

A SYSTEMATIC LIST WITH DISTRIBUTIONS OF THE LICHEN SPECIES
OF WESTERN AUSTRALIA, BASED ON COLLECTIONS IN THE
WESTERN AUSTRALIAN HERBARIUM

By R.M. Richardson and D.H.S. Richardson

Western Australian Herbarium, George St.,
South Perth, W.A. 6151

(Present address: School of Botany, Trinity College,
Dublin 2, Ireland).

ABSTRACT

One hundred and ninety-four lichen species are reported from Western Australia with information on their distribution. The list of species is based on provisionally determined specimens deposited in the Western Australian Herbarium. The lichen flora of the state is diverse, the most luxuriant growth occurring in the south-western corner. As little is known of the lichens of the remainder of the state, particularly the north-east, much research remains to be done on their taxonomy and distribution.

INTRODUCTION

Little intensive research has been done on the lichen flora of Western Australia though collections were made at quite an early date. The earliest taxonomic publication appears to be that of Fries (1846), who described 23 species, the result of collections by L. Preiss from Rottnest Island and the south-west part of the state. The following year Taylor (1847) listed 16 lichens from Western Australia in his catalogue of the W.J. Hooker Herbarium. Mueller (1887) collated the early records and produced a list of Australian lichens, including two species from Western Australia which had not previously been recorded: *Cladia aggregata* and *Cladonia retipora*, the latter now segregated in Western Australia as *Cladia ferdinandii*.

In the 1890s, according to Sammy (1970), F.R.M. Wilson recorded a further 20 lichen species for Western Australia. Wilson did not collect in the state but was sent specimens by the naturalist A.J. Campbell.

The start of a new era of interest in the lichen flora of Western Australia was marked by the publication, in 1955, of an annotated list based on collections made between 1929 and 1952 and deposited in the herbarium of the University of Western Australia (Bibby and Smith 1955). Thirty-six species were recorded with a brief mention of their distribution

Smith (1962) studied the flora of the granite outcrops in the Porongurup Range, near Mount Barker, finding 12 species of which two, *Collema* sp. and *Cladonia chlorophaea**, were not included in his earlier paper (Bibby & Smith 1955). A very different habitat, the Nullarbor Plain, was examined by Johnson and Baird (1970) who recorded 12 lichen species and made brief descriptions of their habitats. Sammy and Smith (1974) studied the area of coastal limestone near Perth where they described and gave habitat preferences for 13 lichens. Recently, Sammy has been working on his extensive collections made from Western Australia, particularly the north-west of the state, but the results have yet to be published.

The purpose of the present paper is to provide a list of the Western Australian lichen species represented in the Western Australian Herbarium (PERTH). The specimens have been curated to a high standard, are available for study and should allow botanists to determine lichen specimens with greater ease. It is also hoped that the publication of this annotated list will encourage further collecting and stimulate lichenological research in Western Australia.

METHODS

The recent book by Filson and Rogers (1979) was found to be very useful for determination of the specimens collected. Provisional determinations for many crustose species were made using the following papers: Dobson (1979), Duncan (1970), Fink (1935) and Smith (1911, 1918). Other useful publications were Dahl and Krog (1973), Elix (1979) and Martin and Child (1972).

Hand sections were cut of fruiting structures and chemical spot-tests were carried out using 10% KOH, calcium hypochlorite and Steiner's stable paraphenylenediamine solution.

The names and authorities given in the list of lichens are in most cases derived from Filson and Rogers (1979). The specimens are currently curated under these names in the Western Australian Herbarium. However where the names in our list differ from the checklist of Hawksworth, James and Coppins (1980), footnotes give the revised names. The localities given for each species are from data on specimens in the Western Australian Herbarium, supplemented by records from the Herbarium of the University of Western Australia. For those unfamiliar with the geography of the state, most sites may be located with the help of Anon (1980).

Duplicates of the lichen specimens marked in the list with the symbol + have been lodged in the Herbarium, National Museum of Canada, Ottawa, Ontario, and the Herbarium of Trinity College, University of Dublin, Ireland.

