State Herbarium Factsheet

Government of South Australia

EDIBLE AND POISONOUS FUNGI

WARNING!

Many people like the idea of eating fungi from 'the field'. However, there are no safe rules for identifying edible fungi. You can't tell if a fungus is edible or poisonous. There are stories that you can. For instance:

- If you peel it, it is edible. **No.** The Death Cap peels and its name tells you what it can do.
- If it's poisonous it will make silver turn black. **No**. Poisonous Amanitas do not blacken silver.
- If an animal eats it, it's OK for humans. **No**. Slugs eat the Death Cap – and live!
- If it tastes good it's safe. **No**.
- If it smells mushroomy, it's safe. **No**. Many mushrooms, including poisonous ones, smell mushroomy.
- If it doesn't grow under a tree it's all right to eat. **No**. Some tiny brown, bell like fungi, called *Galerina*, are poisonous and grow amongst moss.

Some people are allergic to some species of fungi.

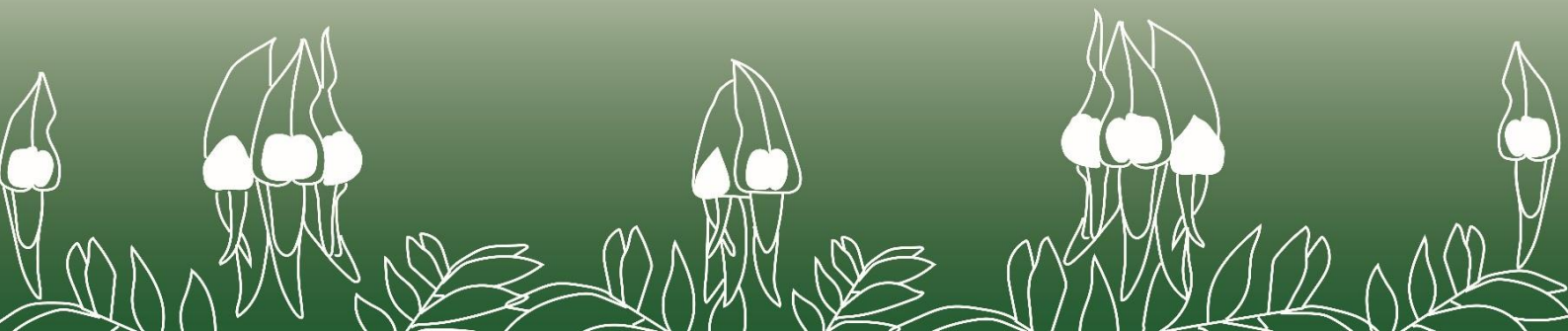
Some people can eat some species while others may be badly affected by eating the same species. An example is the Yellow Stainer (*Agaricus xanthodermus*), which is responsible for most of the fungal poisonings in Australia. Symptoms of poisoning by Yellow Stainers include nausea, vomiting, stomach cramps and diarrhoea.

The Yellow Stainer is very similar to the field mushroom (*Agaricus campestris*), but has whitish gills when young rather than pinkish ones, and the young mushrooms have a square-shaped cap. When scraped, the flesh of cap and stem turn yellow, although older specimens may not react in this way. They are also unpredictable in effect: the same person may eat them and not suffer one time, but have very unpleasant gastric symptoms on another occasion.

The Death Cap fungus (*Amanita phalloides*) is lethal even in small doses. Almost all Amanitas, recognisable by the volva and ring, contain poisonous amatoxins. The Death Cap has caused fatalities in Australia.

There are many poisonous species of fungi and their toxic effects vary with the type of poison they produce. Different poisons act in different ways on different parts of the body.

NB: *You must have a permit to collect fungi from any land other than private property. Written permission is required from owners of private land. The SA Department of Environment, Water and Natural Resources issues permits for those conducting scientific research. Permit holders are subject to strict regulations and requirements.*



Some poisonous fungi

Death Cap Fungus, *Amanita phalloides*. Beware the Amanitas! Some are deadly. All of them have a ring around the stalk, a sac around the stem base and white gills and spores. Though some Amanitas are edible, it is safer to avoid the lot. After eating the Death Cap there are no symptoms for 6–24 hours. Then violent vomiting, diarrhoea and pain for a day or two. After that the liver and kidneys collapse and the eater dies. The Death Cap has been introduced to Australia and is now found in South Australia, Victoria, New South Wales and ACT. It has recently been found in Tasmania.

The **Ghost Fungus**, *Omphalotus nidiformis*, causes vomiting, diarrhoea and pain in the abdomen. It looks rather like the edible Oyster Mushroom, *Pleurotus ostreatus*, a mushroom that you can buy in shops.

The **Yellow Stainer**, *Agaricus xanthodermus*, causes bad pains in the abdomen and vomiting and diarrhoea. It looks very like the ordinary mushroom, but turns a bright yellow if you rub its cap or stem. Not everyone who eats it gets sick, but lots of people in Adelaide have been made ill by it.

