

Lichens and lichenicolous fungi from El Hierro (Canary Islands), a survey, including five new species

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Abstract – Based on two field trips undertaken in 2009 as well as a review of the literature, a checklist of the lichens and the lichenicolous fungi from El Hierro, the most southwestern of the Canary Islands, is presented. As a result, a total of 589 taxa are reported, including 278 new for the island of which 57 are new for the Canary Islands. In addition, 5 species are newly described in the genera *Lecania*, *Lecidea*, *Protoparmelia*, *Solenopsis* and *Trinathotrema*. The number of novelties reported here indicates that El Hierro is exceedingly under-recorded for the lichens and the lichenicolous fungi. Terricolous, saxicolous, as well as corticolous species are recorded, but foliicolous lichens have not been found. Notes are given on ecology and sometimes on morphology and chemistry.

Ascomycetes / biodiversity / Mycoflora of Macaronesia / new species of lichens / lichenicolous fungi / new records

INTRODUCTION

El Hierro is the youngest (< 2MY) and southwesternmost of the Canary Islands. It lies in the mid-Atlantic, between 17°53' and 18°09' longitude and between 27°38' and 27°51' latitude. El Hierro is also the smallest of the seven main islands of the Canary Archipelago with an area of about 278 km². It has a volcanic origin and a remarkably mountainous relief with its highest point (Malpaso) situated in the middle of the island at 1501 meters alt. Stierstorfer (2005) and Gaisberg (2005) provided exhaustive information on the geomorphology, geology, soils and climate of El Hierro, and studied its vascular plant vegetation in detail. The mean annual temperatures vary between 22°C near the S coast and c. 12°C near the highest peaks of El Hierro. The precipitation, falling primarily as rain, is much higher at the N declivities than in the S of the island and increases with the altitude. The coastal areas have a very dry climate, the S coast receiving the lowest amount of rainfall (mean annual precipitation around 100 mm/year), whereas the values reach 200 mm near the N coast. This is in contrast to the upper mountain ridges with more than 1000 mm rain in some years. The mean annual precipitation increases with the altitude with a factor of around 40 mm/100 m. Very few natural springs are known on El Hierro which is the driest island of the western Canaries.

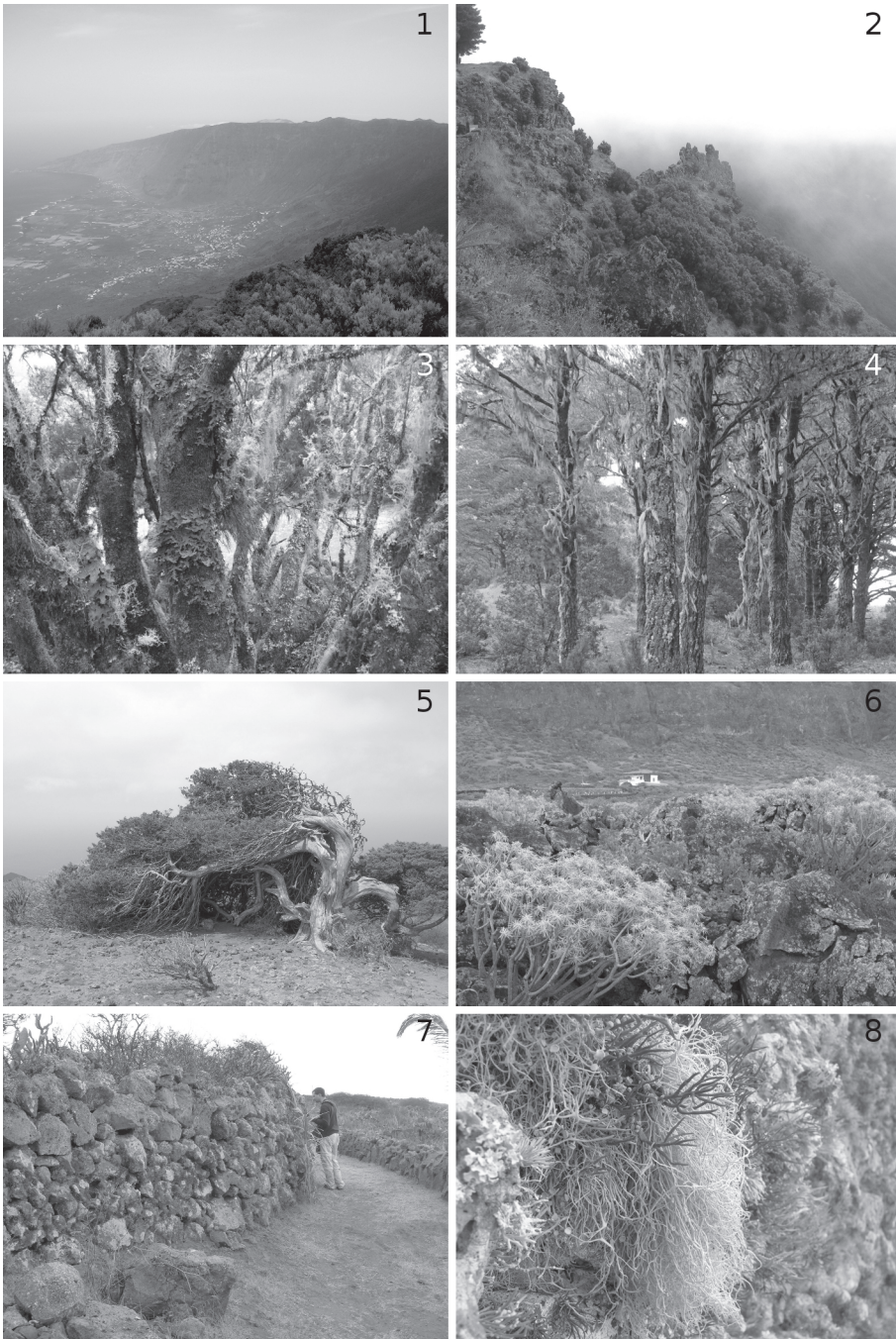
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A detailed study of the vascular plant vegetation in the forests of El Hierro has been made by Stierstorfer (2005). While the forests have been greatly destroyed in the Canary Islands, El Hierro is the island with the best preserved *Myrica-Erica* scrub called “fayal-brezal”, a unique ecosystem occurring throughout Macaronesia. It is situated just below the highest side of the island and covers the N slope of “El Golfo” to a considerable extent. The island is also famous for the old *Juniperus turbinata* ssp. *canariensis* stands and has large forests of *Pinus canariensis*. Kämmer (1976) estimates that only about one third of the original area with “laurel forests and scrubs in the broader sense” remains on El Hierro covering now 11% of the island’s surface. The *Juniperus* stands and the *Pinus canariensis* forests have even more suffered from human activities and cover now respectively 1% and 10% of the island’s surface. For some landscape photographs see figures 1-8.

El Hierro is home to many endemic species such as the El Hierro Giant Lizard (*Gallotia simonyi*) for which the most famous nature conservation project of the island has been undertaken. In the annotated checklist of the vascular plants of El Hierro, no less than 13 species and several infraspecific taxa are endemic to El Hierro while many others are endemic to the Canary Islands (Stierstorfer & Gaisberg 2006). For the lichens or lichenicolous fungi endemism seems less pronounced, and in fact only the species newly described below except *Lecidea adnata*, are, as far as known, endemic to El Hierro. However, numerous species, like *Acarospora reagens*, *Arthonia stereocaulina*, *Bacidia rosella*, *B. subilludens*, *Caloplaca chrysophthalma*, *C. haematites*, *C. herbidella*, *Cladonia arbuscula*, *Cladonia ciliata*, *Cliostomum griffithii*, *Dendriscoaulon umhausense*, *Enterographa pitardii*, *Everniastrum sorocheilum*, *Lecanographa amyloacea*, *Melanelia elegantula*, *M. olivacea*, *Muellerella hospitans*, *Parmelia cinereoplumbea*, *Rhymocarpus cruciatus*, *Scutula stereocaulorum*, *Staurolemma omphalarioides*, *Trapeliopsis wallrothii*, *Usnea submollis* and *Xanthoria polycarpa* are only known within the Canary Islands from El Hierro (Hernández-Padrón 2004). All records in the list below marked with two asterix are additional records (57), new for the Canaries and thus only known from El Hierro. Species with cf., agg. or aff. are often uncertain identifications and not listed as new records, otherwise there is an explanation why it is recorded as new.

The value of older reports from El Hierro listed in Hernández-Padrón (2004) was not checked. The older reports were just intercalated under their most recent names in the list of species. Future studies are thus needed to check the value of these older reports. However, some species mentioned in Hernández-Padrón (2004) are excluded from our checklist. In the recent *Buellia* treatment from the Canary islands (Giralt & van den Boom 2011), *B. italica* A. Massal. is mentioned as a synonym of *B. spuria*. *Buellia subdisciformis* is not accepted for the Canary Islands by Giralt & van den Boom (2011). In the recent key to all accepted *Ramalina* species known from Atlantic islands (Aptroot and Schumm, 2008), *Ramalina dendriscooides* Nyl., *R. reagens* (de Lesd.) W.L. Culb and *R. thrausta* (Ach.) Nyl. are not mentioned, so we deleted them from our checklist. In Smith *et al.* (2009) is written that *R. siliquosa* “is incorrectly reported from Macaronesia”. *Rinodina hallii* Tuck. is a strictly American species (see below, under *R. lindingeri*). In Clerc (2006), *Usnea ceratina* Ach., *U. florida* (L.) Weber & F.H. Wigg. and *U. plicata* (L.) Weber ex F.H. Wigg. are regarded as doubtful species, regarding their occurrence in Macaronesia and *U. madeirensis* Motyka is synonym with *U. silesiaca* Motyka.

Fog is abundant in the upper altitudes particularly in the windward NE slopes where most of the “fayal-brezal” forests remain. The fog belt provides the



Figs 1-8. Landscapes and collecting sites from El Hierro. **1.** El Golfo. **2.** Mirador de Jinama (type locality of *Lecania nigra*). **3.** Lobarion communities in fayal brezal. **4.** *Pinus* trees covered by *Usnea*. **5.** Old *Juniperus* tree. **6.** Locality 1, field with volcanic outcrops. **7-8.** Locality 56 with *Ramalina hierrensis*.

optimum climate conditions for the development of *Lobarion* communities rich in macrolichens of the genera *Lobaria*, *Lobarina*, *Nephroma*, *Pseudocyphellaria*, *Sticta* and their lichenicolous fungi belonging in, e.g., *Abrothallus*, *Dactylospora*, *Nectriopsis*, *Plectocarpon*. The rocky slopes and ridges in the fog belt are rich in macrolichens of the genus *Ramalina* for which no less than 28 species are recorded for the island.

Specimens for this study were collected all over the island, from coastal areas to the highest Fayal Brezal forests up to altitudes of c. 1400 m. During a one week fieldtrip to El Hierro by the first author and his wife in spring of 2009, as well as by the second author and his wife in summer of 2009, altogether c. 2000 collections of lichens and lichenicolous fungi were made. Some data have already been published: In *Endohyalina*, 2 species have been described or recorded by Giralt *et al.* (2010), in *Rinodina* 1 species by van den Boom *et al.* (2009), in *Buellia s.l.* 14 species are reported by Giralt & van den Boom (2011) and in *Trimmatostroma*, 1 species has been described by Diederich *et al.* (2010). Some specimens collected in 1986 by Philippe Clerc have been studied by us and are recorded below. Since no detailed and complete lichen flora exists for the Canary Islands and the taxonomy of many groups are still in a state of flux, several specimens are still unidentified so far. They correspond to taxa not included in this study.

MATERIAL AND METHODS

About fifteen hundred specimens of lichens and lichenicolous fungi were investigated with a light-microscope or binocular microscope. Several of these specimens were also studied by TLC according to Orange *et al.* (2001). Some specimens were checked by specialists (see acknowledgements). The checklists of Hernández-Padrón (2004) and Hafellner (2002, 2005, 2008) were consulted for comparison. Voucher specimens are placed in BR (herbarium numbers with E) and in the private herbarium of P. van den Boom (herbarium numbers with B). Collections made by Philippe Clerc (PhC) are in Geneva (G).

NEW SPECIES

Lecania nigra van den Boom & Ertz sp. nov.

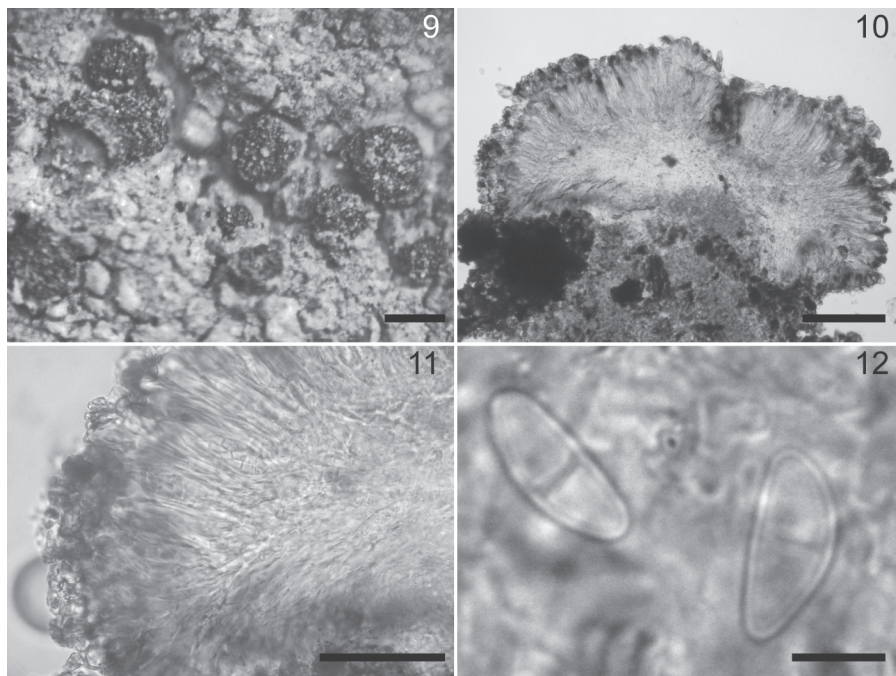
Figs 9-12

Mycobank: MB 564289

Diagnosis – *Similis Lecaniae turicensis sed thallus tenuis, subtiliter areolatus, flavidorufus, apothecia biatorina nigra immarginata; ascosporae 9-14(-15) × 3.5-5(-5.5) μm, ellipsoideae, 0-1(-2)-septatae; sine pycnidia.*

Type: SPAIN, Canary Islands, El Hierro, SW of San Andrés, mirador de Jinama, steep shaded, N exposed volcanic outcrops, 17° 58.80' W - 27° 45.75' N, 1240 m, 31 March 2009, P. & B. van den Boom 42913 (hb v.d. Boom-holotypus; BR-isotypus).

Thallus saxicolous, small, c. 1 cm wide, up to 0.15 mm thick, finely areolate to sometimes slightly rimose, consisting of very small areoles, up to 0.2 mm wide, upper surface pale to medium greyish brown, matt; photobiont



Figs 9-12. *Lecania nigra*. **9.** Thallus and apothecia. **10-11.** Cross section through an ascoma. **12.** Ascospores. Scale bars fig. 9 = 0.2 mm; fig. 10 = 100 μ m; fig. 11 = 50 μ m; fig. 12 = 5 μ m.

chlorococcoid, cells to 10 μ m diam. **Apothecia** to 0.3 mm diam., disc plane to slightly convex, dark brown to blackish; margin thin (to 0.05 mm wide), soon becoming excluded, concolorous with the disc; excipulum weakly lecanorine to biatorine, c. 30-65 μ m wide, prosoplectenchymatic, cells 2.5-3 μ m wide, containing a few algae, mainly below the hypothecium, outer rim roughened and dark brown, inner part hyaline; epihymenium dark reddish brown, paler in KOH; hymenium c. 55-65 μ m high, hyaline, with brown strikes; paraphyses conglutinated, septate, cells in the middle of the hymenium 2-2.5 μ m diam., simple to sometimes branched in the upper part, apices pale to often dark brown-pigmented, widened up to 7 μ m; asci *Bacidia*-type, 8-spored, c. 30-35 \times 10-14 μ m. **Ascospores** 9-14(-15) \times 3.5-5(-5.5) μ m, ellipsoid, 0-1(-2)-septate. Pycnidia not found. Reddish pigment in apothecia and thallus lacking.

Chemistry: Thallus K-, C-, KC-, P-; no chemical compounds detected.

Distribution and ecology: This new species occurs on volcanic rocks, in the upper zone, in open exposed areas at elevation above 1200 m. It is currently known only from the type locality. Accompanying species are *Candelariella vitellina*, *Diploschistes scruposus*, *Lecidea grisella*, *Lecidella scabra* and *Toninia toepfferi*.

Notes: In the field *Lecania nigra* could be mistaken for small, not well developed specimens of *L. turicensis*, which has also an areolate grayish thallus and the apothecia can have an excluded thalline margin. However the excipulum is different; it is composed of paraplectenchymatic cells with many algal cells

and the ascospores are wider, 4.5-6 μm , always 1-septate. Similar is also *L. hutchinsiae*, another *Lecania* species in which the thalline excipulum is rather reduced. However, its exciple is without prosoplectenchymatic cells, it has paler apothecia, which are convex to subglobose, and it has narrower ascospores [2.5-4(-4.5) μm].

Lecidea adnata van den Boom & Ertz sp. nov.

Figs 13-16

Mycobank: MB 564290

Diagnosis – *Similis Lecideae apochroeellae sed thallus continuus, laevis, apothecia usque ad 0.6 mm crassa, excipulum chondroidalis e hyphis tenuibus ramosis, hypothecium olivaceofuscus, ascosporae 9-11 × 4-5.5(-6) μm .*

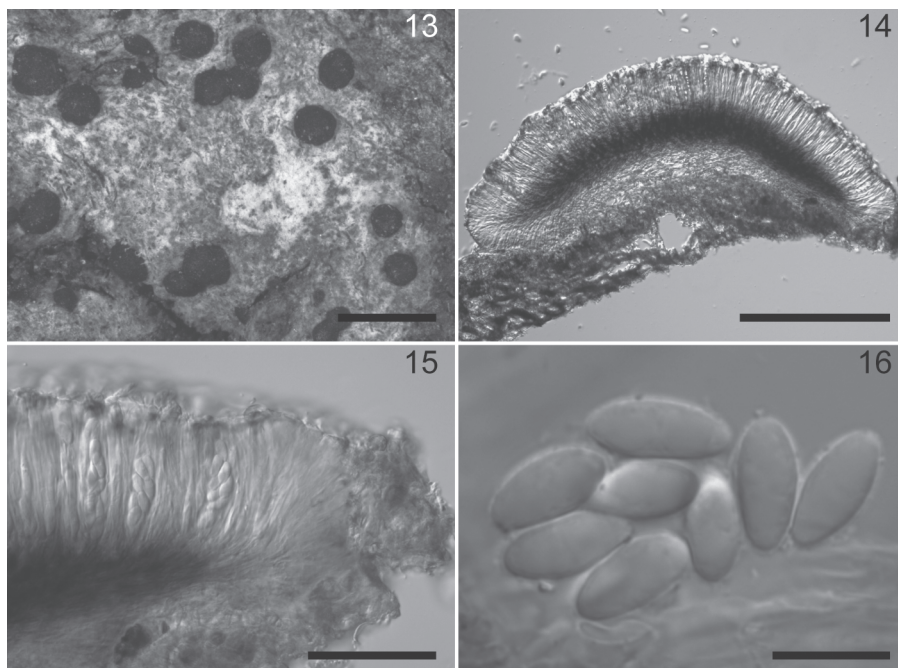
Type: SPAIN, El Hierro, SW of Frontera, S of Los Llanillos, road HI-1, to mountain top, picnic area “Hoya de El Pino”, shrubs, mixed trees and stumps, 018° 02.60' W - 27° 44.16' N, 1020 m, 26 March 2009, P. & B. van den Boom 42065 (BR-holotypus; hb v.d. Boom- isotypus).

