

Fungi of the Central Tablelands and Central West NSW

Identifying fungi

Fungi grow in almost every type of terrestrial ecosystem as well as aquatic environments. Particular fungi grow in association with particular climates, plants, habitats and substrate types. Hence, one of the first things to observe when identifying a fungus is the type of habitat in which it grows – for example, a dry eucalypt woodland, native grassland, pine plantation, riparian area or garden. Then note the substrate in which the fungus is growing – for example, soil, leaf litter, living tree, fallen log, grass, sand or herbivore scat. As with animals and plants, identifying fungi then requires close examination of various morphological features including the pileus (cap), hymenium (fertile surface) and stipe (stem).

This guide represents a selection of 96 species from hundreds, possibly thousands that grow in the diverse habitats of the Central Tablelands and Central West NSW. It includes some of the more conspicuous and distinctive species that are relatively easy to identify in the field. When identifying a fungus, try to find specimens of the same species at different growth stages, so you can observe the developmental changes that can occur. Also note the variation in colour and shape that can result from exposure to different weather conditions, such as wind, sun, frost and rain. This will give you a sense of the range of variation within the species. Also, take a little mirror with you so you can observe the nature of the underside (hymenium) of specimens.

Naming fungi

Each species is represented by a scientific name and a common name (where one exists). The majority of Australian fungi are yet to be formally named and some are only identified to genus level. Some names also have the qualifier 'group' (gp), which means it is part of a species complex. Species that are part of the Fungimap mapping scheme are indicated by an asterisk (*).

Australian field guides

Grey P & Grey E (2005) *Fungi Down Under*. Fungimap, Melbourne.
McCann I (2003) *Australian Fungi Illustrated*. Macdown, Melbourne.
Moore S, O'Sullivan P (2013) *Fungi of the Hunter-Central Rivers Region*. HRCRMA, NSW.
Young A (2005) *A Field Guide to the Fungi of Australia*. UNSW Press, Sydney.

Further reading on fungi

Marren P (2012) *Mushrooms*. British Wildlife Publishing, Dorset.
McCoy P (2016) *Radical Mycology*. Chthaeus Press, Oregon.
Moore D, Robson G, Trinci A (2011) *20th Century Guidebook to Fungi*. CUP, Cambridge.
Pouliot A (2018) *The Allure of Fungi*. CSIRO Publishing, Melbourne.

Online resources

Fungimap www.fungimap.org.au
Australian National Botanic Gardens www.anbg.gov.au/fungi
Atlas of Living Australia www.ala.org.au
iNaturalist Australia www.inaturalist.org.au
Orange Agricultural Institute www.dpi.nsw.gov.au

