

Census catalogue of the lichenicolous fungi of Ireland

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Abstract: A checklist of the basidiomycete, ascomycete and mitosporic fungi on lichen hosts known to occur in Ireland is presented. 150 species are treated. The census catalogue summarises the known distribution of each species in the forty vice-county divisions of Ireland.

Introduction

This catalogue has been compiled to summarise knowledge of the distribution of lichenicolous fungi in Ireland. No comprehensive summary of species distribution has been issued since Watson's (1948) catalogue, over fifty years ago. This new list fills a gap in the Irish mycological literature.

The biogeographical distribution of each species is indicated with numbers referring to the traditional biological vice-county divisions of Ireland. The code numbers and names of the vice-county divisions are listed in TABLE 1, together with the total number of species reported from each division in this checklist. A map of the vice-county divisions of Ireland (Morton 1993-1999) is provided in FIGURE 1. For geographical descriptions of vice-county boundaries see Praeger (1901) and Webb (1980).

The species listing is presented in the systematic sequence used in the National Herbarium of Ireland (DBN) in Glasnevin. Apart from considering basidiomycetes before ascomycetes, the systematic sequence is based on *Ainsworth and Bisby's Dictionary of the Fungi* (Hawksworth *et al.* 1995) with recent modifications.

TABLE 1 Vice-county division codes, vice-county names and number of species known.

1	South Kerry	51	21	Dublin	25
2	North Kerry	35	22	Meath	5
3	West Cork	13	23	Westmeath	3
4	Mid Cork	11	24	Longford	5
5	East Cork	14	25	Roscommon	10
6	Waterford	11	26	East Mayo	5
7	South Tipperary	7	27	West Mayo	36
8	Limerick	5	28	Sligo	4
9	Clare	15	29	Leitrim	4
10	North Tipperary	5	30	Cavan	2
11	Kilkenny	8	31	Louth	7
12	Wexford	8	32	Monaghan	2
13	Carlow	4	33	Fermanagh	36
14	Laois	11	34	East Donegal	4
15	South East Galway	5	35	West Donegal	23
16	West Galway	63	36	Tyrone	5
17	North East Galway	1	37	Armagh	3
18	Offaly	6	38	Down	12
19	Kildare	13	39	Antrim	15
20	Wicklow	26	40	Londonderry	12

For those who would like to study lichenicolous fungi in Ireland, the identification works by Hawksworth (1983) and Clauzade *et al.* (1989) are helpful and remain in print. The Scandinavian checklist (Santesson 1993) provides a bibliographic guide to the primary taxonomic literature. In addition '*Draft artificial keys to lichenicolous fungi from the Canary Islands, Spain, Great Britain and Ireland*' were circulated by David Hawksworth and Brian Coppins to mycologists for testing at a lichenicolous fungi workshop held in the New Forest in February 1998.



FIGURE 1 : VICE-COUNTY DIVISIONS OF IRELAND

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References

- Clauzade, G., Diederich, P. & Roux, C. (1989) *Nelikenigintaj fungoj lichenologaj: Ilustrita determinlibro. Bulletin de la Société linnéenne de Provence Numéro spécial 1*: 1-142. Marseille.
- Hawksworth, D.L. (1983) A key to the lichen-forming, parasitic, parasymbiotic and saprophytic fungi occurring on lichens in the British Isles. *Lichenologist* **15**(1): 1-44.
- Morton, A. (1993-1999) DMAP for Windows, Version 6.5j DEMO. Winsor.
- Praeger, R.L. (1901) Irish Topographical Botany. *Proceedings of the Royal Irish Academy* **23** (3rd series, 7): 1-410.
- Santesson, R. (1993) *The lichens and lichenicolous fungi of Sweden and Norway*. 240 pp., SBT-förlaget, Lund.
- Watson, W. (1948) List of British fungi parasitic on lichens or which have been included as lichens (or vice versa), with some notes on their characters and distribution. *Transactions of the British mycological Society* **31**(3/4): 305-339.
- Webb, D.A. (1980) The biological vice-counties of Ireland. *Proceedings of the Royal Irish Academy* **80B**(12): 179-196.

