

Chapter 1 : Flora of Australia - Wikipedia

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Almost all of these areas have been built over by suburbs, or modified by farming. The main plants from the grasslands were *Stipa*, *Danthonia* and *Themeda* spear grass, wallaby grass and kangaroo grass. Trees do not exist on the grasslands due to the frost hollow effect where cold heavy air sinks on frosty mornings killing off larger vegetation. The remains of the grasslands are now full of introduced weeds and grasses. A small reserve of remnant grasslands is found at Yarramundi on the north side of Lake Burley Griffin. Most of the trees in the ACT are *Eucalyptus* species. Low altitude woodland is dominated by *Eucalyptus melliodora* yellow box and *Eucalyptus polyanthemos* red box. In sandy soil near rivers *Casuarina cunninghamiana* is common. On the border between woodland and grassland *Eucalyptus pauciflora* snow gum and *Eucalyptus rubida* are the only trees growing. These trees can survive lower temperatures. High altitude woodland occupies the floor of the higher valleys in the south of the ACT. The trees are dominated by *E.* On the ground above the woodland there is dry sclerophyll forest. The trees in this are *Eucalyptus dives* broad leaved peppermint, *E.* Dry sclerophyll forest also grows on the north and west side of hills, below metres, which is warmer and drier. Gulleys in this kind of forest can contain *Eucalyptus viminalis* manna gum and *Eucalyptus radiata* var *robertsonii* [2] narrow leaved peppermint. Wet sclerophyll forest is found growing on the western mountainous parts of the ACT where rain fall is higher and the ground is more elevated. Dense shrubs up to five metres high form an understorey. Examples of these are *Leptospermum lanigerum*, *Pomaderris aspera*, *Olearia argophylla*, and *Bedfordia salicina*. The top side of this forest has *Eucalyptus dalrympleana* and *E.* Alpine woodland is found in the highest levels of the ACT with *E.* This grows either thinly or in clumps, with the intervening ground feature *Poa* species. *Arachnorchis actensis* Canberra Spider-orchid. *Lepidium ginninderrense* Ginninderra Peppercress. Found near Pine Island on the Murrumbidgee River but is extremely rare. *Corunastylis ectopa* Brindabella Midge-orchid, *Ectopic Midge-orchid*. Gymnosperms[edit] Only two species of gymnosperms are native to the ACT. These are a shrub called *Podocarpus lawrencei* mountain plum pine and a small tree *Callitris endlicheri* black cypress pine. The cypress grows in steep stony soil in places such as Molonglo Gorge, Murrumbidgee River valley and Ginninderra Gorge. Other gymnosperms are cultivated in the ACT such as *Pinus radiata*. Study continues on these life forms, so more will be discovered. Those not in bold are found in other parts of the world, but not elsewhere in Australia.

Chapter 2 : Catalog Record: Lichens of rainforest in Tasmania and | Hathi Trust Digital Library

Part of a web introduction to lichens. Lichens of South Australia, published 1st November, The cover shows a species of Teloschistes. (see typical extract).

