

Fungi of North East Victoria

An Identification and Conservation Guide

North East Victoria encompasses an area of almost 20,000 km², bounded by the Murray River to the north and east, the Great Dividing Range to the south and the Warby Ranges to the west. From box ironbark woodlands and heathy dry forests, open plains and wetlands, alpine herb fields, montane grasslands and tall ash forests, to your local park or backyard, fungi are found throughout the region. Every fungus species contributes to the functioning, health and resilience of these ecosystems.

Identifying Fungi

This guide represents 96 species from hundreds, possibly thousands that grow in the diverse habitats of North East Victoria. It includes some of the more conspicuous and distinctive species that can be recognised in the field, using features visible to the naked eye or with a x10 magnifier.

When identifying a fungus, try and 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 varying weather conditions. 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 of the specimen.

Fungus Names

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 'gp' (group), 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

- Clusker J & Wallace R (2018) *Fungi of the Bendigo Region*. Clusker and Wallace, Bendigo.
- Fuhrer B (2011) *A Field Guide to the Fungi of Australia*. Bloomings Books, Melbourne.
- Grey P & Grey E (2005) *Fungi Down Under*. Fungimap, Melbourne.
- McCann I (2003) *Australian Fungi Illustrated*. Macdown, Melbourne.
- 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.

Websites of Interest

- 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
- Landcare Australia www.landcareaustralia.org.au

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Agarics			Agarics			Agarics			Agarics		
Agaricus xanthodermus* yellow stainer ■ LAMELLAE S	Armillaria luteobubalina* Australian honey fungus ■ LAMELLAE S, P	Coprinellus disseminatus fairy bonnet ■ LAMELLAE S	Cortinarius austroalbidus Australian white webcap ■ LAMELLAE M	Cortinarius sublargus fairy bonnet ■ LAMELLAE M	Galerina patagonica gp* funeral bell ■ LAMELLAE S	Hypoholoma fasciolaria sulphur tuft ■ LAMELLAE S	Lepista nuda* blewit* ■ LAMELLAE S	Mycena albidofusca white-crowned mycena ■ LAMELLAE S	Mycena nargan* Nargan's bonnet ■ LAMELLAE S	Protostrongylaria semiglobata dung roundhead ■ LAMELLAE S	Russula clelandii gp. ■ LAMELLAE M
Amanita farinacea gp* Australian flour lepidella ■ LAMELLAE M	Austropaxillus infundibuliformis* Australian funnel pax ■ LAMELLAE S, M	Coprinus comatus* lawyer's wig ■ LAMELLAE S	Cortinarius austrovenetus green skinhead ■ LAMELLAE M	Crepidotus variabilis variable oysterling ■ LAMELLAE S	Gymnopilus junonius* spectacular rustgill ■ LAMELLAE S	Lactaria aspersopora weeping widow ■ LAMELLAE S	Leratiomyces cereus redleak roundhead ■ LAMELLAE S	Mycena cystidiosa* tall mycena ■ LAMELLAE S	Omphalotus nidiformis* ghost fungus ■ LAMELLAE S, P	Psilocybe subaeruginosa* golden top ■ LAMELLAE S	Russula persanguinea ■ LAMELLAE M
Amanita muscaria* fly agaric ■ LAMELLAE M	Chlorophyllum brunneum* shaggy parasol ■ LAMELLAE S	Cortinarius aerolotoimbricatus ■ LAMELLAE M	Cortinarius persplendidus ■ LAMELLAE M	Cruentomycena viscidocruenta* ruby bonnet ■ LAMELLAE S	Hygrocybe sp. waxcap ■ LAMELLAE S	Lactarius deliciosus saffron milkcap ■ LAMELLAE M	Macrolepiota clelandii* Australian parasol ■ LAMELLAE S	Mycena epipterygia yellow-stemmed mycena ■ LAMELLAE S	Oudemansiella gigaspora gp. rooting shank ■ LAMELLAE S	Rhodocollybia butyracea buttery collybia ■ LAMELLAE S	Schizophyllum commune split gill ■ LAMELLAE S
Amanita xanthocephala* vermillion grisette ■ LAMELLAE M	Collybia eucalyptorum* ■ LAMELLAE S	Cortinarius archeri* emperor cortinar ■ LAMELLAE M	Cortinarius sinapicolor* slimy yellow cortinar ■ LAMELLAE M	Flammulina velutipes velvet shank ■ LAMELLAE S	Hypoholoma australianum ■ LAMELLAE S	Lactarius eucalypti* eucalypt milkcap ■ LAMELLAE M	Marasmius elegans* velvet parachute ■ LAMELLAE S	Mycena interrupta* pixies parasol ■ LAMELLAE S	Paxillus involutus gp. funnel pax ■ LAMELLAE S	Roridomyces austrororidus ■ LAMELLAE S	Volvoleptus gloiocephalus* rose-gilled grisette ■ LAMELLAE S