DISCUSSION

Habitat descriptions are not given in this paper, since many of the species listed are also found in South Australia and their habitats described in the recent book by Filson and Rogers (1979).

* Not included in the present list as the Western Australian Herbarium holds no material.

According to Erickson et al. (1979) Western Australia may be divided into 16 plant regions; the lichen flora of some of these is discussed below.

Certain species such as *Cladia aggregata*, *Chondropsis semiviridis*, *Parmelia rutidota*, *Parmelia tasmanica* and *Teloschistes chrysophthalmus*, are recorded in many of the vegetation regions but others, such as *Synalissa symphorea*, appear to be restricted to the drier interior including the Transitional Woodland and the region of Mulga, Wattle, Scrub and Spinifex.

The Swan Coastal Plain and Darling Scarp have many crustose, foliose and fruticose representatives. The following species tend to be abundant: *Cladia aggregata*, *Chondropsis semiviridis*, *Disploschistes scruposus*, *Heterodea muelleri*, *Siphula coriacea*, *Xanthoria parietina*, several species of *Parmelia* and *Usnea* spp.

The Jarrah and Karri Forests are surprisingly poor in corticolous lichens. This may be due to periodic shedding of the *Eucalyptus* bark, inhibitory substances and frequent fires. *Lepraria candelaris* occurs infrequently on tree bases and *Thysanothecium hyalinum* is common on burnt wood.

The Albany District, by contrast, has a diverse lichen flora and this is the only area in Western Australia in which *Parmeliella plumbea*, *Rinodina confragosa* and *Solenopsis vulturiansis* have been found. *Cladonia* and *Parmelia* spp. are abundant and the genera *Anzia*, *Buellia*, *Caloplaca*, *Heterodea*, *Lecanora*, *Lecidea*, *Lepraria*, *Pertusaria*, *Teloschistes* and *Xanthoria* are common.

The most varied and abundant lichen growth appears to be in the Stirling Range. Lichens of particular interest include *Arthonia* sp. *Stereocaulon* aff. *dactylophyllum*, *Umbilicaria* sp. Others such as *Catillaria atropurpurea*, *Leptogium lichenoides*, *Pannaria pityrea*, *Usnea* spp. and *Pseudocyphellaria* spp. cover extensive areas of many of the south-facing slopes. The genera *Cladonia* and *Parmelia* are also well represented.

The Southern Sandplains and Heaths are rich in soil lichens such as *Chondropsis semiviridis*, *Cladia aggregata*, *Cladia ferdinandii*, *Dermatocarpon lachneum*, *Fulgensia subbracteata*, *Heterodea muelleri*, *Lecidea crystallifera* and *Siphula coriacea*. Yellow-green *Parmelia* spp., including *P. callifolia*, *P. australasica*, *P. tasmanica* and *P. terrestris*, are also abundant on soil and rocks.

Few specimens have been collected from the Barrens or the Northern Sandplains and heath regions. In contrast, lichens seem to be widespread and locally abundant, on soil and rocks, in partially shaded areas or south-facing slopes of the Wheatbelt, Transitional Woodland and in the region of Mulga, Wattle Scrub and Spinifex. Species include *Chondropsis semiviridis*, *Heterodea beagleholei*, *Heterodea muelleri*, *Diploschistes* and *Lecidea* spp. *Candelariella*, *Cladonia*, *Parmelia* and *Phycia* spp. are also common.

Lichens of the Nullarbor Plain have been listed, by Johnson and Baird (1970), but no mention is made of their abundance or importance. *Lecanora sphaerospora* and *Lecidea* aff. *glauca* are the only species of the twelve recorded which do not appear from other sites in Western Australia.

The North-West Coastal Region and the Ranges and Tablelands in that area are not well represented in the Western Australian Herbarium collections.

The Kimberley Region is another that requires additional study: interesting records to date include *Acarospora* aff. *flava*, *Bacidia microphyllina*, *Buellia* aff. *retrovertens* and *Rocella* aff. *montagnei*.

SYSTEMATIC LIST OF LICHENS

The arrangement of lichenized fungi follows Hale (1974).