BASIDIOMYCOTA

Order *Aphylophorales*
Atheliaceae**Athelia** Pers.**arachnoidea** (Berk.) Jülich

Lecanora conizaeoides, *Parmelia sulcata*, *Xanthoria parietina*, epiphytic algae
2, 4, 5, 16, 19, 20, 21, 27, 31, 36, 38, 39.

Order *Tremellales*
Tremellaceae**Tremella** Pers.**coppinsii** Diederich & G.Marson
40.*Platismatia glauca***lichenicola** Diederich
2.*Mycoblastus sterilis***pertusariae** Diederich
2, 6, 11, 20, 27, 33.*Pertusaria amara*, *P. hymenea*, *P. pertusa*

no family

Biatoropsis Räsänen**usnearum** Räsänen
1, 6, 12, 16, 19, 20, 21, 27, 33, 35, 38.*Usnea subfloridana*, *Usnea***Syzygospora** Martin**bachmannii** Diederich & M.S.Christ.
3, 40.*Cladonia furcata***physciacearum** Diederich
6, 33.*Phaeophyscia orbicularis*, *Physcia tenella*, *Ph. adscendens*, *Ph. aipolia*

ASCOMYCOTA

Order *Arthoniales*
Arthoniaceae**Abrothallus** De Not.**bertianus** De Not.
1, 2, 16, 20, 21, 27, 33, 40.*Parmelia (Melanelia)***microspermus** Tul.
1, 2, 3, 4, 5, 6, 7, 9, 11, 14, 16, 19, 20, 21, 22, 24, 25, 26, 27, 33, 38.*Parmelia caperata***parmeliarum** (Sommerf.) Arnold
1, 2, 3, 4, 7, 16, 20, 21, 27, 33, 36.*Parmelia omphalodes*, *P. sulcata*, *P. saxatilis***parmotrematis** Diederich (in ed.)
2, 4, 5, 16, 27, 35.*Parmelia perlata***suecicus** (Kirschst.) Nordin
16, 18, 29.*Ramalina calicaris***usneae** Rabenh.
27.*Usnea***welwitschii** Mont. ex Tul.
3, 6, 16, 27, 40.*Sticta fuliginosa*, *St. limbata*, *St. sylvatica***Arthonia** Ach.**almquistii** Vain.
39.*Amygdalaria pelobotryon***clemens** (Tul.) Th.Fr.
3, 16, 21, 27.*Lecanora albescens***diploiciae** Catalayud & Diederich
1, 16.*Diploicia canescens***epiphyscia** Nyl.
25.*Physcia tenella***fuscopurpurea** (Tul.) R.Sant.
6, 20, 33, 35.*Peltigera lactucifolia*

graphidicola Coppins 1, 2, 16, 25, 27, 29, 33, 35, 39, 40.	<i>Graphis scripta, Graphina anguina</i>
invadens Coppins 3.	<i>Schismatomma niveum</i>
molendoi (Frauenfeld) R.Sant. 19, 38.	<i>Caloplaca thallincola, Xanthoria parietina</i>
opegraphicola Kondruiak & Coppins 33.	<i>Opegrapha atra</i>
punctella Nyl. 5, 13.	<i>Diplotomma alboatrum, D. chloropolioides, D. epipolia</i>
thelotrematis Coppins 1, 2, 16, 25, 26, 27, 33, 35, 40.	<i>Thelotrema lepadinum</i>
variens (Dav.) Deak. 1, 9, 12, 16, 21, 39.	<i>Lecanora rupicola</i>
Opegraphaceae	
Opegrapha Pers.	
brevis Coppins 1, 2, 16.	<i>Thelotrema petraetioides</i>
glaucomaria Fr. 3, 16, 21.	<i>Lecanora rupicola</i>
parasitica (A.Massal.) H.Olivier 1.	<i>Aspicilia calcarea</i>
pertusariicola Coppins & P. James 2, 20, 35.	<i>Pertusaria hymenea, P. leioplaca</i>
physciaria (Nyl.) D.Hawksw. & Coppins 1, 21, 35.	<i>Xanthoria parietina</i>
rupestris Pers. 9, 33.	<i>Verrucaria baldensis</i>
thelotrematis Coppins 1, 2, 16, 20, 26, 27, 33, 39, 40.	<i>Thelotrema lepadinum</i>
Perigrapha Hafellner	
superveniens (Nyl.) Hafellner 2.	<i>Parmelia saxatilis</i>
Plectocarpon Fée	
lichenum (Sommerf.) Diederich & Etayo 1, 2, 16.	<i>Lobaria pulmonaria</i>
no family	
Melaspilea Nyl.	
diplospora (Nyl.) Müll.Arg. 1, 2, 25.	<i>Graphis elegans</i>
lentiginosa (Lyell) Müll.Arg. 5, 6.	<i>Phaeographis dendritica</i>
Order Caliciales Caliciaceae	
Cyphelium Ach.	
marcianum B. de Lesd. 16, 27.	<i>Pertusaria pseudocorallina</i>
sessile (Pers.) Trevisan 1, 2, 11, 14, 33.	<i>Pertusaria coccodes</i>
Sphinctrinaceae	
Sphinctrina Fr.	
leucopoda Nyl. 16.	<i>Pertusaria pseudocorallina</i>
tubiformis A. Massal. 1, 16, 27.	<i>Pertusaria pseudocorallina</i>
turbinata (Pers.) De Not. 4, 6, 7, 8, 10, 11, 12, 33.	<i>Pertusaria hymenea</i>

