

Lichens and lichenicolous fungi in the Montesinho Natural Park, the Serra da Nogueira and the Río Sabor Valley (Portugal)

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Abstract – A catalogue of 424 taxa of lichens and lichenicolous fungi from Northern Portugal (Montesinho Natural Park, Serra da Nogueira and Río Sabor Valley), is presented as a result of the SEL (Sociedad Española de Liquenología) field exploration. *Melanohalea septentrionalis* is recorded for the first time in the Iberian Peninsula, the list also includes 57 taxa that are new to Portugal.

lichens / lichenicolous fungi / Montesinho Natural Park / Serra da Nogueira / Río Sabor Valley / Portugal

Resumen – Como resultado del trabajo de campo realizado por la SEL (Sociedad Española de Lichenología) en el Norte de Portugal (Parque Natural de Montesinho, Serra da Nogueira y el Valle del Río Sabor), se presenta un catálogo de 424 taxones de líquenes y hongos liquenícolas. En la lista destaca *Melanohalea septentrionalis* por ser primera cita para la Península Ibérica, además de 57 taxones nuevos para Portugal.

líquenes / hongos liquenícolas / Parque Natural de Montesinho / Serra da Nogueira / Vale do Río Sabor / Portugal

Résumé – Un catalogue comprenant 424 espèces de lichens et de champignons lichénicoles est présenté comme résultat du travail de terrain effectué par la SEL (Sociedad Española de Lichenología) dans le Nord du Portugal (Parque Natural de Montesinho, Serra da Nogueira et Vale do Río Sabor). *Melanohalea septentrionalis* est enregistrée pour la première fois dans la Péninsule Ibérique, et 57 taxa nouveaux au Portugal.

lichens / champignons lichénicoles / Parque Natural de Montesinho / Serra da Nogueira / Vale do Río Sabor / Portugal

INTRODUCTION

The study of Portuguese lichen flora has been carried out in a discontinued way since the first citations were made on lichens in the works of Brotero (1804). Nonetheless, lichenology in Portugal provided two important figures in the 20th century: Gonçalo Sampaio (1865-1937) and Carlos das Neves Tavares (1914-1972). The absence of students of these two figures and the difficult circumstances for research in Portugal during most of the past century, are reflected in the lack of works on Portuguese lichens over a long period of time, and those that exist are relegated to sporadic citations in works on bryophytes.

However, this situation has gradually changed in recent years. The variety of works done in Portugal by several, mainly foreign, authors has led to a revival of lichenicolous research around this country. Among such publications we highlight various floristic catalogues in places of natural interest (Boom & Giralt, 1996; Carvalho, 1997; Jones, 1999), reviews of herbaria collections (Paz-Bermúdez & Carballal, 2005), sporadic citations of interesting taxa (Rodrigues *et al.*, 2007), or the description of new species (McCune, 2002; Paz-Bermúdez & Elix, 2004).

In order to illustrate the interest that the lichen flora in this country generates, particularly in the framework of the Iberian Lichenology Flora projects, in September 2006, SEL (the Spanish Lichenology Society) organised a trip in the province of Trás-os-Montes e Alto Douro, which borders Spain, where the lichen biodiversity there had scarcely been studied. Several itineraries were organised in three areas belonging to the Portuguese Nature 2000 Network, these being the Montesinho Natural Park, the Serra da Nogueira and the Río Sabor Valley (Fig. 1). Part of the territory sampled in the Montesinho Natural Park had been previously studied by Boom (2003).

This inland province of Trás-os-Montes e Alto Douro, far from marine influences, present a climate with continental characteristics along with a typically Mediterranean pattern, that is, a very marked dry summer. The mean annual temperature (T) varies between 8°C in the Sierra de Montesinho and 12.5°C at

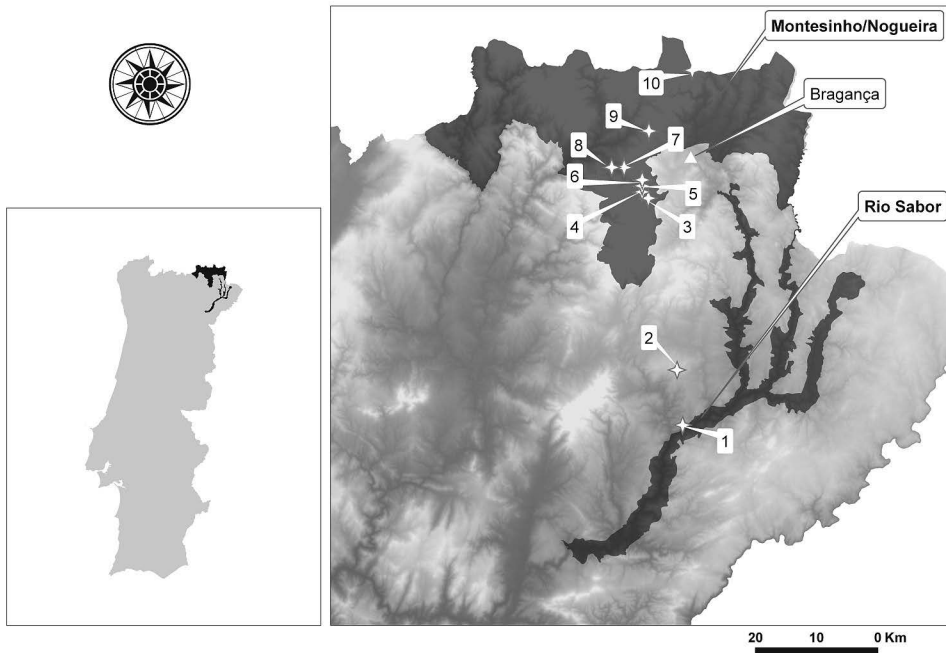


Fig. 1. Location of collecting sites.

Baixa Lombada in the R rio Sabor Valley. The mean minimum number of freezing days is 60 and this number exceeds 80 days at the highest points of the Sierra de Montesinho.

Traditionally, Tr s-os-Montes is divided into 2 large homogeneous territories from agricultural, geomorphologic and macroclimate viewpoints, these being "Terra Quente" and "Terra Fria", between which we find "Terra de Transi o", (Aguiar, 2001). The study area is included in Terra Fr a ($T < 12.5^{\circ}\text{C}$, $P = 1200\text{-}1400\text{ mm}$), except for the R rio Sabor Valley which is situated in Terra de Transi o ($T = 12.5\text{-}14^{\circ}\text{C}$, $P = 400\text{-}700\text{ mm}$). In agreement with Aguiar (2001), the deepest valleys to the southernmost part of the Montesinho Natural Park present a meso-Mediterranean thermotype with a subhumid ombroclimate, while the remaining territory is humid supra-Mediterranean. The highest area of Montesinho (1380 m) is hyperhumid and supratemperate.

All the territory studied belongs to the Mediterranean Carpetan-Iberian-Leonese Province, the "Orensano-Sanabriense" and "Lusitano-Duriense" areas (Aguiar, 2001). The transition between the meso- and supra-Mediterranean belts (which the studied localities are distributed by) takes place at 725 m. At altitudes over 700 m, the dominant climatophilous association is *Holco mollis-Quercetum pyrenaicae*, although some woods appear with *Quercus suber* which form part of an endemic association of the "Lusitano-Duriense" and "Orensano-Sanabriense" areas: *Physospermo cornubiensis-Quercetum suberis*. In the drier areas (the R rio Sabor Valley), this association is replaced by *Junipero oxycedri-Quercetum suberis*, and *Juniperus oxycedrus* is the characteristic species. At lower altitudes, woodlands with holm oaks are observed, where *Genisto hystricis-Quercetum rotundifoliae* is a characteristic association of these woods.

An important element of such landscapes is the *Castanea sativa* orchards or “soutos”, where some centenarian specimens are found whose trunks present a diameter of almost 10 metres. The landscape structure near the villages is similar to meadowland, although the main objective there is chestnut production more than grazing.

Acid rocks dominate in the area (mainly schist, gneiss, sandstone and granite), but basic rocks stand out among the geological material there (amphibolites), as do ultrabasic rocks (serpentine rocks) as they present a sporadic distribution worldwide (Favero-Longo *et al.*, 2004) and are a rare substratum in the Iberian Peninsula.

MATERIAL AND METHODS

Collection of corticolous, terricolous and saxicolous material was done in several settings and on different substrata. The former were collected on different phorophytes (among others: *Alnus glutinosa*, *Betula alba*, *Castanea sativa*, *Cistus ladanifer*, *Quercus pyrenaica*, *Q. rotundifolia*, *Q. suber*, *Pinus sylvestris*, *Pistacia terebinthus*, *Salix atrocinerea*). Saxicolous material was collected on basic, ultrabasic and acid rocks.

The floristic catalogue is arranged alphabetically. Each taxon name is followed by: the visited site collections (List 1), the abbreviations of the collector's names and of the corresponding herbaria where the specimens are preserved (List 2) and, finally, the substrata on which the taxa were collected (List 3). With regard to lichenicolous fungi (**LF**) or parasite lichens (**PI**), the species on which they live is cited in brackets.

List 1: Location of the studied sites

- 1: S Bragança. Río Sabor Valley, 500 m, UTM 29TPF853872.
- 2: S Bragança. *Quercus suber* woodland, 700 m, UTM 29TPF8496
- 3: SW Bragança. Basic rocks: amphibolite, 955 m, UTM 29TPG799245.
- 4: SW Bragança. *Quercus pyrenaica* woodland, 1083 m, UTM 29TPG783251.
- 5: SW Bragança. Ultrabasic rocks: peridotite, *Quercus rotundifolia* woodland, 1069 m, UTM 29TPG789261.
- 6: SW Bragança. Plantation of *Pinus sylvestris* and *Pseudotsuga menziesii*. *Betula alba*, woodland; 1028 m, UTM 29TPG787274.
- 7: E Bragança. Alimonde Valley, ultrabasic rocks: peridotite, *Quercus rotundifolia* woodland, 854 m, UTM 29TPG7529.
- 8: E Bragança. Valley bottom, a river area with *Fraxinus angustifolia*, *Populus tremula*, 668 m, UTM 29TPG738299.
- 9: NW Bragança. *Castanea sativa* orchard, 820 m, UTM 29TPG797355.
- 10: N Bragança. Granite outcrop near the village of Montesinho, 1069 m, UTM 29TPG861450.

List 2: Collectors names and Herbaria

Abbreviations of the authors of this article, and of the other researchers who collaborated in collecting and/or identifying some taxa, are included along with the herbaria where the material is deposited.

- AFS:** Ana Fernández Salegui (LEB)
ARB: Ana Rosa Burgaz (MACB)
AT: Arsenio Terrón (LEB)
BM: Bernarda Marcos (SALA-Lich.)
DM: Diana Muñiz (BCN)
ELL: Esteve Llop (BCN)
ELS: Eugenia López de Silanes (SANT-Lich.)
ES: Estela Serriñá (MACB)
GA: Gregorio Aragón (MA-Lich.)
GF: Gemma Figueras (BCN)
- GPB:** Graciela Paz-Bermúdez (SANT-Lich.)
IM: Isabel Martínez (MA-Lich.)
MGO: Monica Garcia Otálora (MA-Lich.)
MP: María Prieto (MA-Lich.)
PC: Palmira Carvalho (LISU)
RA: Rosario Arroyo (MACB)
RP: Raquel Pino (MACB)
SB: Samantha Brime (BCN)
VA: Violeta Atienza (VAB-Lich.)
VJR: Victor J. Rico (MAF-Lich.)
XLL: Xavier Llimona (BCN)

List 3: Substrata

- Ag:** *Alnus glutinosa*
Ai: *Aspicilia inornata*
Ba: *Betula alba*
Br: bryophytes
Bs: *Buxus sempervirens*
Chl: *Chamaecyparis lawsoniana*
Cl: *Cistus ladanifer*
Cm: *Crataegus monogyna*
Cs: *Castanea sativa*
Csp: *Caloplaca* sp.
Cv: *Candelariella vitellina*
Ea: *Erica arborea*
Esp: *Erica* sp.
Fa: *Fraxinus angustifolia*
Jo: *Juniperus oxycedrus*
Lc: *Lecanora chlarotera*
Lf: *Lecidea fuscoatra*
Lñ: wood
Lr: *Lecanora rupicola*
Lsp: *Lecanora* sp.
Me: *Melanohalea exasperata*
Oe: *Olea europaea*
- Pc:** *Pertusaria coccodes*
Pesp: *Pertusaria* sp.
Pf: *Pertusaria flavida*
Pg: *Platismatia glauca*
Pi: *Pistacia lentiscus*
Pp: *Pertusaria pertusa*
Ps: *Pinus sylvestris*
Psp: *Populus* sp.
Pt: *Pterospartum tridentatum*
Pte: *Pistacia terebinthus*
Ptr: *Populus tremula*
Qr: *Quercus rotundifolia*
Qs: *Quercus suber*
Rac: acid rocks
Rba: basic rocks (amphibolites)
Rsph: *Retama sphaerocarpa*
Rubp: ultrabasic rocks (peridotites)
Sspp: *Salix* spp.
Sue: soil
Uf: *Usnea florida*
Xc: *Xanthoparmelia conspersa*

RESULTS AND DISCUSSION

As a result of the field exploration, a catalogue of 424 taxa is presented, of which 14 are lichenicolous fungi.

Melanohalea septentrionalis is a new record for the Iberian Peninsula. This taxon is known in Europe, namely Austria, Switzerland and Ukraine (Divakar & Upreti, 2005).

A total of 53 lichen species and 4 lichenicolous fungi species (marked with an #) are reported for the first time in Portugal:

– In this group the presence of *Cladonia hammeri* stands out as it is also the second time that it is reported for Europe; this species has been recently described and is similar to *C. humilis*, but it is neither sorediate nor clearly corticate. Until recently, it had only been known in western parts of North America, and has been found in Spain in the Picos de Europa mountains (Aragón *et al.*, 2007) and the Canary Islands (Sicilia, 2007; Pérez-Vargas, 2008).

– Second records to the Iberian Peninsula are: #*Abrothallus cetrariae*, *Bacidia vermifera*, #*Hainesia pertusariae* and *Lecanora hispanica*. The area of distribution of these species, and of the next group we mention, is considerably extended: *Arthonia malicola*, *Aspicilia inornata*, *Cladonia homosekikaica*, *Lecanora burgaziae*, *L. epibryon*, *Lempholemma cladodes*, #*Lichenostigma cosmopolites*, *Mycocomrothelia confusa*, *Parmelia barrenoae*, *P. serrana*, *Placididiopsis custnani*, *Polysporina ferruginea* and *Usnea substerilis*.

– The group of first records for Portugal is completed with the following: *Acarospora microcarpa*, *A. scotica*, *Agonimia allobata*, *A. opuntiella*, *Arthothelium crozalsianum*, *Buellia fimbriata*, *Calicium adpersum*, *Caloplaca aractina*, *C. lactea*, *Chrysothrix chlorina*, *Cliostomum tenerum*, *Glyphopeltis ligustica*, *Ingvariella bispora*, *Lecania cyrtellina*, *Lecanora crenulata*, *L. nemoralis*, #*Lichenocodium usneae*, *Peltigera kristinssonii*, *P. ponojensis*, *Physcia biziana*, *Placidium pilosellum*, *Placynthium tremniacum*, *Psoroglaena stigonemoides*, *Ramalina elegans*, *Rhizocarpon eupetraeum*, *R. ferax*, *R. tetrasporum*, *R. tinei*, *Rinodina biloculata*, *R. boleana*, *R. conradii*, *R. obnascens*, *Sporostatia polyspora*, *Toninia diffracta*, *T. opuntioides*, *Usnea glabrata*, *U. lapponica*, *U. wasmuthii* and *Verrucaria pinguicola*.

