



Guidelines to poisonous mushrooms in KwaZulu-Natal

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From time to time reports appear in the Media that there has been an incident of mushroom poisoning. Sadly, these reports tend to highlight only those cases where fatalities have occurred.

It should be remembered that for mushrooms to fruit and produce what we generally recognise as a 'mushroom', specific conditions of moisture, temperature and light intensity have to occur simultaneously. Such conditions tend to manifest during spring and summer.

In South Africa alone it is estimated that there are more than 171 500 species of mushroom (Gryzenhout, 2010). Contrary to popular belief, not all mushrooms are toxic or poisonous.

Of all the mushrooms identified throughout the world, less than 1% are considered lethal (Chang and Miles, 2004). Of these, 32 species have been associated with fatalities (Ford *et al.*, 2001).

Notwithstanding, 'wild' mushroom collectors need to be extremely careful to correctly identify any mushroom they wish to eat.

Common sense precautions - careful and accurate identification are essential for safe consumption of mushrooms collected in their natural or 'wild' state.

The same precautions need not be followed with cultured mushrooms which are specifically grown on commercial mushroom farms for sale to the public.

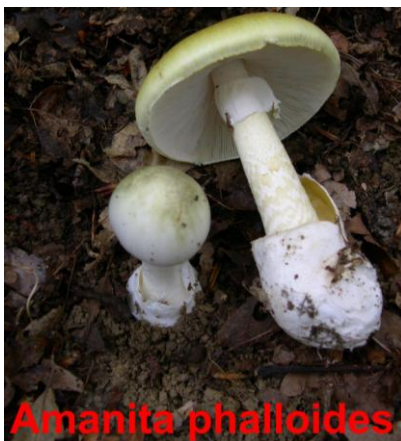


Figure 1a: Example of a poisonous mushroom growing in its natural or 'wild' state

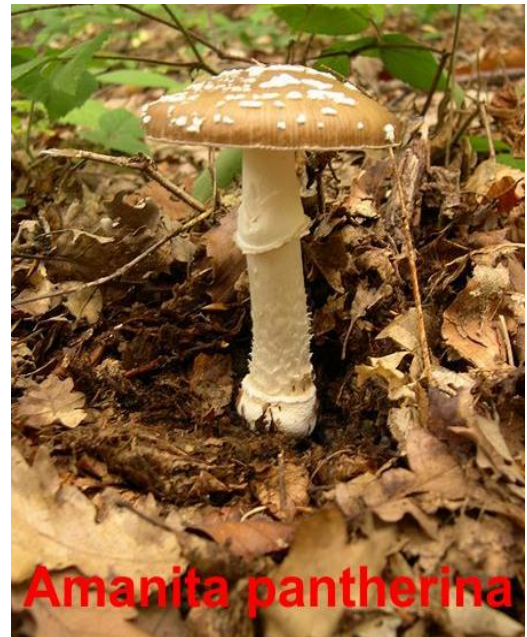


Figure 1b: Example of a poisonous mushroom growing in its natural or 'wild' state

Myths

Many myths surround 'wild' mushrooms. They are, essentially, "untrue" and should be treated as such. These include:

- "All mushrooms are poisonous". This is clearly not the case.
- "Poisonous mushrooms are brightly coloured". In fact, the most toxic mushroom (see Figure 1a: *Amanita phalloides* - the "Death Cap") is white, sometimes with a green tinge to the cap. The gills are white.
- "Poisonous mushrooms taste and smell bad". Many poisonous mushrooms are palatable.
- "Poisonous mushrooms blacken silver spoons/old silver coins." None of the poisonous mushrooms have any effect on silver.
- "Any mushroom can be safely eaten if they have been cooked" Cooking does not necessarily neutralise the toxins within poisonous mushrooms.
- "As long as the gills are pink you can eat them". Untrue.

- “Touching a poisonous mushroom will kill you”. Untrue.
- “Edible mushrooms peel easily” Most mushrooms can be peeled easily.
- “If an animal eats it, I can eat it”. Some insects and animals safely eat poisonous mushrooms that are toxic to people.



Figure 2: *Amanita pantherina* showing warts and ring (annulus) on stem



Figure 3: *Amanita pantherina* showing volva at base of stem and white gills

Guidelines for picking wild mushrooms

- **Always identify the mushroom accurately. Make use of a good text book or field guide to determine if it is edible. Eat only mushrooms which have been positively identified as edible. If any doubt exists, leave it alone!**
- Before eating a wild mushroom, get an expert to identify it: “Mushrooms in the fairly common *Amanita* genus are responsible for most mushroom-poisoning cases and can easily be mistaken for the generally edible *Agaricus* species” (Gryzenhout, 2010).
- Avoid mushrooms with warts on the cap (see Figure 2).
- Avoid mushrooms with a ‘cup’ or ‘bulb’ (volva) on the base of the stalk (see Figure 3).
- Avoid mushrooms with remnant of a ‘veil’ on the stipe/stem.
- Avoid mushrooms with white/light coloured gills (see Figure 3).

- Always teach children to ask first before picking or touching mushrooms.
- Avoid mushrooms with the base of the stem shaped like a bulb.
- Always keep some uncooked wild mushrooms for later identification if you experience adverse reactions.

What to do if you feel unwell and you think you may have eaten poisonous mushrooms or have had an allergic reaction to mushrooms

- Get to the nearest Emergency Hospital without delay.
- If possible, take a sample of the mushrooms with you.
- Be prepared to describe the source of the mushrooms, sequence of events before eating them and the symptoms you are experiencing.
- **THE EMERGENCY NUMBER FOR THE TYGERBERG POISON INFORMATION CENTRE IS: 021 931 6129**
- **THE EMERGENCY NUMBER FOR St Augustine’s Hospital is: 031 268 5559 or 031 268 5030**
- A useful website for Professional Medical Practitioners is:
http://academic.sun.za/stellmed/Articles/Basic_Sciences/AN10627.htm

References:

Ford, Marsha, Kathleen A., Delaney, Louis Ling, Timothy Erickson, 2001. *Clinical Toxicology*. USA: WB Saunders. ISBN 978-0-7216-5485-0.

Chang, S.T. and Miles, P.G., 2004. *Mushrooms: cultivation, nutritional value, medicinal effect and environmental impact*. CRC Press, Boca Raton, Florida.

Gryzenhout, Marieka, 2010. *Mushrooms of South Africa*. Struik Nature, Cape Town.

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