

FUNGI and SLIME MOULDS (Myxomycetes)

This section deals with easily visible macrofungi, not the more specialised field of microfungi.

Aberdeen JEC (1979) Introduction to the mushrooms, toadstools, and larger fungi of Queensland. Queensland Naturalists Club, Brisbane. 120 pp. ISBN 9595607.

Key to genera, with a brief description of each genus, plus numerous black and white diagrams depicting fungal features and many species, and a few colour illustrations.

Bell A (2005) An illustrated guide to the coprophilous Ascomycetes of Australia. CBS, Utrecht. (= CBS Biodiversity Series No. 3). 172 pp. ISBN 9070351580; ISSN 15718859.

[US edition publ. by American Phytopathological Society].

Spiral-bound guide to identification of coprophilous fungi (i.e. fungi that grow in dung). Initial pictorial keys aid identification to class and genus, then standard dichotomous keys (cross-referenced to illustrations of useful characters) to identify to species. Almost 100 pages of excellent colour or black-and-white drawings of fruiting bodies, spores and asci.

This book is an expansion of *Bell A (1983) Dung Fungi: an illustrated guide to coprophilous fungi in New Zealand* (Victoria University Press, Wellington, NZ).

Bougher NL & Syme K (1998) Fungi of southern Australia. University of Western Australia Press, Nedlands, WA. 391 pp. ISBN 1875560807.

The title is a misleading, as there is a strong bias to south-western Australian species, although many do also occur elsewhere; an effect of this is that some common species are omitted or only mentioned in passing. Extensive introductory chapters on fungal properties and ecology, methods for description and preservation, main groups, and species descriptions for 125 species of macrofungi, with excellent colour paintings and line drawings. Strangely deficient in distributional information.

Cleland JB (1976) Toadstools and mushrooms and other larger fungi of South Australia. South Australian Government Printer, Adelaide. 326 pp.

Reprint of 1934-5 publication; now superseded by later works. Deals with macrofungi of South Australia and includes some from New South Wales. Has keys to orders, families and genera, macroscopic descriptions and descriptions of spores, with some watercolours.

Cole M, Fuhrer B & Holland A (1984) A field guide to the common genera of gilled fungi in Australia (rev. ed.). Inkata Press, Melbourne & Sydney. ISBN 0909605114.

This contains a fold-out key to genera, a booklet of field characters, six sheets of colour photographs and three of line profiles. Now well superseded by later works.

Dashorst GRM & Jessop JP (1998) Plants of the Adelaide Plains and Hills. The Botanic Gardens of Adelaide and State Herbarium of South Australia, Adelaide. 224 pp. ISBN 09730860418.

This is mostly non-fungal, but plates *iv* to *x* feature small paintings of about 90 species of fungi. The first edition (1990, Kangaroo Press, ISBN 0864173237) is also still around.

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 01568426.

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

Fuhrer BA (2001) A field companion to Australian fungi. Rev. edn. Bloomings Books, Hawthorn, Vic. 162 pp. ISBN 1876473401.

Superb colour photos of 138 species, with very brief notes. Superseded by Fuhrer (2010), see next.

Fuhrer B (2010) A field guide to Australian Fungi. Revised edition. Bloomings Books. 360 pp. ISBN 9781876473518.

Describes more than 500 species, including slime moulds. 548 excellent colour photos, with background sections on fungal biology and ecology and advice on field collecting. The first edition (2005) remains useful. RECOMMENDED.

Fuhrer B & Robinson R (1992) Rainforest fungi of Tasmania and south-east Australia. CSIRO and Tasmanian Forestry Commission, Melbourne. 95 pp. ISBN 0643053115.

Excellent colour photographs and very brief descriptions of over 100 taxa. Deliberately omits information on toxicity/edibility.

Fungimap (ongoing) - website.

ELECTRONIC RESOURCE: On-line: <http://fungimap.org.au>

The Fungimap site anchors a national network of fungi-spotters, and contains a wealth of resources and links for identification, including an on-line pictorially based field guide, a 'beginner's guide' if you are just getting interested, species distribution maps, and an image collection.. Also acts as an on-line bookstore for some fungal publications.

RECOMMENDED

Gates G & Ratkowski D (2014) A field guide to Tasmanian fungi. Tasmanian Field Naturalists Club Inc. 251 pp. ISBN 9780957852921.

Covers more than 600 species of macrofungi with brief but very lucid plain-language descriptions and very good colour photos. RECOMMENDED.

Gates G, Ratkowsky D & Wiltshire R (2015) FungiFlip. A pictorial guide to Tasmanian fungi. School of Biological Sciences, University of Tasmania. [16-panel folding flipchart]. ISBN 9780646942957.