Another outstanding point is the collection of 28 species which, although already known in Portugal, have not been reported since the end of the 19th or the start of the 20th century. In this group we highlight the following taxa which had been previously collected some 100 years ago: *Cladonia cariosa*, *Cyphelium lecideinum*, *Lecanora glabrata*, *Leptogium intermedium*, *Placidium rufescens*, *Rhizocarpon geminatum*, *R. polycarpum*, *Rinodina teichophyla*, *Solenopsora vulturienensis*, *Thrombium epigaeum*, *Umbilicaria vellea* and *Usnea filipendula*.

Finally, we emphasize the following taxa given their rarity in the Iberian territory: *Pyrrhospora russula*, *Rimularia gyrizans* and *Xanthoria fulva*; along with *Lecidea rufofusca* and *Opegrapha soreduifera*, species which were only known in the Iberian territory of Portugal, and *Trapeliopsis aeneofusca*, reported in Portugal and Galicia (NW Spain).

The crustose lichens are dominant since this form represents 54% of the total, where the genera with the most species are *Lecanora* (24), *Rhizocarpon* (18), *Caloplaca* (15) and *Rinodina* (13). Those foliose taxa present around half the number of the crustose (26%), of which *Peltigera* (10 species), *Physconia* (9), *Umbilicaria* (8) and *Physcia* (7) stand out. Among the 9% of the fruticose species, *Usnea* (12) and *Ramalina* (9) are highlighted. Finally, the 42 taxa of the *Cladonia* genus represent 11% of the total (Fig. 2).

The lichens with a green photobiont, clearly dominates as it represents 87% of the total, of which *Trentepohlia* only appears with 2%, as opposed to 13% of lichens with cyanobacteria as a photobiont. Among the genera with cyanobacteria we find species linked to environments of a high humidity, such as *Collema flaccidum*, which was always collected on bryophytes, *Leptochidium albociliatum* or *Polychidium muscicola*. Epiphyte species also appear and are linked with well conserved deciduous forests (Rose, 1976; Etayo & Gómez-Bolea, 1992; Burgaz *et al.*, 1994), among others: *Collema fasciculare*, *Degelia atlantica*, *D. plumbea*, *Fuscopannaria mediterranea*, *Lobaria amplissima* f. *cianobionta* (= *Dendriscoaulon umhausense*), *L. scrobiculata*, *Nephroma laevigatum*, *Pannaria conoplea*, *Peltigera collina*, *Sticta fuliginosa*, *S. sylvatica*, which are more frequent in the interior of the deciduous forest sampled or in areas near rivers (Loc. 4, 8, 9).

Exposed locations are environments where we also found different cyanolichens on basic or ultrabasic rocks: *Collema polycarpon*, *C. undulatum*, *Placynthium nigrum*, *P. tremniacum*, *Synalissa symphorea*, while others inhabited

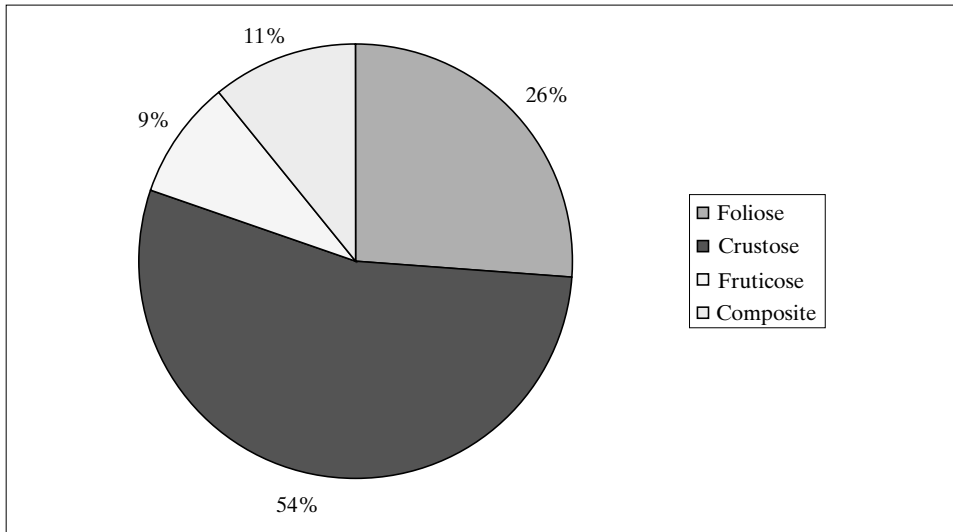


Fig. 2. Distribution of growth forms.

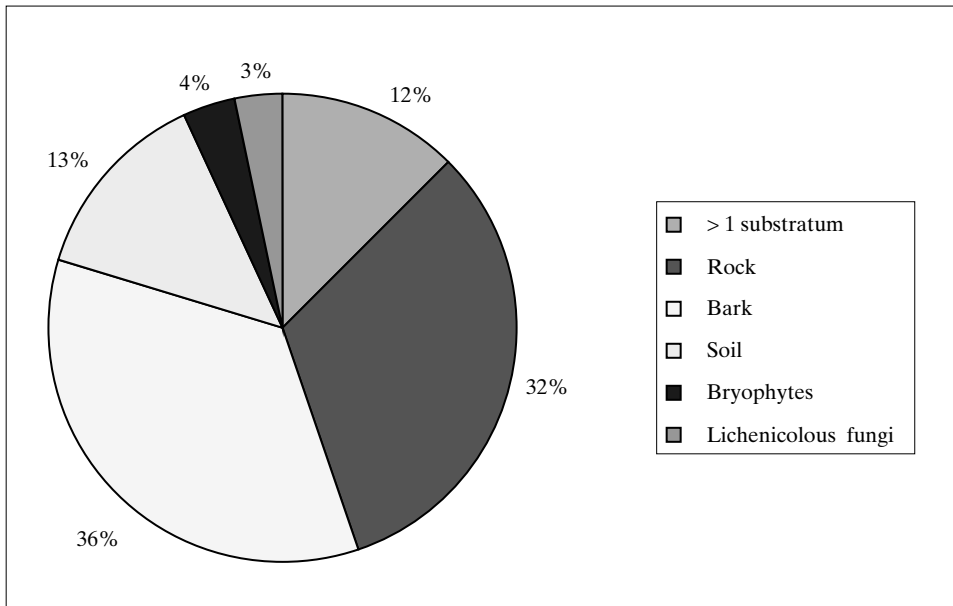


Fig. 3. Distribution of lichens on the different substrata.

in exposed situations on acid rocks and in areas with run-offs, such as *Ephebe lanata* and *Peltula euploca*.

Around 3% of the taxa are lichenicolous fungi; the distribution among saxicolous (32%) and corticolous (36%) is similar; 17% live on soil or bryophytes, and 12% may live on at least 2 of the indicated substrata (Fig. 3).

Among the group of epiphyte flora we find various species belonging to *Lobarion* (like *Lobaria pulmonaria* and the aforementioned cyanolichens). These are indicators of ecological continuity in well conserved deciduous forests. We also highlight the presence of *Agonimia allobata*, *Gyalecta truncigena*, *Psoroglaena stigonemoides*, which Longán (2006) identified as indicators of well conserved holm oak woods on the Mediterranean coastal strip; although they were not collected on *Quercus rotundifolia* in our study area, we mention them because this is the most exhaustive work done in this sense in the Mediterranean area of the Iberian Peninsula.

Among the epiphyte flora we stress that collected in locality 9, this is a *Castanea sativa* orchard, formed by old specimens. Other than being the place where the best developed *Lobarion* are found, the presence of different species of calicioid fungi stands out as they were only found in this locality: *Calicium adspersum* (a species linked to old deciduous trees), *Chaenotheca brunneola*, *C. chrysocephala*, *C. ferruginea*, *Cyphelium inquinans*, which are usually more frequent on coniferous wood than on the bark of deciduous trees. Otherwise nitrophilous or photophilous species appear, such as *Caloplaca flavorubescens*, *Physcia adscendens*, *P. aipolia*, *Physconia distorta*, *P. enteroxantha*, *Xanthoria parietina* or *X. polycarpa*, and which probably indicate the influence of the passing of livestock and a certain separation among trees.

Of the 138 species growing on rocky substrata, approximately half were collected only on basic and/or ultrabasic rocks, 36% were found on acid rocks and 14% appeared indistinctively on the two rock types. Within the first category we find 17 species which live only on serpentine rocks, and 11 of them (marked with an *) had not been found on ultrabasic rocks anywhere else in the world (Harris *et al.*, 2007): *Acarospora veronensis*, **Aspicilia inornata*, *Caloplaca arenaria*, **Chrysothrix chlorina*, **Collema rysssoleum*, **Ingvariella bispora*, **Lecanora bolcana*, *L. campestris*, **Physconia detersa*, *Psoroma hypnorum*, **Rhizocarpon tavaresii*, **Rinodina obnascens*, *Tremolecia atrata*, **Umbilicaria crustulosa*, **Xanthoparmelia verruculifera* and **Xanthoria fulva*. None of these is an endemism of this type of substrata, instead the vast majority are acidophilous, unlike vascular plants since ultrabasic rocks are associated with characteristic plant communities which grow in response to the phytotoxicity involved in the soils that form from this type of rocks.

According to Favero-Longo *et al.*'s (2004) analysis of lichen flora from different ultrabasic rock enclaves in various parts of the world, the coexistence of calcicolous and silicicolous species is usual in such environments, although the prevalence of the latter is much more frequent, which we also found in the area.

From the biogeographical viewpoint (Wirth, 1995), cosmopolitan taxa (48%) are more abundant, followed by the temperate element (37%) where 23% of the total corresponds to temperate northern taxa, which are present from the central and south Scandinavia to the mountains of the Mediterranean area; the 14% of remaining taxa include southern temperate taxa which extend from Central Europe to the Mediterranean mountains. Approximately 10% of the total present a Mediterranean-sub-Mediterranean distribution. Finally, 5% corresponds to those species of a restricted or poorly known distribution, among others: *Caloplaca squamuloisidiata*, a species known in central Spain and N Portugal, *Cladonia hammeri*, known to date in western parts of North America and in Spain in the Picos de Europa mountains and the Canary Islands, *Lecanora burgaziae* and *L. hispanica* only indicated in central Spain, *Leptogium magnussonii* a taxon known in coastal areas of Scandinavia and the Portuguese

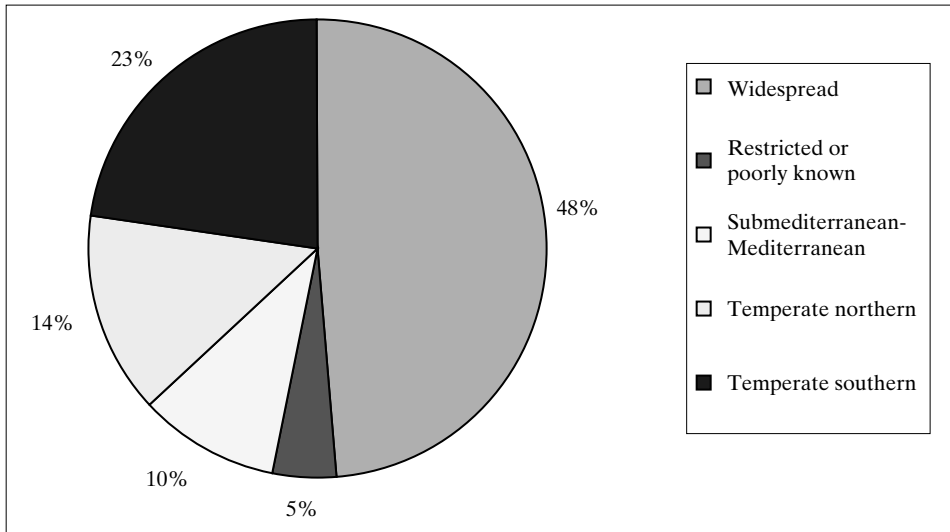


Fig. 4. Biogeographical analysis.

Algarve (Boom & Giralt, 1996) where it was reported on *Olea europaea*, *Opographa soređiifera*, formerly indicated in various localities of Scandinavia, the British Isles, N France and Sintra in Portugal, or *Ramalina elegans*, formerly reported in a few sites of N Europe, in the Italian Alps and in several points of Spain, Arroyo *et al.* (1995) (Fig. 4).

Approximately 10% of the total (45 taxa) are oceanic or sub-oceanic, and are more abundant in locality 9 (23 species).

List of taxa

The nomenclature is according Hladun & Llimona (2002-2007), except for *Parmelia* s. lat. (Elix, 1993; Blanco *et al.*, 2004a,b, 2005). The lichenicolous fungi are marked with #.