Thallus continuous, thin, 50 to 100 μm thick, upper surface smooth, pale green to grayish, matt, photobiont chlorococcoid, cells to 10 μm diam. **Apothecia** biatorine, to 0.6 mm diam.; appressed, disc slightly to strongly convex, dark brown to blackish; margin very inconspicuous, soon becoming excluded, concolorous with the disc; excipulum chondroid, prosoplectenchymatic, cells thin, elongate and branched 1-1.5 μm wide, outer rim hyaline to slightly pale brownish, inner part hyaline; epihymenium pale yellowish brown, paler in KOH; hymenium c. 50-65 μm high, hyaline, I+ blue turning quickly dark reddish-brown, K/I+ blue; hypothecium dark brown (below), olive brown (above); paraphyses conglomerated, \pm septate, cells in the middle of the hymenium 1.5-2(-2.5) μm diam., simple to branched, apices pale to often dark brown, widened up to 5 μm ; asci with an amyloid tholus and outer layer, without a clearly defined mass axiale or ocular chamber probably *Catillaria*-type, 8-spored, c. 35-40 \times 10-12 μm . **Ascospores** 9-11 \times 4-5.5(-6) μm , ellipsoid, simple. Pycnidia not found.

Chemistry: Thallus K-, C-, KC-, P-; no chemical compounds detected by TLC.

Distribution and ecology: In the Canary Islands, *L. adnata* is known from El Hierro so far and found on *Myrica faya*, on a trunk as well as on a stump, where it grows abundantly. Accompanying species at the type locality on *M. faya* are *Bacidia arceutina*, *Buellia disciformis*, *Cliostomum griffithii*, *Coniarthonia pyrnhula*, *Endohyalina ericina*, *Lecanactis abietina*, *Micarea prasina*, *M. pycnidiophora*, *M. viridileprosa* and *Thelotrema lepadinum*. In Portugal this species is collected from *Quercus suber* and *Olea europaea*.

Notes: *Lecidea adnata* is compared with the holotype of *Lecidea apochroeella*, for which it is easily mistaken. In appearance, the latter is rather similar, but the apothecia are smaller (up to 0.4 mm) and the thallus consists of scattered small adnate grayish squamules (0.1-0.25 mm wide). The ascospores are rather smaller (6-9 \times 2.5-3 μm) and the hypothecium is reddish brown. Another species similar in appearance is *Lecidea turgidula* Fr. which contains slightly concave black apothecia with an excluded true excipulum, but the hypothecium is hyaline and it contains placodiolic acid. *Lecidea globulispora* Nyl. (syn. *Lecidea antiloga* Stirt.), is also confusable because it contains somewhat concave black apothecia, but often with a small margin and the ascospores are globose. Two specimens from Portugal, van den Boom 17140, 27825 are published as *Lecidea*



Figs 13-16. *Lecidea adnata*. **13.** Thallus and apothecia. **14-15.** Cross section through an ascoma. **16.** Ascospores. Scale bars fig. 13 = 1 mm; fig. 14 = 200 μ m; fig. 15 = 50 μ m; fig. 16 = 10 μ m.

aff. *apochroeella* in van den Boom (2006); van den Boom & Giralt (1999) respectively. The type species of the genus *Lecidea* is the saxicolous *L. fuscoatra*. The corticolous species of *Lecidea* include taxa of still unclear generic position. Molecular research on this heterogeneous group is needed for a reappraisal of the circumscription of the genus. So far it is still very poorly understood. The new species seems to be related to the corticolous species of *Lecidea* (s.l.), a group with *L. apochroeella*, *L. globulispora* and *L. turgidula* treated in Smith *et al.* (2009). In Hertel & Printzen (2004) a group of corticolous *Lecidea* s.l. is treated, which has affinities with the new species; it regards *Lecidea floridensis* Nyl., *L. leprarioides* Tønsberg and *L. trapelioides* Printzen, having a dark brown hypothecium, ascospores vary in width from 2-8 μ m, the thallus is rimose areolate to granular, not continuous as in the new species. They all contain chemical compounds which are not present in the new species.

Additional specimens examined: Lecidea adnata: Canary Islands, El Hierro, SSE of Frontera, near mountain top, S of road HI-1, N and W side of Montaña de la Fuente, along trail in "fayal brezal" forest with mainly Myrica faya trees and Erica shrubs and trees, 017° 59.50' W - 27° 44.15' N, 1300 m, 31 March 2009, P. & B. van den Boom 42784 (hb v.d. Boom); E of Frontera, trail between Frontera and mirador de Jinama' (part below "Fuente de Tincos"), "fayal brezal" forest and rocky outcrops, 17°59'29"W - 27°45'29"N, 700-1000 m, 31 August 2009, D. Ertz 13962 (BR); Gomera, Vallehermoso, La Meseta, at the limit with the "Parque Nacional de Garajonay", 28°09'N, 17°17'W, 720 m, 4 April 2011, D. Ertz 16286 (BR).

Portugal, Estremadura, 2.7 km E of Nazaré, Sao Bartolomeu, a small rocky hill, W exposed steep rocky slope with dominating *Quercus coccifera*, 9° 03.70' W - 39° 35.40' N, 125 m, 15 July 2001, P. & B. van den Boom 27825 (hb v.d. Boom); Alentejo, SSW of Evora, SE of Alvito, S side of Barragem de Odivelas; valley, W of dam, various trees along small fen, 8° 06.90' W - 38° 11.00' N, 75 m, 10 July 1995, P. & B. van den Boom 17140 (hb v.d. Boom); Algarve, N of Albufeira, c. 16 km N of São Bartolomeu de Messines, NNE of São Marcos da Serra, Anzilheira, small valley at W side of the village, along road to Azinhal, mixed trees, shrubs and lopped branched, 008° 16.41' W - 37° 24.27' N, 23 January 2009, P. & B. van den Boom 41689 (hb v.d. Boom).

Lecidea apochroella Nyl. **Finland**, Borgoe, 1860, Th. Saelan (H-Nyl 20697-holotype).

Protoparmelia hierrensis van den Boom & Ertz sp. nov.

Figs 17-20

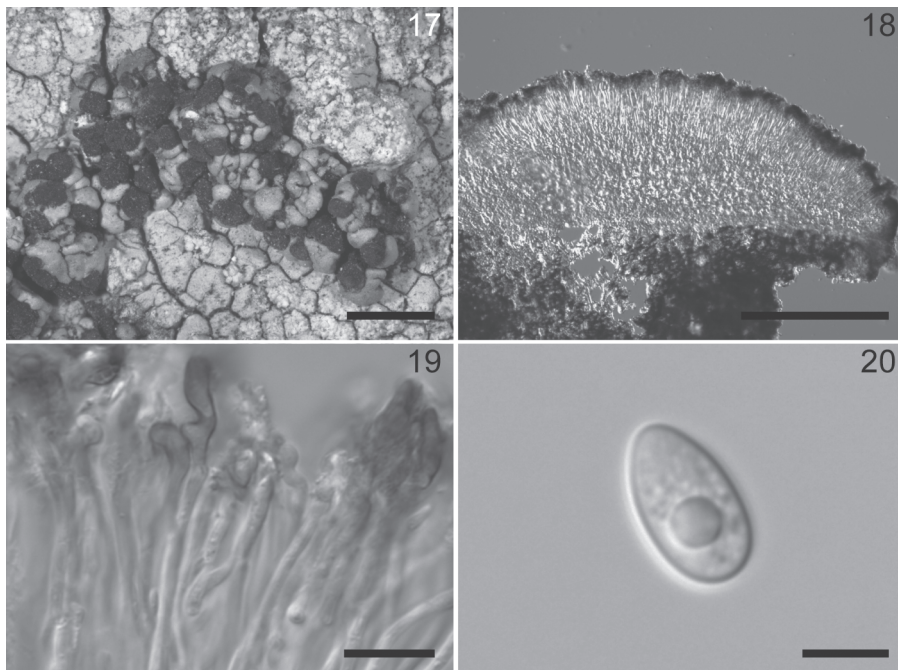
Mycobank: MB 564291

Diagnosis – *Similis Protoparmeliae ryanianae* sed thallus lichenicola, in *Pertusaria*, margine indistincte lobato, lobis 0.2-1.5 mm latis, superficie griseo vel grisea, nitida; apothecia frequentia, congesta vel interdum dispersa, ubique in thallo, erumpentia ad sessilia, interdum basi constricta, nigra, 0.2-1 mm lata; epihymenium obscure olivaceoviridis, sine crystallis, K -negativum, N+ rubescens; asci typo *Lecanorae*; ascospores hyalinae, 8-12 × 4.5-5.5 µm, ellipsoideae ad oblongo-ellipsoideae; habitat ad saxa montana.

Type: SPAIN, Canary Islands, El Hierro, SW of Valverde, SW of Montaña del Ajares, NE volcanic outcrops, 17°55'21"W - 27°47'38"N, 750 m, 26 August 2009, D. Ertz 13677 (BR-holotypus).

Thallus lichenicolous on saxicolous *Pertusaria* at least when young, crustose, forming roundish to irregular, well-delimited patches, up to c. 1 cm in diam., areolate or composed of discrete verrucae, areoles 0.2-1.5 mm wide, distinctly separated from each other to closely adjacent and slightly overlapping, upper surface dark greyish, slightly glossy; cortex inspersed with fine crystals, with a brown upper cell layer; medulla hyaline, inspersed with fine crystals; photobiont green algae, composed of globose cells, 5-12 µm diam. (probably *Trebouxia* sp.). **Apothecia** abundant, grouped or sometimes scattered, present all over the thallus, immersed, erumpent to sessile, often constricted at base, 0.2-1 mm wide, shiny or mat, clearly marginate; disc somewhat concave to often plane, rarely somewhat convex, dark brown to black, epruinose; margin concolorous with the thallus becoming black and cryptolecanorine, entire to flexuose, crenulate and often somewhat raised, up to 0.15(-0.2) mm wide; excipulum corticate, with a somewhat similar structure as the thallus, without crystals; proper margin hyaline 10-15 µm wide; hymenium 50-70 µm high, hyaline, not inspersed; hypothecium hyaline, to 150 µm high; epihymenium dark olive greenish to dark brown, without crystals, K-, N+ reddish; paraphyses thin, c. 1.5-2 µm diam., at the top widened to 5 µm, sometimes sparingly branched, lax to slightly conglutinated in water, dark olive greenish to black at the top; asci of *Lecanora*-type, cylindrical to slightly clavate, 8-spored, 40-50 × 10-16 µm. **Ascospores** hyaline, 8-12 × 4.5-5.5 µm, thin-walled, ellipsoid to oblong-ellipsoid. Pycnidia inconspicuous, c. 60-80 µm diam., ostiole dark olive brown, hyaline in lower part; conidia filiform, curved, 12-20 × 0.5-0.7 µm.

Chemistry: thallus J-, K-, C-, KC+ pink to red-violet, P-; lobaric acid (submajor to major), some unidentified substances by TLC.



Figs 17-20. *Protoparmelia hierrensis*. **17.** Thallus and apothecia, surrounded by the thallus of the host (*Pertusaria*). **18.** Cross section through an ascoma. **19.** Apices of paraphyses. **20.** Ascospore. Scale bars fig. 17 = 2 mm; fig. 18 = 200 μm ; fig. 19 = 10 μm ; fig. 20 = 5 μm .

Distribution and ecology: Lichenicolous on saxicolous *Pertusaria* sp., at least when young, currently known from mainly upland habitats on El Hierro. Accompanying species are *Lecidella* sp. and an unidentified sorediate crust.

Notes: *Protoparmelia hierrensis* is characterized by a lichenicolous thallus forming small patches on *Pertusaria* sp., grayish and slightly shiny, with grouped or sometimes scattered, lecanorine to cryptolecanorine apothecia, in combination with relatively small ascospores, the presence of lobaric acid and some unknown compounds, and the cortex structure, a brown-colored layer of hyphae. *Protoparmelia hierrensis* is most likely to be confused with *Protoparmelia ryaniana* van den Boom, Sipman & Elix, recently described from the Sonoran Desert Region, which also contains lobaric acid (van den Boom *et al.* 2007). The latter species differs from *P. hierrensis* by a clearly brown and shiny thallus with smaller ascospores [6-10 \times 2.5-3(-3.5) μm] and growing on *Dimelaena* and *Tephromela*. *Protoparmelia atriseda* (Fr.) Sant. & V. Wirth differs by a shiny chestnut brown thallus, shiny red-brown apothecia and the thallus contains norstictic acid instead of lobaric acid. Moreover, the species is considered as being closely associated with the *Rhizocarpon geographicum* aggregate (Smith *et al.* 2009). Another *Protoparmelia* species on *Rhizocarpon* (when young) is *P. cupreobadia* (Nyl.) Poelt. It has a distinctly effigurate-squamulose thallus containing norstictic and the lobes are often surrounded by a prothallus. Thallus and apothecia are mostly coppery brown. Three further lichenicolous *Protoparmelia* species are *P. leproloma* (R. Sant.) Rambold & Poelt, *P. loricata*

Poelt & Vězda and *P. phaeonesos* Poelt, growing on *Lecidea paupercula* Nyl., *Lecanora umbrosa* Degel. and *Aspilidea myrinii* (Fr.) Hafellner respectively. They all occur in central Europe and differs from the new species in having shiny brown to red-brown thallus and apothecia and a different chemistry. The new species is easily overlooked for a *Miriquidica* species which is distinguished by its lecidine apothecia, wider ascospores, longer pycnoconidia and by the presence of miriquidic acid rather than lobaric acid. A somewhat similar placodioid species with lobaric acid is *Lecanora brattiae* B.D. Ryan & T.H. Nash, which may have the same color but is usually light grayish and often pruinose. Moreover it is always rosette-forming and its apothecia are crowded in the thallus center and not scattered in groups over the whole thallus as in *P. hierrensis*. In addition, *L. brattiae* has narrower (2-4 μm) and indistinctly 1-septate ascospores (Ryan *et al.* 2004).

Additional specimens examined: El Hierro, SW of Valverde, along secondary road E of Tiñor, trail to small mountain top, SW exposed vertical volcanic outcrops and field with low outcrops and abundant terricolous lichens, 017° 55.70' W - 27° 47.20' N, 870 m, 29 March 2009, P. & B. v.d. Boom 42589 (hb v.d. Boom); SSW of Montaña de Orchilla, near "Faro de Orchilla", along paved road to the lighthouse, 0.5 km S of road HI-500, N of Montaña de los Toscones, malpaís, sloping or vertical volcanic outcrops. 018° 08.15' W - 27° 43.17' N, 370 m, 1 April 2009, P. & B. v.d. Boom 42974 (hb v.d. Boom).

Solenopsora isidiata van den Boom & Ertz sp. nov.

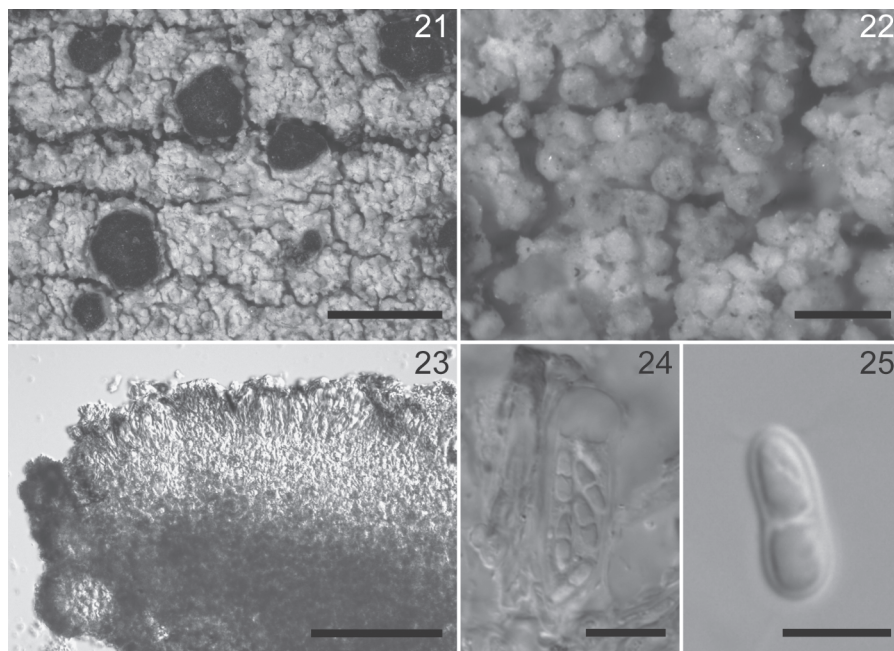
Figs 21-25

Mycobank: MB 564292

Diagnosis – *Similis Solenopsorae cyathiformis* sed thallus isidiatus, apothecia nigra, margine thallino minutissimo, 30-80 μm crasso, ascosporae 7-11 \times 2.5-3 μm , conidia parum curvata 9-12 \times 0.7-0.8 μm .

Type: SPAIN, Canary Islands, El Hierro, W of Sabinosa, along road HI-500, W of Montaña del Escobar, W slope, field with volcanic outcrops, shrubs and some dead old *Juniperus turbinata* ssp. *canariensis* trees, 018° 08.50' W - 27° 45.20' N, 260 m, 27 March 2009, P. & B. van den Boom 42178 (BR-holotypus; hb v.d. Boom-isotypus).

