra* (L.) ACH.— 4, B48925, on vertical outcrop.
- **Leptogium tenuissimum* (DICKS.) KÖRB.— 9, B49068, terricolous. Not recorded from Macaronesia before.
- Leptosphaeria ramalinae* (DESM.) SACC.— 1, B48866, on *Castanea*; 3, B48903, on *Malus* (both on *Ramalina*).
- Lichenocodium erodens* M. S. CHRIST. & D. HAWKSW.— 3, B48901, on *Malus*; 9,

- B49088, on *Castanea*; 10, B49121, on *Pinus*; (all on *Evernia*).
- Lichenocodium usneae* (ANZI) D. HAWKSW.— 14, B49228, on *Pinus* (on *Usnea*).
- Lobothallia radiosa* (HOFFM.) HAFELLNER— 9, B49072, on volcanic outcrop.
- **Marchandiobasidium aurantiacum* (LASCH) DIEDERICH & ETAYO— 8, B49054, on *Prunus dulcis* (on *Xanthoria parietina*). Probably a much overlooked species, widely distributed in Spain (VAN DEN BOOM & ETAYO 2014). No reports from Portugal are known, nor from Macaronesia.
- Massalongia carnosa* (DICKS.) KÖRB.— 5, B48929; 13, B49188; both on volcanic outcrop.
- Moelleropsis nebulosa* (HOFFM.) GYELN.— 9, B49097; 16, B49286; both terricolous.
- **Opegrapha endoleuca* NYL.— 12, B49177, on N exposed sheltered volcanic outcrop. In Macaronesia only mentioned from Madeira (CARVALHO & al. 2008).
- Opegrapha varia* PERS.— 17, B49318, on *Maytenus*.
- Opegrapha vulgata* ACH.— 7, B48982, on *Myrica faya*.
- Paralecanographa grumulosa* (DUFOUR) EGEA & TORRENTE— 11, B49165, on N exposed cliff.
- Parmelinopsis minarum* (VAINIO) ELIX & HALE— 7, B48973, on *Erica*.
- Parmotrema arnoldii* (DU RIETZ) HALE— 16, B49277, on *Erica*.
- Peccania coralloides* (A. MASSAL.) A. MASSAL.— 6, B48956, on volcanic outcrop.
- **Peltigera extenuata* (VAINIO) LOJKA— 10, B49145, on volcanic outcrop. Most probably overlooked and confused with the close related *P. didactyla*.
- Peltigera neckeri* HEPP EX MÜLL. ARG.— 10, B49141, on W exposed facing outcrop. Identified by E. SÉRUSIAUX.
- Peltigera ponojensis* GYELN.— 10, B49104, on volcanic outcrop.
- **Peltigera praetextata* (FLÖRKE) ZOPF— 4, B48914, terricolous. In Macaronesia previously only known from Madeira (CARVALHO & al. (2008).
- Peltula bolanderi* (TUCK.) WETMORE— 2, B48883, on volcanic stone on soil.
- Pertusaria pupillaris* (NYL.) TH. FR.— 16, B49285, on *Erica* (conf. T. TØNSBERG).
- Phacopsis fusca* (TRIEBEL & RAMBOLD) DIEDERICH— 16, B49298, on vertical volcanic outcrop (on *Xanthoparmelia pulla*).
- Phacothecium varium* (TUL.) TREVIS.— 8, B49057, on *Prunus dulcis* (on *Xanthoria parietina*), common in the Canaries (HAFELLNER 2009).
- Phaeophyscia hispidula* (ACH.) ESSL.— 9, B49086, on volcanic outcrop.
- Phaeosporobolus usneae* D. HAWKSW. & HAFELLNER— 15, B49250, on *Erica* (on *Usnea*); 15, B49257, on *Pinus* (on *Pseudevernia furfuracea*); 16, B49305, on *Pinus* (on *Usnea*).
- Phlyctis agelaea* (ACH.) FLOT.— 7, B48989, on *Myrica faya*.
- Phoma cladoniicola* DIEDERICH, KOCOURK. & ETAYO— 9, B49071, on stone of wall (on *Squamarina cartilaginea*).
- **Phoma epiphyscia* VOUAUX— 3, B48902, on *Malus* (on *Xanthoria parietina*). An uncommon species, according to HAWKSWORTH & COLE (2004) known from France, Greenland and Sweden.
- Physcia caesia* (HOFFM.) FÜRNR.— 9, B49084, on volcanic outcrop.
- Physconia distorta* (WITH.) J. R. LAUNDON— 10, B49119, on *Pinus*.
- Placynthiella dasaea* (STIRT.) TØNSBERG— 10, B49125, on stump.
- Porina coralloidea* P. JAMES— 7, B48985, on *Erica*.
- Pyrenidium actinellum* NYL.— 13, B49332, on vertical outcrop (on *Physcia tri-*

bacea).