Order Dothideales
Dacampiaceae

- Pyrenidium** Nyl.
actinellum Nyl. *Baeomyces rufus, Peltigera collina*
1, 2, 16.
- Weddellomyces** Alstrup & D.Hawksw.
epicallopisma (Wedd.) D.Hawksw. *Caloplaca flavescens*
1, 9, 18, 20, 33, 39.
peripherica (Tayl.) Alstrup & D.Hawksw. *Pertusaria ceuthocarpoides*
1, 16, 27.
- Hysteriaceae
- Hemigrapha** (Müll.Arg.) R.Sant.
atlantica Diederich & Wedin *Sticta canariensis dufourii*
16.
- Lichenotheliaceae
- Lichenostigma** Hafellner
maureri Hafellner *Pseudeveria furfuracea*
18, 20, 21, 36.
- no family
- Didymellopsis** (Sacc.) Clem. & Shear
pulposi (Zopf) Grube & Hafellner *Collema cristatum*
9.
- Endococcus** Nyl.
parietinarius (Linds.) D.Hawksw. *Xanthoria parietina*
8, 9, 11, 21.
perpusillus Nyl. *Aspicilia caesiocinerea*
6.
propinquus (Körb.) D.Hawksw. *Porpidia tuberculosa*
16, 20.
rugulosus Nyl. *Rhizocarpon obscuratum*
16.
- Homostegia** Fuczel
piggotii (Berk. & Br.) P.Karst. *Parmelia saxatilis*
1, 6, 16, 20, 21, 27, 33, 35.
- Merismatium** Zopf
discrepans (J.Lahm) Triebel *Protoblastenia rupestris*
5, 9, 14, 33.
- Polycoccum** Saut.
marmoratum (Kremp.) D.Hawksw. *Verrucaria baldensis*
33.
microsticticum (Leight.) Arnold *Hymenelia lacustris*
1, 16, 20, 35.
- Roselliniella** Vain.
cladoniae (Anzi) Matzer & Hafellner *Cladonia chlorophaea*
16.
- Roselliniopsis** Matzer & Hafellner
tartaricola (Nyl.) Matzer *Pertusaria leioplaca*
40.
- Zwackhiomyces** Grube & Hafellner
dispersus (J.Lahm) Triebel & Grube *Protoblastenia rupestris*
35.
sphinctrinoides (Zwackh) Grube & Hafellner *Verrucaria*
9.

Order Hypocreales
Hypocreaceae

- Nectriopsis** Maire
lecanodes (Ces.) Diederich & Schroers *Lobaria virens, L. pulmonaria, L. amplissima*
1, 2.