CLASS FUNGI IMPERFECTI

+Lepraria candelaris (L.)Fr. ¹	Collie River, Gairdner River, Prince Regent River Reserve.
Lepraria chlorina (Ach.)Ach. ²	Toolbrunup
+Lepraria incana (L.)Ach.	Albany, Fitzgerald River National Park, Prince Regent River Reserve.
Leparia membranacea (Dicks.)Lett.	Drysdale River National Park, Hopetoun, Porongurup Range.

CLASS BASIDIOMYCETES

No lichens were found from this class.

CLASS ASCOMYCETIDAE Subclass Loculoascomycetidae

Order MYRANGIALES

ARTHONIAEAE

Arthonia sp.

Toolbrunup

MYRANGIAEAE

+Dermatina quercus (Massal.)Zahlbr.³

Gairdner River

Order PLEOSPORALES

No lichens were found from
this order of fungi.

Order HYSTERIALES

ROCELLAEAE

Rocella aff. *montagnei* Bel.

West Kimberley.

Order LECANORALES

LICHINAEAE

+Ephebe lanata (L.)Vainio

Corrigin, Lower King,
Porongurup Range, Toolbrunup.
Kalgoorlie, Millbillillie
Station, Yeelirrie.

Synalissa symphorea (Ach.)Nyl.⁴

Houtman Abrolhos.
West River.

Pyrenopsidium sp.

Pyrenopsis sp.

COLLEMATAEAE

+Collema coccophorum Tuck.

Houtman Abrolhos, Lake Cronin,
Porongurup Range, Rottne
Island.

+Leptogium aff. *azureum* (Swartz)Mont.

Toolbrunup

- 1 *Chrysothrix candelaris* (L.)Laundon
- 2 *Chrysothrix chlorina* (Ach.)Laundon
- 3 *Mycoporum quercus* (Massal.)Muell.Arg.
- 4 *Synalissa ramulosa* (Hoffm.)Fr.

HEPPIACEAE

Peltula australiensis (Muell.Arg.) Filson Kalgoorlie.

+*Peltula euploca* (Ach.) Poelt ex Ozenda
& Clauz

Ravensthorpe.

PANNARIACEAE

Pannaria elatior Stirton

South Bluff.

Pannaria rubiginosa (Thunb. ex Ach.) Del.

Toolbrunup.

Parmeliella sp.

Albany.

+*Parmeliella plumbea* (Lightf.) Vainio

Albany.

PELTIGERACEAE

Peltigera dolichoriza (Nyl.) Nyl.

Lake King, Pemberton,
Porongurup Range.

CLATHRINACEAE

+*Cladia aggregata* (Sw.) Nyl.

Albany, Bruce Rock,
Busselton, Elleker, Forrest,
Harvey, Hyden, Kendenup,
Lake King, Lake Magenta,
Lake Matilda, Lower King,
Manjimup, Mount Barker,
Mount Chudalup, Mount Ragged,
Mundaring, Nannup, Narrogin,
Northcliffe, Palgarup,
Porongurup Range, Ravens-
thorpe, Recherche Archipel-
ago, Shannon River, Wongan
Hills.

+*Cladia ferdinandii* (Muell.Arg.) Filson

Fitzgerald River National
Park, Kulin, Esperance, Lake
Carmody, Lake King, Mount
Madden, Ongerup, Pallarup
Rocks, Porongurup Range,
Sullivan Rock.

+*Cladia schizopora* (Nyl.) Nyl.

Albany, Stirling Range,
Toolbrunup.

Cladia sullivanii (Muell.Arg.) Martin

Beacon.

HETERODEACEAE

Heterodea beaugleholei Filson

Bald Rock, Boulder Rock,
Bullabulling, Dooklakine,
Kalgoorlie, Kambalda,
Southern Cross, Tammin.

+*Heterodea muelleri* (Hampe) Nyl.

Ajana, Armadale, Bruce Rock,
Burracoppin, Carbine,
Coolgardie, Derdibin Rock,
Fitzgerald River National
Park, Graham Rock, Jumnania
Rocks, Kulin, Lake Magenta,
Merredin, Mingenew, Moora,
Mount Barker, Mount Rupert,
Mundaring, Ongerup,
Ravensthorpe, York.