Thallus up to c. 8 cm in diam., epiphloedal, crustose, continuous, sometimes slightly rimose, up to 0.15 mm thick, isidiate; upper surface whitish to pale grey, matt; isidia subglobose to cylindrical, 50-100 μm diam.; prothallus blackish, visible at the border of thallus; photobiont chlorococcoid, cells to 10 μm diam., interwoven with partly hyaline or grayish hyphae. **Apothecia** to 0.8 mm diam.; disc plane to slightly convex, dark brown to blackish; margin thin, concolorous with the thallus; thalline excipulum thin and inconspicuous, c. 30-80 μm wide, outer rim dark brown with a hyaline epinecral layer, c. 10-15 μm wide, inner part hyaline and often weakly interspersed with fine oil droplets; hymenium c. 25-50 μm high, not interspersed with fine oil droplets; epithecium olive brownish; hypothecium hyaline; paraphyses lax in water, sparingly branched and anastomosing, apices with sharply delimited dark brown cell wall pigment, widened up to 6 μm ; asci *Catillaria*-type, cylindrical to slightly clavate, 8-spored, c. 30-35 \times 8-12 μm . **Ascospores** 7-11 \times 2.5-3 μm , 1-septate, hyaline. Pycnidia grouped and scattered, c. 50-150 μm diam., ostiole dark brown-black pigmented; conidia short filiform, slightly curved, 9-12 \times 0.7-0.8 μm . Bluish pigment in apothecia and thallus lacking.



Figs 21-25. *Solenopsora isidiata*. **21.** Thallus and apothecia. **22.** Thallus with isidia. **23.** Cross section through an ascoma. **24.** Ascus. **25.** Ascospore. Scale bars fig. 21 = 1 mm; fig. 22 = 200 μ m; fig. 23 = 100 μ m; fig. 24 = 20 μ m; fig. 25 = 5 μ m.

Chemistry: Thallus K+yellow, C-, KC-, P-; atranorin, divaricatic acid by TLC.

Distribution and ecology: *Solenopsora isidiata* is known only from the type locality, a spot with old *Juniperus* trees, where it grew on decorticated trunks. Accompanying crustose lichens are: *Alyxoria varia*, *Bactrospora patellarioides*, *Caloplaca cerina*, *Dendrographa decolorans*, *Lecanora sabinae*, *Rinodina roboris* and *Tephromela atra*.

Notes: The genus *Solenopsora* is characterized by the lecanorine ascomata, Catillaria-type ascus, hyaline 1-septate ascospores and paraphyses with a sharply delimited brown cell wall pigment in the upper part of the apical cell (Ryan & Timdal 2002). All these characters fit well with the new species. *Solenopsora isidiata* is the first isidiate species in the genus *Solenopsora*. The related species *Solenopsora cyathiformis* (Szatala) van den Boom is also a crustose species, but the apothecia have a rather thick thalline margin and a pruinose disc, the ascospores are 1(-3)-septate and $9-15 \times 3.3-5 \mu\text{m}$, it is not isidiate and the chemistry is different (van den Boom & Ryan 2004). The genus is rather heterogenous and includes placodioid species such as *S. candicans*, squamulose species such as *S. holophaea* and sorediate species such as *S. vulturiensis*; many chemical compounds are known in the genus (van den Boom & Ryan 2004). *S. isidiata* differs from the other species of the genus by longer conidia; the other species having rather short conidia, up to 6 μ m long (Ryan & Timdal 2002).

Trinathotrema hierrense Ertz & van den Boom sp. nov.

Figs 26-30

Mycobank: MB 564294

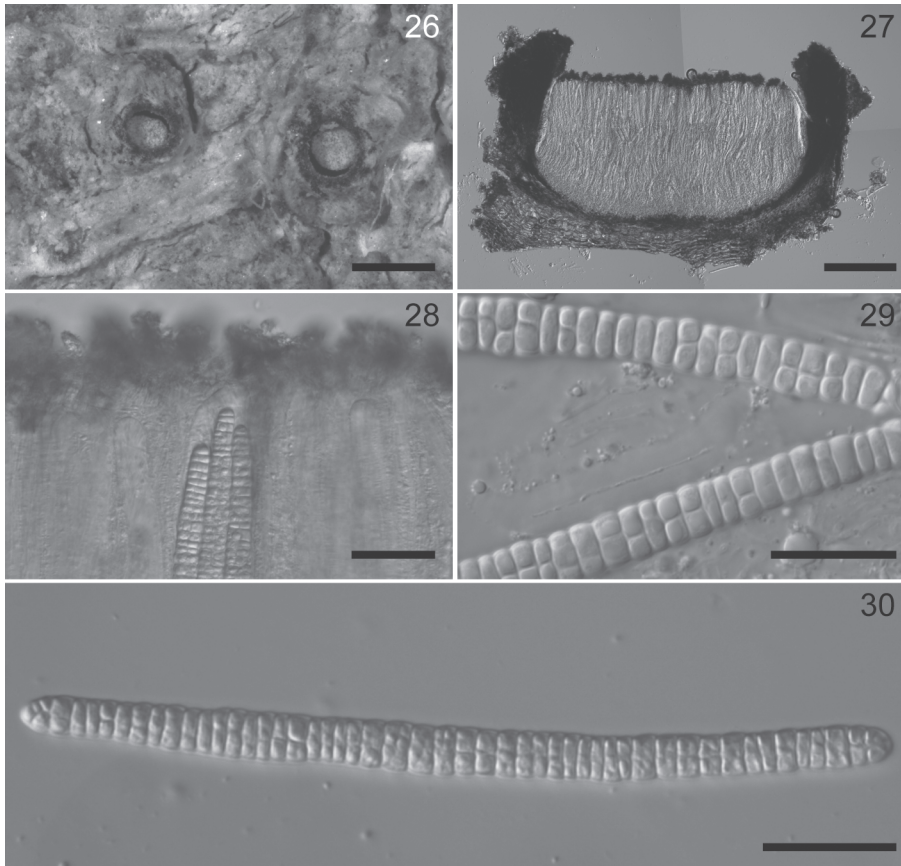
Diagnosis – *Similis Trinathotrema stictideum* sed thallus ecorticate; excipulum crassa, asci 4-spore; ascospores $140\text{-}220 \times 9\text{-}12 \mu\text{m}$, submuriformes; thallus K-, C-, KC-, P-, materiala chemicalia non continens.

Type: SPAIN, Canary Islands, El Hierro, E of the island summit (Malpaso), north of the road from San Andrés to Malpaso, along “Camino de Virgen”, near “Piedra dos Hermanas”, $18^{\circ}00'27''\text{W}$ - $27^{\circ}43'55''\text{N}$, 1360 m, 28 August 2009, D. Ertz 13816 (BR-holotypus).

Thallus up to c. 4.5 cm wide, immersed in bark, very thin, up to 0.15 mm thick, ecorticate, smooth, upper surface pale grey, slightly shiny to matt; photobiont *Trentepohlia*, cells 3 to $10 \mu\text{m}$ diam., interwoven with hyaline hyphae. **Apothecia** to 0.8 mm diam., semiimmersed, urceolate, disc flat to slightly concave, covered by a thin layer of grayish-white pruina; margin thick, entire, sometimes covered by a thin layer of grayish-white pruina; excipulum up to c. 0.15 (-0.18) mm wide, laterally dark brown, paraplectenchymatous becoming slightly prosoplectenchymatous with a narrow thalline layer at the outer side, c. $10\text{-}20 \mu\text{m}$ wide, inner part hyaline to olive, without periphysoids; hymenium hyaline, $180\text{-}290 \mu\text{m}$ high, interspersed with fine oil droplets (Type A sensu Lücking 2009), I+ red, K/I+ blue; paraphyses loose, thin, $1 \mu\text{m}$ wide, unbranched, apices not widened hyaline to pale brown; asci clavate to cylindrical, with a well-developed tholus when mature, with a narrow ocular chamber, mainly 4-spored, $170\text{-}270 \times 20\text{-}25 \mu\text{m}$, wall entirely K/I-. **Ascospores** $140\text{-}220 \times 9\text{-}12 \mu\text{m}$, submuriform, with (35-)45-55 transversal septa and most of the lumina with 1(-2) longitudinal septum, I-(orange), hyaline, with a wall becoming pale grayish-brown when very overmatured (rarely seen); thick gelatinous sheath only visible around young ascospores. Pycnidia not found.

Chemistry: Thallus K-, C-, KC-, P-; no compounds by TLC.

Notes: In the recent treatment of the family Thelotre mataceae (Frisch *et al.* 2006), the new species keys out in the genus *Ocellularia* that appears to be heterogeneously circumscribed. However, none of the species in this study is similar with the new taxon. Lücking *et al.* (2011) recently described the genus *Trinathotrema* to accommodate *Ocellularia stictidea* and *Conotrema lumbricoides*, two species proved to belong to the Stictidaceae based on molecular analysis. Apart from the ecorticate thallus and the interspersed hymenium, the new taxon fits well in *Trinathotrema* by its ascomata type, white pruinose hymenial disc, the cupulate dark brown excipulum, the asci with narrow ocular chamber, the vermiform ascospores. Species of *Trinathotrema* have apothecia with the disc flush with the margin, but the new species has more deeply immersed discs like other Stictidaceae. However, this character seems to be variable in *Trinathotrema* as can be seen on one picture of *Trinathotrema stictideum* [in Lücking *et al.* (2011), fig. 6F-holotype of *Ocellularia gyrostomoides*, a synonym of *Trinathotrema stictideum*]. The new species is thus tentatively described in *Trinathotrema*, and molecular studies will be needed to check the generic position of the new species. In addition to the above mentioned characters, *Trinathotrema hierrense* also differs from the two other species of the genus by mainly 4-spored asci, and by longer and submuriform ascospores.



Figs 26-30. *Trinathotrema hierrense*. **26.** Thallus and apothecia. **27.** Cross section through an ascoma. **28.** Hymenium. **29-30.** Ascospores. Scale bars fig. 26 = 0.5 mm; fig. 27 = 200 μ m; figs 28-29 = 20 μ m; fig. 30 = 25 μ m.

Distribution and ecology: *Trinathotrema hierrense* is known from two localities in the Canary Islands, only on El Hierro island. It grows at high altitude on *Myrica faya*, together with *Buellia regularis*, *Cliostomum flavidulum*, *Hertelidea botryosa*, *Lecanora albella*, *Micarea peliocarpa* and *Usnea articulata*.

Additional specimens examined: El Hierro, S of Frontera, along road HI-1, 2 km W of crossing with HI-45, near crossing with trail "Camino de San Salvador", N of Tenerife (mountain) open place along forest, at S side of road, on *Myrica*, 018° 00.67' W - 27° 43.95' N, 1235 m, 30 March 2009, P. & B. van den Boom 42735 (hb v.d Boom).

ANNOTATED CHECKLIST

This list includes *c.* 300 species recorded by the authors, together with the additional species given by Hernández-Padrón (2004), marked as H2004. The names in bold are those for which we collected a specimen in 2009. One asterisk means the first record for El Hierro, two asterisks the first for the Canary Islands. If a *Ramalina* specimen is identified by E. Sérusiaux, it is indicated with ES; if a *Usnea* specimen is identified by P. Clerc, it is indicated with PhC. In lichenicolous species where the host name is mentioned in brackets, all collections had this host. Locality numbers after the species name correspond with the list of localities below.

Ca = *Calluna*; Cs = *Castanea*; Cu = *Cupressus*; Cy = *Cystus*; Dr = *Dracaena*; Er = *Erica*; Fi = *Ficus*; Ju = *Juglans*; Mi = Mimosaceae; Mr = *Myrica*; Ol = *Olea*; Pn = *Pinus*; Pr = *Prunus*; Sek = *Senecio*; Th = *Thuja*; c = calcareous rock; cw = cement of wall; exr = exposed roots; st = stump; sw = stone of wall; t = terricolous; uft = unid. fruit tree; ush = unid. shrub; ut = unid. tree; vr = volcanic rock; wp = wood of fence post

- ****Abrothallus cetrariae*** Kotte — 34, B42787, Er; 57, E13699 Er; 58, E13752 Mr, [on *Platismatia glauca*]
 ****Abrothallus parmeliarum*** (Sommerf.) Arnold — 24, B42469, Er, on *Parmelia saxatilis*; 39, B42943, Er on *P. sulcata*
 ****Abrothallus parmotremitis*** Diederich — 34, B42847, Er, on *Parmotrema crinitum*; 59, E13755 Er, on *Parmotrema* sp.
 ****Abrothallus usneae*** Rabenh. — 34, B42833a, on *Usnea cornuta*; 63, E13831, on *Usnea*
Abrothallus welwitschii Mont. — 6, B42108,42115, Er on *Sticta* sp.; 16, B42309, Er, on *Sticta limbata*; 61, E13792, Pn, on *Sticta fuliginosa* and *S. limbata*
Acarospora lavicola J. Steiner — 9, B42154, vr; 18, B42356, vr
Acarospora nodulosa (Dufour) Hue — H2004
Acarospora reagens Zahlbr. — H2004
Acarospora versicolor Bagl. & Carestia — H2004
 ****Acrocordia gemmata*** (Ach.) A. Massal. — 23, B42458, Cs
 ****Agonimia opuntiella*** (Buschardt & Poelt) Vězda — 20, B42388, vr; 42, B43027, vr; 54, E13665, vr. In H2004, this species is recorded as *Phaeophyscia opuntiella* (Buschardt & Poelt) Hafellner from Lanzarote.
 ****Agonimia tristicula*** (Nyl.) Zahlbr. — 61, E13806, Er
Alectoria imshaugii Brodo & D. Hawksw. — H2004
Alectoria sarmentosa (Ach.) Ach. — Mt. Hoya de la Vaca, PhC
 ****Alyxoria ochrocheila*** (Nyl.) Ertz & Tehler — 15, B42286, Cu; 52, E13590, ut; 53, E13655, ut; 73, E13949, ut
 *****Alyxoria subelevata*** (Nyl.) Ertz & Tehler — 63, E13856, vr; 73, E13948, vr, E13961, exr
Alyxoria varia (Pers.) Ertz & Tehler — 10, B42184, Ju; 15, B42290, Cu; 52, E13625, ut; 71, E13973, Ju
Anaptychia ciliaris (L.) Körb. — H2004
Anaptychia setifera Mereschk. ex Räsänen — 12, B42234, vr; 13, B42277, t; 70, E13968, sw; 70, E13967, sw
 ****Anisomeridium biforme*** (Borrer) R.C. Harris — 27, B42566, Pn; 30, B42672, Cs; 52, E13600 (sub *Porina borneri*), ut
 ****Anisomeridium polypori*** (Ellis & Everh.) M.E. Barr — 34, B42770, Er

Arborillus llimonae Munt.-Cvet. & Gómez-Bolea — H2004

**Arthonia* cf. *atlantica* P. James — 26, B42548, vr; 63, E13868, vr. Although most asci contain immature ascospores, we found a few which are well developed, 3-4 septate and 18-20 × 6-7.5 µm. The thallus is white but apothecia are paler than mentioned in Smith *et al.* (2009).

Arthonia atra (Pers.) A. Schneid. — 43, B43044, Th; 30, B42658, uft; 71, E13971, Ju

**Arthonia calcarea* (Turner ex Sm.) Ertz & Diederich *s.l.* — 47, B43073, vr; 52, E13609, vr

**Arthonia cinnabarina* (DC.) Wallr. — 52, E13602, ut; 53, E13646, ut, E13647 (sub *Strigula tagananae*), ut

**Arthonia coronata* Etayo — 52, E13601, ut, on *Flavoparmelia caperata*

***Arthonia didyma* Körb. — 43, B43043, Th

Arthonia diploiciae Calat. & Diederich — 12, B42239, Ju; 41, B42239, Ju; 70, E13970 wp; 50, E13563 Ju [on *Diploicia canescens*]

***Arthonia* cf. *epicladonia* (Nyl.) Alstrup & Zhurb. — 54, E13661, vr, on *Cladonia*

***Arthonia almquistii* Vain. — 28, B42621, vr, on thallus of *Porpidia* sp. All characters fit well with the description of *A. almquistii* in Smith *et al.* (2009), the measurement of the ascospores are 11-14 × 4.5-5 µm. Apothecia are mainly found on apothecia of the host and rarely on thallus. However the rough surface (according to Smith *et al.* 2009) is not clearly observed.

**Arthonia epiphyscia* Nyl. — 41, B43012, Ju, on *Pyxine*; 68, E13935, Ju, on *Pyxine*

**Arthonia follmanniana* Diederich — 71, E13975, vr, on *Roccella tinctoria*

***Arthonia molendoi* (Heufl. ex Frauentf.) R. Sant. — 30, B42636, ush on *Xanthoria parietina*; 32, B43099, Fi, on *Parmotrema reticulatum*. *Parmotrema* is a new host genus.

**Arthonia muscigena* Th. Fr. — 27, B42564, Cy (cf.) (on *Lecidella*); 43, B43045, Th

**Arthonia pelvetii* (Hepp) H. Olivier — 63, E13828, ush, on *Pseudocyphellaria aurata*

***Arthonia phaeophysciae* Grube & Matzer — 73, E13964, on *Phaeophyscia*

**Arthonia pruinata* (Pers.) Steud. ex A.L. Sm. — 44, B43051, Dr (cf.); 44, B43049, Mi. Two specimens (B43068 and E13926) have a C- thallus but are otherwise similar to *A. pruinata*. They might represent an additional species. Recorded as new to the Canary Islands (La Palma) in van den Boom (2007).

Arthonia radiata (Pers.) Ach. — 46, B43067, Pr

***Arthonia sexocularis* Zahlbr. — 43, B43042, Th

Arthonia stereocaulina (Ohlert) R. Sant. — H2004

Arthrophacopsis parmeliarum Hafellner — H2004

***Arthrorhaphis citrinella* (Ach.) Poelt — Hoya de Fileba, PhC

**Arthrosporium populorum* A. Massal. — 43, B43047, Ol

Aspicilia intermutans (Nyl.) Arnold — 1, B43090, vr; 39, B42953, vr

Aspicilia trachytica (A. Massal.) Arnold — H2004

***Asteroglobulus giselae* Brackel — 22, B42437, Er, on *Ramalina farinacea*

**Bacidia absistens* (Nyl.) Arnold — 27, B42569, Cu; 30, B42643, ush; 30, B42635, Fi; 32, B42722, 42728, Fi; 66, E13919, Cu

**Bacidia arceutina* (Ach.) Arnold — 5, B42047, Mr; 13, B42260, vr; 27, B42556, Pn; 30, B42637 ush; 34, B42789 Mr. The record on volcanic rock is rather unique for the species, which is rarely recorded from calcareous rocks in the British Islands (Smith *et al.* 2009).