A fold-out laminated field guide covering 360 species of Tasmanian macrofungi (agarics, polypores, clubs and corals, earthballs earthstars and puffballs, jellies, leathers, resupinates, spinys and stinkhorns, and ascomycetes. Each is shown in a good colour photo. RECOMMENDED FOR BACKPACK.

Gibson N (2009) Cool climate fungi of Tasmania. [Self-publ.] 124 pp. ISBN lacking.

A large-format (A4) book with variable-quality photos of many species and minimal text.

Grey P & Grey E (2005) Fungi down under: the Fungimap field guide to Australian fungi. Fungimap Inc. [<http://fungimap.org.au>, or c/o Royal Botanic Gardens, Melbourne]. 146 pp. ISBN 0646446746. (p/back).

A field guide to 100 of the Fungimap target species, touching on all major groups of macrofungi. Good plain-English descriptions, excellent illustrations, basic distributional and ecological information. No keys.

Grgurinovic CA (1997) Larger fungi of South Australia. Adelaide Botanic Gardens & Flora & Fauna Handbooks of South Australia Committee, Adelaide. 725 pp. ISBN 0730807371.

Detailed descriptions, keys, and illustrations for about 450 species, including many new to science. Many taxa also occur in adjacent States.

Griffiths K (1985) A field guide to the larger fungi of the Darling scarp and south-west of Western Australia. The Author. 80 pp. ISBN 0958970505.

Contains a brief key to the broad groups of macro-fungi; paintings and short descriptions (macroscopic characters) of many species.

Hood IA (1992) An illustrated guide to fungi on wood in New Zealand. Auckland University Press, Auckland. 424 pp. ISBN 1869400631.

Includes many inconspicuous genera and some species that also occur in southern Australia and for which there is currently limited easily accessible Australian literature. Easy keys, using both field and microscope characters, species descriptions, and fair-quality line drawings.

Hood IA (2003) An introduction to fungi on wood in Queensland. School of Environmental Sciences, University of New England, Armidale, NSW. 388 pp. ISBN 1863898190.

Over 180 species described and illustrated with line drawings, short plain-English descriptions, ecological notes and references.

Katsaros P (1989) Illustrated guide to common slime moulds. Mad River Press, Eureka CA, USA.

Key to, and descriptions of, common slime mould species, plus superb colour photographs of many species. 66 pp. ISBN 0916422720.

Lloyd S (2014) Where the slime mould creeps: the fascinating world of Myxomycetes. Tympanocryptis Press, Birralee, Tas. 102 pp. ISBN 9780646924519.

[NOT SEEN]. Covers over 60 species from tall eucalypt forest in northern Tasmania; colour photos.

Macdonald R & Westerman J (1979) A field guide to fungi of south-eastern Australia. Nelson, Melbourne. 153 pp. ISBN 0170052907.

Contains a brief introduction, no keys, and a short macroscopic description and colour photograph

of many common species of macrofungi.

Martin GW, Alexopoulos CJ & Farr ML (1983) The genera of Myxomycetes. University of Iowa Press, Iowa City, USA. 102 pp. ISBN 0877451249.

A technical work, which covers all world genera to date of publication, with illustrations.

Matheny PB & Bougher NL (2017) Fungi of Australia: Inocybaceae. Fungi of Australia Series. CSIRO Publishing. 592 pp. ISBN 9781486306664.

An illustrated account of 137 species of this family of gilled fungi, including 101 new to science.

“Until now, only a small number of species had been described from Australia, but with this major revision a total of 137 species are recognised, of which 101 are new to science. Ninety per cent of these species (121 of the 137) are found only in Australia.”

Keys, descriptions, maps, illustrations, images.

May TW & Wood AE (1997) Fungi of Australia. Volume 2A. Catalogue and bibliography of Australian macrofungi 1, Basidiomycota (in part). Australian Biological Resources Study, Canberra / CSIRO Publishing, Collingwood 348 pp. ISBN-10: 0643059296; ISBN-13: 9780643059306 pbk, 9780643059290 hbk..

No descriptions or illustrations; this is a technical monograph cataloguing over 3,000 names with an indication of their current taxonomic status, authors, place of publication, and type details. As a print resource this couples with May *et al.* (2003) (see next) and others in the *Fungi of Australia* series. The core catalogue content of both is now available in the on-line May *et al.* (2004)

May TW, Milne J, Shingles S & Jones RH. (2003) Fungi of Australia. Volume 2B. Catalogue and bibliography of Australian fungi 2. Basidiomycota p.p. & Myxomycota p.p. CSIRO Publishing, Collingwood, Vic. / Australian Biological Resources Study, Canberra. 496 pp. ISBN-10: 0643069070; ISBN-13: 9780643069077.