STICTACEAE

+*Pseudocyphellaria australiensis* Magn.

Albany, Bridgetown, Porongurup
Range, Toolbrunup, West Cape
Howe.

Pseudocyphellaria crocata (L.) Vainio

Mount Chudalup, Porongurup
Range, West Cape Howe.

GRAPHIDACEAE

Graphis scripta (L.) Ach.

West Cape Howe.

THELOTREMATACEAE

Thelotrema lepadinum (Ach.) Ach.

Jarrahdale, Pemberton.

LECIDEACEAE

Bacidia microphyllina (Tuck.) Riddle

Drysdale River National Park.

Bacidia aff. *sabuletorum* (Shreb.) Lett.

Albany.

Catillaria atropurpurea (Schaer.) Th. Fr.

Toolbrunup.

Catillaria chalybeia (Borr.) Massal.

Kulin.

Catillaria aff. *lenticularis* (Ach.)

Th. Fr.

Albany.

Lecidea contigua (Ach.) Vainio

Bolgart, Lake Magenta, Wongan Hills.

+*Lecidea crystallifera* Tayl.

Forrest, Lake King, Mount Hunt, Yeelirrie.

Lecidea aff. *cyathoides* (Ach.) Ach.⁵

Corrigin.

Lecidea decipiens (Hoffm.) Ach.⁶

Dorre Island, Forrest, Houtman Abrolhos, Kalgoorlie, Kambalda, Katanning, Lake Cronin, Lake Magenta, Madura, Millbillillie, Mount Rupert, Narrogin, Southern Cross, Wiluna, Wongan Hills, Yeelirrie, Yinnietharra.

Lecidea laeta Stirton

S.E. Kulin.

Lecidea limitata (Scop.) Gray

Mount Rupert, Nannup.

Lecidea aff. *lopadiodes* (Th. Fr.) Grunn.⁷

Lower King.

+*Lecidea* aff. *macrocarpa* (DC.) Steud.⁸

Albany.

+*Lecidea planata* Muell. Arg.

Boddington, Elverdton, Forrest, Kalgoorlie, Kulin, Mount Hunt, Ongerup.

+*Lecidea* aff. *psammophila* (Muell. Arg.) Zahlbr.

Fitzgerald River National Park, Kulin, Lake King.

Lecidea aff. *templetonii* T. Tayl.

Elverdton.

Lecidea aff. *scalaris* (Ach.) Ach.⁹

Albany.

Rhizocarpon aff. *alpicola* (Schaer.)

Toolbrunup.

Rabenh.

Rhizocarpon aff. *obscuratum* (Ach.)

Massal.

Albany.

Rhizocarpon polycarpum (Hepp.) Th. Fr.

Toolbrunup Peak.

Rhizocarpon tinei (Tornab.) Runemark

Kalgoorlie, Porongurup Range, Toolbrunup.

Toninia caeruleonigricans (Lightf.)

Th. Fr.

Lake King.

STEREOCAULACEAE

Stereocaulon corticatulum Nyl.

Toolbrunup.

+*Leprocaulon microscopicum* (Vill.) Gams ex Hawksworth

Corrigin.

CLADONIACEAE

Cladonia amaurocraea (Flörke) Schaer.

Ongerup, Porongurup Range, West Cape Howe.

+*Cladonia balfourii* Cromb.

Albany.

+*Cladonia calycantha* Del. ex Nyl.¹⁰

Garden Island, Hopetoun, Kulin, Mount Barker.

5 *Fuscidea cyathoides* V. Wirth & Vezda

6 *Psora decipiens* (Hedw.) Hoffm.