Paranectria Sacc.**oropensis** (Ces.) D.Hawksw & Piroz.
16.*Lepraria s. lat.***Pronectria** Clem.**anisospora** (Lowen) Lowen
16, 20, 27, 35.*Hypogymnia physodes***echinulata** Lowen
1, 10, 35.*Physcia aipolia***pertusariicola** Lowen
20, 22, 25.*Pertusaria pertusa***santessonii** (Lowen & D.Hawksw.) Lowen
1, 27, 38.*Anaptychia runciniata***Trichonectria** Kirschst.**hirta** (Bloxam) Petch
33.*Physcia aipolia*Order Lecanorales
Acarosporaceae**Thelocarpon** Nyl.**epibolum** Nyl.
13, 31, 35.*Peltigera lactucifolia, Omphalina husdoniana*

Bacidiaceae

Toninia A.Massal.**episema** (Nyl.) Timdal
9, 14, 16.*Aspicilia calcarea***verrucarioides** (Nyl.) Timdal
5, 9, 14, 15, 16, 27, 33.*Placynthium nigrum, Catapyrenium pilosellum, C. squamulosum*

Lecanoraceae

Carbonea (Hertel) Hertel**supersparsa** (Nyl.) Hertel
21, 39.*Lecanora polytropa***Phacopsis** Tul.**oxyspora** Triebel & Rambold
16, 28.*Parmelia sulcata, Parmelia saxatilis*

Lecideaceae

Cecidonia Triebel & Rambold**xenophana** (Körb.) Triebel & Rambold
1, 16, 27, 35.*Porpidia cinereoatra, P. tuberculosa*

Micareaceae

Scutula Tul.**miliaris** (Wallr.) Trevisan
16.*Peltigera rufescens*

Physciaceae

Diplotomma Flot.**epipolia** (Ach.) Arnold
16, 21.*Caloplaca verruculifera*

Rhizocarpaceae

Epilichen Clem.**scabrosus** (Ach.) Clem.
1, 3, 16.*Baeomyces rufus***Rhizocarpon** Ramond ex DC.**advenulum** (Leight.) Hafellner & Poelt
3, 16, 27.*Pertusaria flavicans*

no family

Corticifraga D.Hawksw. & R.Sant.**fuckelii** (Rehm) D.Hawksw. & R.Sant.
20, 24, 38.*Peltigera lactucifolia***peltigerae** (Nyl.) D.Hawksw. & R.Sant.
40.*Peltigera lactucifolia*

	<i>Order Leotiales</i> Leotiaceae	
Unguiculariopsis Rehm		
thallophila (P.Karst.) W.Y.Zhuang 2, 35.		<i>Lecanora chlarotera</i>
	no family	
Echinodiscus Etayo & Diederich		
lesdainii (Vouaux) Etayo & Diederich 33.		<i>Lecania cyrtella</i>
Pezizella Fuckel		
epithallina (W.Phillips & Plowr.) Sacc. 14.		<i>Peltigera didactyla</i>
Phaeopyxis Rambold & Triebel		
punctum (A.Massal.) Rambold, Triebel & Coppins 21.		<i>Cladonia polydactyla</i>
Rhymbocarpus Zopf		
cruciatius (Sherwood, D.Hawksw. & Coppins) Etayo & Diederich 1, 5, 18, 27, 31.		<i>Diploicia canescens</i>
Skyttea Sherwood, D.Hawksw. & Coppins		
elachistophora (Nyl.) Sherwood & D.Hawksw. 16.		unidentified crustose lichen
gregaria Sherwood, D.Hawksw. & Coppins 2.		<i>Mycoblastus sterilis</i>
nitschkei (Körb.) Sherwood, D.Hawksw. & Coppins 1, 2, 16, 20, 27, 33, 38.		<i>Thelotrema lepadinum</i>
pyrenulae Diederich, Etayo & Coppins 2.		<i>Pyrenula occidentalis</i>
	? <i>Order Leotiales</i> no family	
Spirographa Zahlbr.		
fusisporella (Nyl.) Zahlbr. 1.		<i>Porpidia</i>
	<i>Order Ostropales</i> Thelotremataceae	
Diploschistes Norman		
caesioplumbaeus (Nyl.) Vain. 6, 28.		<i>Lecanora gangaleoides</i>
muscorum (Scop.) R.Sant. 1, 2, 3, 4, 5, 7, 8, 9, 10, 12, 16, 21, 23, 28, 30, 31, 33, 34, 35, 37, 38, 39, 40.		<i>Cladonia pocillum, Cl. rangiformis, Cl. furcata</i>
	<i>Order Patellariales</i> Arthrorhaphidaceae	
Arthrorhaphis Th. Fr.		
aeruginosa R.Sant. & Tønsberg 1, 16, 20, 35.		<i>Cladonia chlorophaea</i>
grisea Th. Fr. 16, 20.		<i>Baeomyces rufus</i>
	<i>Order Phyllacorales</i> Phyllacoraceae	
Lichenochora Hafellner		
obscuroides (Linds.) Triebel & Rambold 4.		<i>Phaeophyscia orbicularis</i>
	<i>Order Sordariales</i> Nitschkiaceae	
Lasiosphaeropsis D.Hawksw. & Sivenesan		
supersparsa (Zopf) Triebel 1.		<i>Porpidia macrocarpa</i>