#*Abrothallus cetrariae* Kotte - **10**: BM (SALA-Lich. 4274). LF (Pg)

#*Abrothallus* cf. *bertianus* Masee - **3**: VA (VAB-Lich. 25932). LF (Me)

Acarospora epithallina H. Magn. - **1**: VJR (MAF-Lich. 15234). Rac

Acarospora fuscata (Nyl.) Arnold - **1**: PC (LISU 214158); **10**: AT (LEB 6887, 6914). Rac

Acarospora hilaris (Dufour) Hue - **1**: VA (VAB-Lich. 25727), VJR (MAF-Lich. 15212, 15213), PC (LISU 214083); **8**: AT (LEB 6962). Rac

Acarospora microcarpa (Nyl.) Wedd. - **1**: AT (LEB 6898). Rac

Acarospora scotica Hue - **1**: VJR (MAF-Lich 15207). Rac

Acarospora smaragdula (Wahlenb.) A. Massal. - **2**: GF & ELL (BCN 15243). Rac

Acarospora umbilicata Bagl. - **1**: VJR (MAF-Lich. 15208, 15209, 15210, 15236). Rac

Acarospora veronensis A. Massal. - **5**: VJR (MAF-Lich. 15294). Rubp

Acrocordia gemmata (Ach.) A. Massal. - **1**: GPB (SANT-Lich. 10955). Jo

Agonimia allobata (Stizenb.) P. James - GF & ELL (**1**: BCN 15206, **2**: BCN 15233, **8**: BCN 15890). Jo, lñ, Qr, Qs, Ssp

Agonimia opuntiiella Buschart & Poelt - **5**: RP (MACB 94056). Br

Agonimia tristicula (Nyl.) Zahlbr. - **1**: GF & ELL (BCN 15187). Qr

- Amandinea punctata* (Hoffm.) Coppins & Scheid. - **1:** GF & ELL (BCN 15204); **6:** RP (MACB 93652); **7:** GA & MP (MA-Lich. 16207); **8:** GF & ELL (BCN 15402); **9:** ES & RA (MACB 93333). Ba, Bs, Cl, Cs, lñ
- Anaptychia ciliaris* (L.) Körb. ex A. Massal. - **5:** RP (MACB 93667), VA (VAB-Lich. 25715), AT (LEB 7007), GPB (SANT-Lich. 11027), VJR (MAF-Lich. 15305), ARB (MACB 93841); **9:** RP (MACB 93684), AFS (LEB 6816), ARB (MACB 93842), AT (LEB 6926), ELS (SANT-Lich. 10970), ES & RA (MACB 93350), GF & ELL (BCN 15419), PC (LISU 214075), VJR (MAF-Lich. 15337). Br, Cs, Qi, Rubp
- Arthonia malicola* de Lesd. - **10:** GF & ELL (BCN 15434). Esp
- [#]*Arthonia varians* (Davies) Nyl. - **3:** VJR (MAF-Lich. 15249). LF (Lr)
- Arthothelium crozalsianum* (de Lesd.) de Lesd. - **1:** GF & ELL (BCN 15213). Jo
- Aspicilia caesiocinerea* (Nyl. ex Malbr.) Arnold - **3:** GA & MP (MA-Lich. 16137), XLL & SB (BCN 15267d, 15269c). Rba
- Aspicilia calcarea* (L.) Mudd - **1:** GPB (SANT-Lich. 11070); **3:** GF & ELL (BCN 15246). Rac, Rba
- Aspicilia cinerea* (L.) Körb. - **5:** GA & MP (MA-Lich. 16187); **10:** AT (LEB 6953, 7003). Rac, Rubp
- Aspicilia contorta* (Hoffm.) Kremp. - **3:** AT (LEB 6994), GA & MP (MA-Lich. 16138); **5:** GA & MP (MA-Lich. 16188); **7:** GA & MP (MA-Lich. 16208). Rba, Rubp
- Aspicilia contorta* subsp. *hoffmanniana* Ekman & Fröberg - **5:** VJR (MAF-Lich. 15298). Rubp
- Aspicilia epiglypta* (Norrl. ex Nyl.) Hue - **3:** ELS (SANT-Lich. 10971). Rba
- Aspicilia inornata* Arnold - **5:** VJR (MAF-Lich. 15291). Rubp
- Aspicilia intermutans* (Nyl.) Arnold - **1:** GPB (SANT-Lich. 10956); **3:** VJR (MAF-Lich. 15256, 15282), XLL & SB (BCN 15281, 15290). Rba
- Aspicilia recedens* (Taylor) Arnold - **1:** VJR (MAF-Lich. 15205); **5:** AT (LEB 7009); **10:** GF & ELL (BCN 15442). Rba
- Bacidia absistens* (Nyl.) Arnold - **1:** GF & ELL (BCN 15189, 15193). Ssp
- Bacidia arceutina* (Ach.) Arnold - **4:** GF & ELL (BCN 15359). Ea
- Bacidia laurocerasi* (Delise ex Duby) Zahlbr. - **1:** GF & ELL (BCN 15212). Ssp
- Bacidia vermifera* (Nyl.) Th. Fr. - **2:** GPB & ELL (SANT-Lich. 10957). Oe
- Bilimbia sabuletorum* (Schreb.) Arnold - **8:** GF & ELL (BCN 15403). Br
- Bryoria capillaris* Brodo & D. Hawksw. - **10:** RP (MACB 93630). Esp
- Bryoria fuscescens* (Gyelnik) Brodo & D. Hawksw. - **4:** ES & RA (MACB 93285), AFS (LEB 6848), GF & ELL (BCN 15360), ELS (SANT-Lich. 10972), PC (LISU 214103), VA (VAB-Lich. 25708); **7:** RP (MACB 93629); **8:** ES & RA (MACB 93355), AT (LEB 6957); **9:** (MACB 93355). Cm, Cs, Esp, Qi, Qp
- Buellia aethalea* (Ach.) Th. Fr. - **3:** VJR (MAF-Lich. 15254); **5:** (MAF-Lich. 15287). Rba
- Buellia badia* (Fr.) A. Massal. - **1:** GF & ELL (BCN 15179), VJR (MAF-Lich. 15224), XLL & SB (BCN 15296a); **3:** VJR (MAF-Lich. 15251), XLL & SB (BCN 15279a). Br, Pl, Rac, Rba
- Buellia disciformis* (Fr.) Mudd - **2:** GF & ELL (BCN 15235); **3:** GF & ELL (BCN 15260); **4:** GF & ELL (BCN 15354); **6:** GF & ELL (BCN 15380); VJR (MAF-Lich. 15313); **8:** GF & ELL (BCN 15383); **9:** RP (MACB 93654), GF & ELL (BCN 15409); **10:** GF & ELL (BCN 15433). Ag, Ba, Cl, Cs, Esp, Pt, Qp, Qs, Ssp
- Buellia fimbriata* (Tuck.) Sheard - **2:** GF & ELL (BCN 15243). Rac
- Buellia griseovirens* (Turner & Borrer) Almb. - **1:** GF & ELL (BCN 15210); **4:** GF & ELL (BCN 15365); PC (LISU 214094); **6:** GF & ELL (BCN 15381); **8:** GF & ELL (BCN 15383). Ba, Ea, Qp, Pt
- Buellia triseptata* A. Nordin - **2:** GF & ELL (BCN 15231). Qs
- Buellia saxorum* A. Massal. - **1:** XLL & SB (BCN 15317). Rac
- Calicium abietinum* Pers. - **1:** GPB (SANT-Lich. 11028); **9:** GF & ELL/DM (BCN 15431). Cs, Oe
- Calicium adpersum* Pers. - **9:** ARB (MACB 93930), BM (SALA-Lich. 4174), GF & ELL/DM (BCN 15431), RP (MACB 94083), SB/DM (BCN 15343). Cs
- Caloplaca aractina* (Fr.) Häyrén - **3:** GA & MP (MA Lich. 16139). Rac
- Caloplaca arenaria* (Pers.) Müll. Arg. - **1:** AT (LEB 6899, 6900); **3:** XLL & SB (BCN 15278, 15286d, 15291); **5:** GA & MP (MA-Lich. 16189). Rubp

- Caloplaca biatorina* (A. Massal.) J. Steiner var. *baumgartneri* (Zahlbr.) Poelt - **1**: VJR (MAF-Lich 15211). Rac
- Caloplaca cerina* (Ehrh.) Th. Fr. - **2**: VA (VAB-Lich. 25711); **3**: GF & ELL (BCN 15256). Fa, Qs
- Caloplaca citrina* (Hoffm.) Th. Fr. - **7**: PC (LISU 214157), **8**: VJR (MAF-Lich. 15321). Rba, Rubp
- Caloplaca crenularia* (With.) J.R. Laundon - **3**: XLL & SB (BCN 15286e, 15293c), **5**: VJR (MAF-Lich. 15285, 15299), **7**: AT (LEB 6978), **10**: AT (LEB 6912). Rac, Rba, Rubp
- Caloplaca demissa* (Körb.) Arup & Grube - **1**: VJR (MAF-Lich. 15233). Rac
- Caloplaca ferruginea* (Huds.) Th. Fr. - **1**: GF & ELL (BCN, 15204), GPB (SANT-Lich. 11053); **2**: GF & ELL (BCN 15231), VA (VAB-Lich. 25734); **3**: GF & ELL (BCN 15253), GA & MP (MA-Lich. 16140); ES & RA (MACB 93398); **6**: GF & ELL (BCN, 15382); **7**: ES & RA (MACB 93369), GA & MP (MA-Lich. 16209); **8**: GF & ELL (BCN 15383). Ag, Bs, Cl, Cm, Fa, Jo, Qi, Qs, Pt, Sp
- Caloplaca flavescens* (Huds.) J.R.Laundon - **3**: GPB (SANT-Lich. 11029). Rba
- Caloplaca flavorubescens* (Huds.) J.R.Laundon - **9**: GF & ELL (BCN 15425). Cs
- Caloplaca holocarpa* (Hoffm.) Wadw - **1**: RP (MACB 93624); **3**: GA & MP (MA-Lich. 16142); **6**: RP (MACB 93623). Ba, Pte, Rba
- Caloplaca irrubescens* (Arnold) Zahlbr. - **3**: XLL & SB (BCN 15267); **8**: VJR (MAF-Lich. 15319). Rba
- Caloplaca lactea* (A. Massal.) Zahlbr. - **3**: GA & MP (MA-Lich. 16143). Rba
- Caloplaca pellodella* (Nyl.) Hasse - **1**: VJR (MAF-Lich. 15206); **3**: GPB (SANT-Lich. 11030). Rac, Rba
- Caloplaca squamuloisidiata* van den Boom & V. J. Rico - **1**: VJR (MAF-Lich. 15230, 15231, 15232), AT (LEB 6888, 6962). Rac
- Candelaria concolor* (Dicks.) Stein - **1**: GF & ELL (BCN 15205); **9**: PC (LISU 214101). Cs, Pte
- Candelariella coralliza* (Nyl.) Mag. - **10**: AT (LEB 6947). Rac
- Candelariella vitellina* (Ehrh.) Müll. Arg. - **2**: GF & ELL (BCN 15243); **5**: GPB (SANT-Lich. 11031), GA & MP (MA-Lich. 16190), VJR (MAF-Lich. 15310); **10**: AT (LEB 6914), ELS (SANT-Lich. 10973). Rac, Rubp
- Candelariella xanthostigma* (Ach.) Lettou - **1**: GF & ELL (BCN 15185, 15201), RP (MACB 94070); **3**: GA & MP (MA-Lich. 16144). Jo, Psp, Qi
- [#]*Carbonea vitellinaria* (Nyl.) Hertel - **5**: GPB (SANT-Lich. 11031); **10**: ELS (SANT-Lich. 10973). LF (Cv)
- Catapyrenium daedaleum* (Kremp.) Stein - **5**: GA & MP (MA-Lich. 16191). Br
- Catillaria atomarioides* (Müll. Arg.) H. Kilius - **3**: VJR (MAF-Lich. 15260). Rba
- Catillaria nigroclavata* (Nyl.) Schuler - **1**: GF & ELL (BCN 15185); **2**: GF & ELL (BCN 15231); **4**: GF & ELL (BCN 15349); **8**: GF & ELL (BCN 15385); **9**: GF & ELL (BCN 15425), VA (VAB-Lich. 25931). Cs, Jo, Qp, Or, Qs
- [#]*Cecidonia umbonella* (Nyl.) Triebel & Rambold - **3**: VJR (MAF-Lich. 15247). LF (Lf)
- Cetraria aculeata* (Schreb.) Fr. - **1**: AFS (LEB 6886), ARB (MACB 93843), AT (LEB 6890), GF & ELL (BCN 15199), XLL & SB (BCN 15307); **3**: ARB (MACB 93844), GF & ELL (BCN 15222), VJR (MAF-Lich. 15269), RP (MACB 94062); **4**: AFS (LEB 6851); **5**: GPB (SANT-Lich. 11066); **10**: ARB (MACB 93845), AT (LEB 6904), ELS (SANT-Lich. 10974), ES & RA (MACB 93444), GF & ELL (BCN 15449), RP (MACB 93650). Br, Op, Rac, Rubp, Sue
- Cetraria chlorophylla* (Willd.) Vain. - **2**: AFS (LEB 6873), VA (VAB-Lich. 25735); **4**: AFS (LEB 6850), GF & ELL (BCN 15362), PC (LISU 214120), ELS (SANT-Lich. 11022); **6**: AFS (LEB 6809), ARB (MACB 93846), RP (MACB 94045), VJR (MAF-Lich. 15317); **8**: GF & ELL (BCN 15383), XLL & SB (BCN 15334); **9**: AFS (LEB 6820), ARB (MACB 939931), AT (LEB 6938), BM (SALA-Lich. 4180); **10**: ARB (MACB 93847). Ba, Cs, Ea, Esp, Pt, Qp, Qs
- Cetraria crespoae* (Barreno & Vázquez) Kärnefelt - **7**: ARB (MACB 93932), GA & MP (MA-Lich. 16210); **8**: ELS (SANT-Lich. 10975), VJR (MAF-Lich. 15333), AT (LEB 6960); **10**: GF & ELL (BCN 15439). Cl, Esp, Qi
- Cetraria merrillii* Du Rietz - **1**: GPB (SANT-Lich. 11033); **7**: ARB (MACB 93933), GA & MP (MA-Lich. 16211); **10**: AT (LEB 6918). Cl, Esp, Qi

- Cetraria sepincola* (Ehrh.) Ach. - **10**: ARB (MACB 93848). Esp
Chaenotheca brunneola (Ach.) Müll. Arg. - **9**: SB / DM (BCN 15345). Cs
Chaenotheca chrysocephala (Ach.) Th. Fr. - **9**: ARB (MACB 93934), BM (SALA-Lich. 4182), GF & ELL/DM (BCN 15431), GPB (SANT-Lich. 11034), VA (VAB-Lich. 25836), VJR (MAF-Lich. 15352). Cs
Chaenotheca ferruginea (Turner ex Sm.) Mig. - **9**: ARB (MACB 93935), RP (MACB 94075), VJR (MAF-Lich 15351), SB/DM (BCN 15344, 15345). Cs
Chromatochlamys muscorum (Fr.) H. Mayrhofer & Poelt - **3**: GPB (SANT-Lich. 11035); **5**: VJR (MAF-Lich 15304). Br
Chrysothrix candelaris (L.) J.R. Laundon - **9**: AT (LEB 6930), BM (SALA-Lich. 4108), ELS (SANT-Lich.10976), ES & RA (MACB 93345), VA (VAB-Lich. 25731), VJR (MAF-Lich 15353). Cs
Chrysothrix chlorina (Ach.) J.R. Laundon - **7**: AT (LEB 6976). Rubp
Cladonia arbuscula (Wallr.) Flot. subsp. *arbuscula* (Wallr.) Flot. - **7**: ARB (MACB 93849). Sue
Cladonia cariosa (Ach.) Spreng. - **5**: ARB (MACB 93984). Sue
Cladonia cervicornis (Ach.) Flotow - **1**: RP (MACB 93721), GF & ELL (BCN 15180, 15222, 15226); **2**: AFS (LEB 6881), ARB (MACB 93850), RP (MACB 94068); **10**: ARB (MACB 93851), ARB & RP (MACB 93722), ES & RA (MACB 93446), GF & ELL (BCN 15462). Br, Qs, sue
Cladonia chlorophaea (Flörke ex Sommerf.) Spreng. - **3**: ARB (MACB 93968); **5**: ARB (MACB 93969); **9**: ARB (MACB 93986). Sue
Cladonia ciliata Stirt - **7**: ARB & RP (MACB 94036); **8**: AT (LEB 6961). Sue
Cladonia ciliata var. *tenuis* Stirt. - **1**: GPB (SANT-Lich. 11036); **2**: PC (LISU 214088); **5**: ARB (MACB 93852). Sue
Cladonia coccifera (L.) Willd. - **1**: ARB & RP (MACB 93710); **3**: GF & ELL (BCN 15257); **10**: ARB (MACB 93853), ARB & RP (MACB 93703). Sue
Cladonia coniocraea (Flörke) Spreng. - **1**: GPB (SANT-Lich. 11037), GF & ELL (BCN 15190); **4**: GF & ELL (BCN 15355). Jo, Qp, Sue
Cladonia crispata (Ach.) Flot. var. *cetrariiformis* (Delise) Vain. - **3**: GF & ELL (BCN 15255, 15259); **10**: ARB (MACB 93987). Br, Sue
Cladonia cryptochlorophaea Asahina - **10**: ARB (MACB 93854). Sue
Cladonia dimorpha S. Hammer - **5**: ARB (MACB 93855). Sue
Cladonia diversa Asperges - **1**: RP & ARB (MACB 94025), ARB (MACB 93856), XLL & SB (BCN 15308); **3**: ARB (MACB 93867); **10**: ARB (MACB 93858), ES & RA (MACB 93458), RP & ARB (MACB 93702). Sue
Cladonia fimbriata (L.) Fr. - **1**: ARB (MACB 93989), RP & ARB (MACB 93712); **2**: ARB (MACB 93859), AFS (LEB 6882); **3**: ARB (MACB 93860), RP & ARB (MACB 93715); **4**: AFS (LEB 6864); **5**: RP & ARB (MACB 93714); **7**: ES & RA (MACB 93375). Sue, Qp, Qs
Cladonia firma (Nyl.) Nyl. - **1**: RP & ARB (MACB 93717); **5**: RP & ARB (MACB 93716, 93861); **10**: RP & ARB (MACB 93988, 93700). Sue
Cladonia floerkeana (Fr.) Flörke - **5**: ARB (MACB 93862); **10**: GF & ELL (BCN 15459), RP & ARB (MACB 93688). Sue
Cladonia foliacea (Huds.) Willd. - **1**: ARB (MACB 93970), GF & ELL (BCN 15202), GPB (SANT-Lich. 10962); **2**: ELS (SANT-Lich. 10977); **3**: ARB (MACB 93990), GA & MP (MA-Lich.16145); **10**: ES & RA (MACB 93452), GF & ELL (BCN 15456). Sue, Br
Cladonia furcata (Huds.) Schrad. - **1**: RP & ARB (MACB 93699); **2**: RP & ARB (MACB 94026), ARB (MACB 93863); **3**: GA & MP (MA-Lich. 16146); **5**: ARB (MACB 93864), RP & ARB (MACB 94030); **6**: AFS (LEB 6813); **10**: ES & RA (MACB 93451). Sue, Ba
Cladonia glauca Flörke - **1**: ARB (MACB 93865), RP & ARB (MACB 93687); **10**: ARB (MACB 93957), RP & ARB (MACB 94033). Sue
Cladonia gracilis (L.) Willd. - **1**: ARB (MACB 93866), RP & ARB (MACB 93691); **10**: ARB (MACB 93867), RP & ARB (MACB 93693), AT (LEB 6949). Sue
Cladonia hammeri Ahti - **1**: ARB (MACB 93991); **5**: RP & ARB (MACB 93709); **7**: ARB (MACB 93868); **9**: RP & ARB (MACB 93707); **10**: RP & ARB (MACB 93708). Cs, Sue
Cladonia homosekikaica Nuno - **1**: ARB (MACB 93992). Sue