- **Bacidia laurocerasi* (Delise ex Duby) Zahlbr. — 27, B42571, Pn; 30, B42669,42663, Cs; B42655, uft; 31, B42682, Mr; 31, B42687, Er; 38, B42923, Mr
- ***Bacidia parathalassica* Llop & Gómez-Bolea — 12, B42249, Ju; 15, B42287, Cu; 27, B42570, Cu
- ***Bacidia punica* Llop — 30, B42633, Teline. This species is recently described and published by Llop (2010). It has a widely mediterranean distribution with records from the most southwestern part of Portugal.
- Bacidia rosella* (Pers.) De Not. — H2004
- Bacidia rubella* (Hoffm.) A. Massal. — 27, B42568, Cu; 66, E13912,13917, Cu
- Bacidia* cf. *sipmanii* M. Brand, Coppins, van den Boom & Sérus. — 26, B42545, vr; 55, E13676, vr. According to Brand *et al.* (2009), the recently described *Bacidia sipmanii* Brand *et al.* is closely related to *Bacidia scopulicola* which has a coralloid granular thallus. The latter is absent in the Canary Islands. *B. sipmanii* has a thin rimose, non granular thallus. Our specimens have a rather thick thallus which is areolate, the ascospores are c. 22-27 × 2-2.5 μ and mainly 3-septate.
- Bacidia subilludens* (Harm.) Zahlbr. — H2004
- ***Bactrospora corticola* (Fr.) Almq. — 52, E13626, ut
- Bactrospora patellarioides* (Nyl.) Almq. var. *patellarioides* (Nyl.) Almq. 10, B42165, Ju; 41, B43013, Ju, cf.; 50, E13560, Ju; 68, E13927, Ju
- **Bactrospora thyrsodes* (Stirt.) Llop & van den Boom — 48, B43081, vr; 56, E13684, sw. Previously mentioned as *Bactrospora carneopallida* Egea & Torrente in H2004.
- Biatora turgidula* (Fr.) Nyl. — H2004
- **Biatoropsis usnearum* Räsänen — 16, B42329, Er; 25, B42502, Mr; 34, B42844,42879,42870, Er; 58, E13729,13745, Er,ut; 69, E13941, Er; 57, E13700, Er [on *Usnea*]
- **Botryolepraria lesdainii* Canals, Hern.-Mariné, Gómez-Bolea & Llimona — 30, B42647, vr; 53, E13656, vr
- Bryoria bicolor* (Ehrh.) Brodo & D. Hawksw. — H2004
- Bryoria capillaris* (Ach.) Brodo & D. Hawksw. — 6, B42103, Er; 34, B42777, Er; Jinama, PhC
- **Bryoria furcellata* (Fr.) Brodo & D. Hawksw. — 5, B42083, Mi
- Bryoria fuscescens* (Gyeln.) Brodo & D. Hawksw. — 34, B42822,42846, Er; 36, B42898, Pn; Mt Tabano, PhC
- **Buellia badia* (Fr.) A. Massal. — 40, B42961, vr, on *Xanthoparmelia*
- Buellia disciformis* (Fr.) Mudd — 5, B42061, Mr; 34, B42794, Mr. Recorded in H2004 as uncertain, but confirmed by Giralt & van den Boom (2011).
- Buellia dispersa* A. Massal. — 19, B42368, vr; 40, B42994, vr. Recorded in Giralt & van den Boom (2011).
- Buellia gomerana* (Etayo & Marbach) Giralt & van den Boom — 23, B42467, Cs. In a recent treatment of the genus *Buellia* in the Canary Islands by Giralt & van den Boom (2011) this new combination has been made for *Hafellia gomerana* Etayo & Marbach.
- Buellia griseovirens* (Sm.) Almb. — 25, B42509, Mr. Recorded in Giralt & van den Boom (2011).
- Buellia leptina* J. Steiner — 47, B43074, vr. Recorded in Giralt & van den Boom (2011).
- Buellia leptoclinoides* (Nyl.) J. Steiner — 26, B42546, vr; 27, B42587, vr. Recorded in Giralt & van den Boom (2011).

- ***Buellia prospersa** (Nyl.) Riddle — 47, B43079, vr. Recorded as new to the Canary Islands (Fuerteventura, La Palma, Tenerife) by Giralte & van den Boom (2011). According to Bungartz *et al.* (2007) this saxicolous species does not belong to *Amandinea*, although it was known as *Amandinea lecideina* (H. Mayrhofer & Poelt) Scheid. & H. Mayrhofer. It is probably a widely distributed species from coastal areas.
- Buellia regularis** Kalb. — 4, B42038, Mr; 16, B42313, Er; 22, B42440, Er; 25, B42497, Mr; 31, B42701, Er; 33, B42740,42755, Mr,Pn; 34, B42795,42778, Mr; 35, B42892, Pn; 52, E13611, ut; 59, E13771, Mr. Recorded in Giralte & van den Boom (2011).
- Buellia spuria** (Schaer.) Anzi — 1, B41979, vr; 40, B42976, vr; 56, E13681, sw; 73, E13953, vr. Recorded in Giralte & van den Boom (2011). *Buellia italica* A. Massal. is a synonym.
- Buellia stellulata** (Taylor) Mudd — 9, B42149, vr; 26, B42549, vr; 27, B42598, vr. Recorded in Giralte & van den Boom (2011).
- Buellia tesserata** Körb. — 7, B42127, vr; 8, B42143, vr; 9, B42156, vr; 19, B42372, vr; 40, B42971,42978, vr. Recorded in Giralte & van den Boom (2011).
- Buellia tyrolensis** Körb. — 40, B42959, vr. Recorded in Giralte & van den Boom (2011).
- ***Byssoloma marginatum** (Arnold) Sérus. — 27, B42575, Pn; 29, B42631, Pn
Byssoloma subdiscordans (Nyl.) P. James — H2004
- ****Calicium glaucellum** Ach. — 69, E13943
- ***Caloplaca aegatica** Giralte, Nimis & Poelt — 12, B42250, Ju; 21, B42415, Fi; 27, B42561, Pn; 30, B42639, Fi; 31, B42680, Mr; 66, E13915, Pn; 68, E13932, Ju
- ***Caloplaca aurantia** (Pers.) Hellb. — 44, B43050, cw
- Caloplaca canariensis** (Follmann & Poelt) Breuss — 27, B42607, t; 54, E13663, t; 63, E13849, t
- Caloplaca carphinea* (Fr.) Jatta — H2004
- Caloplaca cerina** (Hedw.) Th. Fr. var. **cerina** — 10, B42177, Ju; 26, B42531, Sek; 50, E13551, Ju
- Caloplaca chrysophthalma* Degel. — H2004
- ***Caloplaca congregiens** (Nyl.) Zahlbr. — 1, B41983, t
- ***Caloplaca crenularia** (With.) J. R. Laundon — 1, B41961, vr; 12, B42210, vr; 26, B42553, vr; 49, E13533, vr
- Caloplaca ferruginea** (Huds.) Th. Fr. — 2, B41992, Er; 21, B42408, Fi
- ***Caloplaca flavocitrina** (Nyl.) H. Olivier — 26, B42537, vr. Published in van den Boom (2007) from La Palma as new to the Canary Islands.
- Caloplaca flavorubescens** (Huds.) J.R. Laundon — 12, B42245, Ju; 15, B42289, Cu
- Caloplaca gomerana** J. Steiner — 7, B42126, vr; 18, B42357, vr; 49, E13526, vr
- Caloplaca haematites* (Chaub. ex St. Amans) Zwackh. — H2004
- Caloplaca herbidella** (Nyl. ex Hue) H. Magn. — 22, B42443, Er. This species is recently reported from El Hierro by Arup & Akelius (2009).
- ***Caloplaca irrubescens** (Arnold) Zahlbr. — 40, B42995, vr
- Caloplaca marina* (Wedd.) Zahlbr. — H2004
- ***Caloplaca pellodella** (Nyl.) Hasse — 1, B41969, t; 40, B42984, vr. In H2004 mentioned as *Caloplaca conglomerata* (Bagl.) Jatta
- ****Caloplaca phlogina** (Ach.) Flagey — 15, B42291, Cu
- Caloplaca pyracea** (Ach.) Th. Fr. — 43, B43040, Mi
- Caloplaca saxicola* (Hoffm.) Nordin — H2004
- ***Caloplaca scoriophila** (A. Massal.) Zahlbr. — 1, B41982, vr; 9, B42147, vr; 40, B42987, vr; 49, E13529, vr

- Caloplaca* cf. *scotoplaca* (Nyl.) H. Magn. — 47, B 43076, vr. This taxon is not well known by us. The identification needs to be confirmed by a comparison with the type material.
- ***Caloplaca thallicola* (Wedd.) Du Rietz — 12, B42207, vr
- Caloplaca* cf. *vitellinula* (Nyl.) H. Olivier — 2, B41998, on wall; 30, B42646, vr
- Candelariella vitellina* (Hoffm.) Müll. Arg. — 40, B42991, vr; 54, E13665 (sub *Agonimia opuntiella*), t
- ***Capronia normandinae* R. Sant. & D. Hawksw. — 62, E13810, Er, on *Normandina pulchella*
- **Catillaria chalybeia* (Borrer) A. Massal. — 2, B41997, sw; 3, B42005, vr; 4, B42035, vr; 13, B42271, vr; 15, B42292, Cu; 26, B42517, vr; 52, E13617, vr
- **Catillaria lenticularis* (Ach.) Th. Fr. — 48, B43087, vr
- Catillaria mediterranea* Hafellner — H2004
- **Catillaria nigroclavata* (Nyl.) Schuler — 12, B42242, Ju; 30, B42644, uft; 38, B42915, Mr
- **Catillaria subpraedicta* Brand & van den Boom — 11, B42197 Sek. Recently described as a new species in van den Boom (2010), from Lanzarote.
- **Catillaria usneicola* Etayo — 30, B42651, Cs on *Usnea*
- **Catinaria atropurpurea* (Schaer.) Poelt & Vězda — 16, B42311, Er; 27, B42572, Cu
- ***Cercidospora anomala* Etayo — 61, E13793, Pn, on *Ochrolechia*.
- Cetraria aculeata* (Schreb.) Fr. — 16, B42328, t; 31, B42717, t
- Cetraria muricata* (Ach.) Eckfeldt — H2004
- ***Cetraria crespoae* (Barreno & Vázquez) Kärnefelt — Monte Tenerife, PhC
- **Chaenotheca brunneola* (Ach.) Müll. Arg. — 16, B42322, 42336, st, Mr; 35, B42888, Pn; 52, E13608, 13624, ut; 62, E13820, Pn; 69, E13943, ut
- ***Chaenotheca chrysocephala* (Turner) Th. Fr. — Mt. Tabano, PhC
- **Chaenotheca furfuracea* (L.) Tibell — 5, B42072, 42077, ut, exposed roots; 52, E13597, exr
- **Chromatochlamys muscorum* (Fr.) H. Mayrhofer & Poelt — 12, B42235, t
- Chrysothrix candelaris* (L.) J.R. Laundon — 3, B42014, Er; 52, E13592 (sub *Micarea pycnidioiphora*), ut
- **Chrysothrix chlorina* (Ach.) J.R. Laundon — 52, E13616, vr
- **Chrysothrix chrysophthalma* (P. James) P. James & J.R. Laundon — 22, B42438, Er; 35, B42886, 42893, Pn; 52, E13589, ut; 63, E13825, Mr, exr. Our specimens are richly fertile such as the type of *C. chrysophthalma* (not sorediate), but also thinly sorediate such as *C. flavovirens* (which is rarely sparingly fertile). *C. flavovirens* should probably be synonymized with *C. chrysophthalma*.
- Cladonia arbuscula* (Wallr.) Flot. — H2004
- ***Cladonia asahinae* J.W. Thomson — 6, B42159, Er
- Cladonia bacillaris* (Ach.) Genth — 6, B42096, Er; 25, B42510, st; both K-, P-.
- Cladonia cervicornis* ssp. *cervicornis* (Ach.) Flot. — H2004
- Cladonia cervicornis* ssp. *verticillata* (Hoffm.) Ahti — 31, B42689, t
- Cladonia chlorophaea* (Flörke ex Sommerf.) Spreng. — 6, B42111, Er
- Cladonia ciliata* Stirt. — H2004
- Cladonia coccifera* (L.) Willd. — H2004
- **Cladonia coniocraea* (Flörke) Spreng. — B42347a, 42301a. This material has been found as accompanying specimens in envelopes of *Cladonia umbricola* and *C. merochlorophaea* respectively.
- Cladonia convoluta* (Lam.) Anders — H2004
- Cladonia firma* (Nyl.) Nyl. — 31, B42692, vr; 34, B42803, t

- **Cladonia floerkeana** (Fr.) Flörke — 17, B42351, Pn
Cladonia foliacea (Huds.) Willd. — 1, B41960, t; 12, B42224, t
Cladonia furcata (Huds.) Schrad. — 39, B42941, Pn
***Cladonia humilis** (With.) J.R. Laundon — 16, B42332, t; 31, B42695, Er
***Cladonia iberica** Burgaz & Ahti — 1, B41966, t; 16, B42327, t
Cladonia macaronesica Ahti — H2004
Cladonia macilenta Hoffm. — H2004
****Cladonia merochlorophaea** Asah. — 16, B42301, Er
Cladonia microphylla Ahti & Aptroot — Ahti & Aptroot (2009)
Cladonia cf. **nana** — 22, B42452, Er. This specimen resembles a very small *Cladonia ramulosa*. Many podetia and very small squamules are present and it contains fumarprotocetraric and protocetraric acid. More material is needed before we can confirm the occurring of this species in the Canary Islands (pers. comm. A. Burgaz).
***Cladonia phyllophora** Ehrh. ex Hoffm. — 4, B42041,42042, sw
Cladonia portentosa (Dufour) Coem. — H2004
****Cladonia pulvinella** S. Hammer — 6, B42091, t; 16, B42306, Mr; 24, B42473, Mr; 33, B42756, Pn
Cladonia pyxidata (L.) Hoffm. — H2004
***Cladonia ramulosa** (With.) J.R. Laundon — 17, B42353, Pn; 25, B42514, st, 33, B42748, st
Cladonia rangiformis Hoffm. — 6, B42090, t; 13, B42275, t; 31, B42690, t
Cladonia rei Schaer. — 34, B42802, t
Cladonia squamosa (Scop.) Hoffm. — 16, B42294, Er
Cladonia stereoclada Abbayes — H2004
***Cladonia subcervicornis** (Vain.) Kernst. — 6, B42095, t; 28, B42620, vr
***Cladonia subulata** (L.) F.H. Wigg. — 24, B42483, t
***Cladonia umbricola** Tønsberg & Ahti — 16, B42347, Pn
***Cliostomum flavidulum** Hafellner & Kalb. — 33, B42742,42744, Mr (f)
Cliostomum griffithii (Sm.) Coppins — 3, B42017, Er; 4, B42029, Mr; 5, B42064, Mr; 13, B42266, Pn; 27, B42563, Cy; 31, B42704, 42688,42683, Mr, Er; 38, B42920, Mr
***Clypeococcum epicrassum** (H. Olivier) Hafellner & Nav. Ros. — 40, B42988, vr; 54, E13664; 63, E13859 [on *Squamarina cartilaginea*]
****Clypeococcum hypocenomycis** D. Hawksw. — 35, B42883, Pn on *Hypocenomyce scalaris*
Coccocarpia erythroxyli (Spreng.) Swinscow & Krog — 2, B41994, vr; 42, B43032, vr
***Coenogonium luteum** (Dicks.) Kalb & Lücking — 23, B42462, Cs; 29, B42627, Pn; 34, B42782, Mr
Coenogonium pineti (Ach.) Lücking & Lumbsch — 5, B42070, 42073, Mr, exr. Listed as *Dimerella pineti* (Ach.) Vězda in H2004.
***Collema cristatum** (L.) Weber ex F.H. Wigg — 1, B41962, t; 20, B42386, vr; 42, B43033, vr
Collema furfuraceum (Arnold) Du Rietz — Schultz & van den Boom (2007)
Collema nigrescens (Huds.) DC. — 39, B42929, Er; 59, E13762, Mr
Collema ryssoleum (Tuck.) A. Schneid. — H2004 and Schultz & van den Boom (2007)
Collema tenax (Sw.) Ach. — 7, B42124, t; 12, B42237, t; 19, B42366, t; 42, B43029, t
Coniarthonia pyrnhula (Nyl.) Grube — 5, B42046, Mr; 53, E13637, ut
***Cornutispora ciliata** Kalb — 1, B41985, t, on *Squamarina*

- **Corticifraga fuckelii* (Rehm) D. Hawksw. & R. Sant. — 73, E13963, vr, on *Peltigera*
- **Corticiruptor abeloneae* (P.M. Jørg.) Wedin & Hafellner — 63, E13836, vr, on *Sticta canariensis*
- Cystocoleus ebeneus* (Dillwyn) Twaites — H2004
- **Dactylospora lobariella* (Nyl.) Hafellner — 61, E13794, Pn, on *Lobaria*
- **Dactylospora parellaria* (Nyl.) Arnold — 38, B42908, vr, on *Ochrolechia parella*. Recorded as new to the Canary Islands (La Palma) in van den Boom (2007).
- Degelia atlantica* (Degel.) P.M. Jørg. & P. James — 16, B42317, Er; 24, B42470, Er; 28, B42617, vr; 36, 42903, Cu; 61, E13791, Pn
- Degelia plumbea* (Lightf.) P.M. Jørg. & P. James — 36, B42902, Cu; 56, E13691, vr; 58, E13746, Er; 61, E13790, Pn
- Dendriscoaulon umhausense* (Auersw.) Degel. — H2004
- Dendrographa decolorans* (Turner & Borrer ex. Sm.) Ertz & Tehler — 10, B42182,42186, Ju; 46, B43069, Pr; 50, E13556,13573, Ju; 63, E13826, vr; 64, E13900, vr; 73, E13952, vr. Listed as *Schismatomma albocinctum* (Nyl.) Zahlbr. in H2004.
- Dimelaena radiata* (Tuck.) Hale & W.L. Culb. — 14, B42282, sw; 18, B42359, vr; 19, B42360, vr
- Diploicia canescens* (Dicks.) A. Massal. — 12, B42241, Ju; 41, B43006, Ju; 46, B43070, Pr; 50, E13559 (sub *Toninia subfuscae*),13563 (sub *Arthonia diploiciae*), Ju; 52, E13629, vr; 66, E13909, vr; 70, E13970 (sub *Arthonia diploiciae*), wp. *Diploicia subcanescens* (Werner) Hafellner & Poelt is separated from *D. canescens* by the presence of gyrophoric acid and a non-sorediate thallus, instead it contains always apothecia which are not so common in *D. canescens*. Our collections are: — 9, B42145, vr; 19, B42362, vr; 47, B43077, vr; 49, E13539, vr. Molina *et al.* (2002) consider both as conspecific. Even the recent *Buellia* s.l. study (Giralt & van den Boom 2011) of the Canary Islands does not separate them.
- Diploschistes actinostomus* (Pers. ex Ach.) Zahlbr. — H2004
- **Diploschistes caesioplumbeus* (Nyl.) Vain. — 21, B42416, Fi
- Diploschistes diacapsis* (Ach.) Lumbsch — 24, B42486; 27, B42582, t; 63, E13840, t
- **Diploschistes muscorum* (Scop.) R. Sant. — 28, B42622, vr; 58, E13739, Er, on *Cladonia*
- Diploschistes ocellatus* (Vill.) Norman — H2004
- Diploschistes scruposus* (Schreb.) Norman — 37, B42909, vr
- Diplotomma alboatrum* (Hoffm.) Flot. — 41, B43014, Ju
- **Dirina insulana* (Tav.) Tehler f. *sorediata* Tehler — 49, E13532, vr
- **Dirina massiliensis* Durieu & Mont. f. *massiliensis* — 10, B42167, Ju; 12, B42251, Ju
- **Dirina massiliensis* f. *sorediata* (Müll. Arg.) Tehler — 40, B42973, vr
- Dirinaria applanata* (Fée) Awasthi — H2004
- ***Endocarpon pallidulum* (Nyl.) Nyl. — 1, B41968, t; 12, B42232, t
- ***Endococcus rugulosus* Nyl. — 40, B42997, vr, on *Acarospora lavicola*
- Endohyalina brandii* Giralt, van den Boom & Elix — Reported by Giralt *et al.* (2010).
- Endohyalina diderichii* Giralt, van den Boom & Elix — 26, B42547, vr; 66, E13907, vr [on *Ramalina*]. Reported by Giralt *et al.* (2010).
- Endohyalina ericina* (Nyl.) Giralt, van den Boom & Elix — 3, B42019, Er; 4, B42037, Mr; 5, B42053,42062, Mr; 13, B42265, Pn; 27, B42577, Pn; 31, B42703, Er