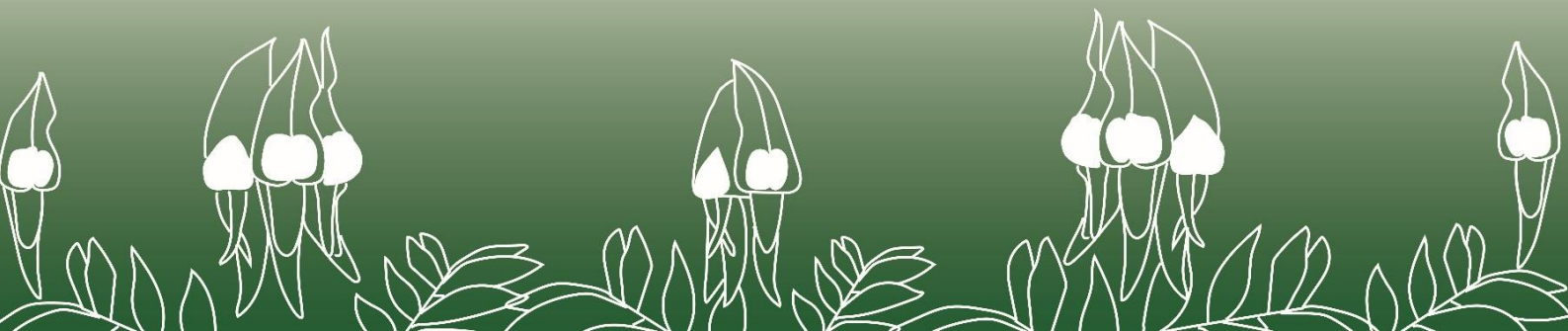
The **Fly Agaric**, *Amanita muscaria*, may cause varying symptoms: nausea, sweating, agitation and hallucinations. The effects are highly variable in different people and in different circumstances.

Fungi are hard to identify. It is essential that anyone collecting and eating fungi in the field is able to identify what they eat. Unless you are completely sure that you have identified the fungus, don't eat it. — IF IN DOUBT, DON'T EAT IT!

Rarely is there only one character that will identify a particular species of fungus, it is usually a combination of a number of characters. For example, the Death Cap may be identified from its

- greenish olive cap (though this colour can be highly variable)
- whitish membranous remains of the veil on the cap (this may be absent in some specimens)
- gills that are free from the stalk (this is sometimes difficult to determine, especially in older specimens)
- white gills (they may darken slightly with age)
- ring on its stalk (this can have been rubbed off or have withered)
- sac-like volva (bag) around the base of the stalk (this is often very fragile and may have decayed)
- spores and other microscopic characters.

IF IN DOUBT, THROW IT OUT!



Reasons why the edibility of a fungus is unknown

Little is known about edibility and toxicity of Australian fungi, including mushrooms. In Asia and Europe there is a history of many hundreds, if not thousands, of years of trial and error: consequently, far more is known about the effects of eating particular fungi. If it is noted that a person has died after eating a particular fungus, it is then recognised that that fungus may have been the cause of death. And if numerous people have eaten the same fungus and died, then obviously that species can be fatal if eaten.

There are many 'look-alikes'. For instance, some specimens of the Death Cap can look remarkably like an edible species, *Volvariella volvacea*, the Paddy Straw Mushroom that is grown in Asia.

Fungi may cause allergies in some people. The spore load of Oyster Mushrooms, species of *Pleurotus*, has caused severe allergies in harvesters of these mushrooms, a condition sometimes called 'mushroom lung'. Consequently, people working in these conditions wear breathing apparatus to minimise spore inhalation.

Fungi growing on roadsides should not be eaten. Fungi are good at absorbing many substances, including harmful vehicle exhaust substances and chemical sprays.

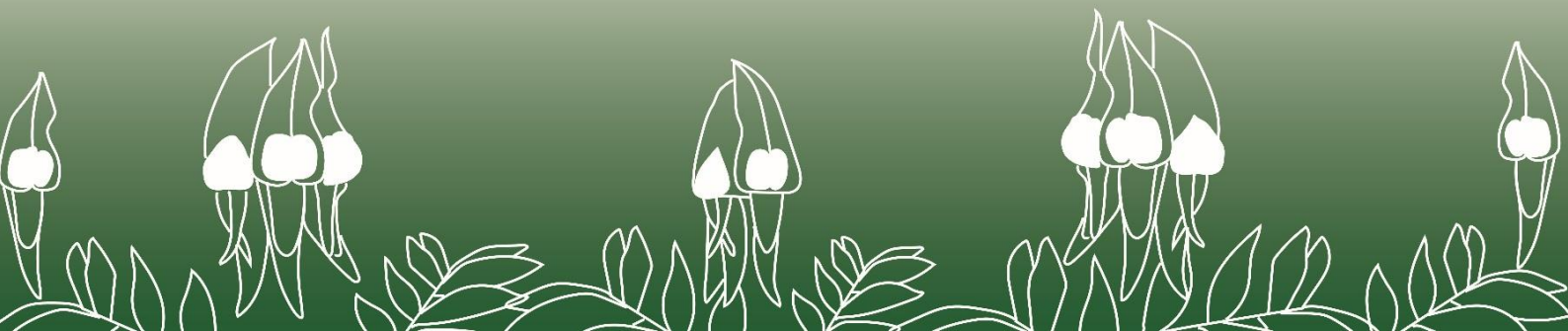
Fungi may become infected with other organisms such as bacteria. These may produce toxic substances.

Some species of fungi have not been recognised as poisonous for a number of years. *Paxillus involutus*, Common Roll-rim, was eaten in parts of Europe, but is now known to cause sudden onset of immune haemolytic anaemia, which can be fatal. This condition does not appear for several years after consumption.

Fungi may interact with other food or drink substances. For example, a species of Inkcap, *Coprinopsis atramentaria* (previously *Coprinus atramentarius*), produces a substance that is very similar to Antabuse, used in the treatment of alcoholics. If the *Coprinopsis* is consumed with alcohol it can lead to very unpleasant effects.

REMEMBER: IF IN DOUBT, DON'T EAT IT!

See also two separate State Herbarium Factsheets on Death Cap and Yellow Stainer.



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