- Cladonia humilis* (With.) J. R. Laundon - **1**: ARB (MACB 93869); **2**: ARB (MACB 93993); **5**: ARB (MACB 93870); **9**: RP & ARB (MACB 93701). Cs, Sue
- Cladonia iberica* Burgaz & Ahti - **1**: ARB (MACB 93994), RP & ARB (MACB 93695); **2**: ARB (MACB 93871); **5**: ARB (MACB 93872), RP & ARB (MACB 93696). Sue
- Cladonia incrassata* Flörke - **9**: ARB (MACB 93958). Sue
- Cladonia macilenta* Hoffm. - **3**: GF & ELL (BCN 15254, 15259). Br
- Cladonia macrophylla* (Schaer.) Stenh. - **10**: GF & ELL (BCN 15461). Sue
- Cladonia merchlorophaea* Asahina - **7**: ARB (MACB 93873); **10**: ARB (MACB 93874), ES & RA (MACB 93448), RP & ARB (MACB 93697). Sue
- Cladonia mitis* Sandst. 94035 - **7**: ARB & RP (MACB). Sue
- Cladonia portentosa* (Dufour) Coem. - **7**: RP & ARB (MACB 93689). Sue
- Cladonia portentosa* f. *impexa* (Dufour) Coem. - **7**: ARB (MACB 93875). Sue
- Cladonia portentosa* f. *subimpexa* (Dufour) Coem. - **7**: ARB (MACB 93876). Sue
- Cladonia prolifica* Ahti & S. Hammer - **5**: ARB (MACB 93877). Sue
- Cladonia pyxidata* (L.) Hoffm. - **1**: GF & ELL (BCN 15202); **3**: ARB (MACB 93959), GF & ELL (BCN 15252); **4**: GF & ELL (BCN 15357); **5**: ARB (MACB 93960); **7**: RP & ARB (MACB 93690); **10**: GF & ELL (BCN 15455). Br, Jo, Qp, Sue
- Cladonia ramulosa* (With.) J.R. Laundon - **1**: RP & ARB (MACB 93725); **3**: RP & ARB (MACB 93686); **5**: RP & ARB (MACB 93724); **10**: ARB (MACB 93963), RP & ARB (MACB 93726), ES & RA (MACB 93447). Sue
- Cladonia rangiformis* Hoffm. - **1**: ARB (MACB 93995), RP & ARB (MACB 93720), GF & ELL (BCN 15199), ELS (SANT-Lich.10978); **2**: ARB (MACB 93878); **3**: ARB (MACB 93962), GA & MP (MA-Lich. 16147); **5**: RP & ARB (MACB 93719); **7**: ARB (MACB 93879), RP & ARB (MACB 93718), ES & RA (MACB 93376). Br, Sue
- Cladonia squamosa* Hoffm. - **1**: GF & ELL (BCN 15225). Br
- Cladonia strepsilis* (Ach.) Grognot - **10**: ARB (MACB 93966), RP & ARB (MACB 93706). Sue
- Cladonia subcervicornis* (Vain.) Kernst. - **1**: ARB (MACB 93964). Sue
- Cladonia subulata* (L.) F.H. Wigg. - **1**: ARB (MACB 93995), RP & ARB (MACB 93692); **2**: ARB (MACB 93965); **7**: ARB (MACB 93997); **10**: ES & RA (MACB 93453). Sue
- Cladonia uncialis* (L.) Weber ex F.H. Wigg. - **10**: AT (LEB 6950). Sue
- Cladonia uncialis* (L.) Weber ex F.H. Wigg. ssp. *biuncialis* (Hoffm.) M.Choisy - **3**: GF & ELL (BCN 15254); **10**: ES & RA (MACB 93455), RP & ARB (MACB 93694, 94034). Br, Sue
- Cladonia zopfii* Vain. - **10**: ARB (MACB 93967). Sue
- Cliostomum tenerum* (Nyl.) Coppins & S. Ekman - **3**: VJR (MAF-Lich 15264). Rba
- Collema crispum* (L.) Weber ex F.H. Wigg. - **3**: MP & MGO (MA-Lich. 16148). Rba
- Collema cristatum* (L.) Weber ex F.H. Wigg. - **3**: PC (LISU 214078), MP & MGO (MA-Lich. 16149, 16150); **5**: MP & MGO (MA-Lich. 16192). Rba, Rubp
- Collema fasciculare* (L.) Weber ex F.H. Wigg. - **9**: RP (MACB 93622). Cs
- Collema flaccidum* (Ach.) Ach. - **8**: ELS (SANT-Lich.10979), PC (LISU 214085). Br
- Collema furfuraceum* (Arnold) Du Rietz - **1**: PC (LISU 214189), GPB (SANT-Lich. 10961), ELS (SANT-Lich. 10980), GF & ELL (BCN 15189); **2**: PC (LISU 214191), VA (VAB-Lich. 25834); **8**: GF & ELL (BCN 15394, 15397); **9**: PC (LISU 214194), BM (SALA-Lich. 4253), VJR (MAF-Lich 15356). Oe, Qr, Qs, Spp
- Collema fuscovirens* (With.) J.R. Laundon - **3**: PC (LISU 214087). Rba
- Collema nigrescens* (Huds.) DC. - **7**: AT (LEB 6979); **9**: PC (LISU 214100). Cs, Rubp
- Collema polycarpon* Hoffm. ssp. *corcyrence* (Arnold) Pisút - **3**: PC (LISU 214116). Rba
- Collema ryssoleum* (Tuck.) A. Schneider - **7**: PC (LISU 214084). Rubp
- Collema subflaccidum* Degel. - **8**: GF & ELL (BCN 15408); **9**: ELS (SANT-Lich. 10981), ES & RA (MACB 93338), GF & ELL (BCN 15423), PC (LISU 214096). Cs, Fa
- Collema subnigrescens* Degel. - **1**: ELS (SANT-Lich. 10982), PC (LISU 214071), GF & ELL (BCN 15193); **7**: ES & RA (MACB 93378); **8**: VJR (MAF-Lich 15318), XLL & SB (BCN 15335); **9**: VJR (MAF-Lich 15355). Cs, Oe, Spp, Sue, Rba, Rubp
- Collema tenax* (Sw.) Ach. - **5**: MP & MGO (MA-Lich.16193). Sue
- Collema undulatum* Laurer ex Flot. - **5**: MP & MGO (MA-Lich.16194). Sue
- Coniothecium silaceum* (Fée) Keissl. - **1**: XLL & SB (BCN 15310a, 15301, 15304). Rac

- Cyphelium inquinans* (Sm.) Trevisan - **9**: BM (SALA-Lich. 4198). Cs
Cyphelium lecideinum (Nyl.) Trevis. - **1**: XLL & SB (BCN 15310). Rac
[#]*Cyphelium sessile* (Pers. ex Mérat) Trevis. - **9**: BM (SALA-Lich. 4248). LF (Pc)
Degelia atlantica (Degel.) P. Jorg. & P. James - **7**: AT (LEB 6939); **9**: BM (SALA-Lich. 4187). Cs
Degelia plumbea (Lightf.) P.M. Jörg. & P. James - **4**: GF & ELL (BCN 15361), ES & RA (MACB 93266), AFS (LEB 6852); **7**: AT (LEB 6970); **8**: GF & ELL (BCN 15392); **9**: GPB (SANT-Lich. 11038), GF & ELL (BCN 15418), AFS (LEB 6826), ES & RA (MACB 93334), ARB (MACB 93884), VA (VAB-Lich. 25832), RP (MACB 93685), PC (LISU 214091). Cm, Cs, Qp, Qr
Dermatocarpon miniatum (L.) W. Mann - **1**: ELS (SANT-Lich. 10983). Rac
Dimelaena oreina (Ach.) Norman - **1**: VJR (MAF-Lich 15237), AT (LEB 6898). Rac
Diploschistes muscorum (Scop.) R. Sant - **3**: RP (MACB 94071). Rba
Diploschistes scurposus (Schreb.) Norman - **1**: AT (LEB 6892), GPB (SANT-Lich. 10958), XLL & SB (BCN 15316); **3**: VJR (MAF-Lich 15284). Rac, Rba
Diplotomma alboatrum (Ach.) Arnold - **3**: GPB (SANT-Lich. 11029), XLL & SB (BCN 15273). Rba
Ephebe lanata (L.) Vain. - **7**: AT (LEB 6983), **10**: GF & ELL (BCN 15437). Rac, Rubp
Evernia prunastri (L.) Ach. - **1**: ARB (MACB 93883), RP (MACB 93664), GF & ELL (BCN 15181), GPB (SANT-Lich. 11039); **2**: ELS (SANT-Lich.10984), ARB (MACB 93880), PC (LISU 214068), AFS (LEB 6870), GF & ELL (BCN 15228), XLL & SB (BCN 15323); **3**: ES & RA (MACB 93394), GA & MP (MA-Lich.16151); **4**: PC (LISU 214106), ES & RA (MACB 93268), GF & ELL (BCN 15354); **5**: ARB (MACB 93881), GA & MP (MA-Lich.16195), VA (VAB-Lich. 25713); **6**: RP (MACB 93673), ES & RA (MACB 93299), AFS (LEB 6811), GF & ELL (BCN 15375); **7**: GA & MP (MA-Lich. 16213), ES & RA (MACB 93362), RP (MACB 93669); **8**: ES & RA (MACB 93403), AT (LEB 6959), GF & ELL (BCN 15383), XLL & SB (BCN 15333b); **9**: ARB (MACB 93882), RP (MACB 93675), ES & RA (MACB 93358), AT (LEB 6922), GF & ELL (BCN 15413), VJR (MAF-Lich 15348); **10**: ES & RA (MACB 93471), GF & ELL (BCN 15441). Ag, Ba, Bs, Cm, Cl, Cs, Chl, Esp, Fa, Pt, Qi, Qs, Qp, Qr, Rsph, Ssp
Flavoparmelia caperata (L.) Hale - **2**: VJR (MAF-Lich 15240), VA (VAB-Lich. 25704), RP (MACB 94052), AFS (LEB 6871); **3**: GA & MP (MA-Lich. 16152); **4**: ELS (SANT-Lich. 10985); **5**: AFS (LEB 6866); **6**: ES & RA, (MACB 93306); **7**: RP (MACB 94078); **8**: ES & RA (MACB 93412). Ag, Ba, Qi, Qp, Qs
Fuscopannaria mediterranea (Tav.) P. M. Jörg. - **4**: GF & ELL (BCN 15368), VJR (VAB-Lich. 25694); **8**: GF & ELL (BCN 15389, 15391, 15400), GPB (SANT-Lich. 11040), VJR (MAF-Lich 15324); **9**: GF & ELL (BCN 15425). Ag, Br, Cs, Qi, Qp, Qr, Qs
Glyphopeltis ligustica (de Lesd.) Timdal - **1**: VJR (MAF-Lich 15216). Rac
Gyalecta truncigena (Ach.) Hepp - **3**: GF & ELL (BCN 15256), **8**: GF & ELL (BCN 15406). Fa
Haematomma ochroleucum (Neck.) J.R. Laundon - **2**: GF & ELL (BCN 15239). Cl
[#]*Hainesia pertusariae* Etayo & Diederich - **6**: VA (VAB-Lich. 25929). LF (Pesp)
Hyperphyscia adglutinata (Flörke) H. Mayrhofer & Poelt - **1**: PC (LISU 214190); **3**: GF & ELL (BCN 15256). Fa, Oe
Hypocnomyce scalaris (Ach. ex Lilj.) M. Choisy - **9**: GF & ELL (BCN 15410, 15413). Cs
Hypogymnia farinacea Zopf - **6**: AFS (LEB 6815); **10**: E.S & R.A (MACB 93434). Ba, Rac
Hypogymnia physodes (L.) Nyl. - **1**: ELS (SANT-Lich. 10986); **2**: ARB (MACB 93885), VA (VAB-Lich. 25703); **4**: ES & RA (MACB 93271), GF & ELL (BCN 15354); **6**: RP (MACB 93672), ES & RA (MACB 93294), AFS (LEB 6814), GA & MP (MA-Lich. 16201); **7**: RP (MACB 93671); **8**: AT (LEB 6958); **9**: RP (MACB 93651), BM (SALA-Lich. 4124); **10**: ES & RA (MACB 93461), AT (LEB 6906), GF & ELL (BCN 15439, 15440). Ba, Cl, Cs, Esp, Ps, Qi, Qp, Qr, Qs, Rac
Hypogymnia tubulosa (Schaer.) Hav. - **2**: ARB (MACB 93886), VA (VAB-Lich. 25696); **4**: PC (LISU 214115), ES & RA (MACB 93288), GF & ELL (BCN 15352, 15354), ELS (SANT-Lich. 11069); **5**: GA & MP (MA-Lich. 16196); **6**: ARB (MACB 93887), GPB (SANT-Lich. 11041), RP (MACB 93665), ES & RA (MACB 93293, 93300), AFS (LEB 6832), GF & ELL (BCN 15377, 15378); **8**: GF & ELL (BCN 15383); **9**: BM (SALA-Lich.