- Enterographa crassa* (DC.) Fée — H2004
- Enterographa pitardii* (B. de Lesd.) Redinger — 64, E13875,13876, vr
- Evernia prunastri* (L.) Ach. — 22, B42431, Er; 34, B42804,42845, Mr, Er
- Everniastrum sorocheilum* (Vain.) Hale ex Sipman — 6, B42102, Er; 16, B42325,42316, Er; 24, B42478, Er; 34, B42816, Er; 36, B42897, Pn
- **Fellhaneropsis vezdae* (Coppins & P. James) Sérus. & Coppins — 29, B42692,42693, Pn
- ***Flakea papillata* O.E. Erikss. — 2, B43091, vr; 42, B43095, vr
- Flavoparmelia caperata* (L.) Hale — 23, B42459, Cs; 52, E13601 (sub *Arthonia coronata*), ut
- Flavoparmelia soledians* (Nyl.) Hale — 21, B42404, Fi
- Fulgensia desertorum* (Tomin) Poelt — H2004
- **Fuscopannaria mediterranea* (Tav.) P.M. Jørg. — 23, B42456, Ca; 61, E13786, Pn
- **Gloeoheppia turgida* (Ach.) Gyeln. — 20, B42384, vr
- Graphis scripta* (L.) Ach. — H2004
- **Gyalecta schisticola* Werner — 73, E13947, vr
- ***Hawksworthiana peltigericola* (D. Hawksw.) U. Braun — 31, B42698, t, on *Peltigera*
- **Herteliana gagei* (Sm.) J.R. Laundon — 26, B42541, vr. Van den Boom (2007) recorded it first from the Canary Islands (La Palma, as *Herteliana taylorii* (Salwey) P. James).
- **Hertelidea botryosa* (Fr.) Printzen & Kantvilas — 33, B42743, Mr; 35, B42887, Pn
- **Heterodermia albicans* (Pers.) Swinscow & Krog — 41, B43001,43020, vr, Ju; 42, B43035, vr;
- Heterodermia hypoleuca* (Muhl.) Trev. — H2004
- Heterodermia japonica* (M. Sato) Swinscow & Krog — H2004
- Heterodermia leucomela* (L.) Poelt — 3, B42012, Er; 27, B42565, t; 31, B42677, Er
- Heterodermia obscurata* (Nyl.) Trevis. — 5, B42078, Mr; 22, B42428, Er; 33, B42752, Er; 34, B42835, Er; 39, B42926, Er
- **Heterodermia speciosa* (Wulfen) Trevis. — 73, E13958, vr
- **Heteroplacidium imbricatum* (Nyl.) Breuss — 42, B43025 vr (over moss)
- **Homostegia piggotii* (Berk. & Broome) P. Karst. — 22, B42430, Er; 34, B42790, Mr; 52, E13622, ut; 58, E13732, ut; 59, E13766, Mr; 62, E13811, Er; 69, E13942, Er [on *Parmelia saxatilis*]
- **Hyperphyscia adglutinata* (Flörke) H. Mayrhofer & Poelt — 32, B42732, Fi
- ***Hypocenomyce castaneocinerea* (Räsänen) Timdal — 35, B42891, Pn (f)
- **Hypocenomyce scalaris* (Ach.) M. Choisy — 35, B42991,42889, Pn (f)
- Hypogymnia physodes* (L.) Nyl. — 4, B42040, Mr; 25, B42508, Mr
- Hypogymnia tavaresii* D. Hawksw. & P. James — 5, B42063, Mr; 6, B42063, Mr; 22, B42445, Er; 28, B42624, vr; 31, B42707, Mr; 34, B42806,42840,42850, Mr, Er; 57, E13716, Mr
- Hypogymnia tubulosa* (Schaer.) Hav. — 16, B42318,42326, Er; 39, B42937, Er; 57, E13704, Mr; 61, E13808 (sub *Phacopsis oxyspora*), Er; Hoya de Fileba, PhC
- ***Hypotrachyna afrorevoluta* (Krog & Swinscow) Krog & Swinscow — 25, B42500,42503, Mr
- **Hypotrachyna revoluta* (Flörke) Hale — 6, B42100, Er; 39, B42928, Er
- Hypotrachyna sinuosa* (Sm.) Hale — 39, B42927, Er
- **Jamesiella anastomosans* (P. James & Vězda) Lücking, Sérus. & Vězda — 25, B42504, Mr; 31, B42702, Er.

- Labrocarpon canariensis*** (D. Hawksw.) Etayo & Pérez-Ortega — 27, B42600, vr; 37, B42907, vr; 41, B43008, Ju; 55, E13679, vr; 63, E13871, vr; 67, E13924, vr; 68, E13933, Ju [on *Pertusaria*]. Listed as *Melaspilea canariensis* D. Hawksw. in H2004.
- ****Laeviomycetes opegraphae*** D. Hawksw. — 52, E13600 (sub *Porina borreri*), on *Opegrapha*, ut
- ****Lecanactis abietina*** (Ach.) Körb. — 5, B42069, Mr; 52, E13614, ut
- *****Lecania cuprea*** (A. Massal.) van den Boom & Coppins — 52, E13593, vr. This specimen has the same ascospores as *L. cuprea* (fusiform, 3-septate, 17-20 × 2-2.5 µm) and even the habitat is in accordance with the European collections, but the apothecia are somewhat grayish, lacking the pinkish pigment.
- ****Lecania cyrtella*** (Ach.) Th. Fr. — 27, B42557, Pn; 34, B42783, Mr; 43, B43039, 43041, B43046, Mi, Th, Ol
- ****Lecania hutchinsiae*** (Nyl.) A.L. Sm. — 4, B42034, sw; 28, B42615, vr; 30, B42649, vr; 52, E13587, vr, E13621, vr; 63, E13852, vr
- *****Lecania koerberiana*** Lahm — 21, B42421, Fi
- ****Lecania spadicea*** (Flot.) Zahlbr. — 19, B42369, vr
- ****Lecania turicensis*** (Hepp) Müll. Arg. — 27, B42558, on mortar, of wall; 44, B43052, cw
- Lecanographa amylacea* (Ehrh. ex Pers.) Egea & Torrente — H2004
- ****Lecanographa dialeuca*** (Cromb.) Egea & Torrente — 55, E13675, vr; 56, E13695, vr; 64, E13877, vr; 67, E13920, vr
- ****Lecanora albella*** (Pers.) Ach. — 33, B42738, Mr; 38, B42916, Mr
- Lecanora campestris*** (Schaer.) Hue — 30, B42648, vr
- Lecanora cenisia* Ach. — H2004
- ****Lecanora chlarotera*** Nyl. — 30, B43098, Cs
- ****Lecanora confusa*** Almb. — 2, B41990, Er; 4, B42030, 42031, Mr; 5, B42058, Mr; 23, B42465, Cs; 31, B42681, Mr
- ****Lecanora dispersa*** (Pers.) Sommerf. — 11, B42199, Sek
- ****Lecanora galactiniza*** Nyl. — 20, B42377, vr. Recorded as new for the Canary Islands (Fuerteventura) by van den Boom & Etayo (2006).
- Lecanora gangleoides*** Nyl. — 26, B42519, vr; 40, B42969, vr
- ****Lecanora hagenii*** (Ach.) Ach. — 26, B42533, Sek. Recorded as uncertain for the Canary Islands (Fuerteventura) by van den Boom & Etayo (2006). Here confirmed.
- ****Lecanora hybocarpa*** (Tuck.) Brodo — 12, B42225, 42240, Sek, Ju; 15, B42293, Cu; 31, B42684, Mt; 43, B43036, Mi. Recorded as new for the Canary Islands (Fuerteventura) by van den Boom & Etayo (2006)
- ****Lecanora muralis*** (Schreb.) Rabenh. — 27, B42559, c
- ****Lecanora rubicunda*** Bagl. — 23, B42466, Cs; 30, B42642, 42668, Fi, Cs; 38, B42921, Mr
- ****Lecanora rupicola*** (L.) Zahlbr. — 27, B42591, vr
- Lecanora sabinae*** Hern.-Padr. & Vänskä — 10, B42163, Ju; 14, B42281, wp; 41, B43021, Ju
- Lecanora schistina* (Nyl.) Arnold — H2004
- Lecanora subfusca* Colla — H2004
- Lecanora sulphurella*** Hepp — 7, B42133, vr; 8, B42138, vr; 12, B42214, 42217, vr; 19, B42370, vr; 26, B42539, vr; 27, B27588, 42596, vr
- Lecanora sulphureoatra* Nyl. — H2004

- Lecidea fuscoatra* (L.) Ach. v. *fuscoatra* — 24, B42481,42492, t; 28, B42626, vr; 31, B42691, vr; 39, B42954, vr; 58, E13737 (sub *Rhymbocarpus fuscoatrae*), t; Jinama, PhC
- ***Lecidea grisella* Flörke — 28, B42616, vr; 37, B42905, vr
- **Lecidella anomaloides* (A. Massal) Hertel & Kiliass — 14, B42280, vr; 39, B42955, vr
- **Lecidella asema* (Nyl.) Knoph & Hertel — 12, B42220,42230, vr; 26, B42527, vr; 27, B42583, B42585, vr
- Lecidella carpathica* Körb. — 40, B42962, vr
- Lecidella elaeochroma* (Ach.) M. Choisy — 10, B42179, Ju; 11, B42200, Sek; 21, B42414, Fi; 26, B42535, Sek; 27, B42562, Cy; 30, B42638,42656, Fi, uft; 41, B 43011, Ju
- Lecidella elaeochroma* f. *soralifera* (Erichsen) D. Hawksw. — 30, B42640, Fi
- Lecidella elaeochromoides* (Nyl.) Knoph & Hertel — H2004
- Lecidella euphorea* (Flörke) Hertel — 21, B42406, Fi
- **Lecidella scabra* (Taylor) Hertel & Leuckert — 2, B41999, sw; 27, B42580,42590, vr (f)
- Lepraria* agg. *caesioalba* (B. de Lesd.) J.R. Laundon — 27, B42579, vr; 42, B43031, vr
- ***Lepraria ecorticata* (J.R. Laundon) Kukwa — 51, E13586, vr
- ***Lepraria leuckertiana* (Zedda) L. Saag — 28, B42613, vr; 31, B42720, vr
- Lepraria lobificans* Nyl. — 6, B42114, Er; 27, B42574, Pn; 30, B42650, vr; 52, E13596, exr
- Lepraria nivalis* J.R. Laundon — H2004
- Leprocaulon microscopicum* (Vill.) Gams — 32, B42726, t
- **Leptochidium albociliatum* (Desm.) M. Choisy — 16, B42345, t; 24, B42488, t; 34, B42852, t; 58, E13725, t
- Leptogium brebissonii* Mont. — 24, B42479, Er; 58, E13734, Er
- Leptogium cochleatum* (Dicks.) P.M. Jørg. & P. James — 25, B42507, Mr
- **Leptogium corniculatum* (Hoffm.) Minks — 6, B42089, t; 33, B42746, t; 59, E13758, t, E13775, Pn
- Leptogium cyanescens* (Rabenh.) Körb. — H2004
- **Leptogium lichenoides* (L.) Zahlbr. — 63, E13844, vr (mosses), E13857, vr (mosses)
- Leptogium resupinans* Nyl. — 25, B42506, Mr; 39, B42930, Er; 58, E13751, Er; Hoya de Fileba, PhC
- ***Leptogium subtile* (Schrad.) Torss. — 59, E13777, Cu
- **Leptogium teretiusculum* (Wallr.) Arnold — 59, E13777 (sub *Leptogium subtile*), Cu
- Leptorhaphis epidermidis* (Ach.) Th. Fr. — H2004
- Lethariella canariensis* (Ach.) Krog — 62, E13815,13824, Er, vr; 63, E13864, vr
- Lethariella intricata* (Moris) Krog — 66, E13902, vr
- **Lichenoconium usneae* (Anzi) D. Hawksw. — 10, B42170, Ju on *Lecanora*; 11, B42189, Sek on *Ramalina*; 12, B42253, Ju on *Lecanora*; 12, B42254, Ju on *Bacidia*. Recorded as new to the Canary Islands (Lanzarote) in van den Boom (2010).
- Lichenodiplis lecanorae* (Vouaux) Dyko & D. Hawksw. — 4, B42024, Mr on *Lecanora*; 10, B42180, Ju on *Dendrographa*; 21, B42396, Fi on *Caloplaca*; 34, B42876, Er on *Ochrolechia*; 59, E13767, ut on *Ochrolechia*; 62, E13818, Er on *Ochrolechia*. Listed for the Canary Islands in Hafellner (2008).
- ***Lichenopeltella lobariae* Etayo & Diederich — 57, E13702, Er on *Lobaria*

- Lichenostigma cosmopolites* Hafellner & Calat. — H2004
- **Lichenostigma diploiciae* Calat., Nav.-Ros. & Hafellner — 7, B42136, vr on *Diploicia canescens*
- **Lichenostigma episulphurella* Etayo & van den Boom — 9, B42146, vr; 19, B42363, vr; 41, B43004, vr [on *Lecanora sulphurella*]. Described from the Canary Islands by van den Boom & Etayo (2006).
- **Lichenostigma maureri* Hafellner — 22, B42447, Er on *Usnea*
- **Lichenostigma rugosa* Thor — 24, B42482, t; 33, B42733, t [on *Diploschistes*]
- **Lichinella stipatula* Nyl. — 1, B41971, t; 20, B42391, vr; 40, B42990, vr
- ***Llimonaea flexuosa* Egea, Torrente & Mies — 64, E13880, vr. This species was only known from the Cape Verde archipelago so far.
- Lobaria amplissima* (Scop.) Forsell — H2004
- Lobaria immixta* Vain. — 16, B42302, Er; 33, B42763, Pn
- Lobaria pulmonaria* (L.) Hoffm. — 6, B42106, Er; 16, B42342, Pn; 33, B42759, Pn; 34, B42766, Er
- Lobaria virens* (With.) J.R.Laundon — 33, B42741, Er
- Lobarina scrobiculata* (Scop.) Cromb. — 16, B42340, Pn; 33, B42760, Pn; 34, B42857, 42866, 42872, Er (f); 57, E13696 (sub *Plectocarpon scrobiculatae*), Er; 61, E13784, Pn; 62, E13821 (sub *Plectocarpon scrobiculatae*), Pn. Listed as *Lobaria scrobiculata* (Scop.) DC. in H2004.
- **Massalongia carnosa* (Dicks.) Körb. — 16, B42344, t; 39, B42946, Pn
- Melanohalea elegantula* (Zahlbr.) O. Blanco *et al.* — H2004. Listed as *Melanelia elegantula* (Zahlbr.) Essl. in H2004.
- Melanohalea olivacea* (L.) O. Blanco *et al.* — H2004. Listed as *Melanelia olivacea* (L.) Essl. in H2004.
- Melanohalea subolivacea* (Nyl.) O. Blanco *et al.* — 21, B42411, Fi. Listed as *Melanelia subolivacea* (Nyl.) Essl. in H2004
- ***Melaspilea* cf. *rhododendri* (Arnold & Rehm) Almq. — 5, B42048, Mr on *Bacidia arceutina*. *Melaspilea rhododendri* is an european species frequent in central Europe where it grows as a lichen on bark of shrubs or as a lichenicolous fungus on crustose lichens (Hinteregger 1994, Redinger 1938). Some differences in the epihymenium colour are present in the literature: almost hyaline like in B42048 (Redinger 1938) or brownish-black to greenish-black (Hinteregger 1994). Further studies are thus needed to check if our specimen belongs to *Melaspilea rhododendri* or an undescribed taxon.
- **Micarea alabastrites* (Nyl.) Coppins — 34, B42781, Mr; 53, E13648, ut
- ***Micarea byssacea* (Th. Fr.) Czarnota, Guzow-Kremińska & Coppins — 34, B42800, Mr. The material corresponds with the description in Czarnota & Guzow-Kremińska (2010), the species seems to be widespread in Europe.
- ***Micarea doliiformis* (Coppins & P. James) Coppins & Sérus. — 3, B42013, Er; 5, B42075, st; 16, B42305, 42324, 42338, Mr (f); 34, B42779, 42856, Mr, Pn; 52, E13631, ut; 69, E13940, ut; Mt. Tabano, PhC; Mirador de Jinama, PhC. Previously the southernmost known locality of this species was in Portugal (Nazaré, van den Boom 2006). It is a rather common species in the upper belt of El Hierro.
- **Micarea lignaria* (Ach.) Hedl. var. *lignaria* — 58, E13741, vr (on mosses); Hoya de Fileba, PhC
- ***Micarea micrococcum* (Körb.) Gams ex Coppins — 22, B42427, Er. For a recent description see Czarnota & Guzow-Kremińska (2010).