This volume continues the catalogue of vol. 2A (May & Wood 1997, q.v.) in listing all scientific names applied to Australian macrofungi in the past, and assigning each to a current accepted name, with a comprehensive listing of relevant literature. This volume also provides keys and descriptions for groups including the bracket fungi, slime moulds, puffballs, earthballs, earthstars, stinkhorns, birds nest fungi, coral fungi, jelly fungi, polypores, and stereoid, corticioid and theleporoid fungi. As a print resource this couples with May *et al.* (1997) (see previous); the core catalogue content of both (but not the keys of this volume) is now available in the on-line May *et al.* (2004)

May TW, Milne J, Wood AE, Shingles S, Jones RH & Neish P (2004) Interactive catalogue of Australian fungi, version 3.0. Australian Biological Resources Study, Canberra / Royal Botanic Gardens Melbourne. **ELECTRONIC RESOURCE: ON-LINE** (but only current to 2004):

<https://data.rbg.vic.gov.au/cat/fungicatalogue>

Search and browse database of recognised names, synonyms, and references to occurrences in Australia, and references to illustrations of fruiting bodies and microscopic diagnostic characters; current to 2004.

May TW, Thiele K, Dunk CW & Lewis SH (2014) FunKey: an interactive guide to the macrofungi of Australia: key to agarics. ISBN 9780642568779. Intentic, Brisbane, Qld /

Australian Biological Resources Study, Canberra.

ELECTRONIC RESOURCE: Interactive: USB and Apps : USB available from Lucid Central (http://shop.lucidcentral.org/index.php?route=product/product&product_id=69), or purchase within Australia from Fungimap (<http://fungimap.org.au>). Works on Windows, Mac, Linux. The Java Runtime Environment is required.

FunKey is also available as an app for Apple or Android mobile systems (purchase these direct from itunes store or Google play). The app provides the key as well as the fact sheets for genera and characters, but does not include the extensive introductory material on genera and characters or the glossary that is present on the USB version. In the app, the 'best' function is available, but not other Lucid key functions such as 'subsets' or ranked 'sort'.

Identification via an interactive, well-illustrated key, of the 159 taxa of agaric fungi occurring in Australia; many character states to suit live or dried material, fact sheets for each taxon. References and a comprehensive glossary. For further background see May (2016) in *Australasian Plant Conservation* 25(1): 7-9.

McCann IR (2003) Australian fungi illustrated. Macdown Productions, Vermont, Vic. 128 pp. ISBN 0975078003.

Covers 400 species, arranged in easy-recognition groups, with small but very good colour photos and very brief caption information. There seems to be a substantial bias to the south-eastern part of the continent.

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

ELECTRONIC RESOURCE: On-line at
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.

McMullan-Fisher S, Leonard P, Guard F (2014) Australian subtropical fungi.

Suncoast Fungi, Buderim, Qld. 160 pp. ISBN-13: 9780646915524.

A field guide to 115 fungi of the Australian subtropics, with a simple key to major groups, and good colour photos and brief but information-rich descriptions of each species (many not previously covered in field guides).

McMullan-Fisher S & Syme K (2018) Mushrooms and other fungi of south-west western Australia. Western Australian Naturalists Club. ISBN 277000064248.

A pocket-sized and field-hardy fold-out guide covering 91 species from the area south-west of a line from Kalbarri to Ravensthorpe. Minimal text, high-quality colour images.

Moore S & O'Sullivan P (2013) A guide to common fungi of the Hunter-Central Rivers region. Hunter-Central Rivers Catchment Management Authority, Paterson NSW. 155 pp. ISBN 9780975067055.

Covers about 170 species of macrofungi arranged in artificial 'growth form' groups; a pictorial guide assist placement to these, and is followed by an illustrated glossary of terms. Each species has very good colour photos, brief but effective descriptive notes (kept as plain-english as possible),

and very brief notes on habitats, substrates, and season of emergence.

Moore S & O'Sullivan P (2016) A guide to the common fungi of coastal New South Wales.

NSW Dept of Trade & Investment, Tocal College, NSW

(<https://www.tocal.nsw.edu.au/publications>). 151 pp. ISBN 1742569447, 9781742569444.

A selection of species from the major groups (agarics, boletes, leathers and polypores, corals, jellies, puffball and birds nest, stinkhorns, Ascomycota, and slime moulds. Good colour images, easy text.

Orchard AE (ed.) (1996) Fungi of Australia. Volume 1A. Introduction, classification.

ABRS/CSIRO, Canberra. 435 pp. ISBN-10: 0643058028; ISBN-13: 9780643058897 pbk, 9780643058903 hbk.

Excellent introduction and review of many aspects of fungal taxonomy, biology, history of Australian mycology, glossary of mycological terms, and bibliography. Includes keys to the different orders. RECOMMENDED

Orchard AE (ed.) (1996) Fungi of Australia. Volume 1B. Introduction, fungi in the environment.