Ramalina maderensis MOTYKA— 11, B49160, on N exposed cliff. Identified by E. SÉRUSIAUX.

Ramalina lacera (WITH.) J. R. LAUNDON— 7, B49000, on *Withania*; 8, B49061, on *Prunus dulcis*.

Rinodina aspersa (BORRER) J. R. LAUNDON— 16, B49287, on shaded volcanic outcrop.

Skyttea lecanorae DIEDERICH & ETAYO— 15, B49241, on *Erica* (on *Lecanora*).

Spirographa fusisporella (NYL.) ZAHLBR.— 10, B49112, on *Pinus* (on *Ramalina farinacea*).

Szygospora physciacearum DIEDERICH & M. S. CHRIST.— 1, B48879, on *Castanea* (on *Physcia*).

Thelopsis isiaca STIZENB.— 12, B49174, on sheltered outcrop; 17, B49317, on *Maytenus*.

Trapelia coarctata (SM.) M. CHOISY— 7, B49035, on volcanic outcrop.

Tremella parmeliarum DIEDERICH— 7, B48987, on *Erica* (on *Parmotrema reticulatum*).

Trichonectria rubefaciens (ELLIS & EVERH.) DIEDERICH & SCHROERS— 3, B48909, on *Malus* (on *Evernia prunastri*). This species is recorded as *Nectriopsis rubefaciens* (ELLIS & EVERH.) M. S. COLE & D. HAWKSW., from La Gomera (HERNÁNDEZ-PADRÓN & PÉREZ-VARGAS 2010).

Usnea cornuta KÖRB.— 7, B48977, on *Erica*.

***Usnea dasopoga** (ACH.) NYL.— 14, B49227, on *Pinus*; 15, B49254, on fallen branch of *Pinus*; 16, B49270, 49271, on fallen branch of *Pinus*; 16, B49304, on *Pinus*. This taxon is recorded from the Canary Islands under *U. filipendula* STIRT. in HERNÁNDEZ-PADRÓN & PÉREZ-VARGAS (2010).

Usnea esperantiana P. CLERC— 3, B48911, on *Malus*; 7, B49009, on *Erica*; 8, B49063, on *Prunus dulcis*; 9, B49092, on *Castanea*; 10, 49101, 49114, 49129, 49130, 49135, all on *Pinus*.

Usnea flammea STIRT.— 5, B48932, on volcanic rock; 16, B49269, on *Pinus*.

Usnea flavocardia RÄSÄNEN— 5, B48954, on *Castanea*; 10, 49098, 49116, 49120, 49134, 49137, on *Pinus*; 14, B49218, on *Cistus*; 15, B49253, 49256, on *Pinus*; 16, B49301, 49302, on *Pinus*.

Usnea cf. lapponica VAIN.— 1, B48881, 49324, on *Castanea*; 5, B48946, 48952, on *Castanea*; 10, B49102, 49113, on *Pinus*.

Usnea praetervisa (ASAHINA) P. CLERC— 10, B49107, 49127, on *Pinus*.

Usnea rubicunda STIRT.— 7, B49008, on *Erica*.

Usnea subfloridana STIRT.— 14, B49226, on *Cistus*; 16, B49272, 49303, on *Pinus*.

Usnea subscabrosa MOTYKA— 7, B48975, 48976, 49007, on *Erica*.

Usnea substerilis MOTYKA— 1, B48875, 48880, on *Castanea*; 5, B48938, 48944, on *Castanea*; 10, B49136, on fallen branch of *Pinus*.

Usnea wasmuthii RÄSÄNEN— 1, B48862, 49325 on *Castanea*; 5, B48935, 48940, 48942, 48949, on *Castanea*; 10, B49100, 49108, 49133, 49147, on *Pinus*; 16, B49289, on fallen branch of *Pinus*.

Xanthoriicola physciae (KALCHBR.) D. HAWKSW.— 8, B49059, on *Prunus dulcis* (on *Xanthoria parietina*).

Zwackhiomyces physciicola ALSTRUP— 13, B49208, on vertical outcrop (on *Physcia*

tribacea).