These less conspicuous plants are not often studied in detail by botanists but in South Australia we have a tradition of researching and writing about many of these groups. The State Herbarium holds very significant collections of these groups. Our handbooks on South Australian lichens, mosses, fungi and algae are based on these collections. The Phycology Unit is undertaking research on these plants. Bryophytes The Bryophytes, comprising mosses, liverworts and hornworts, are distinct groups of non-vascular plants which are very ancient in their origins. Some groups have complex and fascinating morphological adaptations to their environment, and some have even evolved a form of vascular system. Research on mosses being undertaken at the State Herbarium is contributing towards the Flora of Australia project, especially in the families Pottiaceae and Bartramiaceae. Bryophytes along with lichens play an important role in arid ecosystems as components of the critical but fragile crusts that stabilise many arid soils. The State Herbarium collection is particularly rich in arid soil crust species of bryophytes and lichens, notably a large collection from the research of Dr RW Rogers. Fungi The fungi, with about 1. Only insects are more numerous. On a world scale, there are roughly 10 times as many fungi as there are vascular plants! They are also one of the least known major groups of biota, especially in Australia. The State Herbarium houses an asset of national and global significance in its mycological collection of around 25, specimens. Most of the collection comprises the larger, non-pathogenic forms known as the macrofungi. The largest proportion is 16, specimens collected by Professor Sir JB Cleland including about type specimens. In recent years intensive surveys of fungi throughout South Australia have contributed many new and valuable records to the State Herbarium collection, and added to the knowledge of the group. Lichens The State Herbarium holds a significant collection of lichens. The alga of this association provides nutrients from photosynthesis, since fungi are not able to do so, whilst the fungus provides protection and other nutrients through decomposition. The algal components are not unique and may even be capable of separate existence, hence each lichen species is defined by its fungal component. The State Herbarium holds a significant collection of lichens collected during British and Australian Antarctic Expeditions of the early 20th century, mostly associated with Professor Sir Douglas Mawson. [Click here to view form.](#) Acknowledgement of Country We acknowledge and respect the Traditional Custodians whose ancestral lands we live and work upon and we pay our respects to their Elders past and present. We acknowledge and respect the deep spiritual connection and the relationship that Aboriginal and Torres Strait Islander people have to Country. We also pay our respects to the cultural authority of Aboriginal and Torres Strait Islander people and their nations in South Australia, as well as those across Australia.

Chapter 3 : List of lichens of Western Australia | Revolvly

*Lichens of South Australia (Handbook of the flora and fauna of South Australia) [Rex B Filson] on calendrierdelascience.com *FREE* shipping on qualifying offers.*

Lichenological Publications Rogers, R. Nitrogen fixation by lichens of arid soil crusts. Lichen populations on arid soil crusts around sheep watering places in South Australia. Distribution of the lichen *Chondropsis semiviridis* in relation to its heat and drought resistance. Phytosociology and geographic zonation. The relationship between distribution and environment. Lichens from the T. The macrolichen flora from the mangroves of Moreton Bay. Typification of the species of lichens described from Australian specimens by James Stirton. Lichens of arid regions. Lichens of Arid Australia. The corticolous species of *Haematomma* in Australia. Lichen succession on leaves of *Wilkiea macrophylla* in south east Queensland. Additional notes on *Haematomma* in Australia. Annotated list of Lichens from Mt. Leaf demography of the rainforest shrub *Wilkiea macrophylla* and its implications for the ecology of foliicolous lichens. The genus *Pyxine* Physciaceae, lichenised Ascomycetes in Australia. *Sagenidiopsis*, a new genus of byssoid lichenised fungi. Succession and survival strategies of lichen populations on a palm trunk. Rogers Verrucariaceae, lichenised ascomycetes a new marine lichen from a coral cay. The lichen genus *Haematomma* in New Zealand. Some genera and species of lichenized fungi new to Australia. Colonisation, growth, and survival strategies of lichens on leaves in a subtropical rainforest. Chemical variation and the species concept in lichenised ascomycetes. Botanical Journal of the Linnean Society of London , The *Usnea baileyi* complex Parmeliaceae, lichenized ascomycetes in Australia. *Maronina* - a new genus of lichenized Ascomycetes Lecanorales, Lecanoraceae with multispored asci. Bibliotheca Lichenologica 38, Ecological strategies of lichens. Lichen succession on *Wilkea macrophylla* leaves. Flora of Australia 54, Lichens, Australian Government Printer, Canberra. Lichen Ecology and Biogeography in A. Flora of Australia 54, Lichens 1, Keys to Australian Lichen Genera. Lichen collections in Brisbane, Queensland, Australia. Lichen succession on leaves of the rainforest shrub *Capparis arborea* Capparaceae. Australian Journal of Botany 43, Correlations of stocking with the cryptogamic soil crust of a semi-arid rangeland in southwest Queensland. Australian Journal of Ecology, 22,

Chapter 4 : ABRS | Complete Checklist of the Lichens of Australia and its Island Territories

19 Swainsona 30 () South Australian lichens – A Kangaroo Island case study A feature of the flora is that despite the large number of taxa recorded, most are relatively uncommon.

