



# FUNGI FORAGERS

No. 7, February 2018

**OUR PURPOSE: TO RAISE AWARENESS AND INTEREST IN FUNGI OF THE CAIRNS REGION**

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This newsletter is not formally published and is not associated with any club or organisation, but is emailed free of charge to anyone who may be interested. Anyone who wishes to contribute to the newsletter with observations, anecdotes, corrections, comments or photographs is welcome to do so. Although this “newsletter” is science-based we try not to make it too “scientific”. We recognise that there are school children, bush-walkers and others just interested in fungi, and we hope this leaflet will become a medium for furthering that interest. The emphasis is on fungal biology rather than identification.

Barry Muir, Editor Jenn Muir

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## **Fungi and Weather over the Last Year**

The Cairns region was well provided with rain last year, with April, May and June getting close to average rainfalls, and July, September, October and November above average rainfalls. This of course, depended on where the Trade Winds dropped their rain and the local topography, as explained in CFF Nos.3 and 4. Only August let us down, with less than 10% of the average rainfall. This regular rainfall resulted in a slow but steady supply of fungi in almost every month of 2017, especially in gullies and protected areas, and in gardens that were watered with sprinklers or hand watering.

I mentioned in the last CFF that the Bureau of Meteorology expected an average rainfall in December. That was not to be, with only 27 mm falling at the Cairns Airport, well below the average December fall of 176 mm. January 2018 made up for it, with 665 mm of rain at the Airport compared with the average of 394. The rain was pretty well spread out through January, so the various fruiting types were well catered for and appeared at their expected times. February has, so far, been hot and dry, except for a week of good rains between the 4<sup>th</sup> and 10<sup>th</sup> of February. Some areas, such as Mossman, have had limited rain but fungi are still appearing along moist gullies and in some of the specialised micro-environments discussed in CFF (2017) No. 5:pp 2-4.

## **How to make a spore print**

Anyone who has tried to use a taxonomic key to identify a fungus will have noted that often the first character in the keys is the spore print colour. It is important to realise that the spores may be a different colour to the gills in the gilled fungi, so brown gills may produce white spores or white gills ultimately produce black spores and many other combinations. It is thus very useful to learn how to make spore prints and it can be misleading to guess the spore colour from the colour of the gills or pores.

The easiest way to make a spore print is to cut the stalk off just below the cap and put the cap gills-down or pores-down on a piece of white paper, or preferably both black and white paper using two caps, or just putting the black and white papers together and placing the cap half way across the two. Black paper or light cardboard can be purchased at most newsagencies. If you have a microscope, make the spore print onto a microscope slide. This will give you the print colour and also can be used to examine the spores directly.

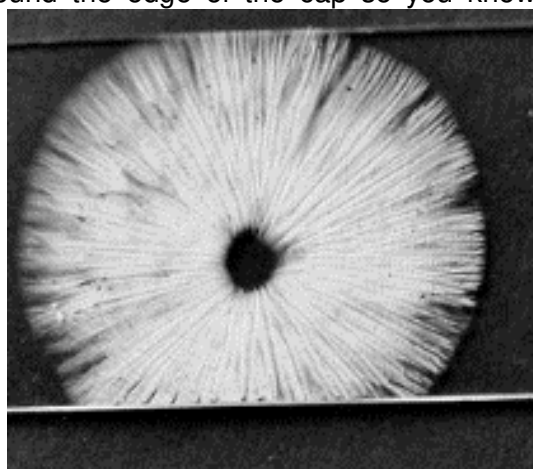


If I have only one or two caps, I place the cap astride a piece of white paper, a piece of black paper and a slide – giving me all three at once.

This works for stalked-pored fungi and even for some bracket fungi. If the fungus has pores, every effort must be made to keep the pores aligned vertically, otherwise the spores get caught up inside the pore tubes. If the fungus cap is large, a small section of it can be used instead of the whole cap.

If you believe the spores may be white and only have white paper than mark a ring around the edge of the cap so you know

where the spores will be once the cap is removed. Place the paper and cap in a cool place, and cover it with a glass or empty jam jar so that breezes do not distribute spores around your house. It will also stop the fungus from drying out quite so quickly. If the cap is in danger of drying out too rapidly a few drops of water on a piece of scrunched up tissue paper can be placed under the glass or jar to raise the humidity, or may even be placed on top of the cap. Some fungi produce a nice spore print in just an hour or two but others may need overnight.



Thin, delicate, pure-white spore print of *Leucocoprinus fragillissimus* on black paper



Dense rusty-brown print of *Gymnopilus penetrans* on a slide

Next comes the hard part – naming the spore print colour. Some authors make fine distinctions between colours, and, while useful, this can be confusing because each person’s perception of a colour is different; the colour may be dependent in part on the thickness of the spore print – just a few spores may look paler than a great mass of spores; and there are even a few spore prints that change colour as the spores dry out. I find the colours used by May *et al.* (2014) agreeable and the table below provides my personal suggestions on finer distinctions as used by some other authors. The book “Fungi Down Under” by Grey and Grey (Fungimap 2009) has a useful colour chart in the back and this can be used for both spore prints and colours of fungi fruit bodies.

