

Grey knight (*Tricholoma terreum*)[©]



Caps of the grey knight (*Tricholoma terreum*) are very common in New Zealand in radiata pine plantation forests and wherever pines are found from late summer until late autumn particularly in sheltered areas where the soil is damp. The caps are up to 10 cm diameter, light to mid grey and have a dry felt-like surface when dry. The gills are white to pale grey and the stalk is pure white, the stalk has no ring on it, and the flesh is white. Doing a spore print on black paper will show the pure white spores. You can learn about doing a spore print from this web site: http://www.namyco.org/spore_prints.php

These mushrooms can be found in markets around the world and in many books and web sites this mushroom is listed as edible. For example, see these web sites:

<http://ifood.tv/mushroom/tricholoma-terreum/about>

https://en.wikipedia.org/wiki/Tricholoma_terreum

<http://michiganmushroomhunters.org/Mushrooms/Featured%20mushrooms%20by%20month/November/Mushroom%20November%202011.htm>

However, recent work in China shows that this species is toxic and should not be eaten (Yin et al. 2014, 2015; <http://www.first-nature.com/fungi/tricholoma-terreum.php>) because it can result in rhabdomyolysis - the breakdown of muscle tissue that leads to the release of the protein myoglobin into the bloodstream and subsequent damage to the kidneys. Symptoms are:

- Muscle pain, especially in the shoulders, thighs or lower back
- Muscle weakness or trouble moving the arms or legs.
- Abdominal pain
- Nausea or vomiting
- Fever
- Rapid heart rate
- Confusion
- Dehydration
- Lack of consciousness.

Consumption of *Tricholoma equestre*, a similar species to the grey knight, is also known to produce rhabdomyolysis (Bedry et al. 2001). If you have eaten the grey knight or a similar species and you are experiencing any of the above symptoms either see your doctor or contact the New Zealand National Poisons Centre 0800-764 766.

Some further reading

Bedry, R et al. 2001. Wild-mushroom intoxication as a cause of rhabdomyolysis. *N. Engl. J. Med.* 345: 798-802. DOI: 10.1056/NEJMoa010581

<http://www.nejm.org/doi/pdf/10.1056/NEJMoa010581>

First Nature. 2016. *Tricholoma terreum* (Schaeff.) P. Kumm. - Grey Knight. <http://www.first-nature.com/fungi/tricholoma-terreum.php>

Rhabdomyolysis <http://www.webmd.com/a-to-z-guides/rhabdomyolysis-symptoms-causes-treatments>

Yin, X.; Feng, T.; Shang, J.H.; Zhao, Y.-L.; Wang, F.; Li, Z.-H.; Z.-J.; Dong, J.; Luo, X.-D.; Liu, J.-K. 2014. Chemical and toxicological investigations of a previously unknown poisonous European mushroom *Tricholoma terreum*. *Chem. Eur. J.* 20: 7001-7009 DOI: 10.1002/chem.201400226

Yin, X.; Feng, T.; Li, Z.-H.; Liu, J.-K. 2016. Response to the "Comment on chemical and toxicological investigations of a previously unknown poisonous European mushroom *Tricholoma terreum*". *Chem. Eur. J.* 22: 5789-5792. DOI : 10.1002/chem.201504410