Fungi with Pores

Pores / Tooth Fungi / Corals

Jellies / Stinkhorns / Birdsnests / Earthstars / Puffballs

Cups/Discs/Truffle-like Fungi/Clubs/Morels/Lichens

Auroboletus lacunosus gp* ■ PORE M	Phylloporus sp. gilled bolete ■ PORE M	Grifola colensoi ■ PORE S	Phaeolus schweinitzii dyer's mazegill ■ PORE S	Trametes coccinea scarlet bracket ■ PORE S, P	Artomyces austropiperatus peppery coral fungus ■ CORAL S	Calocera sinensis gp. pretty horn ■ JELLY S	Ileodictyon gracile* smooth cage ■ STINKHORN S	Geastrum triplex collared earthstar ■ EARTHSTAR S	Aleuria aurantia* orange peel fungus ■ CUP S	Rhizopogon luteolus yellow false truffle ■ TRUFFLE-LIKE FUNGUS M	Chrysothrix candelaris* gold dust lichen ■ LICHEN Y
Boletus barragensis ■ PORE M	Suillus granulatus slippery jack ■ PORE M	Hexagonia vesparia* honeycomb fungus ■ PORE S	Podoscypha petalodes rosette fungus ■ PORE S	Trametes versicolor rainbow fungus ■ PORE S	Ramaria anziana orange & salmon pink coral ■ CORAL M	Heterotextus peziziformis gp* golden jelly bells ■ JELLY S	Cyathus striatus fluted bird's nest ■ BIRDSNEST S	Calostoma fuscum common prettymouth ■ PUFFBALL S	Anthracobia muelleri charcoal cup ■ DISC S	Zelleromyces sp. ■ TRUFFLE-LIKE FUNGUS M	Flavoparmelia rutidota greenshield lichen ■ LICHEN Y
Boletellus obscurecoccineus* rhubarb bolete ■ PORE M	Coltricia australica fairy stool ■ PORE S	Laetiporus portentosus* white punk ■ PORE S	Postia pelliculosa furry punk ■ PORE S	Phellodon niger gp. black tooth ■ TOOTH M	Ramaria capitata var. capitata pale cauliflower coral ■ CORAL M	Tremella fuciformis* white brain ■ JELLY S	Astraeus hygrometricus barometer earthstar ■ EARTHSTAR M	Pisolithus marmoratus horse dung fungus ■ PUFFBALL M	Poronia erici small dung button ■ DISC S	Drechmeria gunnii* dark vegetable caterpillar ■ CLUB P	Lichenomphalia chromacea* yellow navel ■ LICHEN Y
Phlebopus marginatus* giant bolete ■ PORE M	Fistulina hepatica beefsteak fungus ■ PORE S	Lentinus arcularius fringed polypore ■ PORE S	Stereum hirsutum* hairy curtain crust ■ PORE S	Phlebia subceracea golden splash tooth ■ TOOTH S	Ramaria fennica var. fumigata lavender coral ■ CORAL M	Clathrus archeri octopus stinkhorn ■ STINKHORN S	Geastrum fornicatum* arched earthstar ■ EARTHSTAR S	Scleroderma sp. earthball ■ PUFFBALL M	Pyronema omphalodes ■ DISC S	Morchella sp. morel ■ MOREL S/M	Lichenomphalia umbellifera ■ LICHEN Y

Trophic Modes

Fungi obtain food in different ways, referred to as trophic modes. Many are recyclers (saprotrophs), breaking down organic material and releasing nutrients, while others form mutually beneficial relationships (mycorrhizas) with plants. One of the most well-known unions or symbioses is that of lichens, formed between an alga/e and a fungus. Other fungi are parasitic, deriving nutrition from a living host. All three types of 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.