- 4152); **10**: ES & RA (MACB 93468), RP (MACB 93666), GF & ELL (BCN 15440). Ba, Br, Chl, Cs, Ea, Esp, Ps, Pt, Qi, Qp, Qp, Ssp
- Hypotrachyna laevigata* (Sm) Hale - **7**: AT (LEB 6974). Qi
- Ingvariella bispora* (Bagl.) Guderley & Lumbsch - **5**: VJR (MAF-Lich 15288, 15289). Rubp
- Koerberia bififormis* A. Massal. - **1**: PC (LISU 214110). Oe
- Lasallia hispanica* (Fey) Sancho & A. Crespo - **1**: AT (LEB 6899); **3**: AT (LEB 6988), VJR (MAF-Lich 15279); **10**: ARB (MACB 93888), RP (MACB 94041), AT (LEB 6909), ELS (SANT-Lich. 10987), ES & RA (MACB 93430). Rac, Rba, Rubp
- Lasallia pustulata* (L.) Mérat - **1**: ARB (MACB 93889), RP (MACB 93661, 93662), GF & ELL (BCN 15194), GPB (SANT-Lich. 10968), VJR (MAF-Lich 15221); **3**: ARB (MACB 93890), VJR (MAF-Lich 15280), GA & MP (MA-Lich. 16153), VA (VAB-Lich. 25729); **10**: ARB (MACB 93891), ELS (SANT-Lich. 10988), ES & RA (MACB 93431), AT (LEB 6908), GF & ELL (BCN 15451). Br, Rac, Rba
- Lecania cyrtellina* (Nyl.) Sandst. - **2**: GF & ELL (BCN 15233); **9**: GF & ELL (BCN 15233). Cs, Qs
- Lecanora allophana* Nyl. - **9**: GF & ELL (BCN 15425), BM (SALA-Lich. 4247). Cs
- Lecanora bolcana* (Pollini) Poelt - **5**: GPB (SANT-Lich. 11042). Rubp
- Lecanora burgaziae* I. Martínez & Aragón - **2**: ELS (SANT-Lich. 10989); **7**: GA & MP (MA-Lich. 16214). Cl, Qp
- Lecanora caesiosora* Poelt - **3**: VJR (MAF-Lich 15259). Rba
- Lecanora campestris* (Schaer.) Hue - **3**: AT (LEB 6996); **5**: AT (LEB 7012). Rubp
- Lecanora carpinea* (L.) Vainio - **3**: GA & MP (MA-Lich. 16154), VA (VAB-Lich. 25733); **6**: RP (MACB 94081); **7**: ES & RA (MACB 93360), GA & MP (MA-Lich. 16215); **9**: RP (MACB 94079), BM (SALA-Lich. 4109). Ba, Cl, Cs, Qi
- Lecanora chlarotera* Nyl. - **1**: GF & ELL (BCN 15188, 15204, 15210); **2**: GF & ELL (BCN 15231, 15232, 15233); **3**: ES & RA (MACB 93388), GF & ELL (BCN 15253, 15256), GA & MP (MA-Lich. 16155); **4**: GF & ELL (BCN 15354); **6**: GF & ELL (BCN 15380, 15381); **8**: GF & ELL (BCN 15383); **9**: GF & ELL (BCN 15409, 15412), BM (SALA-Lich. 4141); **10**: GF & ELL (BCN 15434, 15436, 15439). Ag, Ba, Bs, Cl, Cs, Esp, Fa, Iñ, Pt, Qi, Cm, Qp, Qr, Qs, Ssp
- Lecanora crenulata* Hook - **3**: GA & MP (MA-Lich. 16156). Rba
- Lecanora dispersa* (Pers.) Sommerf. - **3**: XLL & SB (BCN 15267b, 15268, 15271); **5**: VJR (MAF-Lich 15311); **9**: GF & ELL (BCN 15425); **10**: GF & ELL (BCN 15444). Cs, Ssp, Rba, Rubp
- Lecanora epibryon* (Ach.) Ach. - **1**: GF & ELL (BCN 15205). Sue
- Lecanora glabrata* (Ach.) Malme - **3**: RP (MACB 94080); **6**: RP (MACB 94067); **9**: RP (MACB 94072). Ba, Cs, Qi
- Lecanora hispanica* Ibáñez & Burgaz - **8**: XLL & SB (BCN 15339). Ag
- Lecanora horiza* (Ach.) Linds. - **2**: GF & ELL (BCN 15238); **7**: GA & MP (MA-Lich. 16216). Cl, Qs
- Lecanora intricata* (Ach.) Ach. - **3**: VJR (MAF-Lich 15277). Rba
- Lecanora intumescens* (Rebent.) Rabenh. - **2**: GF & ELL (BCN 15236, 15239, 15240); **6**: VJR (MAF-Lich 15316); **8**: GF & ELL (BCN 15383); **9**: BM (SALA-Lich. 4272). Ba, Cl, Cs, Pt, Qr
- Lecanora leptyroides* (Nyl.) Degel. - **6**: RP (MACB 94082). Ba
- Lecanora meridionalis* H. Magn. - **5**: GA & MP (MA-Lich. 16197); **10**: AT (LEB 6918). Esp, Qi
- Lecanora muralis* (Schreb.) Rabenh. - **3**: RP (MACB 94039), XLL & SB (BCN 15293b, 15269b, 15270a), VJR (MAF-Lich 15274); **5**: AT (LEB 7004), VJR (MAF-Lich 15292). Rba, Rubp
- Lecanora polytropa* (Ehrh. ex Hoffm.) Rabenh. - **3**: VJR (MAF-Lich 15245), GA & MP (MA-Lich. 16157); **10**: AT (LEB 6913). Rac, Rba
- Lecanora pulicaris* (Pers.) Ach. - **3**: GA & MP (MA-Lich. 16158). Qi
- Lecanora rupicola* (L.) Zahlbr. - **3**: VJR (MAF-Lich 15248), GA & MP (MA-Lich. 16159), XLL & SB (BCN 15279, 15288, 15292). Rba
- Lecanora subcarnea* (Lilj.) Ach. - **1**: XLL & SB (BCN 15299); **3**: AT (LEB 6998). Rac, Rubp
- Lecanora sulphurea* (Hoffm.) Ach. - **3**: VA (VAB-Lich. 25743), VJR (MAF-Lich 15263); **5**: AT (LEB 7005), VJR (MAF-Lich 15309). Rba, Rubp

- Lecanora varia* (Hoffm.) Ach. - **10**: AT (LEB 6918). Esp
Lecidea atrobrunnea (Ramond ex Lam. & DC.) Schaer. - **1**: AT (LEB 6897). Rac
Lecidea exigua Chaub. - **7**: GA & MP (MA-Lich. 16217). Cl
Lecidea fuliginosa Taylor - **3**: VJR (MAF-Lich 15272). Rba
Lecidea fuscoatra (L.) Ach. - **3**: VJR (MAF-Lich 15244). Rba
Lecidea lapicida (Ach.) Ach. - **3**: VJR (MAF-Lich 15283); **5**: AT (LEB 7013). Rba, Rubp
Lecidea rufofusca (Anzi) Nyl. - **4**: ELS (SANT-Lich. 10990). Br
Lecidella carpathica Körb. - **2**: GF & ELL (BCN 15243), **3**: XLL & SB (BCN 15267c, 15268a, 15269a); **5**: VJR (MAF-Lich 15286, 15296). Rac, Rba, Rubp,
Lecidella elaeochroma (Ach.) M. Choisy - **1**: GF & ELL (BCN 15181); **2**: GF & ELL (BCN 15235, 15236); **3**: GA & MP (MA-Lich. 16160), GF & ELL (BCN 15253, 15256); **6**: GF & ELL (BCN 15381), VJR (MAF-Lich 15312); **8**: GF & ELL (BCN 15385); **9**: GF & ELL (BCN 15409). Ba, Cl, Cm, Cs, Fa, lñ, Qi, Qr, Ssp
Lecidella patavina (A. Massal.) Knoph & Leuckert - **8**: ELS (SANT-Lich. 10991). Rba
Lecidoma demissum (Rustr.) Gotth. Schneid. & Hertel - **1**: AT (LEB 6893). Sue
Lempholemma cladodes (Tuck.) Zahlbr. - **3**: GA & MP (MA-Lich. 16161). Rba
Lepraria incana (L.) Ach. - **7**: GA & MP (MA-Lich. 16218); **9**: BM (SALA-Lich. 4101). Cl, Cs
Lepraria lobificans Nyl. - **3**: GF & ELL (BCN 15248, 15258, 15261). Br, Cm, Rba
Lepraria nivalis J.R. Laundon - **1**: GF & ELL (BCN 15178, 15179); **4**: GF & ELL (BCN 15347, 15360). Br, Jo, Qp, Rac
Leprocaulon microscopicum (Vill.) Gamg ex D. Hawksw. - **1**: ARB (MACB 93971), RP (MACB 93647); **7**: ARB (MACB 93937), GA & MP (MA-Lich. 16219); **8**: ELS (SANT-Lich. 10992), XLL & SB (BCN 15336); **10**: AT (LEB 6952). Br, Rac, Sue
Leptoloma membranaceum (Dicks.) Vain. - **1**: ARB (MACB 93972). Sue
Leptochidium albociliatum (Desm.) M. Choisy - **1**: ARB (MACB 93892), RP (MACB 94038), GPB (SANT-Lich. 11043), VJR (MAF-Lich 15227); **5**: VJR (MAF-Lich 15302); **6**: MP & MGO (MA-Lich. 16202). Br, Rac, Sue
Leptogium corniculatum (Hoffm.) Minks - **2**: ARB (MACB 93938); **3**: ELS (SANT-Lich. 10993). Sue, Rba
Leptogium furfuraceum (Harm.) Sierk - **1**: ELS (SANT-Lich. 10994). Jo
Leptogium gelatinosum (With.) J.R. Laundon - **3**: MP & MGO (MA-Lich. 16162). Qi
Leptogium intermedium (Arnold) Arnold - **3**: GF & ELL (BCN 15252). Rba
Leptogium lichenoides (L.) Zahlbr. - **3**: VJR (MAF-Lich 15268), GPB (SANT-Lich. 11044); **8**: ELS (SANT-Lich. 10995). Br, Rba, Sue
Leptogium magnussonii Degel. & P.M. Jørg. - **1**: ELS (SANT-Lich. 10996). Oe
Leptogium saturninum (Dicks.) Nyl. - **7**: ARB (MACB 93973); **8**: GPB (SANT-Lich. 11045). Ag, Qi
Leptogium teretiusculum (Flörke) Arnold - **3**: GF & ELL (BCN 15252); **8**: GF & ELL (BCN 15404, 15406), VA (VAB-Lich. 25835); **9**: GF & ELL (BCN 15425). Cs, Fa, Rubp
[#]*Lichenoconium usneae* (Anzi) D. Hawksw. - **8**: VA (VAB-Lich. 25930). LF (Uf)
[#]*Lichenodiplis lecanorae* (Vouaux) Dyko & D. Hawksw. - **3**: VA (VAB-Lich. 25928). LF (Csp)
[#]*Lichenostigma cosmopolites* Hafellner & Calat. - **1**: VA (VAB-Lich. 25720). LF (Xp)
Lobaria amplissima (Scop.) Forssell - **8**: ES & RA (MACB 93402), GF & ELL (BCN 15405), XLL & SB (BCN 15332a); **9**: ARB (MACB 93893), VA (VAB-Lich. 25717), GF & ELL (BCN 15414, 15420), VJR (MAF-Lich 15338), RP (MACB 93653), AT (LEB 6919), PC (LISU 214193), BM (SALA-Lich. 4150), ES & RA (MACB 93340), AFS (LEB 6817), GPB (SANT-Lich. 11067). Cs, Fa
Lobaria amplissima (Scop.) Forssell f. *cianobionta* (= *Dendriscoaulon umhausense* (Auersw.) Degel.) - **4**: AFS (LEB 6857); **7**: GA & MP (MA-Lich. 16212); **8**: GF & ELL (BCN 15391), VJR (MAF-Lich 15323), XLL & SB (BCN 15341); **9**: AT (LEB 6919), BM (SALA-Lich. 4254), ES & RA (MACB 93348), AFS (LEB 6823), ELS (SANT-Lich. 10981). Cm, Cs, Qi, Qp, Qr
Lobaria pulmonaria (L.) Hoffm. - **2**: XLL & SB (BCN 15326); **8**: PC (LISU 214086), ES & RA (MACB 93401), GF & ELL (BCN 15398), GPB (SANT-Lich. 11047), VA (VAB-Lich. 25712); **9**: ARB (MACB 93894), BM (SALA-Lich. 4135), PC (LISU 214090), ES & RA (MACB 93353), AT (LEB 6925), VJR (MAF-Lich 15339). Cs, Fa, Qr, Qs