	<i>Order Teloschistales</i>	
	Teloschistaceae	
Caloplaca Th. Fr.		
polycarpa (A.Massal.) Szatz.		<i>Verrucaria baldensis</i>
1, 2, 9, 14, 16, 33.		
	<i>Order Verrucariales</i>	
	Verrucariaceae	
Muellerella Hepp		
lichenicola (Sommerf.) D.Hawksw.		<i>Fulgesia fulgens</i>
12.		
pygmaea (Körb.) D.Hawksw.		<i>Lecanora campestris, Tephromela atra</i>
1, 16.		
polyspora Hepp		<i>Opegrapha</i>
5.		
Phaeospora Hepp		
parasitica (Lönnr.) Arnold		<i>Rhizocarpon</i>
1, 16.		
rimosicula Leight.		<i>Rhizocarpon</i>
6, 16.		
Verrucaria Schrader		
latericola Erichsen		<i>Caloplaca flavescens</i>
1, 9, 14, 16.		
	no family	
Capronia Sacc.		
normandinae Diederich & Etayo		<i>Normandina pulchella</i>
9.		
Stigmidium Trevis.		
aggregatum (Mudd) Körb.		<i>Aspicilia leproscens</i>
16, 38, 39.		
degelii R.Sant.		<i>Degelia plumbea</i>
16.		
epiramalina (Vouaux) Hafellner		<i>Ramalina cuspidata</i>
1.		
hageniae (Rehm) Hafellner		<i>Anaptychia ciliaris mamillata</i>
1, 5.		
marinum (Deakin) Swinscow		<i>Verrucaria mucosa</i>
3, 21.		
microspilum (Körb.) D.Hawksw.		<i>Graphis scripta</i>
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30,		
31, 32, 33, 34, 35, 36, 37, 38, 39, 40.		
mitchellii Cl.Roux & Triebel		<i>Pannaria rubiginosa</i>
16.		
	no Order	
	Dactylosporaceae	
Dactylospora Körb. emend. Hafellner		
lobariella (Nyl.) Hafellner		<i>Lobaria virens</i>
2.		
parasitica (Flörke) Zopf		<i>Pertusaria albescens var corallina</i>
1, 2, 16, 20.		
parellaria (Nyl.) Hafellner		<i>Ochrolechia parella</i>
1, 16, 27.		
saxatilis (Schaer.) Hafellner		<i>Pertusaria amarescens</i>
39.		