The material presented on this website, may not be reproduced or distributed, in whole or in part, without the prior written permission of CTC Productions. Lichens are organisms that grow in a variety of climates and can look very different. Even apparently barren areas can be colonised by lichens and in all they play an important role in helping our environment. Lichens pronounced LY-kens not litchens are slow growing fungi which exist in a symbiotic union with algae. They may be found growing on rocks, fences and in gardens. Lichens can grow in many climates from deserts to tropical rainforests and even in antarctica. Their appearance changes with their surroundings and the conditions. An example of this is the lichen in its natural state, which is quite dry and prickly but can quickly change to a soft and spongy material with the addition of water or dew. Environmental indicator Lichens are a good indicator of a healthy environment. They absorb pollutants from the air. In areas of nuclear testing, such as Maralinga in South Australia, lichens the size of a match head absorb and retain plutonium, as well as stabilising the soil surface. This reduces the risk of humans ingesting it in the dust. Lichens have also been used as a food source during famines, as dyes by the Navaho indians, and as drugs for the treatment of lung and skin disorders. Reindeer feed on lichens. Roof lichen One area where lichens can flourish is on roofs of houses. People become concerned about lichens on their roofs but David Eldridge says lichens on the roof are not dangerous. It may take two or three hundred years for any damage to occur. Lichens that grow on roofs there are several different types do nothing more than cover the tiles. They provide colour and texture, and may help insulate your home. Pollution and human damage are hard on lichens. Kids may gain some fun and knowledge by trying to establish their own lichen garden. To obtain a copy of this book contact the Information Centre at the Department of Land and Water Conservation on 02 or fax 02

Chapter 5 : Queensland Lichens: Bibliography of R.W. Rogers

Lichen topic. A tree covered with leafy foliose lichens and shrubby fruticose lichens A crusty crustose lichen on a wall A leafy foliose lichen on a branch of a tree A lichen is a composite organism that arises from algae or cyanobacteria living among filaments of multiple fungi in a symbiotic relationship.