- Lobaria scrobiculata* (Scop.) DC. - **2:** PC (LISU 214067), AFS (LEB 6874), VA (VAB-Lich. 25726), VJR (MAF-Lich 15241), **3:** GF & ELL (BCN 15244); **4:** AFS (LEB 6849); **6:** GA & MP (MA-Lich. 16203); **7:** ARB (MACB 93895), AT (LEB 6972), RP (MACB 93677), ES & RA (MACB 93374); **8:** VJR (MAF-Lich 15322); **9:** ARB (MACB 93896), RP (MACB 93657), ES & RA (MACB 93351), GF & ELL (BCN 15421), VJR (MAF-Lich 15342). Cs, Qi, Qp, Qs, Spp
- Massalongia carnosa* (Dicks.) Körb. - **1:** ARB (MACB 93897); **3:** ARB (MACB 93898); **10:** ARB (MACB 93899), ELS (SANT-Lich. 11325). Br
- Melanelixia fuliginosa* (Fr. ex Duby) O. Blanco, A. Crespo, Divakar, Essl. D. Hawksw. & Lumbsch - **1:** VJR (MAF-Lich 15200), GF & ELL (BCN 15193); **2:** VA (VAB-Lich. 25699); **4:** GF & ELL (BCN 15354, 15365); **6:** GF & ELL (BCN 15381), ARB (MACB 93941); **9:** BM (SALA-Lich. 4241), ARB (MACB 93904), RP (MACB 93627). Ba, Cs, Ea, Oe, Qp, Spp
- Melanelixia glabra* (Schaer.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch - **1:** ARB (MACB 93974), VJR (MAF-Lich 15201), GF & ELL (BCN 15183, 15201), PC (LISU 214079), GPB (SANT-Lich. 11046); **2:** AFS (LEB 6880), ARB (MACB 93975), VJR (MAF-Lich 15239), VA (VAB-Lich. 25709), PC (LISU 214072); **9:** BM (SALA-Lich. 4273); **10:** AT (LEB 6917), ES & RA (MACB 93464). Cs, Esp, Jo, Oe, Qr, Qs, Rac
- Melanelixia subaurifera* (Nyl.) O. Blanco, A. Crespo, Divakar, Essl. D. Hawksw. & Lumbsch - **1:** GF & ELL (BCN 15185); **2:** ARB (MACB 93944); **3:** GF & ELL (BCN 15263), ARB (MACB 93976); **4:** PC (LISU 214104); **6:** AFS (LEB 6837); **7:** ARB (MACB 93905); **8:** VJR (MAF-Lich 15334), XLL & SB (BCN 15342b); **10:** GF & ELL (BCN 15444), ARB (MACB 93906) ES & RA (MACB 93467). Ag, Ba, Cl, Cm, Esp, Jo, Qi, Qp, Spp
- Melanohalea elegantula* (Zahlbr.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch - **8:** GF & ELL (BCN 15383); **9:** BM (SALA-Lich. 4175). Cs, Pt,
- Melanohalea exasperata* (De Not.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch - **1:** GF & ELL (BCN 15210), ARB (MACB 93940); **2:** VA (VAB-Lich. 25732); **3:** GF & ELL (BCN 15253), GA & MP (MA-Lich. 16163, 16164); **4:** GF & ELL (BCN 15354), AFS (LEB 6863), PC (LISU 214123); **6:** GF & ELL (BCN 15382), AFS (LEB 6836), RP (MACB 93631); **8:** GF & ELL (BCN 15385); **9:** GF & ELL (BCN 15409), ES & RA (MACB 93337); **10:** GF & ELL (BCN 15436, 15444). Ba, Cm, Cs, Ea, Fa, lñ, Qi, Qp, Qr, Spp
- Melanohalea exasperatula* (Nyl.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch - **1:** GF & ELL (BCN 15209, 15213); **2:** GF & ELL (BCN 15241). Cl, Jo, Pt,
- Melanohalea septentrionalis* (Lynge) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch - **10:** AT (LEB 6910). Rac
- Micarea prasina* Fr. - **3:** GF & ELL (BCN 15263), **4:** GF & ELL (BCN 15359, 15363); **6:** GF & ELL (BCN 15375, 15376); **8:** GF & ELL (BCN 15402). Ag, Ba, Ea, lñ, Qp
- Miriquidica deusta* (Stenh.) Hertel & Rambold - **1:** VJR (MAF-Lich 15223). Rac
- Mycomicrothelia confusa* D. Hawksw. - **2:** GF & ELL (BCN 15240). Cl
- Nephroma laevigatum* Ach. - **2:** AFS (LEB 6875), VA (VAB-Lich. 25701), XLL & SB (BCN 15320), VJR (MAF-Lich 15242); **3:** AT (LEB 6986); **4:** ES & RA (MACB 93265), AFS (LEB 6853), ELS (SANT-Lich. 10997); **7:** ARB (MACB 93900), RP (MACB 93659), GA & MP (MA-Lich.16204), GA & MP (MA-Lich.16204), AT (LEB 6971); **8:** ES & RA (MACB 93404), GPB (SANT-Lich 11047), VJR (MAF-Lich 15327), XLL & SB (BCN 15331); **9:** ARB (MACB 93901), RP (MACB 94074), BM (SALA-Lich. 4184), AT (LEB 6927), GF & ELL (BCN 15425), VJR (MAF-Lich 15343). Cs, Fa, Qi, Qp, Qs, Rba, Rubp
- Nephroma resupinatum* (L.) Ach. - **7:** GA & MP (MA-Lich. 16205). Qi
- Nephroma tangeriense* (Maheu & A. Gillet.) Zahlbr. - **3:** GF & ELL (BCN 15245); **8:** GF & ELL (BCN 15388, 15389, 15390); **9:** BM (SALA-Lich. 4138). Cs, Qr, Spp
- Normandina pulchella* (Borrer) Nyl. - **9:** BM (SALA-Lich. 4146). Cs
- Ochrolechia albiflavescens* (Wulfen) Zahlbr - **9:** BM (SALA-Lich. 4256). Cs
- Ochrolechia balcanica* Verseghe - **9:** RP (MACB 94084). Cs
- Ochrolechia pallescens* (L.) A. Massal. - **4:** PC (LISU 214095), ELS (SANT-Lich. 10998); **9:** VJR (MAF-Lich 15335), ES & RA (MACB 93349), RP (MACB 94073), PC (LISU 214093). Cs, Qp
- Ochrolechia parella* (L.) A. Massal. - **3:** XLL & SB (BCN 15280, 15286a), **9:** ELS (SANT-Lich. 10999), AT (LEB 6932). Cs, Rba

- Ochrolechia subviridis* (Hoëg) Erichs. - **9**: BM (SALA-Lich. 4271). Cs
Ochrolechia szatalaensis Verseghy - **4**: AFS (LEB 6862), GF & ELL (BCN 15350), VA (VAB-Lich. 25730). Cs, Qp
Ochrolechia tartarea (L.) A. Massal. - **3**: AT (LEB 7002); **9**: BM (SALA-Lich. 4186), PC (LISU 214092). Cs, Rubp
Opegrapha soređiifera P. James - **2**: GF & ELL (BCN 15238). Qs
Opegrapha varia Pers. - **8**: GF & ELL (BCN 15407). Fa
Pannaria conoplea (Ach.) Bory - **4**: ES & RA (MACB 93264); **7**: ARB (MACB 93939). Cm, Cs, Qi, Qp, Esp
Parmelia barrenoae Divakar, M.C. Molina & A. Crespo - **3**: ARB (MACB 93903); **6**: RP (MACB 94058); **7**: RP (MACB 94055); **9**: RP (MACB 94054). Ba, Cs, Qi
Parmelia omphalodes (L.) Ach. - **3**: GF & ELL (BCN 15254), GA & MP (MA-Lich. 16165); **4**: AFS (LEB 6854), VJR (MAF-Lich 15278); **10**: GPB (SANT-Lich. 11065), ELS (SANT-Lich. 11000), AT (LEB 6901, 6915), ES & RA (MACB 93429), GF & ELL (BCN 15448), RP (MACB 94046). Br, Qp, Rac, Rba
Parmelia saxatilis (L.) Ach. - **1**: GPB (SANT-Lich. 11052); **2**: ELS (SANT-Lich. 11001), PC (LISU 214070); **9**: BM (SALA-Lich. 4160), ES & RA (MACB 93344); **10**: GF & ELL (BCN 15435). Cl, Cs, Qs, Rac
Parmelia serrana A. Crespo, M.C. Molina & D. Hawksw. - **1**: RP (MACB 94059); **2**: ARB (MACB 93943); **3**: RP (MACB 94051); **9**: RP (MACB 94060). Cs, Qs
Parmelia submontana Nádv. ex Hale - **9**: BM (SALA-Lich. 4106). Cs
Parmelia sulcata Taylor - **1**: GF & ELL (BCN 15197), **3**: GF & ELL (BCN15245); **4**: PC (LISU 214066), ES & RA (MACB 93287); **6**: ES & RA (MACB 93291), AFS (LEB 6833), AT (LEB 6972); **8**: ES & RA (MACB 93399); **9**: BM (SALA-Lich. 4166), PC (LISU 214089), AT (LEB 6929); **10**: ES & RA (MACB 93470). Ag, Ba, Cm, Cs, Ea, Oe, Ps, Qi, Qp, Or, Ssp
Parmeliella triptophylla (Ach.) Müll. Arg. - **6**: GF & ELL (BCN 15375). Ba
Parmelina carporrhizans (Taylor) Poelt & Vězda - **4**: PC (LISU 214097). Qp
Parmelina pastillifera (Harm.) Hale - **3**: ARB (MACB 93942); **9**: BM (SALA-Lich. 4170), GF & ELL (BCN 15409), ES & RA (MACB 93335). Cs, Qi
Parmelina quercina (Willd.) Hale - **3**: ES & RA (MACB 93393); **4**: VA (VAB-Lich. 25719); **6**: ARB (MACB 93907), AFS (LEB 6830); **9**: ELS (SANT-Lich. 11003); **10**: RP (MACB 94050). Ba, Cs, Qi
Parmelina tiliacea (Hoffm.) Hale - **1**: GPB (SANT-Lich. 11048), RP (MACB 93678); **2**: VJR (MAF-Lich 15243), ARB (MACB 93911), XLL & SB (BCN 15326a), AT (LEB 6967), RP (MACB 93670); **3**: ARB (MACB 93979), ES & RA (MACB 93389); **4**: VA (VAB-Lich. 25738), ELS (SANT-Lich. 11004); **5**: RP (MACB 94063); **6**: RP (MACB 93625); **8**: ES & RA (MACB 93411); **9**: VJR (MAF-Lich 15350), GF & ELL (BCN 15412), BM (SALA-Lich. 4241), PC (LISU 214192), ES & RA (MACB 93352), AFS (LEB 6828). Ba, Bs, Cs, Jo, lñ, Oe, Pte, Qi, Qp, Or, Qs, Ssp, Rac, Rba
Parmeliopsis ambigua (Wulfen) Nyl. - **9**: BM (SALA-Lich. 4151). Cs
Parmotrema perlatum (Huds.) M. Choisy - **2**: PC (LISU 214118); **5**: VA (VAB-Lich. 25702); **7**: RP (MACB 94085); **8**: VJR (MAF-Lich 15331). Qi, Qs
Parmotrema reticulatum (Taylor) M. Choisy - **3**: GF & ELL (BCN 15247); **4**: GF & ELL (BCN 15359). Ea, Jo, Qp, Ssp
Parmotrema stuppeum (Taylor) Hale - **3**: GF & ELL (BCN 15373); **4**: GF & ELL (BCN 15375). Ba, Cm, Qp
Peltigera canina (L.) Willd. - **1**: AFS (LEB 6882); **3**: RP & ARB (MACB 93641). Sue
Peltigera collina (Ach.) Schrad. - **3**: ARB (MACB 93912), RP & ARB (MACB 93643); **7**: ARB (MACB 93945); **8**: PC (LISU 214195), ES & RA (MACB 93405), ELS (SANT-Lich. 11068); **9**: RP & ARB (MACB 93635), BM (SALA-Lich. 4103), AT (LEB 6928). Br, Cs, Fa, Qi, Sue
Peltigera elisabethae Gyeln. - **7**: ARB (MACB 93915). Sue
Peltigera kristinssonii Votik. - **3**: RP & ARB (MACB 93644). Sue
Peltigera membrancea (Ach.) Nyl. - **1**: RP & ARB (MACB 93642); GF & ELL (BCN 15182), XLL & SB (BCN 15297); **7**: RP & ARB (MACB 93636). Br, Rac, Sue

- Peltigera neckeri* Hepp ex Müll. Arg. - **1**: ARB (MACB 93916), AFS (LEB 6883), ELS (SANT-Lich. 11005). Sue
- Peltigera polydactylon* (Neck.) Hoffm. - **3**: GF & ELL (BCN 15251). Br
- Peltigera ponojensis* Gyeln. - **3**: ARB (MACB 93917), **5**: ARB (MACB 93946). Sue
- Peltigera praetextata* (Flörke ex Sommerf.) Zopf - **1**: ELS (SANT-Lich. 11006); **5**: GA & MP (MA-Lich. 16198); **8**: GF & ELL (BCN 15401); **9**: AFS (LEB 6840). Br, Cs, Qr, Rubp
- Peltigera rufescens* (Weiss) Humb - **1**: RP & ARB (MACB 93639), ELS (SANT-Lich. 11007); **3**: RP & ARB (MACB 93645), GA & MP (MA-Lich. 16169); **5**: RP & ARB (MACB 93637), GA & MP (MA-Lich.16199); **7**: RP & ARB (MACB 93638), ES & RA (MACB 93361), GA & MP (MA-Lich. 16223). Br, Sue
- Peltula euploca* (Ach.) Poelt ex Ozenda & Clauzade - **1**: VJR (MAF-Lich 15215). Rac
- Pertusaria albescens* (Huds.) M. Choisy & Werner - **1**: GPB (SANT-Lich. 10967), RP (MACB 93658), VJR (MAF-Lich 15202), GF & ELL (BCN 15187); **2**: AFS (LEB 6878), GF & ELL (BCN 15241), XLL & SB (BCN 15327); **3**: RP (MACB 93680), GF & ELL (BCN 15247); **4**: PC (LISU 214082), ES & RA (MACB 93270), AFS (LEB 6844), GF & ELL (BCN 15370); **7**: RP (MACB 93663), GA & MP (MA-Lich. 16225); **8**: GF & ELL (BCN 15397); **9**: RP (MACB 93676), ES & RA (MACB 93347), VJR (MAF-Lich 15336), ARB (MACB 93947), GF & ELL (BCN 15430), ELS (SANT-Lich. 11008). Cl, Cs, Jo, Oe, Psp, Qi, Qp, Qr
- Pertusaria albescens* var. *corallina* (Zahlbr.) J.R. Laundon - **1**: GF & ELL (BCN 15203, 15206). Qr
- Pertusaria amara* (Ach.) Nyl. - **4**: PC (LISU 214109), **7**: GA & MP (MA-Lich. 16224); **9**: BM (SALA-Lich. 4191), AFS (LEB 6829). Cs, Qi, Qp
- Pertusaria aspergilla* (Ach.) J. R. Laundon - **3**: VJR (MAF-Lich 15281), XLL & SB (BCN 15276). Rba
- Pertusaria coccodes* (Ach.) Nyl. - **1**: PC (LISU 214113); **4**: AFS (LEB 6858); **10**: GPB (SANT-Lich. 11049). Oe, Qp, Rac
- Pertusaria coronata* (Ach.) Th. Fr. - **9**: GF & ELL (BCN 15414). Cs
- Pertusaria flavicans* Lamy - **1**: XLL & SB (BCN 15303); **3**: XLL & SB (BCN 15274), AT (LEB 6993); **6**: GF & ELL (BCN 15382); **10**: AT (LEB 6951). Ssp, Rac, Rubp
- Pertusaria flavida* (DC.) J.R. Laundon - **1**: VJR (MAF-Lich 15199), GF & ELL (15219), VA (VAB-Lich. 25736), ELS (SANT-Lich. 11009), GPB (SANT-Lich. 10966); **2**: GF & ELL (15242); **4**: PC (LISU 214105), ES & RA (MACB 93269), AFS (LEB 6853), GF & ELL (15347); **9**: VJR (MAF-Lich 15340), ARB (MACB 93948), AFS (LEB 6823), AT (LEB 6933). Cs, Jo, Oe, Pte, Qp, Qs
- Pertusaria hemisphaerica* (Flörke) Erichsen - **1**: GF & ELL (BCN 15178), PC (LISU 214111); **4**: GF & ELL (BCN 15367); **9**: GF & ELL (BCN 15411), BM (SALA-Lich. 4102). Cs, Oe, Qp, Rac, Sue
- Pertusaria lactea* (L.) Arnold **10**: AT (LEB 6941). Rac
- Pertusaria leucosora* Nyl. **3**: XLL & SB (BCN-LICH 15276). Rba
- Pertusaria pertusa* (Weigel) Tuck - **1**: PC (LISU 214081), GPB (SANT-Lich. 11050), GF & ELL (BCN 15203); **3**: ARB (MACB 93978), VJR (MAF-Lich 15258), RP (MACB 93679); **4**: AFS (LEB 6855); **9**: ARB (MACB 93981), VJR (MAF-Lich 15344), RP (MACB 93655), BM (SALA-Lich. 4193), AFS (LEB 6817), AT (LEB 6931), GF & ELL (BCN 15429), ELS (SANT-Lich. 11010); **10**: AT (LEB 6946). Cs, Oe, Qi, Qp, Qr, Rac, Rba
- Pertusaria pseudocorallina* (Lilj.) Arnold - **1**: XLL & SB (BCN 15313); **3**: VJR (MAF-Lich 15246). Rac, Rba
- Phaeophyscia cernohorskyi* Nádv. - **1**: VA (VAB-Lich. 25744). Pl
- Phaeophyscia orbicularis* (Neck.) Moberg - **2**: GF & ELL (BCN 15233). Qs
- Phlyctis agelaea* (Ach.) Flot. - **8**: GF & ELL (BCN 15386); **9**: BM (SALA-Lich. 4100). Cs, Qr
- Phlyctis argena* (Spreng.) Flot. - **1**: GF & ELL (BCN 15187); **3**: GF & ELL (BCN 15265); **4**: AFS (LEB 6857), GF & ELL (BCN 15353), ELS (SANT-Lich. 11011); **6**: GF & ELL (BCN 15382); **7**: ARB (MACB 93982); **8**: GF & ELL (BCN 15389); **9**: ARB (MACB 93949), VJR (MAF-Lich 15354), BM SALA-Lich. 4246), GF & ELL (BCN 15414). Cs, Qp, Qr, Ssp
- Physcia adscendens* (Fr.) H. Olivier - **1**: RP (MACB 94040), AFS (LEB 6884); **2**: VA (VAB-Lich. 25707); **3**: ELS (SANT-Lich. 11012); **8**: GF & ELL (BCN 15385), XLL & SB (BCN

