

CRYPTOGAMS -- LICHENS

Flora of Australia lichen series and supplementary publications:

George AS (Exec. ed.) (1992) Flora of Australia. Volume 54. Lichens – Introduction, Lecanorales 1. Australian Government Publishing Service, Canberra. 348 pp. ISBN 064424061X (9780644249706).

First of six volumes in this series. This volume contains introductory chapters on the history of Australian lichenology, physical structure of lichens, photobionts, chemistry, ecology and biogeography, uses, and collection techniques. These are followed by a systematic schema (down to generic level), keys to all the Australian genera, and the first few treatments (including Lecanorales, in part). RECOMMENDED

Orchard AE (ed.) (1994) Flora of Australia. Volume 55: Lichens – Lecanorales 2, Parmeliaceae. CSIRO, Canberra. 360 pp. ISBN 0643056769.

This continues the lichens from Volume 54, with Lecanorales 2 to Parmeliaceae. Keys to genera and species, short descriptions, and distributional information. RECOMMENDED

McCarthy PM & Mallett K (eds) (2004) Flora of Australia. Volume 56A: Lichens 4. Flora of Australia Series. CSIRO Publishing / Australian Biological Resources Study (ABRS). 240 pp. ISBN 9780643090569 hbk, 9780643090576 pbk.

This volume of the series provides treatments (keys, descriptions and distributional data) for nine families (17 genera, 287 species and infra-specific taxa). These include the genera *Pertusaria* and *Lecanora*, two of the most species-rich crustose genera on rock and bark in Australia, and the widespread and often conspicuous genus *Usnea*. RECOMMENDED

McCarthy PM (ed.) (2009) Flora of Australia. Volume 57: Lichens 5. Flora of Australia Series. CSIRO Publishing / Australian Biological Resources Study (ABRS). 708 pp. ISBN 9780643096646 pbk, ISBN 9780643096653 hbk.

Provides complete or partial accounts (keys, descriptions and distributional data) for 21 families, including several northern Australian epiphytic families (Graphidaceae, Phyllopsoraceae, Pyrenulaceae, Thelotremataceae and Trypetheliaceae), plus genera *Dirinaria*, *Letrouitia*, *Pyxine* and *Strigula* for the same region, and the more widely distributed *Buellia s. str.*, *Lepraria*, *Ramboldia* and *Tephromela*. Also included are some mainly southern and cool-temperate genera such as *Nephroma*, *Peltigera*, *Thelocarpon* and *Umbilicaria*. RECOMMENDED

McCarthy PM (2001) Flora of Australia. Vol. 58A. Lichens 3. CSIRO Publishing, Collingwood, Vic. / Australian Biological Resources Study. 264 pp. ISBN 0643067132, or 9780643067127. ABRS/CSIRO, Canberra.

Covers the families Lobariaceae and Sphaerophoraceae from cool-temperate SE Australia; the soil inhabiting groups Peltulaceae, *Endocarpon* and *Placidium*, semi-arid regions; and families of crustose lichens, Verrucariaceae and Trichotheliaceae. RECOMMENDED

McCarthy PM (2003) Catalogue of Australian lichens. Flora of Australia supplementary series no 19. Australian Biological Resources Study, Canberra. 237 pp. ISBN-10: 0642568278; ISBN-13:

9780642568274; ISSN 13232669 (series).

Not an identification book but a then-comprehensive listing of the genera and species, the primary literature, and distribution by State. Now superseded by the *Flora of Australia* volumes, see above.

McCarthy PM & Malcolm, WM (2004) Key to the genera of Australian macrolichens. Flora of Australia Supplementary series No 23. Australian Biological Resources Study, Canberra. 45 pp. ISBN-10: 0642568340; ISBN-13: 9780642568342; ISSN 13232169 (series).

A necessarily technical key to all 135 genera of non-crustose lichens, with an emphasis on features observable with a simple hand-lens. Excellent colour photos of exemplar species.

ELECTRONIC RESOURCE, ON-LINE: free PDF:

www.anbg.gov.au/abrs/lichenlist/Macrolichens.pdf

McCarthy PM (2015) Checklist of Australian lichenicolous fungi. Australian Biological Resources Study, Canberra. Version 1 July 2015.

ELECTRONIC RESOURCE: On-line:

http://www.anbg.gov.au/abrs/lichenlist/Lichenicolous_Fungi.html

A list of taxa (alphabetical by genus) giving author, place of publication, distribution by State, and details of host.

Other handbooks and field guides on lichens:

Eldridge D & Tozer M (1997) A practical guide to soil lichens and bryophytes of Australia's dry country. NSW Dept of Land & Water Conservation, Sydney, NSW. 80 pp. ISBN 0731303024.