Localities Gran Canaria (P. VAN DEN BOOM)

- 1 = W of Vega de San Mateo, 1 km E of Las Lagunetas, near crossing of road GC-15 and GC-600 (to Cueva Grande), N exposed, sloping *Castanea* orchard, 28° 00.00' N, 15° 34.34' W, 856 m, 7 February 2013.
- 2 = SSW of Moya, N of San Bartolomé de Fontanales, Barranco del Laurel, W exposed wall with acidic stones, 28° 03.86' N, 15° 36.41' W, 820 m, 7 February 2013.
- 3 = SSW of Moya, N of San Bartolomé de Fontanales, Barranco del Laurel, small road to the north, garden with trees, shrubs and some *Laurus* trees, and some *Laurus* trees between fields and steep outcrops, 28° 04.56' N, 15° 36.21' W, 750 m, 7 February 2013.
- 4 = SW of Valleseco, along road GC-21, to the north (Gáldar), E side of Montañón Negro, mature *Pinus* trees on mountain ridge and N exposed outcrops, 28° 02.37' N, 15° 37.05' W, 1460 m, 7 February 2013.
- 5 = SW of Valleseco, along road GC-21, to the north (Gáldar), between E side of Montañón Negro and Arinez, volcanic outcrops and *Castanea* forest, dominated by *Usnea articulata*, 28° 02.11' N, 15° 36.40' W, 1420 m, 7 February 2013.
- 6 = SW of Gáldar, E of road to Sardina, small mountain 'Almagro', on W exposed slope with shrubs and low volcanic outcrops, 28° 07.65' N, 15° 40.95' W, 300 m, 8 February 2013.
- 7 = SE of Gáldar, E of Moya, along road near El Palmital, fayal-brezal, N side of road with many *Cladonia mediterranea* and S side of the road with acidic outcrops, 28° 06.69' N, 15° 36.20' W, 500 m, 8 February 2013.
- 8 = 2 km S of Teror, E side of main road, small road to Ermita, Arbejales, small orchard with *Prunus dulcis* trees among fields, 28° 02.76' N, 15° 32.88' W, 770 m, 9 February 2013.
- 9 = 3 km SW of Teror, west side of Valleseco, old trail to Valsendero (first 300 m), outcrops and a *Castanea* orchard, 28° 03.00' N, 15° 34.90' W, 1080 m, 9 February 2013.
- 10 = SW of Valleseco, along road GC-21, to the north (Gáldar), NE side of Montañón Negro, Lomo de la Retamilla, volcanic outcrops and *Pinus* trees in and along small valley, 28° 01.54' N, 15° 36.27' W, 1370 m, 9 February 2013.
- 11 = West coast, SW of El Risco, along road GC-200, just NE of Andén Verde, NW exposed cliffs of acidic outcrops, 28° 01.86' N, 15° 45.90' W, 565 m, 10 February 2013.
- 12 = West coast, SW of El Risco, along road GC-200, near crossing with unpaved small road to Casas de Tirma, S exposed acidic outcrops, 28° 02.04' N, 15° 45.27' W, 500 m, 10 February 2013.
- 13 = Northwest, SE of Agaete, SE of San Pedro, trail S.L. 1, to El Hornillo, SW exposed acidic outcrops along valley, 28° 03.35' N, 15° 39.21' W, 600 m, 10 February 2013.
- 14 = W of Artenara, along road to Cortijo de la Tirma, *Pinus* forest with acidic outcrops, on N exposed slope on small *Pinus* trees and *Cistus symphytifolius*, 28° 01.23' N, 15° 41.36' W, 1150 m, 11 February 2013.

- 15 = W of Artenara, Pinar de Tamadaba, N side of the one way road, near crossing with unpaved road to large picnic place, forest with mature *Pinus* trees and some *Erica*, 28° 03.21' N, 15° 41.44' W, 1155 m, 11 February 2013.
- 16 = W of Artenara, Pinar de Tamadaba, trail from forester house to top of hill (La Bandera), forest with mature *Pinus* trees, some *Erica* and acidic outcrops, 28° 03.05' N, 15° 41.30' W, 1350 m, 11 February 2013.
- 17 = N of Tafira Alta, botanical garden, Jardín Botánico 'Viera y Clavijo' in 'Barranco Guiniguada', with many different trees and shrubs, low and steep volcanic outcrops, 28° 03.90' N, 15° 27.82' W, 280 m, 12 February 2013.

Locality Gran Canaria (T. TØNSBERG)

- 18 = The Canary Islands, Gran Canaria, NW of Artenara, uphill from the N segment of the loop around mountain Tamadaba, 28° 03.30' N, 15° 41.06' W, c. 1300 m, 28 January 2013.

We would like to thank TOR TØNSBERG for contributing a specimen to our study. Thanks for identification/conformation are due to EMMANUËL SÉRUSIAUX (*Peltigera*, *Ramalina*) PAUL DIEDERICH (*Cystobasidium*), TOR TØNSBERG (*Lecanora*, *Pertusaria*), RAQUEL PINO (*Cladonia*). Special thanks are for BERN VAN DEN BOOM, because she did a lot of very useful fieldwork, to HARRIE SIPMAN for correcting the final version of the manuscript and to two anonymous referees for providing useful comments.

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