7 *Trapelia mooreana* (Carrol) P. James

8 *Huilia macrocarpa* (DC.) Hertel

9 *Hypocenomyce scalaris* (Ach.) Choisy

10 Very similar, if not the same as *Cladonia verticillata* (Hoffm.) Schaer.

- Cladonia capitata* (Michx.) Spreng.
 +*Cladonia capitellata* (Hook. f. & Tayl.) Bab.
Cladonia fimbriata (L.) Fr.
Cladonia macilenta Hoffm.
Cladonia pityrea (Flörke) Fr. 11
Cladonia pocillum (Ach.) O. - J. Rich.
Cladonia scabriuscula (Del. in Duby) Nyl.
Cladonia squamosa (Scop.) Hoffm.
 +*Cladonia squamosula* Muell. Arg.
 +*Cladonia subfurcata* (Nyl.) Arnold
Cladonia aff. *subsquamosa* (Nyl. ex Leighton)
Cladonia aff. *xanthoclada* Crombie
 +*Thysanothecium hyalinum* (Tayl.) Nyl.
- Kulin.
 Albany, Fitzgerald River, Porongurup Range.
 Toolbrunup.
 Augusta.
 West Cape Howe.
 Bluff Knoll.
 Albany.
 Albany, Toolbrunup.
 Toolbrunup.
 Albany.
 Shannon River.
 Albany, Bridgetown, Bunbury, Elleker, Lower King, Mount Cooke, Perth.
- UMBILICARIACEAE
Umbilicaria aff. *polyphylla*
- DIPLOSCHISTACEAE
Diploschistes ocellatus (Vill.) Norm.
 +*Diploschistes gypsaceus* (Ach.) Zahlbr.
Diploschistes scruposus (Schreb.) Norm.
- PERTUSARIACEAE
 +*Pertusaria flavicans* Lamy
Pertusaria leioplaca DC.
Pertusaria pertusa (Weigel) Tuck.
Pertusaria aff. *pustulata* (Ach.) Duby
Pertusaria wulfenii DC. 12
- ACAROSPORACEAE
Acarospora aff. *flava* (Bell.) Trev.
Acarospora schleicheri (Ach.) Mass.
Acarospora sinopica (Wahlenb.) Körber
Maronea sp.
Sarcogyne clavus (DC.) Kremp.
Sarcogyne privigna (Ach.) Massal.
Sarcogyne regularis Körber
Sarcogyne aff. *simplex* (Davies) Nyl. 13
- LECANORACEAE
Aspicilia calcarea (L.) Mudd
Candelariella antenaria Räs.
- Evanston, Jumnania, Kambalda, Wongan Hills.
 Stirling Range.
 Drysdale River National Park, Kalgoorlie, Kulin, Lake Magenta, Mount Rupert, Narrogin, Ongerup, Perth, Tammin.
 Albany, Ravensthorpe, Wongan Hills.
 Elleker, Gillingarra, West Cape Howe.
 Gairdner River.
 Ravensthorpe.
 Byford.
 Ord River
 Godfreys Tank, Great Sandy Desert, Kalgoorlie, Kununurra, Mount Augustus, Mount Newman, Yeelirrie.
 Great Sandy Desert.
 Yeelirrie.
 Albany, Stirling Range.
 Yeelirrie.
 Kalgoorlie.
 Albany, Kalgoorlie, Kambalda.
 Garden Island, Nullarbor Plain, Ravensthorpe, Rottneest Island, Tagon Harbour.
 Kulin, Wongan Hills.

11 *Cladonia anomaea* (Ach.) Ahti & P. James12 *Pertusaria hymenea* (Ach.) Schaer13 *Polysporina simplex* (Davies) Nyl.