- **Micarea peliocarpa* (Anzi) Coppins & R. Sant. — 16, B42333,42339, Er; 22, B42425, Er; 25, B42512, st; 31, B42693, Er; 33, B42737, Mr; 59, E13761, Mr
- **Micarea prasina* Fr. — 5, B42056,42066,42076,42087, Mr; 16, B42295,42307, 42323, Mr; 33, B42739,42747, Mr, st; 52, E13623,13628, st, exr; 53, E13651,13653, ut, st
- **Micarea pycnidiophora* Coppins & P. James — 4, B42028, Mr; 5, B42049,42051, Mr; 31, B42685,42709, Mr; 34, B42758, Mr; 52, E13592, ut; 53, E13642, ut
- ***Micarea subviridescens* (Nyl.) Hedl. — 31, B42712, vr
- ***Micarea viridileprosa* Coppins & van den Boom — 5, B42067, Mr; 31, B42686, Mr (f)
- Moelleropsis nebulosa* (Hoffm.) Gyeln. — 4, B42036; 60, E13778, t
- **Monodictys epilepraria* Kukwa & Diederich — 63, E13846, vr-t, on *Lepraria*.
Reported from the Canary Islands by Ertz & Diederich (2008).
- Muellerella hospitans* Stizenb. — H2004
- **Muellerella lichenicola* (Sommerf.) D. Hawksw. — 12, B42244, Ju on *Caloplaca*; 52, E13635, ut, on *Lecanora*; 54, E13663 (sub host), t, on *Caloplaca canariensis*
- **Muellerella pygmaea* (Körb.) D. Hawksw. — 31, B42719, vr, on *Lecidea fuscoatra*
- Mycocalicium subtile* (Pers.) Szatala — H2004
- ***Naetrocymbe fraxini* (A. Massal.) R. C. Harris — 5, B42052, Mr; 31, B42708, Mr; 52, E13594, ut
- **Nectriopsis lecanodes* (Ces.) Diederich & Schroers — 33, B42764, Pn; 63, E13832, ush [on *Lobaria*]
- Nephroma laevigatum* Ach. — 16, B42319, Er; 58, E13728, Er; 59, E13774, Pn; 61, E13783, Pn, E13789, Pn; Jinama, PhC
- Nephroma parile* (Ach.) Ach. — H2004
- Nephroma sulcatum* — P. James & F.J. White — 6, B42109, Er; 16, B42315, Er; 24, B42474, Er; 34, B42841, Er; 39, B42924,42925 Er (f); 57, E13713, Er
- Nephroma tangeriense* (Maheu & Gillet) Zahlbr. — H2004
- **Nigromacula uniseptata* (D. Hawksw.) D. Hawksw. — 62, E13819, Er, on *Hypotrachyna*. This species was previously known as *Vouauxiella uniseptata* D. Hawksw. from Gomera (H2004).
- Normandina pulchella* (Borrer) Nyl. — 24, B42468, Er; 58, E13746 (sub *Degelia plumbea*), Er; 62, E13810 (sub *Capronia normandinae*), Er
- Ochrolechia pallescens* (L.) A. Massal. — H2004
- Ochrolechia parella* (L.) A. Massal. — 12, B42252, Ju; 26, B42542, vr; 50, E13574, vr
- Ochrolechia szatalaensis* Vers. — 16, B42312, Er; 30, B42667, Cs; 34, B42780, Mr
- Ochrolechia* aff. *turneri* (Sm.) Hasselrot — 31, B42700, Mr; 34, B42799, Mr. It differs from *O. turneri* in the discrete soralia which never become crowded and apothecia which have not a soreciate exciple.
- ***Opegrapha celtidicola* (Jatta) Jatta — 41, B43005, Ju; 50, E13569, Ju
- Opegrapha foreau* (Moreau) Hafellner & R. Sant. — H2004
- ***Opegrapha gyrocarpa* Flot. — 63, E13845, vr
- **Opegrapha lutulenta* Nyl. — 56, E13683, vr
- Opegrapha niveoatra* (Borr.) J.R. Laundon — H2004
- ***Opegrapha saxigena* Taylor — 55, E13680, vr; 64, E13899, vr
- **Opegrapha vulgata* Ach. — 23, B42460, Cs
- ***Opegrapha xerica* Torrente & Egea s.l. — 71, E13972,13974, Ju
- **Pannaria conoplea* (Ach.) Bory — 6, B42116, Er; 33, B42750, Er

- Pannaria rubiginosa*** (Ach.) Bory — 6, B42097, Er; 16, B42320, Er; 58, E13728 (sub *Nephroma laevigatum*), Er, E13746 (sub *Degelia plumbea*), Er; 59, E13772, Pn; 61, E13785, Pn; Monte Tenerife, PhC
- Pannaria tavaresii*** P.M. Jørg. — 6, B42110, Er
- Paralecanographa grumulosa*** (Dufour) Ertz & Tehler — 48, B43088, vr; 10, B42160,42168, Ju; 50, E13548,13552,13558,13565,13568,13572, Ju, on wood, E13573 (sub *Dendrographa decolorans*), Ju; 56, E13693, vr, on *Rocella*; 64, E13874, vr; 68, E13930 (sub *Thelopsis isiaca*), Ju. Listed as *Lecanographa grumulosa* (Dufour) Egea & Torrente in H2004.
- Parmelia cinereoplumbea*** Harm. — H2004
- Parmelia saxatilis*** (L.) Ach. — 3, B42008, Er; 22, B42435, Er; 34, B42808,42819, Er; 52, E13622, ut; 62, E13811, Er; 69, E13942 Er (E all sub. *Homostegia piggotii*).
- **Parmelia sulcata*** Taylor — 30, B42671, Cs; 58, E13727, Mr
- Parmeliella parvula*** P.M. Jørg. — H2004
- Parmelina carporrhizans*** (Taylor) Poelt & Vězda — H2004
- Parmelina tiliacea*** (Hoffm.) Hale — H2004
- **Parmelinopsis minarum*** (Vain.) Elix & Hale — 32, B42723, Fi
- **Parmotrema arnoldii*** (Du Rietz) Hale — 6, B42107, 42113, Er (f); 17, B42348, Pn; 22, B42453, Er; 24, B42472, Mr; 34, B42828,42851,42862,42864,42875, Er
- Parmotrema austrosinense*** — (Zahlbr.) Hale — H2004
- Parmotrema cetratum*** (Ach.) Hale — H2004, but listed as *Rimelia cetrata* (Ach.) Hale & A. Fletcher.
- Parmotrema crinitum*** (Ach.) Choisy — 24, B42475, Mr; 34, B42820,42825, Er (f); 39, B42938, Er
- ***Parmotrema hypoleucinum*** (J. Steiner) Hale — 38, B42914, Mr; 53, E13660, ut
- Parmotrema perforatum*** (Jacq.) A. Massal. — H2004
- Parmotrema perlatum*** (Huds.) M. Choisy — 6, B42099, Er; 13, B42269, Pn; 22, B42429, Er (f); 29, B42632, Pn (f); 34, B42788, 42827,42860, Mr, Er
- Parmotrema reticulatum*** (Taylor) M. Choisy — 3, B42015, Er; 21, B42419, Fi; 23, B42457, Cs; 26, B42524, vr; 30, B42675, Cs. Listed as *Rimelia reticulata* (Taylor) Hale & A. Fletcher in H2004.
- Parmotrema subtinctorum*** (Zahlbr.) Hale — H2004
- Parmotrema tinctorum*** (Nyl.) Hale — 1, B41988, Sek; 10, B42188, Ju; 20, B42390, vr; 40, B42979, vr
- Peltigera canina*** (L.) Willd. — 4, B42043, t
- **Peltigera didactyla*** (With.) J.R. Laundon — 34, B42823, t
- **Peltigera membranacea*** (Ach.) Nyl. — 60, E13780, t (on mosses)
- **Peltigera praetextata*** (Sommerf.) Zopf — 60, E13779, t (on mosses); 63, E13837, t (on mosses)
- **Peltigera rufescens*** (Weiss.) Humb. — 34, B42823, t
- **Peltula bolanderi*** (Tuck.) Wetmore — 20, B42389, vr
- Peltula euploca*** (Ach.) Poelt — 48, B43083, vr
- **Peltula obscurans*** (Nyl.) Gyeln. — 20, B42993, vr
- **Peltula omphaliza*** (Nyl.) Wetmore — 20, B42412, vr
- **Peltula patellata*** (Bagl.) Swinscow & Krog — 1, B41987, t; 20, B42380, vr; 40, B42996, vr
- Pertusaria amara*** (Ach.) Nyl. — 13, B42261, Pn; 34, B42861, Er
- **Pertusaria coccodes*** (Ach.) Nyl. — 22, B42426, Er
- Pertusaria exalbescens*** Zahlbr. — H2004
- Pertusaria hymenea*** (Ach.) Schaer. — H2004

- **Pertusaria leucosora* Nyl. — 26, B42550, vr. This species was formerly regarded as synonymous with *P. aspergilla* Ach., *P. dealbata* auct., *P. dealbescens* auct. and was recorded from Tenerife in H2004.
- Pertusaria leucostoma* (Bernh.) A. Massal. — H2004
- **Pertusaria ophthalmiza* (Nyl.) Nyl. — 4, B42025, Mr; 5, B42045, 42050, Mr; 22, B42424, Er; 33, B42749, Er; 34, B42809, Er; 57, E13719, Er
- Pertusaria pertusa* (Weigel) Tuck. — 10, B42172, Ju; 23, B42463, Cs; 41, B43010, vr
- Pertusaria pseudocorallina* (Lilj.) Arnold — H2004
- **Pertusaria pupillaris* (Nyl.) Th. Fr. — 31, B42679, 42696, Er
- Pertusaria pustulata* (Ach.) Duby — H2004
- Pertusaria rupicola* (Fr.) Harm. — H2004
- Pertusaria velata* (Turner) Nyl. — 32, B42731, Fi
- **Phacopsis huuskonenii* Räsänen — 63, E13834, Er, on *Bryoria*
- **Phacopsis oxyspora* (Tul.) Triebel & Rambold s.l. — 39, B42934; 57, E13698, Er; 58, R13730 (sub *Tremella coppinsii*), Mr, E13733, Er; 59, E13765, Er; 61, E13808, Er [on *Hypogymnia tubulosa* and *Platismatia glauca*]
- Phaeophyscia ciliata* (Hoffm.) Moberg — H2004
- **Phaeophyscia orbicularis* (Neck.) Moberg — 21, B42409, Fi
- **Phaeosporobolus usneae* D. Hawksw. & Hafellner — 34, B42874, Er on *Usnea*
- **Phlyctis agelaea* (Ach.) Flot. — 52, E13607, ut; 66, E13916, Pn
- Physcia adscendens* (Fr.) H. Olivier — 10, B42164, Ju; 21, B42403, Fi; 50, E13570, Ju
- Physcia aipolia* (Ehrh. ex Humb.) Fűrnr. — H2004
- Physcia leptalea* (Ach.) DC. — 39, B42939, Er; 61, E13807, Er. Listed as *Physcia semipinnata* (J.F. Gmelin) Moberg in H2004
- Physcia tenella* (Scop.) DC. — H2004
- **Physcia tribacia* (Ach.) Nyl. — 40, B42977, vr
- Physconia distorta* (With.) J.R. Laundon — H2004
- **Piccolia ochrophora* (Nyl.) Hafellner — 27, B42567, Cu; 30, B42670, Cs
- **Placidium semaforonense* (Breuss) Breuss — 1, B41986, t; 20, B42383, t
- **Placidium squamulosum* (Ach.) Breuss — 27, B42601, t
- **Placynthiella dasaea* (Stirt.) Tønsberg — 3, B42020, Er; 22, B42450, Er (f); 52, E13591, ut. Recorded as new to the Canary Islands (La Palma) in van den Boom (2007).
- Platismatia glauca* (L.) W.L. Culb. & C.F. Culb. — 5, B42059, ut; 6, B42122, Er; 16, B42300, Er; 34, B42815, Er (f); 57, E13698 (sub *Phacopsis oxyspora*), Er, E13699 (sub *Abrothallus cetrariae*), Er; 58, E13730 (sub *Tremella coppinsii*), 13752 (sub *Abrothallus cetrariae*), 13753 (sub *Roselliniella atlantica*), Mr; 62, E13812 (sub *Tremella coppinsii*), Er
- **Plectocarpon lichenum* (Sommerf.) D. Hawksw. — 59, E13757, Er; 61, E13796, Pn [on *Lobaria*]
- Plectocarpon macaronesia* Diederich, Etayo & Sérusiaux — 33, B42762, Pn; 59, E13756, Er; 61, E13795, Pn [on *Lobaria*]
- **Plectocarpon scrobiculatae* Diederich & Etayo — 57, E13696, Er; 62, E13821, Pn [on *Lobarina scrobiculata*]
- Polychidium muscicola* (Sw.) Gray — 24, B42487, t; 33, B42745, t; 57, E13722, t; 69, E13938, t
- **Polycoccum kernerii* J. Steiner — 58, E13737 (sub *Rhymbocarpus fuscoatrae*), t, on *Lecidea fuscoatra*
- **Porina borrieri* (Trevis.) D. Hawksw. — 52, E13600, ut
- **Porina coralloidea* P. James — 3, B42010, Er; 53, E13641, ut (mosses)

- Porpidia albocaulerulescens* (Wulf.) Hertel & Knoph — H2004
****Porpidia contraponenda** (Arnold) Knoph & Hertel — 2, B41996, vr
***Porpidia crustulata** (Ach.) Hertel & Knoph — 28, B42623, vr
Porpidia macrocarpa (DC.) Hertel & A.J. Schwab — H2004
***Porpidia platycarpoides** (Bagl.) Hertel — 2, B41995, vr; 3, B42022, vr; 4, B42033, sw; 26, B42518, vr; 37, B42912, vr. All specimens contain norstictic acid in the thallus, however in the excipulum with the pale brownish inner part, we could not prove the presence of this compound. Recorded as new to the Canary Islands (La Palma) in van den Boom (2007).
Pseudevernia furfuracea (L.) Zopf. — H2004
Pseudocyphellaria aurata (Ach.) Vain. — 34, B42858, Er; 59, E13759, ut; 63, E13828 (sub *Arthonia pelvetii*), ush
Pseudocyphellaria crocata (L.) Vain. — 6, B42104, Er; 25, B42505, Mr; 39, B42951, Pn; 58, E13731, ut; 59, E13769, Er; 62, E13822, Pn
***Pseudocyphellaria intricata** (Delise) Vain. — 16, B42297, Er; 59, E13770, Er
***Pseudocyphellaria norvegica** (Gyeln.) P. James — 34, B42812, Er
***Pseudoseptoria usneae** Speg. — 34, B42837, Er, on *Usnea silesiaca*
***Psilolechia lucida** (Ach.) M. Choisy — 5, B42082, exr; 34, B42853, exr; 52, E13604, exr
Psora decipiens (Hedw.) Hoffm. — 1, B41964, t; 49, E13543, t
****Psora globifera** (Ach.) A. Massal. — 24, B42489, t; 57, E13721, t
Pyrenidium actinellum Nyl. — 22, B42441, Er, on *Phlyctis argena*
Pyrenocollema halodytes (Nyl.) R.C. Harris — H2004
***Pyrenopsis conferta** (Born.) Nyl. — 20, B42848, vr
***Pyrenopsis triptococca** Nyl. — 1, B41976, vr; 20, B42382, vr; 48, B43086, vr
Pyrrhospora querneae (Dicks.) Körb. — 4, B42027, Mr; 31, B42694, Er; 38, B42918, Mr; 57, E13718, Er
Pyxine cocoes (Sw.) Nyl. — 10, B42183, Ju; 41, B43016, Ju
Pyxine subcinerea Stirt. — H2004
Ramalina arabum (Ach.) Meyen & Flot. — H2004
Ramalina bourgeana Mont. ex Nyl. — 8, B42140, vr [ES]; 19, B42365, vr [ES]; 20, B42373, vr [ES]; 49, E13524, vr; 50, E13583, vr [ES]; 56, E13682, E13686, vr
Ramalina canariensis J. Steiner — 11, B42192, Sek [ES]; 21, B42405, Fi [ES]
Ramalina chondrina J. Steiner — 26, B42529, Rumex [ES]; 27, B42573, Cu [ES]; 30, B42634, Er [ES]; E13863, Er; 66, E13913, Pn; 72, E13980, Pn
Ramalina crispatula Despr. ex Nyl. — H2004
Ramalina cupularis Krog & P. James — 12, B42204 [ES], 42205, vr; 26, B42523, vr [ES]; 50, E13582, vr; E13585, vr; 64, E13891, vr; 70, E13966, vr [ES]
Ramalina decipiens Mont. — 40, B42980, vr [ES]
Ramalina farinacea (L.) Ach. — 3, B42011, Er; 69, E13937, Er
Ramalina cf. **fastigiata** (Pers.) Ach. — 23, B42464, Cs [ES], according to E. Sérusiaux (pers. comm.), our specimen needs further study.
Ramalina hamulosa Krog & Østh. — H2004
Ramalina hierrensis Krog & Østh. — 12, B42258, Ju; 45, B43072, vr; 46, B43059, Pr; 56, E13690, E13694, vr
Ramalina huei Harm. — 12, B42202, 42255 [ES], Ju; 26, B42525, Rumex [ES]; 46, B43060, Pr [ES]
Ramalina impletens Nyl. — 30, B42660 uft [ES]
Ramalina lacera (With.) J.R. Laundon — 12, B42256, Ju [ES]; 43, B43037, Mi [ES]; 46, B43062, Pr [ES]; 70, E13965, ush
Ramalina maciformis (Delile) Bory — H2004