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Local Land Services



National Landcare Program

Agarics



Agaricus bitorquis
pavement mushroom
■ LAMELLAE S



Bolbitis tibans
egg-yolk fieldcap
■ LAMELLAE S



*Cortinarius archeri**
emperor cortinar
■ LAMELLAE M



*Amanita muscaria**
fly agaric
■ LAMELLAE M



*Collybia euclyptorum**
■ LAMELLAE S



Cortinarius australiensis
skirt webcap
■ LAMELLAE M



*Amanita xanthocephala**
vermillion grisette
■ LAMELLAE M



Copinellus disseminatus
fairy inkcap
■ LAMELLAE S



Cortinarius austrovenetus
green skinhead
■ LAMELLAE M



*Armillaria luteobubalina**
Australian honey fungus
■ LAMELLAE S, P



*Coprinus comatus**
lawyer's wig
■ LAMELLAE S



Cortinarius clelandii gp.
■ LAMELLAE M

Agarics



Cortinarius sp.
■ LAMELLAE M



Galerina patagonica gp*
funeral bell
■ LAMELLAE S



Hypholoma fasciculare
sulphur tuft
■ LAMELLAE S



Cortinarius rotundisporus
elegant blue webcap
■ LAMELLAE M



*Gymnopilus junonius**
spectacular rustgill
■ LAMELLAE S



Lactarius deliciosus
saffron milkcap
■ LAMELLAE M



*Cortinarius sinicolor**
slimy yellow cortinar
■ LAMELLAE M



Hygrocybe sp.
waxcap
■ LAMELLAE S



*Lactarius eucalypti**
eucalypt milkcap
■ LAMELLAE M



*Cruentomycena viscidocruenta**
ruby bonnet
■ LAMELLAE S



Hypholoma australianum
■ LAMELLAE S



*Lepista nuda**
blewit
■ LAMELLAE S

Agarics



*Leratiomyces ceres**
redlead roundhead
■ LAMELLAE S



*Marasmius alveolaris**
■ LAMELLAE S



Mycena clarkeana
■ LAMELLAE S



Leucoagaricus leucothites
white dapperling
■ LAMELLAE S



*Marasmius elegans**
velvet parachute
■ LAMELLAE S



Mycena epipterygia
yellow-stemmed mycena
■ LAMELLAE S



Leucopaxillus euclyptorum
■ LAMELLAE S



Marasmius oreades
fairy ring mushroom
■ LAMELLAE S



*Mycena interrupta**
pixies parasol
■ LAMELLAE S



*Macrolepiota clelandii**
Australian parasol
■ LAMELLAE S



Mycena albidofusca
white-crowned mycena
■ LAMELLAE S



Mycena vinacea
■ LAMELLAE S

Agarics



*Omphalotus nidiformis**
ghost fungus
■ LAMELLAE S, P



*Psilocybe subaeruginosa**
golden top
■ LAMELLAE S



Russula persanguinea
■ LAMELLAE M



Oudemansiella gigaspora gp.
rooting shank
■ LAMELLAE S



Rhodocollybia butyracea gp.
buttery collybia
■ LAMELLAE S



Schizophyllum commune
split gill
■ LAMELLAE S



Panus fasciatus
hairy trumpet
■ LAMELLAE S



Rickenella fibula
orange moss-cap
■ LAMELLAE P



Tricholomopsis rutilans
plums and custard
■ LAMELLAE S



Protothoparia semiglobata
dung roundhead
■ LAMELLAE S



Russula clelandii gp.
■ LAMELLAE M



*Volvoleptus gloiocephalus**
rose-gilled grisette
■ LAMELLAE S

Fungi with Pores

Pores / Tooth Fungi / Corals / Jellies

Jellies / Stinkhorns / Birdsnests / Earthstars / Puffballs

Cups / Discs / Clubs / Pins / Morels / Lichens



Boletus barragensis
PORE M



Coltricia australis
fairy stool
PORE S



Lentinus arcularius
fringed polypore
PORE S



Trametes coccinea
scarlet bracket
PORE S, P



Artomyces austroperatus
peppery coral fungus
CORAL M



Ramaria lorithamnus
yellow coral
CORAL M



*Tremella fuciformis**
white brain
JELLY S



Cyathus striatus
fluted bird's nest
BIRDSNEST S



Calvatia lilacina
purple-spored puffball
PUFFBALL S



*Aleuria aurantia**
orange peel fungus
CUP S



*Drechmeria gunnii**
dark vegetable caterpillar
CLUB P



*Lichenomphalia chromacea**
yellow navel
LICHEN Y



*Boletellus obscurecoccineus**
rhubarb bolete
PORE M



Fistulina hepatica
beefsteak fungus
PORE S



Phaeolus schweinitzii
dyer's mazingill
PORE S



Trametes versicolor
rainbow fungus
PORE S



Clavulina rugosa
wrinkled coral
CORAL M



Ramaria versatilis var. latispora
purple vinaceous coral
CORAL M



*Tremella mesenterica gp**
yellow brain
JELLY S



*Nidula emodensis gp**
BIRDSNEST S



Pisolithus marmoratus
horse dung fungus
PUFFBALL M



Phaeohelotium baileyannum
yellow earth button
DISC S



Ophiocordyceps robertsii
vegetable caterpillar
CLUB P



Sarcogyne sekikaica
LICHEN Y



*Phlebopus marginatus**
giant bolete
PORE M



*Hexagonia vesparia**
honeycomb fungus
PORE S



Piptoporus australiensis
curry punk
PORE P



Hydnum crocoidens gp.
echidna fungus
TOOTH S



*Mucronella pendula**
icicle
CORAL S



Calocera sinensis gp.
pretty horn
JELLY S



Clathrus archeri
octopus stinkhorn
STINKHORN S



*Geastrum fornicatum**
arched earthstar
EARTHSTAR S



Podaxis pistillaris
black powderpuff
PUFFBALL S



Poronia erici
small dung button
DISC S



Leotia lubrica
jelly baby*
PIN S



Xanthoparmelia metastrigosa
LICHEN Y



Suillus luteus
slippery jack
PORE M



*Laetiporus portentosus**
white punk
PORE S



Ryvardenia campyla
weeping polypore
PORE P



Phellodon niger gp.
black tooth
TOOTH M



Ramaria anziana
orange & salmon pink coral
CORAL M



*Heterotextus peziziformis gp**
golden jelly bells
JELLY S



*Ileodictyon gracile**
smooth cage
STINKHORN S



Geastrum triplex
collared earthstar
EARTHSTAR S



Scleroderma sp.
earthball
PUFFBALL M



*Scutellinia scutellata gp**
eyelash pixie cup
DISC S



Morchella sp.
morel
MOREL S/M



Xanthoparmelia sulcifera
LICHEN Y

Aboriginal use of fungi

Aboriginal people, including those of the Central Tablelands and Central West of NSW (Wiradjuri, Gamilaroi, Wailwan and Wongaubon) have used fungi potentially for tens of thousands of years as food and medicine, as well as for various utilitarian and decorative uses.

The conspicuous scarlet bracket (*Trametes coccinea*) grows on dead wood and is widespread in the region. It is known for its antibiotic compounds and is used medicinally by the Wiradjuri people to cure infections, sores and ulcers in the mouth.