- Candelariella vitellina* (Hoffm.)
Muell.Arg.
Haematomma sp.
+*Haematomma puniceum* (Sm. apud Ach.)Mass.
- Lecania erysibe* (Ach.)Mudd
Lecanora atra (Huds.)Ach.
- Lecanora* aff. *campestris* (Schaer.)
Lecanora aff. *chlarona* (Ach.)Nyl.
+*Lecanora expallens* Ach.
Lecanora aff. *muralis* (Schreb.)Rabenh.
+*Lecanora* aff. *pallida* (Schreb.)Rabenh.
Lecanora aff. *rupicola* (L.)Zahlbr.
Ochrolechia pseudotartarea (Vainio)
Versegly
Ochrolechia subathallina Magn.
Ochrolechia subpallescens Versegly
Solenopsora vulturicensis Massal.
- PARMELIACEAE
- Anzia wilsonii* Räs.
- Candelaria* sp. Mass.
+*Chondropsis semiviridis* F.Muell. ex Nyl.
- +*Hypogymnia pulchrilobata* (Bitt.)Elix
+*Hypogymnia* aff. *pulverata* (Nyl. apud
Cromb.)
Hypogymnia subphysodes (Kremp.)Filson
- +*Menegazzia foraminulosa* (Krempelh.)
Bitter.
Menegazzia subpertusa Martin in ed.
Parmelia sp.
Parmelia australasica Galloway
Parmelia callifolia Kurokawa
- Parmelia caperata* (L.)Ach.
Parmelia cheelii Gyel.
- Parmelia* aff. *congesta* Kurokawa & Filson
Parmelia congesta Kurokawa & Filson
Parmelia convoluta Kremp.
Parmelia dissecta Nyl.
Parmelia flavescens Gyel.
Parmelia furcata Muell.Arg.
Parmelia hypoclystoides (Muell.Arg.)Gyel.
Parmelia hypoprotocetrarica Kurokawa &
Elix
- Narrogin, Pingelly, West
River.
Mount Manning.
Boddington, Kulin, Lake King,
Mount Elvire, Mount Rupert,
Toodyay, West River.
West River.
Albany, Augusta, Denmark,
Mount Victoria, Nannup.
Drysdale River National Park.
Mount Rupert.
Augusta.
Houtman Abrolhos.
Hopetoun, Kulin.
Albany, Toolbrunup.
Mount Elvire.
Nannup.
Gillingara, Wongan Hills.
Albany.
Albany, Capel, Namalook,
Nannup, Porongurup Range.
Cocklebidly.
Forrest, Hyden, Kalgoorlie,
Kambalda, Lake King, Lake
Magenta, Madura, Pinjarra,
Weira.
Broomehill, Kulin, Ongerup,
West River.
Elix, Augusta.
Blackwood River, Darradup,
Dwellingup, Echo Bluff,
Greenbushes, Nannup,
Nornalup, Pemberton,
Porongurup Range, Toolbrunup.
Porongurup Range.
Northcliffe.
West Cape Howe.
Albany, Mount Madden.
Carbine, Comet Vale, Evanston,
Kalgoorlie, Kambalda, Lake
King, Mount Hunt, Mount
Madden, Mount Rupert, Paynes
Find.
Albany, Condingup.
Boddington, Mount Madden,
Mount Walker.
Toolbrunup.
Lower King, Southern Cross.
Mount Mary.
Augusta, Toolbrunup.
Ravensthorpe.
Walebing.
Kalgoorlie.
Sullivan Rock.