ABRS/CSIRO, Canberra. 405 pp. ISBN-10: 0643059350; ISBN-13: 9780643059368 pbk, 9780643059351 hbk.

Not an identification resource as such, but contains 13 essays on different groups of fungi in relation to habitat and animal interactions, toxicity, and fungi as an animal and human food source.

Priest MJ (2006) Fungi of Australia: Septoria. Fungi of Australia Series. CSIRO Publishing / Australian Biological Resources Study (ABRS). 268 pp. ISBN 9780643093768.

The anamorphic fungal genus *Septoria* is one of the largest genera of plant pathogens, known to infect hosts in 54 families of flowering plants in Australia, especially the Asteraceae (daisies) Poaceae (grasses). This volume documents 132 species of *Septoria*, its teleomorph *Mycosphaerella*, and six related genera, with detailed descriptions and illustrations of each taxon.

RECOMMENDED

Robinson R (2003) Fungi of the south-west forests. WA Dept of Conservation & Land

Management, Kensington WA. 72 pp. ISBN-10: 0930755282; ISBN-13: 9780730755289 [One of the Bush Books series, now distributed by WA Dept of Parks and Wildlife].

Paperback pocket booklet covering about 50 species of (mostly common) macrofungi of the jarrah, karri and tingle forests.; excellent colour photos with short plain-English descriptions and general notes. RECOMMENDED

Saunders B (2015) Admiring the fungi of Lower Eyre Peninsula: a preliminary guide to the large fungi of the region. Marleston S.A. 180 pp. ISBN 9780646944111 (p/bk). colour photographs.

Field guide to the more conspicuous macrofungi of the Lower Eyre Peninsular of South Australia. Introductory section on fungal diversity, biology, habitats, and distribution. Good colour photos.

Shepherd CJ & Totterdell CJ (1988) Mushrooms and toadstools of Australia. Inkata Press,

Melbourne. 162 pp. ISBN 0909605513.

Contains an introduction, glossary, keys to orders, families and genera, macroscopic descriptions, and descriptions of spores. Also numerous colour photos.

Stephenson SL & Stempen H (1994) Myxomycetes: A handbook of Slime Molds.

Timber Press, Oregon USA. 200 pp. ISBN-10: 0881924393, ISBN-13: 9780881924398

This North American field guide covers many species (with keys). It does not necessarily cover all Australian genera or species, although some occur in common. It is however one of the clearest low-tech introductions to the group and contains excellent information on diagnostic characters to look for and on the biology and ecology of the group, with watercolours, line drawings and photos. This book is print-on-demand and is not available from the publisher's website (!), but can be ordered via Amazon or GoogleBooks.

Tait R (ed.) (2007) Fungi out west: some fungi of southern inland Queensland. Chinchilla Field Naturalists Club, Chinchilla, Qld. 154 pp. ISBN 9780980382402

A small handbook with photos and paintings of a variety of fungi from an area generally ignored by field guides. Reportedly contains a few mistakes but still useful if used with care. See review in *Fungimap Newsletter* no. 33 (2007) at <http://fungimap.org.au/>.

Wood AE (1990) Australian mushrooms and toadstools : how to identify them. Rev. edn.

University of New South Wales Press, Sydney, NSW. 45 pp. ISBN 0868400890.

Contains keys to the most common genera of fleshy gilled fungi.

Young AM (2001) 101 Forest fungi of eastern Australia. Version 1.0. Australia Biological Resources Study, Canberra / Knowledge Books & Software, Brighton QLD. CD-ROM

ELECTRONIC RESOURCE: INTERACTIVE on CD-ROM.

A user-friendly interactive key running on the LUCID system, with a good set of colour images, descriptions, and glossary diagrams. Out of print, but second-hand copies may circulate.

Young AM (2005) Fungi of Australia: Hygrophoraceae. Fungi of Australia Series. CSIRO Publishing / Australian Biological Resources Study (ABRS). 188 pp. ISBN 9780643091955

The family Hygrophoraceae includes some of the most conspicuous and beautiful gilled fungi. This volume provides identification keys to genera and species, descriptions of each taxon, and colour and line illustrations. RECOMMENDED

Young AM ('2005' [2004]) A field guide to the fungi of Australia. University of New South Wales Press, Sydney, NSW. 240 pp. ISBN-10: 0868407429; ISBN-13: 9780868407425.

Brief introduction to fungi in general, a key to common genera, followed by descriptions of more than 170 macrofungal species, illustrated with line sketches, colour paintings and photos. (Previous, smaller editions published as *Common Australian fungi : a naturalist's guide*, by same publisher). Now rather superseded by later works – for field guide, see e.g. Fuhrer 2010.