The reproductive structures of fungi such as mushrooms, puffballs and jellies (collectively referred to as sporophores), alert us to the presence of fungi. However, the actual fungus organism exists as a matrix of long cells called hyphae that form the fungus mycelium. Under particular conditions, usually related to an increase in moisture and decrease in temperature, the mycelium produces sporophores.

Major Fungus Morphogroups

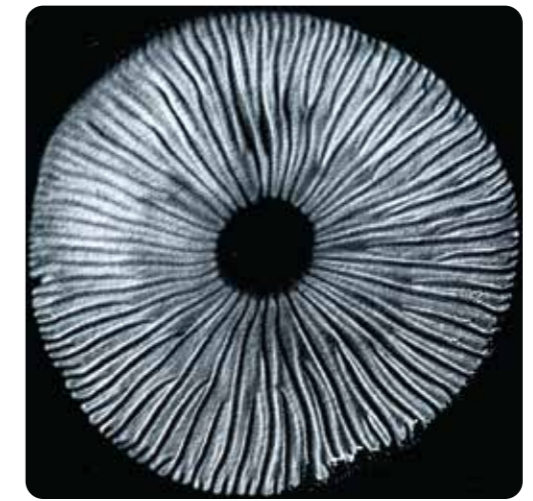
Fungi can be categorised in arbitrary groups based on their form, shape or texture, known as morphogroups. The most well-known are the agarics – mushrooms that usually have an umbrella-like shape with lamellae (thin radiating plates, also called gills) beneath the pileus (cap). Other familiar morphogroups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

Fungus Substrates

Fungi grow in different substrates including soil, living or dead wood, leaf litter, 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, ■ invertebrate.

Spore Prints

Spore colour is an important diagnostic feature when identifying fungi. You can often see spores that have accumulated on the stipe or directly beneath the fungus. This is more apparent with some species than others, for example, with the rust coloured spores of *Gymnopilus junonius* (spectacular rust gill). If you cannot see any spores, find a suitable specimen – one that is not too young, too dried out, or too old – to make a spore print.



Spore print from *Oudemansiella gigaspora* (rooting shank)

Fungi and Fire

Fire affects fungi by altering or destroying their habitats, food sources and plant partners; reducing soil structure and nutrient availability; and affecting interactions with other organisms, especially mycophagous (fungus eating) animals. Like some animals and plants, some fungi are adapted to cope with fire. While many fungi cannot tolerate and are destroyed by fire (e.g. many lichens), others are stimulated by fire and its subsequent effects. These are known as carbonicolous (coal-inhabiting), pyrophilous (fire-loving) or phoenicoid (derived from Phoenix) fungi. With some fungi, the heat from fire can stimulate spore germination. Other fungi respond to the increase in soil alkalinity following fire. Others still capitalise on the soil-sterilising effect of fire and the reduced competition from soil micro-organisms.

Ecosystems and their inhabitants are especially vulnerable following fire and soils are typically unstable and friable. Fungi play a vital role as soil stabilisers and remediators in kickstarting the recovery process. Fungi provide scaffolds of mycelia that assist in binding together soil particles and ash following fire. This not only stabilises soils but provides the possibility for moisture and nutrients to accumulate, thereby facilitating seed germination and colonisation by plants.

Four species in this guide *Cortinarius sublargus*, *Anthracobia muelleri*, *Pyronema omphalodes* and *Morchella* sp., are known to respond to fire.

Fungus Conservation

Fungi are sensitive to environmental stresses that can damage or destroy them. A diversity of fungi is key to a resilient ecosystem. To maximise the diversity of fungi on your property or in your land rehabilitation project endeavour to:

- Create diverse habitats – in particular, retain a diversity of organic matter from large old logs and stags 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, ploughing, raking, over-watering, soil compaction, chemical use and inappropriate use of fire.
- Retain and protect existing remnants – 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 records of fungi to databases such as the Atlas of Living Australia.
- Join a group involved in fungi such as Fungimap, Field Naturalists Clubs or Landcare.

Edible & Poisonous Fungi

Foraging for edible fungi is a popular pastime but be aware that deadly poisonous species exist in Australia that have caused fatalities. Only ever eat a wild foraged fungus if you are 100% sure of its identity and know that its edibility has been confirmed by a reliable source.

In the event of a suspected poisoning call:
Poisons Information Centre Hotline: 13 11 26 (all states and territories).
 Remember that it is illegal to collect fungi on public land without a written permit.