- Parmelia metaclostoides* Kurokawa & Filson
Parmelia mexicana Gyel.
- Parmelia pellis* Filson
 +*Parmelia perlata* (Huds.) Ach.
- Parmelia pertinax* Kurokawa & Filson
Parmelia plittii Gyel.
- +*Parmelia pulla* Ach.
- +*Parmelia pruinata* Muell. Arg.
- +*Parmelia reptans* Kurokawa apud C. Baker et al.
- +*Parmelia reticulata* Tayl. apud Mack.
Parmelia rimalis Kurokawa apud Kurokawa & Filson
Parmelia rutidota Hook. f. & Tayl.
- Parmelia scabrosa* Tayl.
- +*Parmelia soledians* Nyl.
- Parmelia* aff. *spodochroa* Kurokawa & Filson
 +*Parmelia subalbicans* Stirt.
Parmelia subdistorta Kurokawa
Parmelia subrudecta Nyl.
 +*Parmelia tasmanica* Hook. & Tayl.
- +*Parmelia terrestris* Kurokawa & Filson
 +*Parmelia tinctina* Maheu & Gillet
- Parmelia ustulata* Kurokawa & Filson
Parmelia verrucella Esslinger
- USNEACEAE
Ramalina calicaris (L.) Fr.
 +*Ramalina ecklonii* (Sprong.) Meyen et Flowtow.
- Mount Hunt.
 Byford, Kalgoorlie, Katanning, West Cape Howe, West River.
 Byford, West Cape How.
 Peppermint Grove Beach, Rottneest Island.
- Mount Hunt.
 Kennedy Range, Mount Hunt, Yeelirrie.
- Albany, Kambalda, Lake Magenta, Lower King, Mount Hunt, Porongurup Range, Toolbrunup.
- Kambalda, Kulin, Mount Barker, Porongurup Range, West River.
- Kambalda, Lake King, Mount Hunt, West River, Wongan Hills.
- Albany, Condingup, Darradup.
- Yeelirrie.
- Baladjie Rock, Bolgart, Broomehill, Byford, Cape Arid National Park, Cocklebidy, Collie River, Comet Vale, Corrigin, Harvey, Hopetoun, Kalgoorlie, Kambalda, Kendenup, Kulin, Lake King, Mount Madden, Mount Singleton, Ongerup, Paynes Find, Ravensthorpe, Rottneest Island, Wongan Hills, Yeelirrie.
- Baladjie Rock, Mount Singleton, Yeelirrie.
- Cocklebidy, Peppermint Grove Beach.
- Kambalda.
- Corrigin, Wongan Hills.
- Kambalda.
- Hopetoun.
- Cape Arid National Park, Esperance, High Island, Kalgoorlie, Lower King, Pinjarra, Katanning, West Cape Howe, Wongan Hills.
- Carbine, Lake King.
- Albany, Mount Hunt, Pinjarra, Yeelirrie.
- Yeelirrie.
- Albany, Kalgoorlie, Mount Hunt, West River.
- Kulin.
- Boyup Brook, Broome, Lake King.

- +*Ramalina geniculata* Hook.f. & Tayl. Fitzgerald River National Park, Gairdner River, Israelite Bay, Kulin, Lake King.
- Ramalina inflata* Hook.f. and Tayl. Cape Arid National Park, Hyden, Kulin, Ongerup, Three Springs, Winchester. Gairdner River, Kulin.
- +*Ramalina pusilla* le Prev. Boyagin Rock, Cape Arid National Park, Kulin, Latham, Mount Madden, Northcliffe, Ongerup, Pemberton, Perth, Ravensthorpe, Shannon River, Southern Cross, Sullivan Rock, Wyalkatchem.
- +*Siphula coriacea* Tayl. ex Nyl. Darradup. Gairdner River, Harvey, Kulin. Peppermint Grove Beach. Peppermint Grove Beach. Porongurup Range. Toolbrunup. Boddington, Bolgart, Broomehill, Corrigin, Dwellingup, Kendenup, Kulin, Lake Grace, Lake King, Mount Rupert, Ongerup, Perth, Pingelly, Porongurup Range, Toolbrunup, Winchester. Sullivan Rock. Fraser Range.
- Usnea arida* Mot. Corrigin.
- Usnea inermis* Mot. Albany, Collie River, Lower King, Toolbrunup.
- +*Usnea* aff. *filipendula* Stirt. Dorre Island.
- +*Usnea* aff. *ramulosissima* Stevens & Rogers East Wallabi Island.
- Usnea ramulosissima* Stevens & Rogers Lake King, Mount Elvire.
- +*Usnea* aff. *rubiginea* (Michaux) Massal. Kulin.
- +*Usnea scabrida* Tayl. Gillingara, West River.
- Usnea torulosa* (Muell.Arg.) Zahlbr. Drysdale River National Park.
- Usnea xanthopoga* Nyl. Albany, Ravensthorpe, Stirling Range, West River.
- PHYSICACEAE Drysdale River National Park.
- +*Anaptychia japonica* (Sato) Kurokawa East Wallabi Island, Yeelirrie.
- +*Anaptychia obscurata* Tuck. in Nyl. Augusta.
- Buellia alboatra* (Hoffm.) Diehm.¹⁴ Kitchener.
- Buellia canescens* (Dicks.) de Not.¹⁵ Cocklebidy, Kulin, Mount Rupert, Norseman.
- +*Buellia disciformis* (Fr.) Mudd Kulin.
- Buellia parasema* (Ach.) de Not. Byford.
- +*Buellia punctata* (Hoffm.) Massal. Bullfinch, Lake Moore, Ord River.
- Buellia aff. retrovertens* Tuck. Corrigin.
- Buellia stellulata* (Tayl.) Mudd.
- Buellia aff. stigmatia* Tuck.
- Buellia subalbula* (Nyl.) Muell.Arg.
- Buellia subdisciformis* (Leight.) Vainio
- Physcia aegialita* Ach.¹⁶
- Physcia aipolia* (Ehrh. in Humb.) Furnr.
- Physcia alba* (Fee) Muell.Arg.
- Physcia aff. albicans* (Pers.) Thoms.
- Physcia stellaris* (L.) Nyl.
- Physcia aff. tribacia* (Ach.) Nyl.