The family with the most species is the Poaceae which includes a huge variety of species, from the tropical bamboo *Bambusa arnhemica* to the ubiquitous spinifex that thrives in arid Australia from the genera *Triodia* and *Plectrarchne*. There are more than described species of orchid in Australia. The terrestrial orchids occur across most of Australia, the majority of species being deciduous – their aboveground parts die back during the dry season and they re-sprout from a tuber when it rains. Other families with well-known representatives include the alpine Tasmanian button grass, which form tussock-like mounds from the Cyperaceae; the genus *Patersonia* of temperate iris-like forbs from the Iridaceae; and, the kangaroo paws from the family Haemodoraceae. The *Xanthorrhoea* grass trees, the screw palms of the Pandanaceae and palms are large monocots present in Australia. The Myrtaceae is represented by a variety of woody species; gum trees from the genera *Eucalyptus*, *Corymbia* and *Angophora*, *Lillipillies* *Syzygium*, the water-loving *Melaleuca* and *Bottlebrush* and the shrubby *Darwinia* and *Leptospermum*, commonly known as *teatrees*, and *Geraldton wax*. Australia also has representatives of all three legume subfamilies. *Caesalpinioideae* is notably represented by *Cassia* trees. Many plant families that occur in Australia are known for their floral displays that follow seasonal rains. The Asteraceae is well represented by its subfamily *Gnaphalieae*, which included the paper or everlasting daisies; this group has its greatest diversity in Australia. Amongst the most ancient species of flowering hardwood trees are the *Casuarinaceae*, including *beach*, *swamp* and *river oaks*, and *Fagaceae* represented in Australia by three species of *Nothofagus*. Trees of the *Rosales* are notably represented by the *Moraceae* whose species include the *Moreton Bay Fig* and the *Port Jackson Fig*, and the *Urticaceae* whose members include several tree sized stinging nettles; *Dendrocnide moroides* is the most virulent. There are also numerous sandalwood species including the *quandongs* and *native cherry*, *Exocarpus cupressiformis*. The *bottle tree* of the *Sterculiaceae* is one of 30 tree species from the *Brachychiton*. There are about 75 native mistletoes that parasitise Australian tree species, including two terrestrial parasitic trees, one of which is the spectacular *Western Australian Christmas tree*. Many of these plants have succulent leaves; other native succulents are from the genera *Carpobrotus*, *Calandrinia* and *Portulaca*. Succulent stems are present in many of the *Euphorbiaceae* in Australia, though the best known members are the non-succulent looking *fragrant Wedding bushes* of the genus *Ricinocarpos*. Carnivorous plants which favour damp habitats are represented by four families including the *sundews*, *bladderworts*, *pitcher-plants* from the *Cephalotaceae*, which are endemic to *Western Australia*, and the *Nepenthaceae*. Aquatic monocots and dicots both occur in Australian waters. Australia has about 51, square kilometres of seagrass meadows and the most diverse group seagrass species in the world. There are 22 species found in temperate waters and 15 in tropical waters out of a known 70 species worldwide. *Gymnosperms*[edit] *Gymnosperms* present in Australia include the *cycads* and *conifers*. There are 69 species of *cycad* from 4 genera and 3 families of eastern and northern Australia, with a few in south-western *Western Australia* and central Australia[clarification needed]. *Native pines* are distributed through 3 families[clarification needed], 14 genera and 43 species, of which 39 are endemic. Most species are present in wetter mountainous areas consistent with their *Gondwanan* origins, including the genera *Athrotaxis*, *Actinostrobus*, *Microcachrys*, *Microstrobos*, *Diselma* and the *Tasmanian Huon pine*, sole member of the genus *Lagarostrobus*. *Callitris* is a notable exception; species from this genus are found mainly in drier open woodlands. *Ferns* and *fern allies*[edit] *Spore bearing vascular plants* include the *ferns* and *fern allies*. True ferns are found over most of the country and are most abundant in tropical and subtropical areas with high rainfall. Australia has a native flora of 30 families, genera and species of ferns, with another 10 species being naturalised. The *fern allies* are represented by 44 native species of *psilophytes*, *horsetails* and *lycophytes*. *Non-vascular plants*[edit] The *algae* are a large and diverse group of photosynthetic organisms. Many studies of *algae* include the *cyanobacteria*, in addition to micro and macro eukaryotic types that inhabit

both fresh and saltwater. Currently, about 10, to 12, species of algae are known for Australia. There are slightly fewer than 1, recognised species of moss in Australia. Knowledge of distribution, substrates and habitats is poor for most species, with the exception of common plant pathogens. Later, both were found to be from Western Australia, likely to have been collected near the Swan River, possibly on a visit there of fellow Dutchman Willem de Vlamingh. Indigenous Australians used thousands of species for food, medicine, shelter, tools and weapons. Although commercial cultivation of macadamia started in Australia in the 1950s, it became an established large-scale crop in Hawaii. In the mid-1980s restaurants and wholesalers started to market various native food plant products. A few Australian native plants are used by the pharmaceutical industry, such as two scopolamine and hyoscyamine producing *Duboisia* species and *Solanum aviculare* and *S. Essential oils from Melaleuca* , *Callitris* , *Prostanthera* , *Eucalyptus* and *Eremophila* are also used medicinally. Due to the wide variety of flowers and foliage, Australian plant species are also popular for floriculture internationally.

Chapter 6 : Aldinga Scrub | SA Natureteers

The only systematic examination of lichens in soil crusts in Australia was undertaken by Rogers in the early s, with studies of the distribution of terricolous lichens in arid and semi-arid landscapes in eastern Australia (Rogers , a, b,).