- Ramalina maderensis* Motyka — 50, E13576,13579,13581,13584, vr; 56, E13685,13687, vr
- Ramalina mollis* Krog & Østh. — 11, B42195, Sek [ES]; 12, B42212,42222, Sek [ES]; 46, B43056, Pr [ES]
- **Ramalina nodosa* Krog & Østh. — 13, B42273, vr; 64, E13883, vr
- Ramalina pitardii* Hue — 55, E13673, vr; 66, E13903, vr
- Ramalina pollinaria* (Westr.) Ach. — H2004
- Ramalina portuensis* Samp. — H2004
- Ramalina pusilla* Le Prévost ex Duby — H2004
- Ramalina requienii* (De Not.) Jatta — 26, B42554, vr [ES]; 27, B42599, vr [ES]; 56, E13688, vr; 66, E13904, vr
- Ramalina subfarinacea* (Nyl. ex Cromb.) Nyl. — 22, B42433, Er [ES]; 26, B42544, vr [ES]; 27, B42595, vr [ES]; 30, B42652, Cs [ES]; 64, E13884, vr; 66, E13908, vr
- Ramalina subgeniculata* Nyl. — 2, B41991, Er [ES]; 3, B42023, Er [ES]; 74, E13986, ush
- Ramalina subpusilla* (Nyl.) Krog & Swinscow — H2004
- Ramalina subwebbiana* (Nyl.) Hue — 12, B42216, vr [ES]; 26, B42552, vr [ES]; 27, B42597, vr [ES]; 42, B43023, vr [ES]; 50, E13578, vr; 64, E13889,13898 vr; 66, E13905, vr; 70, E13969, vr
- Ramalina webbii* Mont. — H2004
- Rhizocarpon geographicum* (L.) DC. — 39, B42956, vr
- **Rhizocarpon polycarpum* (Hepp) Th. Fr. — 27, B42584 vr; 39, B42952, vr
- **Rhizocarpon reductum* Th. Fr. — 28, B42618, vr
- **Rhizocarpon viridiatrum* (Wulfen) Körb. — 14, B42283, sw (wall); 26, B42540, vr; 38, B42922, vr (cf.)
- Rhymbocarpus cruciatus* (Sherwood, D. Hawksw. & Coppins) Etayo & Diederich — H2004
- **Rhymbocarpus fuscoatrae* (Hafellner) Diederich & Etayo — 58, E13737, t, on *Lecidea fuscoatra*
- **Rinodina abolescens* H. Magn. — 1, B41981, Sek; 11, B42193, Sek; 21, B42413, Fi; 26, B42536, Sek; 30, B42659, uft
- **Rinodina alba* Metzler ex Arnold — 8, B42139, vr; 9, B42151, vr; 49, E13545, vr
- **Rinodina anomala* (Zahlbr.) H. Mayrhofer & Giralt — 2, B41989, Er; 12, B42213, Sek
- Rinodina beccariana* Bagl. v. *beccariana* — 20, B42375, vr; 26, B42520,42528, vr; 27, B42593, vr; 41, B43009, Ju(!); 47, B43078, vr; 49, E13534, vr; 63, E13850, vr. The first corticolous record of this species.
- **Rinodina beccariana* Bagl. v. *lavicola* (M. Steiner) Matzer & H. Mayrhofer — 2, B42001, sw; 7, B42125, vr; 12, B42208, vr; 14, B42279, vr; 18, B42358, vr; 19, B42371, vr; 27, B42578, vr; 41, B43000, vr
- **Rinodina canariensis* Matzer, H. Mayrhofer & P. Clerc — 9, B42155, vr, on *Lecanora sulphurella*; 19, B42364, vr, on *L. sulphurella*; 40, B42965, on *Caloplaca scoriophila* B42981, on *L. sulphurella*; B42986, vr; 49, E13540, vr; 56, E13692, vr
- **Rinodina capensis* Hampe — 38, B42917, Mr
- Rinodina confragosa* (Ach.) Körb. — H2004
- Rinodina disjuncta* Sheard & Tønseb. — 22, B42446a, Er. Recorded as new to the Canary Islands in Giralt *et al.* (2010c).
- Rinodina flavosoralifera* Tønseb. — 22, B42434,42446, Er (f); 34, B42807, Er. Recorded as new to the Canary Islands in Giralt *et al.* (2010c)

- Rinodina lindingeri*** (Erichsen) Giralt & van den Boom — 30, B42657,42666, Fi, Cs; 32, B42724, Fi. Giralt *et al.* (2010b) proved that the related *Rinodina hallii* Tuck. is endemic in North America, so we regard the record in H2004 as belonging to *R. lindingeri*.
- ****Rinodina nimisii*** Giralt & H. Mayrhofer — 41, B43022, Ju. Recorded as new to the Canary Islands (Lanzarote) in van den Boom *et al.* (2009).
- ****Rinodina oxydata*** (A. Massal.) A. Massal. — 4, B42032, sw
- ****Rinodina plana*** H. Magn. coll. — 30, B43089, uft
- Rinodina roboris*** (Dufour ex Nyl.) Arnold — 10, B42174,42175, Ju; 50, E13549,13561, Ju
- Rinodina sophodes* (Ach.) A. Massal. — H2004
- ****Rinodina trachytica*** (A. Massal.) Bagl. & Carestia — 1, B41978, vr
- ****Rinodina vezdae*** H. Mayrhofer — 20, B42381, vr. Recorded as new to the Canary Islands (Gran Canaria) in van den Boom *et al.* (2009).
- Roccella fuciformis*** (L.) DC. — 46, B43066, vr (f)
- Roccella phycopsis*** Ach. — 49, E13541, vr
- Roccella tinctoria*** DC. — 9, B42157, vr; 42, B43034, vr; 46, B43065, vr; 48, B43080,43084 vr; 49, E13525, vr; 71, E13975 (sub *Arthonia follmanniana*), vr. *Roccella canariensis* (sexual) and *R. tinctoria* (asexual) represented a “species pair” and are now united into one single species for which the correct name is *R. tinctoria* (Tehler *et al.* 2004, 2009); both asexual and sexual specimens are represented in our material.
- Roccella tuberculata*** Vain. — 10, B42162, Ju
- Roccellographa circumscripta*** (Taylor) Ertz & Tehler — 64, E13872,13878,13881, vr. Listed as *Sclerophyton circumscriptum* (Taylor) Zahlbr. in H2004.
- ****Roselliniella atlantica*** Matzer & Hafellner — 58, E13753, Mr, on *Platismatia glauca*.
- ****Scoliciosporum pruinatum*** (P. James) Vězda — 4, B42039, Mr; 31, B42710, Mr; 52, E13592 (sub *Micarea pycnidiophora*), ut
- ****Scoliciosporum umbrinum*** (Ach.) Arnold — 21, B42400, Fi
- Scutula stereocaulorum* (Anzi) Körb. — H2004
- Seirophora scorigena* (Mont.) Frödén — H2004, but listed as *Teloschistes scorigenus* (Mont.) Vain.
- ****Skyttea lecanorae*** Diederich & Etayo — 43, B43097, Mi, on *Lecanora*
- ****Skyttea tephromelarum*** Kalb & Hafellner — 21, B42395, Fi, on *Tephromela atra*
- Solenopsora holophaea*** (Mont.) Samp. — 1, B41965, t; 7, B42129, t; 12, B42233, t; 49, E13535 [sub *Toninia aromatica*], 13544, t; 73, E13951, t; Jinama, PhC
- ****Solenopsora vulturiensis*** Bagl. — 7, B42128, t; 12, B42229, t
- *****Sparria endlicheri*** (Garov.) Ertz & Tehler — 5, B42086, Mr; 52, E13615; 73, E13946 (sub *Trimmatostroma hierrense*), exr
- ****Sphaerellothecium*** aff. ***girtaltiae*** van den Boom — 32, B42727, Fi; 73, E13945, [on *Parmotrema reticulatum*]. The specimens agree in morphology but are from a different host genus. Further study is needed to verify whether this is a new taxon. *S. girtaltiae* is recently described and reported from Gran Canaria and Lanzarote (van den Boom 2010b).
- Sphaerophorus globosus*** (Huds.) Vain. — 5, B42079, Mr; 58, E13724, Er
- Sphinctrina leucopoda* Nyl. — H2004
- Spilonema revertens*** Nyl. — 63, E13869 (sub *Toninia sedifolia*), t. Recently recorded from El Hierro by Schultz & van den Boom (2007).
- ****Spirographa fusisporella*** (Nyl.) Zahlbr. — 69, E13936, Er, on *Pertusaria*
- Squamarina cartilaginea*** (With.) P. James — 1, B41958, t; 40, B42982, vr; 54, E13664 t; 63, E13859, t [E all sub *Clypeococcum epicrassum*].

- Squamarina concrescens* (Müll. Arg.) Poelt — 27, B42606, t
Squamarina lentigera (Weber) Poelt — H2004
Staurolemma omphalarioides (Anzi) P.M. Jørg. — H2004
Stereocaulon azureum (Schaer.) Nyl. — 25, B42515, sw; 31, B42715, t; 33, B42734, t; 60, E13782, t; 63, E13861, t; Jinama, PhC
Stereocaulon vesuvianum Pers. — 6, B42094, t; 31, B42714, vr
 **Sticta canariensis* (Ach.) Bory ex Delise — 63, E13836 (sub *Corticiruptor abeloneae*), vr (on mosses). Very rare on the island.
Sticta fuliginosa (Hoffm.) Ach. — 6, B42121, Er; 24, B42477, Er; 39, B42957, Pn; 61, E13792 (sub *Abrothallus welwitschii*), Pn
Sticta limbata (Sm.) Ach. — 16, B42314, Er; 31, B42678, Er; 61, E13792 (sub *Abrothallus welwitschii*), Pn; Hoya del morcillo, PhC
Stigmidium epixanthum Hafellner — 20, B42376, vr, on *Acarospora*
Stigmidium tabacinae (Arnold) Triebel — 1, B41963, t, on *Toninia tristis*; 54, E13662, t, on *Toninia toepfferi*. Recorded as new to El Hierro in Hafellner (2008b).
 **Strigula tagananae* (Harm.) R.C. Harris — 53, E13645, 13647, ut; 66, E13918, Cu
Syncesia myrticola (Fée) Tehler — H2004
 **Syzygospora bachmannii* Diederich & M.S. Christ. — 16, B42330, t; 34, B43096, Er; 61, E13809, Er [on *Cladonia*]
 ***Taeniolella beschiana* Diederich — 4, B42092, wall; 34, B42813, Er (on squamules of *Cladonia*)
Teloschistes chrysophthalmus (L.) Th. Fr. — H2004
Teloschistes flavicans (Sw.) Norman — 6, B42112, Er; 13, B42268, Pn; 25, B42499, Mr; 34, B42771, Er; 58, E13726, Er
Tephromela atra (Huds.) Hafellner — 10, B42161, Ju; 21, B42401, Fi; 40, B42970, vr; 42, B43024, vr
 **Thelenella melanospora* Etayo & H. Mayrhofer — 10, B42187, Ju
Thelomma mammosum (Hepp) A. Massal. 12, B42219, vr; 26, B42538, vr; 27, B42592, vr
Thelopsis isiaca Stizenb. — 9, B42152, vr; 10, B42169, Ju; 41, B43007, Ju; 49, E13528, vr; 50, E13573 (sub *Dendrographa decolorans*), Ju; 68, E13930, Ju
 **Thelotrema lepadinum* (Ach.) Ach. — 4, B42026, Mr; 5, B42074, 42084, Mr
 **Toninia aromatica* (Sm.) A. Massal. — 7, B42134, vr; 12, B42209, vr, on *Lecanora*; 27, B42612, t; 49, E13535, vr
 ***Toninia mesoidea* (Nyl.) Zahlbr. — 26, B42521, vr; 41, B43019, Ju; 42, B43028, vr; 67, E13925, t
 **Toninia plumbina* (Anzi) Hafellner & Timdal — 24, B43158, Er, on *Degelia atlantica*
Toninia sedifolia (Scop.) Timdal — 1, B41984, t; 63, E13869, t
 **Toninia squalida* (Ach.) A. Massal. — 40, B42999, vr; 63, E13847, t
 **Toninia subfuscae* (Arnold) Timdal — 10, B42185, Ju, on *Diploicia canescens*; 21, B42418, Fi, on *Lecanora*; 50, E13559, on *D. canescens*. The records 13559 and 42185 are from a new host. Previously it was known from *Lecanora*, *Lecidella* and *Lobothallia*.
Toninia toepfferi (Stein.) Navás — 27, B42602, t; 37, B42910, vr; 54, E13662 (sub *Stigmidium tabacinae*), t
Toninia aff. *tristis* (Th. Fr.) Th. Fr. — 9, B42148, t, the specimen resembles ssp. *tristis*, but the thallus is not clearly bullate.
 **Toninia tristis* (Th. Fr.) Th. Fr. ssp. *pseudotabacina* Timdal — 1, B41967, t; 49, E13547, t

- Tornabea scutellifera* (With.) J.R. Laundon — 11, B42190, Sek; 12, B42228, Sek (f); 72, E13981, Pn
- **Trapelia coarctata* (Sm.) M. Choisy — 2, B42002, sw
- **Trapelia corticola* Coppins & P. James — 16, B42321,42334, Er; 22, B42454, Er; 33, B42754, Er; 34, B42811,42818, Er
- **Trapeliopsis granulosa* (Hoffm.) Lumbsch — 3, B42007,42021, Er; 16, B42331, exr; 17, B42350, Pn; 22, B42448, Er; 25, B42501, Mr; 33, B42751, Er; 34, B42769, Er; 61, E13787, Pn; Mt. Tabano, PhC
- ***Trapeliopsis percrenata* (Nyl.) Gotth. Schneid. — 35, B42895, Pn
- **Trapeliopsis pseudogranulosa* Coppins & P. James — 5, B42081, st
- Trapeliopsis wallrothii* (Flörke ex Spreng.) Hertel & Gotth. Schneid. — 6, B42093, t (f); 27, B42605, t; 57, E13720, t
- **Tremella cetrariicola* Diederich & Coppins — 17, B42354, Pn; 31, B42676, Er; 33, B42753, Er; 34, B42767,42843, Er; 57, E13697, Er; 59, E13764, Er [on *Tuckermannopsis chlorophylla*]
- **Tremella cladoniae* Diederich & M. S. Christ. — 59, E13754,13768, Pn, Er [on *Cladonia*]
- **Tremella coppinsii* Diederich & G. Marson — 58, E13730, Mr; 62, E13812, Er [on *Platismatia glauca*]
- **Tremella lobariacearum* Diederich & M.S. Christ. — 16, B42341, Pn; 33, B42761, Pn; 57, E13702 (sub *Lichenopeltella lobariae*), Er [on *Lobaria*]
- **Tremella parmeliarum* Diederich — 13, B42263, Pn, on *Parmotrema reticulatum*
- ***Tremella pertusariae* Diederich — 68, E13934, Ju, on *Pertusaria*
- **Tremella ramalinae* Diederich — 11, B42191, Sek; 55, E13668, vr [on *Ramalina*]. Recently reported from the Canary Islands (Fuerteventura) by van den Boom & Etayo (2006).
- Trimmatostroma hierrense* Diederich & Ertz — 73, E13946, exr, on cf. *Sparria endlicheri*. Recently described in Diederich *et al.* (2010).
- Tuckermannopsis chlorophylla* (Willd.) Hale — See *Tremella cetrariicola* for localities.
- Usnea articulata* (L.) Hoffm. — 6, B42101, Mr [PhC]; 16, B42296,42303, Er [PhC]; 34, B42814, Er [PhC]
- Usnea atlantica* Vain. — H2004
- Usnea cornuta* Körb. ssp. **cornuta** — 34, B42791 [PhC], 42805,42814 [PhC], 42880, Er, Mr [PhC]
- **Usnea cornuta* Körb. ssp. **brasiliensis** (Zahlbr.) P. Clerc — 34, B42833, Er [PhC]
- Usnea esperantiana* P. Clerc — 32, B42730, Fi [PhC]. Listed as *U. esperantina* Clerc in H2004.
- Usnea filipendula* Stirt. — H2004
- Usnea flammea* Stirt. — 17, B42355, Pn [PhC]; 30, B42653,42654, Cs [PhC]; 34, B42859, Er [PhC]; 36, B42900, Pn [PhC]
- Usnea flavocardia* Räsänen — 16, B42299, Er [PhC]. In H2004 recorded for El Hierro as *Usnea wirthii* P. Clerc.
- Usnea geissleriana* P. Clerc — 24, B42476, Er [PhC]; 34, B42810,42834,42839, Er. Recently described from Tenerife in Clerc (2006) and also recorded from El Hierro.
- Usnea krogiana* P. Clerc — Clerc (2006).
- Usnea lapponica* Vain. — H2004
- **Usnea longissima* Ach. — 34, B42868 [PhC]
- Usnea macaronesica* P. Clerc — 34, B42878, Er [PhC]
- Usnea rubicunda* Stirt. — 13, B42270, Pn

- **Usnea schadenbergiana* Göpp. & Stein — 5, B42054, Mr; 30, B42673,42674 [PhC], Cs; 34, B42772,42775 [PhC], 42826, Er. Recorded for the Canary Islands as *Usnea hesperina* Motyka, in H2004.
- Usnea silesiaca* Motyka — 16, B42298, Er; 33, B42765, Pn [PhC]; 34, B42793,42842 [PhC], 42863,42873, Er,Mr; 36, B42896, Pn [PhC]. Recently recorded for El Hierro by Clerc (2006). *U. madeirensis* Motyka belongs here.
- Usnea subfloridana* Stirt. — H2004
- Usnea submollis* J. Steiner — H2004
- **Usnea subscrabosa* Motyka — 5, B42055,42080, Mr; 30, B42662, uft; 31, B42705, Mr; 32, B42729, Fi
- **Verrucaria macrostoma* DC. — 47, B43075, vr; 48, B43085, vr
- **Vouauxiella lichenicola* (Linds.) Petr. & Syd. — 3, B42018, Er, on *Lecanora Xanthoparmelia conspersa* (Ehrh. ex Ach.) Hale — H2004
- **Xanthoparmelia halei* (Essl., M. Barbero & Llimona) O. Blanco *et al.* — 20, B42374, vr. Listed as *Neofuscelia halei* Essl., M. Barbero & Llimona in H2004.
- Xanthoparmelia loxodes* (Nyl.) O. Blanco *et al.* — 1, B41972, vr. Listed as *Neofuscelia loxodes* (Nyl.) Essl. in H2004.
- **Xanthoparmelia pulloides* (Essl.) O. Blanco *et al.* — 19, B42368, vr; 27, B42594, vr; 40, B42966, vr. Listed as *Neofuscelia pulloides* (Essl.) Essl. in H2004
- Xanthoparmelia somloensis* (Gyeln.) Hale — 27, B42608, vr
- Xanthoparmelia subramigera* (Gyeln.) Hale — H2004
- **Xanthoparmelia tinctina* (Maheu & A. Gillet) Hale — 40, B42960, vr; 41, B43002, vr
- Xanthoria calcicola* Oxner — H2004
- Xanthoria parietina* (L.) Th. Fr. — 21, B42410, Fi; 66, E13910 (sub *Xanthoriicola physciae*), vr
- Xanthoria polycarpa* (Hoffm.) Rieber — H2004
- Xanthoria resendei* Poelt & Tav. — 7, B42132, vr; 8, B42144, vr; 19, B42361, vr; 40, B42983, vr; 49, E13538, vr
- **Xanthoriicola physciae* (Kalchbr.) D. Hawksw. — 66, E13910, vr, on *Xanthoria parietina*
- **Xylographa vitiligo* (Ach.) J.R. Laundon — 58, E13743, Er

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Localities P. van den Boom

- 1 El Hierro, N of Frontera, 1 km SW of El Matorral, small (secondary) road to Los Llanillos, Hoya de los Morotes, S side of road, field with small valley and volcanic outcrops, 018° 00.55' W - 27° 46.50' N, 55 m, 26 March 2009.
- 2 El Hierro, SW of Frontera, S of Los Llanillos, road HI-1, to mountain top, small (secondary) road to Lomo de la Habichuela, 200 m from main road, wall, shrubs and lopped branches of *Erica*, 018° 02.28' W - 27° 44.63' N, 590 m, 26 March 2009.