An excellent general guide to the organic soil-crusts of the Australian rangelands, with a view to their use as indicators of land and soil condition. The main groups involved – lichens, mosses, hepatics, and cyanobacteria, are discussed, with a brief and easy key to assign samples to them. The more conspicuous genera are described and illustrated with excellent colour photos.

RECOMMENDED

Entwisle TJ (ed.) (1994) Aquatic cryptogams of Australia:- a guide to the larger fungi, lichens, macroalgae, liverworts and mosses of Australian inland waters. Australian Society for Limnology, Abbotsford, Vic. (Australian Society for Limnology special publication no. 10) 151 pp. ISSN 0156-8426.

Key to the major groups of the title, then keys within each group. Black and white drawings of selected species.

Filson RB & Rogers RW (1979) Lichens of South Australia. South Australian Government Printer, Adelaide. (Handbook of the flora and fauna of South Australia) 197 pp.

Keys to, and descriptions of, arid area lichens with introductory notes on lichen structures and ecology. Some illustrations.

Jackes BR (1990) Plants of the tropical rainforest : Mt Spec area, North Queensland. Botany Department, James Cook University, Townsville, Qld. 81 pp. ISBN 086443359X.

Guide to identification of the trees, shrubs, vines, foliicolous lichens, bryophytes, and ferns of the Mt Spec - Paluma Range area. Few illustrations, but good exhaustive keys. Foolscap format.

Kantvilas G & Seppelt RD [1992, undated] The lichen flora of Macquarie Island: introduction and an annotated checklist of species. ANARE Research Notes 87. Antarctic Division, [Commonwealth] Dept of the Arts, Sport, the Environment & Territories, Canberra.

20 pp. [ISBN 0642182612].

Not an identification guide as such, but like all checklists it narrows the search.

Kantvilas G & Jarman SJ (1999) Lichens of rainforest in Tasmania and south-eastern Australia. ABRS, Canberra. (Flora of Australia supplementary series no. 9) 212 pp. ISBN 0642568022.

Excellent colour photos of 127 macrolichen species, with brief notes, and a good key with minimal specialist terminology. Good background chapters and glossary. RECOMMENDED.

Kantvilas G, Elix JA & Jarman SJ (2002) Tasmanian lichens - identification, distribution and conservation status. I Parmeliaceae. Australian Biological Resources Study and the Tasmanian Herbarium, Canberra and Hobart. (Flora of Australia supplementary series no. 15) 274 pp. ISBN 064268200.

Keys to the genera and species of Parmeliaceae, with species notes and distribution (records) maps for the state. Some species are illustrated with black and white photos.

Lumbsch HT, McCarthy PM, & Malcolm WM (2001) Key to the genera of Australian lichens – apothecial crusts. Australian Biological Resources Study, Canberra (ABRS Supplementary Series No 11). 64 pp. ISBN 0642568138.

A key to the group, with good colour photos and lists of references; lacks a glossary for the necessarily complex terminology, so may best used in conjunction with other works.

McCarthy PM (2015 – ongoing?) Checklist of the Lichens of Australia and its Island Territories. Australian Biological Resources Study, Canberra. Version 1 July 2015.

ELECTRONIC RESOURCE: ON-LINE:

<http://www.anbg.gov.au/abrs/lichenlist/introduction.html>

The checklist at the core of this site covers classification, genus descriptions, profiles of the largest families and genera, links to PDFs of genus and species treatments and keys, and sub-checklists of foliicolous and aquatic lichens, and those of the arid and semi arid regions and oceanic islands. In addition the site links to PDFs of journal papers on selected families and genera and a large set of line and colour photo illustrations (many of the latter sorted into regional photo lists), plus a PDF Elix's (2014) self-published *Catalogue of standardized chromatographic data and biosynthetic relationships for lichen substances*, a key resource for the biochemical tools necessary for precise identification of many lichens.

Rogers RW (1981) The genera of Australian lichens (lichenized fungi). University of Queensland Press, St Lucia, Qld. 124 pp. ISBN 0702215791.

Catalogue of the genera in Australia, with keys to genera, generic descriptions, and references. No

diagrams.

Rogers, R.W. (2016). The Lichens of Subtropical Queensland. [3rd edition?] [Self-publ.?] 185 pp. ISBN lacking. PDF free download via <https://www.qld.gov.au/environment/plants-animals/plants/herbarium/publications>

Includes keys, descriptions and some images of lichen species found in the subtropics of Queensland, with introductory material on lichen biology and identification characters. Full keys to major groups, genera, and species. Includes some species not captured in the *Flora of Australia* series. From the preface: “This set of keys is written to help the identification of lichens from subtropical Queensland. The keys will be useful generally along the coastal and arid zones of eastern Australia – but not the rainforests of the tropical north or the alpine-subalpine areas”. This is an update of Rogers RW (2010) Keys to the lichens of sub-tropical Queensland. Version 2.3 (153 pp., issued in comb-bound A4 format).