15342a); **9**: PC (LISU 214099), BM (SALA-Lich. 4269), GF & ELL (BCN 15409). Cm, Cs, Qp, Qr, Qs, Rsph

Physcia aipolia (Humb.) Hampe ex Fűrnrh. - **1**: GPB (SANT-Lich. 11053), VA (VAB-Lich. 25705); **3**: ARB (MACB 93980), ELS (SANT-Lich. 11013), ES & RA (MACB 93390), GF & ELL (BCN 15253); **6**: VJR (MAF-Lich 15315); **9**: RP (MACB 93656), VJR (MAF-Lich 15357). Ba, Cm, Cs, Fa, Qi, Qr, Qs, Pl

Physcia biziana Poelt & Vězda - **1**: XLL & SB (BCN 15305). Rac

Physcia caesia (Hoffm.) Fűrnr. - **1**: GPB (SANT-Lich. 10969); **5**: AT (LEB 7008), VJR (MAF-Lich 15300); **7**: AT (LEB 6982). Rac, Rubp

Physcia leptalea (Ach.) DC. - **1**: PC (LISU 214077); **3**: GF & ELL (BCN 15253); **4**: ELS (SANT-Lich. 11014); **5**: AFS (LEB 6866). Cm, Oe, Qi

Physcia stellaris (L.) Nyl. - **1**: RP (MACB 93626); **3**: GA & MP (MA-Lich. 16172); **9**: ES & RA (MACB 93336), GF & ELL (BCN 15416). Cs, Qi, Rsph

Physcia tenella (Scop.) DC. - **1**: VJR (MAF-Lich 15204), GF & ELL (BCN 15204); **2**: VA (VAB-Lich. 25722); **9**: BM (SALA-Lich. 4185), ES & RA (MACB 93335). Bs, Cs, Oe, Qs

Physconia detersa (Nyl.) Poelt - **3**: AT (LEB 6997). Rubp

Physconia distorta (With) J.R. Laundon - **2**: ELS (SANT-Lich. 11015), VA (VAB-Lich. 25723); **3**: GF & ELL (BCN 15262); **4**: GPB (SANT-Lich. 11051), AFS (LEB 6845); **5**: RP (MACB 94063); **7**: ARB (MACB 93920), AT (LEB 6980), GA & MP (MA-Lich. 16226); **8**: VJR (MAF-Lich 15330); **9**: RP (MACB 93682), BM (SALA-Lich. 4153), AT (LEB 6921), VJR (MAF-Lich 15358). Cm, Cs, Fa, Ps, Qi, Qp, Qr, Qs, Ssp, Rubp

Physconia enteroxantha (Nyl.) Poelt. - **1**: VJR (MAF-Lich 15203), GPB (SANT-Lich. 11053); **2**: AFS (LEB 6875), ELS (SANT-Lich. 11016), VA (VAB-Lich. 25710), ARB (MACB 93921), XLL & SB (BCN 15329); **3**: ARB (MACB 93983); **5**: AFS (LEB 6864), VJR (MAF-Lich 15306); **9**: BM (SALA-Lich. 4245). Br, Cs, Oe, Qi, Qr, Qs,

Physconia grisea (Lam.) Poelt. - **1**: RP (MACB 94047); **3**: XLL & SB (BCN 15286c). Rba

Physconia muscigena (Ach.) Poelt - **2**: XLL & SB (BCN 15324b); **5**: AT (LEB 7006). Qs, Rubp

Physconia perisidiosa (Erichsen) Moberg - **1**: RP (MACB 94086), PC (LISU 214108), GF & ELL (BCN 15213), ARB (MACB 93922); **3**: GF & ELL (BCN 15249); **4**: GF & ELL (BCN 15370); **8**: GF & ELL (BCN 15393); **9**: GF & ELL (BCN 15428), ARB (MACB 93923). Br, Cs, Jo, Oe, Qi, Qp

Physconia subpulverulenta (Szatala) Poelt - **3**: GA & MP (MA-Lich. 16173); **7**: VA (VAB-Lich. 25833). Qi

Physconia venusta (Ach.) Poelt - **1**: GF & ELL (BCN 15201); **4**: ES & RA (MACB 93263); **7**: ARB (MACB 93924); **8**: ES & RA (MACB 93406), VJR (MAF-Lich 15329); **9**: ARB (MACB 93925), PC (LISU 214102), ES & RA (MACB 93357), AFS (LEB 6821), VJR (MAF-Lich 15359). Cs, Fa, Jo, Qi, Qp, Qr

Physconia venusta ssp. *subaquila* (Nyl.) Clauzade & Cl. Roux - **8**: XLL & SB (BCN 15340). Qi

Placidopsis custnani (A. Massal.) Körb. - **3**: MP (MA-Lich. 16174). Rba (Sue)

Placidium pilosellum (Breuss) Breuss - **7**: MP (MA-Lich. 16227). Rubp (Sue)

Placidium rufescens (Ach.) A. Massal. - **3**: GPB (SANT-Lich. 11032), MP (MA-Lich. 16175); **5**: GA & MP (MA-Lich. 16200). Rba (Sue), Rubp (Sue)

Placynthiella icmalea (Ach.) Coppins & P. James - **2**: PC (LISU 214117); **10**: GF & ELL (BCN 15454, 15457). Qs, Sue

Placynthiella uliginosa (Schrad.) Coppins & P. James - **1**: GF & ELL (BCN 15178). Br

Placynthium nigrum (Huds.) Gray - **3**: GPB (SANT-Lich. 11044), MP & MGO (MA-Lich. 16176); **8**: XLL & SB (BCN 15338). Rba, Rubp

Placynthium tremniacum (A. Massal.) Jatta - **3**: ARB (MACB 93950). Rba

Platimatia glauca (L.) W.L. Culb. & C.F. Culb. - **3**: AT (LEB 6989); **4**: PC (LISU 214080), ES & RA (MACB 93283), AFS (LEB 6842), GPB (SANT-Lich. 11039), VA (VAB-Lich. 25700); **6**: AFS (LEB 6807, 6838); **10**: ARB (MACB 93951), RP (MACB 93660), BM (SALA-Lich. 4094), ES & RA (MACB 93436), AT (LEB 6903), ELS (SANT-Lich. 11017). Ba, Esp, Ps, Qp, Rac, Rubp

Polychidium muscicola (Sw.) Gray - **1**: GF & ELL (BCN 15215), VJR (MAF-Lich 15228), ELS (SANT-Lich. 11018); **3**: AT (LEB 6990), VJR (MAF-Lich 15267), MP & MGO (MA-

- Lich. 16176); **5**: GPB (SANT-Lich. 11031), VJR (MAF-Lich 15303); **8**: GF & ELL (BCN 15394), XLL & SB (BCN 15337); **9**: GF & ELL (BCN 15425). Br, Cs, Qr, Rubp, Sue
- Polysporina ferruginea* (Lettau) M. Steiner ex Kantvilas - **3**: XLL & SB (BCN 15273d). Rba
- Polysporina simplex* (Davies) Vězda - **1**: GPB (SANT-Lich. 10959). Rac
- Protoblastenia rupestris* (Scop.) J. Steiner - **3**: AT (LEB 7001); **7**: AT (LEB 6975). Rubp (Sue)
- Pseudephebe pubescens* (L.) M. Choisy **10**: AT (LEB 6911, 6945). Rac
- Pseudovernia furfuracea* (L.) Zopf - **3**: AT (LEB 6984); **4**: ES & RA (MACB 93284, 93289), AFS (LEB 6843), GF & ELL (BCN 15365), ELS (SANT-Lich. 11019), VA (VAB-Lich. 25695); **6**: RP (MACB 93674), AFS (LEB 6808), GPB (SANT-Lich. 11054); **9**: RP (MACB 93649), ES & RA (MACB 93346), AFS (LEB 6818), AT (LEB 6924), VJR (MAF-Lich 15347), PC (LISU 214076); **10**: RP (MACB 93668), ES & RA (MACB 93432), AT (LEB 6902), GF & ELL (BCN 15435). Ba, Cs, Ea, Esp, Ps, Qp, Rac, Rubp
- Psora decipiens* (Hedw.) Hoffm. - **7**: MP (MA-Lich. 16228). Rubp (Sue)
- Psora lurida* (Dill. ex With.) DC. - **7**: MP (16229), AT (LEB 6965, 6966). Rubp (Sue)
- Psoroglaena stigonemoides* (Orange) Henssen - **2**: GF & ELL (BCN 15229, 15233); **4**: GF & ELL (BCN 15359). Ea, Qs
- Psoroma hypnorum* (Vahl) Gray - **5**: GPB (SANT-Lich. 11031). Rubp
- Pyrrhospora russula* (Ach.) Hafellner - **10**: GF & ELL (BCN 15439, 15441). Esp
- Ramalina calicaris* (L.) Fr. - **1**: ELS (SANT-Lich. 11020); **4**: PC (LISU 214098), ES & RA (MACB 93281), AFS (LEB 6846); **6**: ES & RA (MACB 93426), AFS (LEB 6832); **7**: ES & RA (MACB 93371); **8**: ES & RA (MACB 93380), GF & ELL (BCN 15396), VJR (MAF-Lich 15326); **9**: ES & RA (MACB 93318). Ag, Ba, Fa, Qi, Qp, Qr
- Ramalina capitata* (Ach.) Nyl. - **1**: AT (LEB 6891); **5**: GPB (SANT-Lich. 11055); **10**: AT (LEB 6944), ES & RA (MACB 93435). Rac, Rubp
- Ramalina capitata* var. *digitellata* (Nyl.) Nimis - **1**: XLL & SB (BCN 15318); **10**: ES & RA (MACB 93449). Rac
- Ramalina capitata* (Ach.) Nyl. var. *protecta* (H. Magn.) Nimis - **1**: VJR (MAF-Lich 15229). Rac
- Ramalina elegans* (Bagl. & Carestia) Stizenb. - **9**: ES & RA (MACB 93322). Cs
- Ramalina farinacea* (L.) Ach. - **1**: ELS (SANT-Lich. 11021), GPB (SANT-Lich. 11056); **2**: AFS (LEB 6876); **3**: RP (MACB 93628), GF & ELL (BCN 15262), ES & RA (MACB 93395); **6**: ES & RA (MACB 93302), AFS (LEB 6836), GF & ELL (BCN 15380); **7**: ES & RA (MACB 93364), AT (LEB 6977), MP (MA-Lich. 16230); **8**: ES & RA (MACB 93407), GF & ELL (BCN 15383), XLL & SB (BCN 15333a); **9**: ES & RA (MACB 93354), AFS (LEB 6824), AT (LEB 6937), ARB (MACB 93952). Ag, Ba, Cs, Pt, Qi, Qr, Qs, Sspp
- Ramalina fastigiata* (Pers.) Ach. - **1**: GPB (SANT-Lich. 11056); **2**: PC (LISU 214073), AFS (LEB 6877); **3**: GF & ELL (BCN 15262), ES & RA (MACB 93396); **6**: ES & RA (MACB 93301); **8**: ES & RA (MACB 93415), XLL & SB (BCN 15333); **9**: ARB (MACB 93953), BM (SALA-Lich. 4164), ES & RA (MACB 93314), AFS (LEB 6827), AT (LEB 6935), VJR (MAF-Lich 15346). Ag, Ba, Cs, Qi, Qs, Sspp
- Ramalina fraxinea* (L.) Ach. - **1**: GPB (SANT-Lich. 11057); **2**: PC (LISU 214069), VA (VAB-Lich. 25724); **3**: ES & RA (MACB 93397); **6**: ES & RA (MACB 93310); **9**: BM (SALA-Lich. 4155), ES & RA (MACB 93356), AFS (LEB 6826), AT (LEB 6936). Ba, Cs, Qi, Qs
- Ramalina pollinaria* (Westr.) Ach. - **2**: GF & ELL (BCN 15235); **3**: GF & ELL (BCN 15253); **10**: GF & ELL (BCN 15440). Cl, Cm, Esp, Qs
- Rhizocarpon badioatrum* (Flörke ex Spreng.) Th. Fr. - **3**: XLL & SB (BCN 15269d), VJR (MAF-Lich 15257); **5**: VJR (MAF-Lich 15297). Rba, Rubp
- Rhizocarpon badioatrum* var. *vulgare* (Flörke ex Spreng.) Th. Fr. Körb. - **1**: XLL & SB (BCN 15306). Rac
- Rhizocarpon carpathicum* Runemark - **1**: AT (LEB 6897). Rac
- Rhizocarpon disporum* (Nägeli ex Hepp) Müll. Arg. - **5**: AT (LEB 7011). Rubp
- Rhizocarpon eupetraeum* (Nyl.) Arnold - **3**: VJR (MAF-Lich 15255). Rba
- Rhizocarpon ferax* H. Magn. - **1**: XLL & SB (BCN 15306b). Rac
- Rhizocarpon geminatum* Körb. - **3**: XLL & SB (BCN 15289, 15293). Rba