MITOSPORIC FUNGI

- Bachmanniomyces** D.Hawksw.
uncialicola (Zopf) D.Hawksw. *Cladonia uncialis*
 1, 24.
- Blarneya** D.Hawksw., Coppins & P. James
hibernica D.Hawksw., Coppins & P. James *Lecanactis, Schismatomma, Enterographa*
 2, 6.
- Cornutispora** Piroz.
lichenicola D.Hawksw. & B.Sutton *Parmelia*
 27, 33.
- Endophragmiella** B.Sutton
hughesii D.Hawksw. *Lobaria pulmonaria*
 27.
- Epicladonia** D.Hawksw.
stenospora (Harm.) D.Hawksw. *Cladonia sect. Peruviae*
 33, 35.
- Hobsonia** Masee
christiansenii B.L.Brady & D.Hawksw. *Physcia semipinnata*
 16, 19, 22, 25.
- Illosporium** C.Mart.
carneum Fr. *Peltigera rufescens*
 15, 21, 34.
- Laeviomyces** D.Hawksw.
pertusariae (Nyl.) D.Hawksw. *Pertusaria albescens*
 27, 33.
opegraphae D.Hawksw. *Opegrapha atra*
 33.
- Lichenocodium** Petr. & Sydow
cargillianum (Linds.) D.Hawksw. *Usnea florida*
 20.
erodens M.S.Christ. & D.Hawksw. *Hypogymnia physodes, Parmelia sulcata*
 1, 2, 16, 20, 27, 33.
lecanorae (Jaap) D.Hawksw. *Parmelia subrudecta*
 19.
pyxidatae (Oudem.) Petr. & Sydow *Cladonia*
 33.
usneae (Anzi) D.Hawksw. *Usnea*
 21, 33.
xanthoriae M.S.Christ. *Xanthoria parietina*
 1, 19.
- Lichenodiplis** Dyko & D.Hawksw.
lecanorae (Vouaux) Dyko & D.Hawksw. *Caloplaca ferruginea*
 5, 19, 21.
- Lichenosticta** Zopf
alcicornaria (Linds.) D.Hawksw. *Cladonia*
 16.
- Marchandiomyces** Diederich & D.Hawksw.
aurantiacus (Lasch) Diederich & D.Hawksw. *Physcia tenella*
 11, 15, 19, 24, 25.
corallinus (Roberge) Diederich & D.Hawksw. *Lecanora muralis, L. rupicola, Parmelia caperata, P. conspersa, P. revoluta, P. saxatilis, Ramalina fraxinea, R. subfarinacea*
 1, 16, 19, 20, 21.
- Milospium** D.Hawksw.
graphideorum (Nyl.) D.Hawksw. *Lecanographa lynchaea, Opegrapha*
 14, 33.

- Phaeosporobolus** D.Hawksw. & Hafellner
alpinus R.Sant, Alstrup & D.Hawksw. *Pertusaria multipuncta*
 1.
- Phoma** Sacc.
cytophora (Vouaux) D.Hawksw. *Parmelia caperata*
 27, 33.
everniae D.Hawksw. *Evernia prunastri*
 2.
- Sclerococcum** Fr.
normandinae Diederich & Etayo *Degelia plumbea, Normandina pulchella, Pannaria rubigosa*
 9.
sphaerale (Ach.) Fr. *Pertusaria corallina*
 1, 2, 6, 12, 13, 16, 20, 21, 27, 31, 34, 35, 37, 38, 39.
- Taeniolella** S. Hughes
beschiana Diederich *Cladonia pocillum*
 3.
delicata M.S.Christ. & D.Hawksw. *Lecanactis abietina*
 1.
phaeophysciae D.Hawksw. *Phaeophyscia orbicularis*
 7.
punctata M.S.Christ. & D.Hawksw. *Phaeographis dendritica*
 4.
- Trichoconis** Clem.
lichenicola D.Hawksw. *Peltigera collina*
 2.
- Vouauxiella** Petr. & Sydow
lichenicola (Linds.) Petr. & Sydow *Lecanora chlarotera*
 1, 2, 4, 5, 16, 19, 21, 27, 33, 39.
uniseptata D.Hawksw. *Parmelia laevigata*
 1, 2, 16, 27.
verrucosa (Vouaux) Petr. & Sydow *Lecanora chlarotera*
 5.
- Xanthoriicola** D.Hawksw.
physciae (P.Karst.) D.Hawksw. *Xanthoria parietina*
 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18, 19, 20, 21, 22, 23, 25, 26, 27, 29, 31, 32, 33, 35, 36, 39.
- Zevadia** J.C.David & D.Hawksw.
peroccidentalis J.C.David & D.Hawksw. *Usnea flammea, U. fragillissima*
 27, 35.