- 3 El Hierro, SW of Frontera, S of Los Llanillos, road HI-1, to mountain top, view point, on N slope of Montaña Colorada, shrubs and outcrops at N side of road, wall at S side of road, 018° 01.88' W - 27° 44.40' N, 810 m, 26 March 2009.
- 4 El Hierro, SW of Frontera, S of Los Llanillos, road HI-1, to mountain top, trail to Fuente Mancafitá (Pista de Derrabada), at starting point (east), shrubs, trees at N side of trail, wall at S side, 018° 02.90' W - 27° 44.35' N, 950 m, 26 March 2009.
- 5 El Hierro, SW of Frontera, S of Los Llanillos, road HI-1, to mountain top, picnic area "Hoya de El Pino", shrubs, mixed trees and stumps, 018° 02.60' W - 27° 44.16' N, 1020 m, 26 March 2009.
- 6 El Hierro, SW of Frontera, road HI-1, mountain top, near crossing with secondary road HI-45, Raya la Llanía, roadside shrubs and trees, 017° 59.86' W - 27° 44.15' N, 1340 m, 26 March 2009.
- 7 El Hierro, WNW of Frontera, N of Los Llanillos, Punta las Morras, coastal area with steep N facing volcanic cliff's along trail, 018° 02.35' W - 27° 45.68' N, 40 m, 27 March 2009.
- 8 El Hierro (NW), NNW of Sabinosa, Playa de los Pajos, coastal area with low volcanic outcrops in malpaís, 018° 05.90' W - 27° 45.30' N, 30 m, 27 March 2009.
- 9 El Hierro (NW), WNW of Sabinosa, W of Aljibe de la Punta, opposite Acro de la Tosca, coastal area, malpaís, with low volcanic outcrops, at S side of the road, 018° 08.30' W - 27° 45.80' N, 35 m, 27 March 2009.
- 10 El Hierro (W), W of Sabinosa, along road HI-500, W of Montaña del Escobar, W slope, field with volcanic outcrops, shrubs and some dead old *Juniperus turbinata* ssp. *canariensis* trees, 018° 08.50' W - 27° 45.20' N, 260 m, 27 March 2009.
- 11 El Hierro (W), W of Sabinosa, along road HI-500, at crossing with road HI-400, 0.5 km SE of church "Santuario de Nuestra Señora de los Reyes", field with volcanic outcrops, shrubs and some trees, 018° 07.10' W - 27° 43.66' N, 690 m, 27 March 2009.
- 12 El Hierro (W), W of Sabinosa, W of unpaved road from church "Santuario de Nuestra Señora de los Reyes", to the north, along secondary unpaved road to the west, La Dehesa, field with low volcanic outcrops and mature *Juniperus turbinata* ssp. *canariensis* trees, 018° 07.61' W - 27° 44.93' N, 590 m, 27 March 2009.
- 13 El Hierro (W), W of Sabinosa, along unpaved road from church "Santuario de Nuestra Señora de los Reyes", to the north, 1 km south of mirador de Bascos, Pinus forest with low outcrops, 018° 07.18' W - 27° 45.10' N, 650 m, 27 March 2009.
- 14 El Hierro (W), W of Sabinosa, end of unpaved road from church "Santuario de Nuestra Señora de los Reyes", mirador de Bascos, wall of volcanic stones and fence with wood of *Juniperus*, 018° 07.08' W - 27° 45.28' N, 655 m, 27 March 2009.
- 15 El Hierro (W), W of Sabinosa, unpaved road from church "Santuario de Nuestra Señora de los Reyes", to the north, mirador de Bascos, W rim of Montaña de las Cuevas, row of roadside conifer (*Cupressus*) trees, 018° 07.32' W - 27° 44.41' N, 680 m, 27 March 2009.
- 16 El Hierro, SSW of Frontera, near top of mountain range, near crossing with secondary road HI-45, trail from "Raya la Llanía" to the south, forest with "fayal brezal" community and some mature *Pinus canariensis* trees, 017° 59.77' W - 27° 44.13' N, 1320 m, 28 March 2009.
- 17 El Hierro, SW of Frontera, near top of mountain range, S of crossing with secondary road HI-4, road to El Pinar, roadside mature *Pinus* trees at rim of "fayal brezal" forest, 017° 59.62' W - 27° 44.32' N, 1315 m, 28 March 2009.
- 18 El Hierro (S), N of La Restinga, N of Montaña de Irama o de Prim, malpaís, along road HI-4 (E side), gently hilly area with volcanic outcrops, 017° 59.15' W - 27° 39.43' N, 200 m, 28 March 2009.
- 19 El Hierro (S), N of La Restinga, E of Montañas de los Muertos, along road HI-4, gently hilly area with volcanic outcrops, N sloping, 017° 59.10' W - 27° 40.13' N, 380 m, 28 March 2009.
- 20 El Hierro (SE), S of El Pinar, NNE of Montaña de la Lajura, along road HI-4, gently hilly area, small valley (E-W) with volcanic outcrops, steep N exposed, 017° 58.68' W - 27° 41.00' N, 510 m, 28 March 2009.
- 21 El Hierro (SE), 0.6 km S of El Pinar, along road HI-4, orchard with *Ficus carica*, 017° 58.90' W - 27° 41.70' N, 720 m, 28 March 2009.

- 22 El Hierro, near top of mountain range, NNW of El Pinar, along road to El Pinar, c. 900 m S of crossing with road HI-1, SW of Montaña de la Fuente, rim of “fayal brezal” forest, open area with scattered trees, 017° 59.70' W - 27° 44.00' N, 1300 m, 28 March 2009.
- 23 El Hierro, SW of Frontera, S of Tigaday, road HI-1, to mountain top, E of Montaña Colorada, N exposed slope, in front of neglected restaurant “Castaño”, *Castanea* trees along parking lot, 018° 01.17' W - 27° 44.28' N, 720 m, 29 March 2009.
- 24 El Hierro, SSE of Frontera, near mountain top, NW of Montaña de la Fuente, N side of road HI-1, trail “Raya la Llanía” to Mirador del Golfo, “fayal brezal” forest and open places with *Erica* shrubs, 017° 59.80' W - 27° 44.23' N, 1350 m, 29 March 2009.
- 25 El Hierro, S of Frontera, near mountain top, along road HI-45, SW of crossing with road HI-1, “Jable de Mequena”, along trail “Hoya del Moricello”, El Pinar PREH2, edge of fayal brezal forest and open places with *Erica* and *Myrica faya* shrubs, 018° 00.17' W - 27° 43.95' N, 1350 m, 29 March 2009.
- 26 El Hierro, SW of Valverde, along road HI-1 to Tiñor, mirador W of La Calderata, E exposed slope, with crumbling steep rock and steep vertical volcanic outcrops, including overhanging branches of *Rumex lunaria*, 017° 55.52' W - 27° 47.75' N, 800 m, 29 March 2009.
- 27 El Hierro, SW of Valverde, along secondary road E of Tiñor, trail to small mountain top, SW exposed vertical volcanic outcrops and field with low outcrops and abundantly with terricolous lichens, 017° 55.70' W - 27° 47.20' N, 870 m, 29 March 2009.
- 28 El Hierro, SW of Valverde, W of Montaña de los Cepones, near “Arbol Santo Garoé”, “water tree” along steep volcanic outcrops, on N exposed steep outcrops, 017° 56.50' W - 27° 47.70' N, 1000 m, 29 March 2009.
- 29 El Hierro, N of San Andrés, unpaved road to “Arbol Santo Garoé”, W of Montaña Entremontañas, along small *Pinus* forest, on *Pinus canariensis*, 017° 57.08' W - 27° 46.90' N, 1035 m, 29 March 2009.
- 30 El Hierro, SE of Sabinosa, along trail “Pista de Derrabada”, W side of Las Tabladas, along agriculture land, scattered trees and shrubs along trail, 018° 05.00' W - 27° 44.20' N, 840 m, 30 March 2009.
- 31 El Hierro, SE of Sabinosa along trail “Pista de Derrabada”, W side of Las Tabladas, along trail to Fuente Mancafeta, small open places in “fayal brezal” forest, 018° 05.05' W - 27° 44.15' N, 890 m, 30 March 2009.
- 32 El Hierro, SE of Sabinosa along trail “Pista de Derrabada”, E side of Las Tabladas, 2 km W of road HI-1, in forest, at S side of trail, neglected garden with solitar *Castanea* and *Ficus* tree, 018° 04.27' W - 27° 44.30' N, 805 m, 30 March 2009.
- 33 El Hierro, S of Frontera, along road HI-1, 2 km W of crossing with HI-45, near crossing with trail “Camino de San Salvador”, N of Tenerife (mountain) open place along forest, at S side of road, 018° 00.67' W - 27° 43.95' N, 1235 m, 30 March 2009.
- 34 El Hierro, SSE of Frontera, near mountain top, S of road HI-1, N and W side of Montaña de la Fuente, along trail in “fayal brezal” forest with mainly *Myrica faya* trees and *Erica* shrubs and trees, 017° 59.50' W - 27° 44.15' N, 1300 m, 31 March 2009.
- 35 El Hierro, SE of Frontera, S site of road HI-1, E side of Montaña de la Fuente, W of paved road, forest with mature *Pinus canariensis* trees and “fayal brezal” forest, 017° 59.75' W - 27° 44.05' N, 1310 m, 31 March 2009.
- 36 El Hierro, SSE of Frontera, along road HI-1, near Hoya de Fileba, road side *Cupressus* and *Pinus* trees, 017° 59.50' W - 27° 44.30' N, 1310 m, 31 March 2009.
- 37 El Hierro, SW of San Andrés, mirador de Jinama, steep shaded, N exposed volcanic outcrops, 017° 58.80' W - 27° 45.75' N, 1240 m, 31 March 2009.
- 38 El Hierro, WSW of Valverde, S of road between Las Montañetas and Los Jarales, along secondary road to the south, E of Las Tabladas solitar roadside tree, *Myrica faya* and wall with W exposed volcanic stones, 017° 57.90' W - 27° 47.95' N, 800 m, 31 March 2009.
- 39 El Hierro, mountain top, S of Los Llanillos, E exposed slope of Pico de Malpaso, gently sloping exposed volcanic outcrops, mature *Pinus canariensis* trees and *Erica* shrubs, 018° 02.30' W - 27° 43.70' N, 1480 m, 1 April 2009,
- 40 El Hierro (SW), SSW of Montaña de Orchilla, near “Faro de Orchilla”, along paved road to the lighthouse, 0.5 km S of road HI-500, N of Montaña de los Toscones, malpaís, sloping or vertical volcanic outcrops, 018° 08.15' W - 27° 43.17' N, 370 m, 1 April 2009.

- 41 El Hierro (W), W of Sabinosa, E side along road HI-500, SW of Montaña del Escobar, just S of Barranco de la Charca, W slope, field with volcanic outcrops, shrubs and some dead old *Juniperus turbinata* ssp. *canariensis* trees, 018° 08.50' W - 27° 44.65' N, 315 m, 1 April 2009.
- 42 El Hierro (W), W of Sabinosa, E side along road HI-500, SW of Montaña del Escobar, Barranco de la Charca, steep N exposed volcanic outcrops, 018° 08.50' W - 27° 44.70' N, 300 m, 1 April 2009.
- 43 El Hierro (NE), Valverde, N side of the city, garden alongside small church with *Thuja*, Mimosaceae trees and a very young *Olea europaea* shrub, 017° 54.80' W - 27° 48.80' N, 580 m, 2 April 2009.
- 44 El Hierro (NE), Valverde, centre of the city, small garden alongside church "Santa María de la Concepción", with horizontal surface of wall, *Draco* and Mimosaceae tree, 017° 54.85' W - 27° 48.40' N, 575 m, 2 April 2009.
- 45 El Hierro (NE), N of Valverde, along road to Echedo, wall along road, among fields, vertical W exposed surface, 017° 54.90' W - 27° 49.80' N, 400 m, 2 April 2009.
- 46 El Hierro (NE), N of Valverde, along road to Echedo, *Prunus dulcis* trees in garden, volcanic outcrops at rim. 017° 55.05' W - 27° 49.80' N, 395 m, 2 April 2009.
- 47 El Hierro (NE), N of Valverde, along road HI-150, N of Echedo, W exposed slope of Montaña de las Salinas, coastal area, on N side of steep volcanic outcrops, 017° 55.25' W - 27° 50.70' N, 90 m, 2 April 2009.
- 48 El Hierro (E), ESE of Valverde, W side of road HI-2, near crossing with road HI-3 (to La Caleta), Barranco de Tejeteica, valley with N exposed steep volcanic outcrops, 017° 53.90' W - 27° 48.01' N, 240 m, 3 April 2009.

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- 49 El Hierro, NW of Sabinosa, Punta de la Dehesa, coastal area, around Playa de las Arenas Blancas, low volcanic outcrops and sandy soil, 27°45'58"N, 18°07'34"W, 35 m, 25 August 2009.
- 50 El Hierro, W of Sabinosa, W of Montaña del Escobar, W slope, field with volcanic outcrops, shrubs and some dead old *Juniperus turbinata* ssp. *canariensis* trees, 27°45'11"N, 18°08'39"W, 270 m, 25 August 2009.
- 51 El Hierro, NW of El Pinar, S slope, forest of *Pinus canariensis*, 27°42'N, 17°59'W, 950 m, 25 August 2009.
- 52 El Hierro, SW of Los Llanillos, road from Frontera to mountain top, along trail to Fuente Mancafete, "fayal brezal" forest on steep and north exposed slope, 27°44'23"N, 18°03'45"W, 880 m, 26 August 2009.
- 53 El Hierro, SE of Sabinosa, road from Frontera to mountain top, along trail to Fuente Mancafete, "fayal brezal" forest on steep and north exposed slope, 27°44'12"N, 18°04'21"W, 790 m, 26 August 2009.
- 54 El Hierro, E of Frontera, mirador de Jinama, steep S exposed volcanic outcrops, 27°45'46"N, 17°58'51"W, 1240 m, 26 August 2009.
- 55 El Hierro, SW of Valverde, SW of Montaña del Ajares, NE volcanic outcrops, 27°47'38"N, 17°55'21"W, 750 m, 26 August 2009.
- 56 El Hierro, N of Echedo, along road to Charco Manso, wind-exposed, north-facing side of a wall made of lava rocks, at the edge of the cloud belt, 27°50'15"N, 17°55'27"W, 325 m, 26 August 2009.
- 57 El Hierro, S of Frontera, along road to mountain top, near crossing with trail "Camino de San Salvador", at S side of road, forest rich in *Erica arborea*, 27°43'58"N, 18°00'40"W, 1240 m, 27 August 2009.
- 58 El Hierro, SSE of Frontera, near mountain top, mirador de la Llanía, "fayal brezal" forest and open places with *Erica* shrubs, 27°44'12"N, 17°59'49"W, 1370 m, 27 August 2009.
- 59 El Hierro, SE of Frontera, S side of road to San Andrés, around Fuente del Lomo, forest with mature *Pinus canariensis* trees and "fayal brezal" forest, 27°44'18"N, 17°59'26"W, 1320 m, 27 August 2009.

- 60 El Hierro, S of Frontera, along road to mountain top, north-facing slope along the S side of the road, soil at the edge of the forest, 27°44'06"N, 18°00'11"W, 1310 m, 27 August 2009.
- 61 El Hierro, E of the island summit (Malpaso), c. 200 m E of "Cruz de los Reyes", forest of *Pinus canariensis* rich in *Lobarion* communities and thickets of *Erica*, 27°43'37"N, 18°01'24"W, 1365 m, 28 August 2009.
- 62 El Hierro, E of the island summit (Malpaso), north of the road from San Andrés to Malpaso, along "Camino de Virgen", near "Piedra dos Hermanas", 27°43'55"N, 18°00'27"W, 1360 m, 28 August 2009.
- 63 El Hierro, E of Frontera, trail between "mirador de Jinama" and Frontera (part above "Fuente de Tincos"), "fayal brezal" forest and rocky outcrops, 27°45'40"N, 17°58'51"W, 1100-1220 m, 28 August 2009.
- 64 El Hierro, Guarazoca, c. 500 m NE of mirador de la Peña, NE facing rocky outcrops, 27°48'29"N, 17°58'46"W, 630 m, 29 August 2009.
- 65 El Hierro, SWW of Valverde, "Garocé", 27°47'46"N, 17°56'32"W, 1030 m, 29 August 2009.
- 66 El Hierro, SW of Valverde, along secondary road E of Tiñor, trail to small mountain top, vertical volcanic outcrops, 27°47'14"N, 17°55'42"W, 880 m, 29 August 2009.
- 67 El Hierro, El Mocanal, near the centre of the village, N side of the road to Pozo de las Calcosas, lava rocks rich in *Ramalina* and *Roccella*, 27°49'33"N, 17°56'11"W, 440 m, 29 August 2009.
- 68 El Hierro, W of Sabinosa, E of Playa del Verodal, W slope, E of the road to mountain top, old *Juniperus turbinata* ssp. *canariensis* trees (alive), 27°44'42"N, 18°08'31"W, 350 m, 30 August 2009.
- 69 El Hierro, near top of mountain range, NNW of El Pinar, along road from mirador de la Llanía to El Pinar, "fayal brezal" forest, 27°43'50"N, 17°59'42"W, 1290 m, 30 August 2009.
- 70 El Hierro, W of Sabinosa, end of unpaved road from church "Santuario de Nuestra Señora de los Reyes", mirador de Bascos, wall of volcanic stones and fence with wood, 27°45'18"N, 18°07'05"W, 655 m, 30 August 2009.
- 71 El Hierro, W of Sabinosa, El Sabinar (SW of mirador de Bascos), old *Juniperus turbinata* ssp. *canariensis* trees (alive) and lava rocks, 27°45'00"N, 18°07'37"W, 580 m, 30 August 2009.
- 72 El Hierro, W of Sabinosa, along unpaved road from church "Santuario de Nuestra Señora de los Reyes" to mirador de Bascos, near the crossing to El Sabinar, *Pinus* trees, 27°44'56"N, 18°07'23"W, 645 m, 30 August 2009.
- 73 El Hierro, E of Frontera, trail between Frontera and "mirador de Jinama" (part below "Fuente de Tincos"), "fayal brezal" forest and rocky outcrops, 27°45'29"N, 17°59'29"W, 700-1000 m, 31 August 2009.

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