- Rhizocarpon geographicum* (L.) DC. - **3**: AT (LEB 6991), VJR (MAF-Lich 15273), GA & MP (MA-Lich. 16177); **5**: AT (LEB 7011); **7**: AT (LEB 6963); **10**: AT (LEB 6940). Rac, Rba, Rubp
- Rhizocarpon lecanorinum* Anders - **3**: GA & MP (MA-Lich. 16178). Rba
- Rhizocarpon macrosporum* Räs. - **3**: AT (LEB 6995), VJR (MAF-Lich 15252). Rba
- Rhizocarpon obscuratum* (Ach.) A. Massal. - **1**: XLL & SB (BCN 15309a); **3**: GA & MP (MA-Lich.16179). Rac, Rba
- Rhizocarpon oportense* (Vain.) Räsänen - **1**: XLL & SB (BCN 15311, 15319). Rac
- Rhizocarpon polycarpum* (Hepp) Th. Fr. - **3**: GA & MP (MA-Lich. 16180). Rba
- Rhizocarpon simillimum* (Anzi) Lettau - **1**: AT (LEB 6892); **10**: AT (LEB 6954). Rac
- Rhizocarpon tavaresii* Räsänen - **5**: VJR (MAF-Lich 15293). Rubp
- Rhizocarpon tetrasporum* Runemark - **1**: VJR (MAF-Lich 15218, 15222), GPB (SANT-Lich. 10965). Rac
- Rhizocarpon tinei* Runemark - **1**: XLL & SB (BCN 15312); **3**: VJR (MAF-Lich 15275), XLL & SB (BCN 15293a). Rac, Rba
- Rhizocarpon viridiatrum* (Wulfen) Körb. - **1**: XLL & SB (BCN 15295); **7**: AT (LEB 6983). Rac, Rubp
- Rimularia gyrizans* (Nyl.) Hertel & Rambold - **3**: VJR (MAF-Lich 15253, 15270). Rba
- Rimularia insularis* (Nyl.) Rambold & Hertel - **3**: VJR (MAF-Lich 15250, 15265), XLL & SB (BCN 15279b, 15288a). Rba, Pl (Lr)
- Rinodina atrocinerea* (Hook.) Körb. - **1**: VJR (MAF-Lich 15225), GPB (SANT-Lich. 10969). Rac
- Rinodina bilocolata* (Nyl.) Sheard - **6**: RP (MACB 94048). Ba
- Rinodina boleana* Giralt & H. Mayrhofer - **3**: GF & ELL (BCN 15253). Cm
- Rinodina capensis* A. Massal. - **1**: GF & ELL (BCN 15211, 15213, 15217); **8**: GF & ELL (BCN 15388, 15389); **9**: GF & ELL (BCN 15417, 15419). Cs, Jo, lñ, Pte, Or
- Rinodina confragosa* (Ach.) Körb. - **1**: AT (LEB 6896); **5**: VJR (MAF-Lich 15290). Rac, Rubp
- Rinodina conradii* Körb. - **8**: GF & ELL (BCN 15402); **5**: GPB (SANT-Lich. 11031). lñ, Rubp
- Rinodina exigua* (Ach.) Gray - **1**: GF & ELL (BCN 15210, 15212); **2**: GF & ELL (BCN 15231, 15233); **4**: GF & ELL (BCN 15351), **8**: GF & ELL (BCN 15385). Ag, Cl, Fa, Qp, Qr, Qs, Spp
- Rinodina gennarii* Bagl. - **1**: VJR (MAF-Lich 15235); **9**: BM (SALA-Lich. 4252). Cs, Rac
- Rinodina obnascens* (Nyl.) Oliv. - **5**: AT (LEB 7003), GPB (SANT-Lich. 11058), VJR (MAF-Lich 15295). Pl (Ai) Rubp
- Rinodina plana* H. Magn. - **10**: GF & ELL (BCN 15440, 15441, 15444, 15445, 15446, 15450). Cs, Esp, Pt, Spp
- Rinodina pyrina* (Ach.) Arnold - **3**: GA & MP (MA-Lich. 16181); **7**: GA & MP (MA-Lich. 16231). Cl, Qi
- Rinodina sophodes* (Ach.) A. Massal. - **6**: GF & ELL (BCN 15381, 15382). Ba, Spp
- Rinodina teichophila* (Nyl.) Arnold - **1**: GPB (SANT-Lich. 10963). Rac
- Schaereria cinereorufa* (Schaer.) Th. Fr. - **7**: AT (LEB 6978). Rubp (Sue)
- Schaereria fuscocinerea* (Nyl.) Clauzade & Cl. Roux - **3**: VJR (MAF-Lich 15271, 15276). Rba
- Scoliciosporum galluræ* Vězda & Poelt - **2**: GF & ELL (BCN 15230, 15232), **8**: GF & ELL (BCN 15402). lñ, Qs
- Scoliciosporum umbrinum* (Ach.) Arnold - **3**: GF & ELL (BCN 15256); **5**: VJR (MAF-Lich 15308); **9**: BM (SALA-Lich. 4149), GF & ELL (BCN 15409). Ag, Cs, Fa, Spp, Rubp
- Solenopsis saluariensis* A. Massal. - **1**: VJR (MAF-Lich 15214). Rac
- [#]*Sphinctrina leucopoda* Nyl. - **4**: VA (VAB-Lich. 25716); **9**: AT (LEB 6930). LF (Pp)
- [#]*Sphinctrina turbinata* (Pers. ex Fr.) de Not. - **9**: BM (SALA-Lich. 4139), GF & ELL/DM (BCN 15429, 15430), VJR (MAF-Lich 15341, 15345), ARB (MACB 93954). LF (Pf, Pp), Cs
- [#]*Sphinctrina tubiformis* A. Massal. - **9**: ELS (SANT-Lich. 11010). LF (Pp)
- Sporastatia polyspora* (Nyl.) Grumann - **1**: XLL & SB (BCN 15306a, 15313a). Rac
- Squamarina cartilaginea* (With.) P. James - **7**: ES & RA (MACB 93377), GA & MP (MA-Lich. 16232), AT (LEB 6968). Rubp (Sue)

- Sticta fuliginosa* (Hoffm.) Ach. - **4**: VA (VAB-Lich. 25697); **7**: ARB (MACB 93928), RP (MACB 94042); **8**: AFS (LEB 6841), AT (LEB 6956), GF & ELL (BCN 15399), VJR (MAF-Lich 15328), XLL & SB (BCN 15332); **9**: ARB (MACB 93929), GPB (SANT-Lich. 11064). Cs, Fa, Ptr, Qi, Qr
- Sticta sylvatica* (Huds.) Ach. - **9**: ES & RA (MACB 93342). Cs
- Synalissa symphorea* (Ach.) Nyl. - **7**: AT (LEB 6965). Rubp (Sue)
- Tephromela atra* (Huds.) Hafellner - **1**: AT (LEB 6894); **3**: GA & MP (MA-Lich. 16182); **10**: AT (LEB 6913). Qi, Rac, Rba, Rubp
- Thrombium epigaeum* (Pers.) Wallr. - **2**: GPB (SANT-Lich. 11059); **3**: GF & ELL (BCN 15266). Sue
- Toninia aromatica* (Sm.) Massal. - **1**: GPB (SANT-Lich. 10960). Rac
- Toninia cinereovirens* (Schaer.) A. Massal. - **1**: VJR (MAF-Lich 15217). Rac
- Toninia diffracta* (A. Massal.) Zahlbr. - **3**: MP (MA-Lich. 16183). Rba (Sue)
- Toninia opuntioides* (Vill.) Timdal - **7**: MP (MA-Lich. 16233); **8**: VJR (MAF-Lich 15320). Rba, Rubp (Sue)
- Toninia sedifolia* (Scop.) Timdal - **3**: AT (LEB 6999), GPB (SANT-Lich. 11060), MP (MA-Lich. 16184); **7**: AT (LEB 6964). Rba (Sue), Rba, Rubp
- Trapelia involuta* (Taylor) Hertel - **10**: GF & ELL (BCN 15455, 15457, 15460, 15463). Sue
- Trapeliopsis aeneofusca* (Flörke) Coppins & P. James - **10**: GPB (SANT-Lich. 11061). Sue
- Trapeliopsis flexuosa* (Fr.) Coppins & P. James - **10**: GF & ELL (BCN 15443). li
- Trapeliopsis wallrothii* (Flörke ex Spreng.) Hertel & Gotth. Schneid. - **3**: VJR (MAF-Lich 15266). Rba (Br)
- Tremolecia atrata* (Ach.) Hertel. - **5**: AT (LEB 7010). Rubp
- Umbilicaria cinerascens* (Ach.) Nyl. - **1**: XLL & SB (BCN 15315). Rac
- Umbilicaria crustulosa* (Ach.) Frey - **3**: AT (LEB 6987). Rubp
- Umbilicaria deusta* (L.) Baumg. - **3**: GF & ELL (BCN 15250). Br
- Umbilicaria grisea* Hoffm. - **1**: VJR (MAF-Lich 15226); **3**: AT (LEB 7000). Rac, Rubp
- Umbilicaria polyphylla* (L.) Baumg. - **3**: AT (LEB 6985), VA (VAB-Lich. 25741). **10**: ES & RA (MACB 93457). Rba, Rubp
- Umbilicaria polyrhiza* (L.) Fr. - **10**: RP (MACB 93633), ARB (MACB 93955), AT (LEB 6907), ELS (SANT-Lich. 11023). Rac
- Umbilicaria spodochoa* (Ehrh. ex Hoffm.) DC. - **10**: RP (MACB 93648), ES & RA (MACB 93450), AT (LEB 6905, 6948), ELS (SANT-Lich. 11024). Rac
- Umbilicaria vellea* (L.) Ach. - **10**: GF & ELL (BCN 15432, 15438). Rac
- Usnea cornuta* Körb. - **10**: ES & RA (MACB 93463). Rac
- Usnea filipendula* Stirt. - **4**: ES & RA (MACB 93282); **9**: ES & RA (MACB 93321). Cs, Qp
- Usnea florida* (L.) Wigg - **2**: XLL & SB (BCN 15325), GF & ELL (BCN 15227), VJR (MAF-Lich 15238), VA (VAB-Lich. 25725); **4**: PC (LISU 214107), ES & RA (MACB 93278), GF & ELL (BCN 15351); **6**: RP (MACB 94064), ES & RA (MACB 93418), AFS (LEB 6839); **7**: RP (MACB 94043), ES & RA (MACB 93373), AT (LEB 6973), ELS (SANT-Lich. 11025); **8**: GF & ELL (BCN 15384), VJR (MAF-Lich 15325). Ba, Ps, Qi, Qp, Qr, Qs, Rac
- Usnea fulvoraegens* (Räsänen) Räsänen - **2**: VA (VAB-Lich. 25740); **4**: ES & RA (MACB 93279); **6**: ES & RA (MACB 93296); **7**: ES & RA (MACB 93368); **8**: GF & ELL (BCN 15396). Ps, Qi, Qp, Qr, Qs
- Usnea glabrata* (Ach.) Vain. - **4**: GF & ELL (BCN 15354); **8**: GF & ELL (BCN 15383); **10**: GF & ELL (BCN 15433), ES & RA (MACB 93443). Esp, Pt, Qp, Rac
- Usnea glabrescens* (Nyl. ex Vain.) Vain. - **2**: GF & ELL (BCN 15228); **4**: ES & RA (MACB 93276), GF & ELL (BCN 15354), ES & RA (MACB 15354); ES & RA (MACB 93423); **8**: ES & RA (MACB 15384). Ba, Qp, Qr, Qs
- Usnea hirta* (L.) F.H. Wigg. - **3**: ES & RA (MACB 93392); **4**: GF & ELL (BCN 15356, 15365, 15369); **6**: GF & ELL (BCN 15382), ES & RA (MACB 93297); **7**: ES & RA (MACB 93363); **8**: AT (LEB 6958); **10**: GF & ELL (BCN 15440, 15450), ES & RA (MACB 93445). Ea, Esp, Cl, Qp, Spp
- Usnea lapponica* Vain. - **9**: ES & RA (MACB 93316). Cs

Usnea subfloridana Stirt. - **4:** ES & RA (MACB 93267, 93272, 93274, 93275); **6:** ES & RA (MACB 93419, 93295); **7:** GA & MP (MA-Lich. 16234), ES & RA (MACB 93367, 93370); **9:** ES & RA (MACB 93359); **10:** ES & RA (MACB 93441). Ba, Chl, Cl, Cs, Esp, Ps, Qi, Qp
Usnea substerilis Motika - **9:** ES & RA (MACB 93319). Cs
Usnea wasmuthii Räsänen - **2:** VA (VAB-Lich. 25739); **4:** ES & RA (MACB 93280); **6:** ES & RA (MACB 93425, 93290); **9:** ES & RA (MACB 93315); **10:** ES & RA (MACB 93462, 93465). Ba, Cs, Esp, Ps, Qi, Qp, Qs, Rac
Usnea wirthii P. Clerc - **7:** ES & RA (MACB 93365). Qi
Verrucaria nigrescens Pers. - **3:** MP (MA-Lich. 16185). Rba
Verrucaria pingicula A. Massal. - **3:** XLL & SB (BCN 15270). Rba
[#]*Vouauxiella lichenicola* (Linds.) Petr. & Syd. - **3:** VA (VAB-Lich. 25737); **9:** BM (SALA-Lich. 4192). LF (Lc, Lsp)
Xanthoparmelia conspersa (Ehrh. ex Ach.) Hale - **1:** XLL & SB (BCN 15300), RP (MACB 94061), GF & ELL (BCN 15192, 15214), GPB, (SANT-Lich. 10964), VA (VAB-Lich. 25728); **2:** PC (LISU 214112), AFS (LEB 6871); **3:** AT (LEB 6992); **7:** AT (LEB 6969); **10:** RP (MACB 94066), GF & ELL (BCN 15453). Qs, Rac, Rubp
Xanthoparmelia loxodes (Nyl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch - **3:** XLL & SB (BCN 15269, 15289a). Rba
Xanthoparmelia pulla (Ach.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch - **1:** XLL & SB (BCN 15294, 15302), GF & ELL (BCN 15186), AT (LEB 6895); **10:** GF & ELL (BCN 15452). Rac
Xanthoparmelia somloensis (Gyeln.) Hale - **1:** AFS (LEB 6886), AT (LEB 6897); **10:** AT (LEB 6955). Rac, Sue
Xanthoparmelia tinctoria (Maheu & A. Gillet) Hale - **1:** VJR (MAF-Lich 15220), RP (MACB 94053); **3:** GF & ELL (BCN 15255). Rac, Sue
Xanthoparmelia verruculifera (Nyl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch - **5:** VJR (MAF-Lich 15301). Rubp
Xanthoria candelaria (L.) Th. Fr. - **10:** AT (LEB 6942), ES & RA (MACB 93460). Rac
Xanthoria fulva (Hoffm.) Poelt & Petutschnig - **5:** GPB (SANT-Lich. 11062). Rubp
Xanthoria parietina (L.) Th. Fr. - **1:** GF & ELL (BCN 15204), ELS (SANT-Lich. 11026), GPB (SANT-Lich. 11063), VA (VAB-Lich. 25706); **3:** RP (MACB 94065), ES & RA (MACB 93391), MP (MA-Lich. 16186); **9:** BM (SALA-Lich. 4099). Bs, Cs, Pl, Qi, Spp
Xanthoria polycarpa (Hoffm.) Rieber - **9:** BM (SALA-Lich. 4162), GF & ELL (BCN 15409). Cs

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