Another polypore, the white punk (*Laetiporus portentosus*) is used in various ways as tinder, to carry fire and as a light source (it burns slowly over a long time when ignited). Wiradjuri Elder Trisha Carroll recalls collecting this species as a child for use as a light source. Wiradjuri man Greg Ingram, tells how bracket fungi were used like steps to climb trees when looking for bees. There are records elsewhere in the country of the white punk being eaten as food.

The black powderpuff (*Podaxis pistillaris*) grows in the drier regions and its black spores were/are used by various desert people for body decoration and to darken the greying whiskers or hair of old men, as well as to repel flies. This species grows in desert areas elsewhere in the world where its antibacterial properties are used to treat skin disease and soothe sunburn.

All three species are illustrated in this guide.

Fungus conservation

Biodiversity conservation in Australia has largely focussed on fauna and flora but fungi are finally starting to be included. Like animals and plants, fungi are prone to environmental stresses that can damage or destroy them. Maintaining a diversity of fungi is key to resilient ecosystems. To maximise the diversity of fungi on your property or in your land rehabilitation project, endeavour to:

- Maintain or create diverse habitats – in particular, retain a diversity of organic matter from large old logs through to fine organic matter such as sticks and leaves. This provides specialist micro-habitats and micro-climates that accommodate a greater range of fungi.
- Minimise disturbance such as digging, tilling, ploughing, raking, soil compaction, over-watering, fire and chemical use.
- Retain and protect existing remnant vegetation – the larger and more diverse, the better. Remnants are critical elements of functioning ecosystems that are more difficult to recreate through revegetation. Fence remnants to limit or exclude stock.
- If planting in cleared land, aim to create linkages with existing remnant vegetation. Remember that fungi such as truffles and truffle-like fungi rely on native Australian mammals for spore distribution. Therefore, aim to increase the size and quality of existing remnants and create or expand wildlife corridors wherever possible.
- Participate in conservation covenant agreements to provide permanent protection.
- Investigate grants and incentives for habitat restoration.
- Contribute your knowledge by participating in survey and monitoring programs and submit your fungus records to databases such as the Atlas of Living Australia.
- Join a group involved in fungi such as Fungimap or Field Naturalists Clubs.

Central Tablelands and Central West NSW

The Central Tablelands and Central West NSW incorporate a range of habitat types such as tall montane forests, grassy woodlands, outcrop heaths and shrublands, with more arid environments to the west. Large tracts of the region have also been substantially altered for agriculture, with a subsequent loss of biodiversity including fungi.

Mt Canobolas State Conservation Area

Within the region, the Mt Canobolas State Conservation Area (SCA) is recognised for its ecological, scientific and conservation significance. It forms a remnant of distinct montane and sub-alpine vegetation that harbours a diverse and unusual mix of arid zone, alpine and temperate rainforest species. These include over 200 regionally significant plant and fungus species, 14 of which are listed as threatened. It also harbours many endemic taxa.

Endangered Mt Canobolas Xanthoparmelia lichen community

Lichens are among the best known fungi in Australia. Every lichen consists of a fungus and alga in symbiosis. The combined attributes of life in symbiosis allow lichens to withstand acute temperatures, desiccation, irradiation, salinity and extreme fluctuations that are intolerable to most other life, earning them the moniker of 'extremophiles'.

The Mt Canobolas *Xanthoparmelia* Lichen Community, is unique to the volcanic province. Four lichens are recognised as endemic to the SCA: *Gyalidea halocarpa*, *Sarcogyne sekikaica*, *Megalania montana* and *Xanthoparmelia metastrigos*. An assemblage of at least nine species of foliose lichens, including the endemic *X. metastrigosa*, is listed as an Endangered Ecological Community and gazetted as the Mt Canobolas *Xanthoparmelia* Lichen Community Endangered Ecological Community (Scientific Committee 2001). Occurring mostly above 1100 m, the assemblage includes: *Cladia fuliginosa*, *Xanthoparmelia canobolasensis*, *X. digitiformis*, *X. metaclystoides*, *X. metastrigosa*, *X. multipartita*, *X. neoralis* and *X. sulcifera*.

How fungi feed

Fungi obtain food in different ways, referred to as trophic modes. Most are recyclers (saprotrophs), breaking down organic material and releasing nutrients, while others form mutually beneficial relationships (mycorrhizas) with plants. Other fungi are parasitic, deriving nutrition from a living host. All fungi play a vital role in ecosystem function.

The trophic mode for each species is indicated by the letters: S=saprotrophic; M=mycorrhizal; P=parasitic; Y=symbiotic.

Major fungus morphogroups

Fungi can be categorised in arbitrary groups based on their form, shape or texture, known as morphogroups. The most well-known are the agarics – mushrooms that usually have an umbrella-like shape with lamellae (thin radiating plates also called gills) beneath the pileus (cap). Other familiar morphogroups include puffballs, jellies, corals, clubs, discs and polypores. Species in this guide are arranged within morphogroups.

Fungus substrates

Fungi grow in different substrates including soil, living or dead wood, leaf litter, native animal scats, invertebrates, and other fungi. The type of substrate where each species is usually found is indicated with the following colour codes:

soil, wood, dung, moss, invertebrate.

Major features of a mushroom