Lichen are the termites of the plant world, but also used to be the source of the colour purple! Australian National Botanical Gardens , Welcome to the world of Australian plants, botany and horticulture! Lichens and mosses live everywhere they can! They prefer moist areas, and happily live in aquatic and marine environments. By the ocean, lichen forms vivid orange streaks on sea-side rocks. Lichens can also live in dry environments where they play an important ecological role, retaining moisture and physically binding the soil together. Mosses make their homes anywhere moist from tarred roads and roof tiles to rainforests and bogs. With a combined or so species of lichens, mosses and liverworts, these vertically-challenged plants make up in numbers what they lack in height. The termites of the plant world, lichens extract and recycle nutrients, crumbling rocks to create the soil other plants need to survive. Lichens are a strange assemblage of fungi and algae existing in a symbiotic relationship. The fungi are mostly of the genus Ascomycota, and the algae are single-celled organisms such as green or blue-green algae. In flat lichens, the algae dwell in layers between the fungi like a slime sandwich. Lichen can form flat crusts, bumpy or lobed masses, and fibrous fronds that hang like witches hair from the trees in temperate forests. There are around species of mosses and liverworts and over lichens in Australia and territories, from the tropical north to Macquarie Island and Antarctica. This dye brought royal purple, a colour previously extracted from the glands of tens of thousands of sea snails, to the masses. Lichen purple, which required as much lichen as material to make the dye, was popular until it was replaced by a synthetic purple made from aniline. Lichen reacts very quickly to pollution, which kills the algal component, leaving the fungi unable to fend for itself. Different species are susceptible to different levels of pollution so their presence or absence in an area is an indicator of the quality of the air. Litmus paper, used to differentiate between acid and alkaline substances, is made from the same lichen which once supplied purple dye. They have no vascular system - the plant equivalent of blood vessels in animals that in plants transports water. Put the bottom of a paper towel in a dish of water and you will see how mosses drink. They do the same for nature, holding soils together and keeping in moisture. They are the harbingers of a new range of plants, creating soil by recycling nutrients. As plants like grasses take hold, the mosses tend to give up in the face of the competition and find a new place to grow. Most mosses are fragile and weak and tend to grow horizontally. But mosses up to 30 to 40 centimetres high such as those of the genus Dawsonia can be found, looking for all the world like their more advanced flowering plant cousins. In early spring, many mosses put up spore-producing stalks that stand out like soldiers above a field of green. The spores are so small they may travel for thousands of kilometres before settling and potentially forming new colonies. Lichen sexual reproduction happens through the fungi alone, which produce extremely small spores that are blown off into the sky in great numbers. They can also reproduce asexually, fragmenting or producing packets of fungal threads enveloping algal cells. This gives them a greater chance of re-establishing the algae-fungus symbiotic relationship than sexual reproduction. The packets are spread by wind or rain or transported by snails or insects crawling over the lichen. If one is favoured over the other, the symbiotic relationship breaks down," said McCarthy. Climate change, such as an increase in temperature and decrease in rainfall, also has a greater impact on mosses and lichens than other plants. Forests are a lovely place to look for these tiny organisms but they may also crop up in cemeteries, on power poles, by roadsides and on abandoned cars. Lichens are most common in rainforests and temperate forests. Mosses favour damp places near streams, wetlands and alpine areas. In fact, the only places in Australia completely lichen and moss free are the inner cities. McCarthy said there is a lot of amateur interest in lichens and moss field guides, with social clubs gathering to hunt out the tiny plants. Look closely and you might find another 20 or 30 inconspicuous mosses in cracks or bumps or on the shady side of the rock.

Chapter 7 : Flora of the Australian Capital Territory - Wikipedia

DOWNLOAD PDF LICHENS OF SOUTH AUSTRALIA

Alphabetical list of named lichen images. Lichens of South Australia. Cover & preface. Lichens of South Australia. Two sample pages. Charles Knight's drawings.

Chapter 8 : Department for Environment and Water

Lichens of rainforest in Tasmania and south-eastern Australia / G. Kantvilas and S.J. Jarman ; with photographs by B.A. Fuhrer.

Chapter 9 : Lichens of South Australia (Book,) [calendrierdelascience.com]

Lichens of rainforest Tasmania and South-eastern Australia A field guide to the mosses and allied plants of Southern Australia Australian National Botanic Gardens.