14 *Diplotomma albostratum* (Hoffm.) Flotow.15 *Diploicia canescens* (Dickson) Massal.16 *Dirinaria aegialita* (Ach.) Moore

Pyxine coccifera (Fay) Nyl.

Pyxine cocoos (Swartz) Nyl.

Pyxine petricola Nyl.

TELOSCHISTACEAE

Caloplaca aurantiaca (Lightf.) Th. Fr.¹⁷

Caloplaca cerina (Ehrh. ex Hedw.) Th. Fr.

Caloplaca cinnabarinna (Ach.) Zahlbr.

Caloplaca ferruginea (Huds.) Th. Fr.

Caloplaca fulgens (Sw.) Elenk.

Caloplaca halocarpa (Hoffm.) Wade

Caloplaca aff. lactea (Massal.) Zahlbr.

Caloplaca marina (Wedd.) Zahlbr.

Blastenia sp.

Fulgensia subbracteata (Nyl.) Poelt

Teloschistes chrysophthalmus (L.) Th. Fr.

Xanthoria ectanea (Ach.) Räs. ex Filson

Xanthoria parietina (L.) Beltr.

Order SPHAERIALES

VERRUCARIACEAE

+*Dermatocarpon lachneum* (Ach.) A. L. Smith¹⁸

Prince Regent Reserve.

Prince Regent Reserve.

Ord River Station.

Gillingarra, Kendenup,
Rottnest Island.

Peppermint Grove Beach.

Katanning.

Kulin, Lake Grace, Ongerup.

Drysdale River National Park.

Houtman Abrolhos.

Drysdale River National Park,
East Wallabi Island.

Albany, Augusta.

Bullfinch, Lake King, Walebing.

Houtman Abrolhos, Lake King.

Ardath, Buniche, Busselton,

Collie River, Corrigin,

Cranbrook, Denmark, Forrest,

Gairdner River, Harvey,

Hithergreen, Israelite Bay,

Kendenup, Kitchener, Kulin,

Lake King, Lake Preston,

Latham, Madura, Mondrain

Island, Murchison River,

Ongerup, Pinjarra, Porongu-

rup Range, Tagon Harbour,

Three Springs, Wongan Hills.

Albany, Cape Arid National

Park, Carnarvon, Cocklebidy,

Dorre Island, East Wallabi

Island, Garden Island,

Houtman Abrolhos, Kalannie,

Lake Barlee, Lake King, Lake

Moore, Madura, Mondrain

Island, Rottnest Island,

Shark Bay, Southern Cross,

Tagon Harbour.

Albany, Bremer Bay, Busselton,

Cape Leeuwin, Carnarvon,

Elgin, Garden Island,

Kalbarri, Kendenup, Lake

King, Mandurah, Mondrain

Island, Mount Barker, Mount

Stirling, Newdegate,

Rottnest Island, Southern

Cross.

Houtman Abrolhos, Kalgoorlie,

Kulin, Lake Cronin, Lake

Grace, Perth, Porongurup

Range, Ravensthorpe, Rottnest

Island.

17 *Caloplaca ferruginea* (Huds.) Th. Fr.

18 *Catapyrenium lachneum* (Ach.) R. Sant.

Endocarpon sp.	Millbillillie.
Endocarpon victorianum Muell.Arg.	Kalgoorlie.
Verrucaria calciseda DC.	Yeelirrie.
Order CALICIALES	No lichens were found from this order of fungi.

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