**References**

Grey, P. & Grey, E. (2005), 2009 reprint. *Fungi Down Under*. Fungimap Inc.

May, TW, Thiele, K, Dunk, CW. & Lewis, SH. (2014). *FunKey: an Interactive Guide to the Macrofungi of Australia. Key to Agarics*. Version 1. Identica, Brisbane & ABRS, Canberra.

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|--------|---|
| White  | What appears to be pure white   |
| Cream  | From just off-white through pale straw-coloured to a very pale yellow   |
| Yellow | More yellowish than cream but not orange. If uncertain, check the fungus against other characters in cream, orange and ochre-brown categories |

|                              |  |
|------------------------------|--|
| Pink                         | Very pale pink through coral pink to rich salmon pink. Pinkish-brown spore prints should be checked against both pink and brown in taxonomic keys  |
| Green                        | Some prints are green or olive-green when first made but become brown when dry. If prints are distinctly green-brown (e.g. khaki coloured) then check against both green and brown in the keys |
| Light (pale) brown           | Cinnamon brown, pale olive-brown, buff (a dull brownish-yellow)  |
| Medium brown                 | Milk chocolate brown, or the colour of tobacco. Earthy brown or clay brown has greyish tints   |
| Deep (dark) brown            | Blackish-brown, the colour of dark chocolate   |
| Purple-brown or purple-black | Brown or black but with deep lilac or indigo tints   |
| Rusty brown                  | Rust (reddish-brown with some orange tints), or brick red  |
| Ochre Brown                  | Yellowish or orange-brown – more yellowish than rusty brown, buff (a dull brownish-yellow), apricot  |
| Black                        | Very thin spore prints of black spores may sometimes appear brown  |



### Queensland Mycological Society (QMS) Training Workshops for Building Community Capacity

Details were provided in CFF No. 6 (December 2107) but here is a reminder.

Final dates and times are:

- 9 March at 7 pm at the Kuranda Recreation Centre, Fallon Road, Kuranda. Three expert lectures collectively called “The World of Fantastic Fungi”;
- 10 March at 9:30 am (to 2 pm) at the same location. Introductory Workshop including a fungi walk, fungus photography, learning basic identification skills and the use of the app iNaturalist.
- 11 March at 9 am (to 2 pm) at James Cook University, a workshop on using the microscope and an advanced workshop on polypores
- 18 March 9:30 am (to 2 pm) at TREAT Nursery, McLeish Road, Lake Eacham. Repeat of the Introductory Workshop including a fungi walk, fungus photography, learning basic identification skills and the use of the app iNaturalist. TREAT is Trees for the Evelyn and Atherton Tablelands Inc.

There may still be some seats available but numbers are limited. Book online at:

<https://www.trybooking.com/book/search?keyword=Fungi>

**REMINDER: Membership of QMS for 2018 commenced on 1 January** (to 31 December 2018) and we recommend that if you are planning to join Queensland Mycological Society (QMS) or renew your existing membership that you do so now for just \$25 per person. There are many benefits, including access to members-only parts of the QMS website with masses of information. There is also a free quarterly newsletter, with identifications, field trip reports, etc. Go onto <http://qldfungi.org.au> to learn more.

### Calendars

The QMS has produced a superb fungus calendar for 2018. These are available from [info@qldfungi.org.au](mailto:info@qldfungi.org.au) for \$15 each for non-members (\$10 for QMS members) plus postage.



### WATCHING BOLETE GROW by Connie Kerr

With apologies to singer Bobby Goldsboro “*Watching Scotty Grow*”

With the recent rains arriving in Far North Queensland, I had the pleasure of following the growth of some *Boletellus* fungi over a number of days. I believe this species is *Boletellus emondensis*. Being very new to the world of fungi this was an exciting journey of discovery and opened my eyes to the intricacies of fungi growth, identification and appreciation.



It was first observed as a small fruiting body measuring about 20 mm diameter across the cap and about 60 mm high with a furry, "solid" deep red colouring. There were five similar fruiting bodies growing on the base of a large, rough barked Myrtaceous tree roughly 30-40 cm above the ground. Being situated on my driveway I was able to document the growth over coming days (Picture 1 - left).

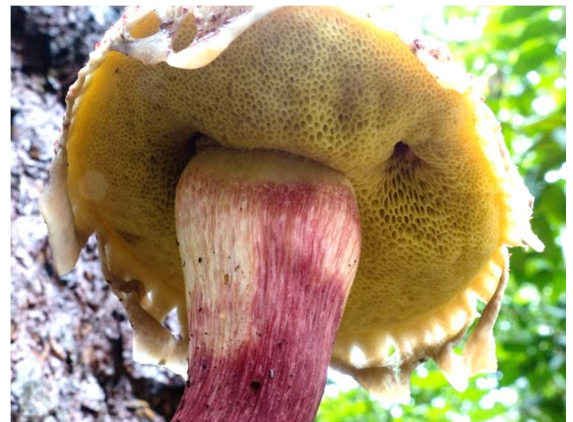


By day 2 the cap had almost doubled in diameter and had started to have a cracked appearance revealing a creamy/white colour under the red in the cracks. The underside of the cap was sealed to the stipe. By Day 3 the cap had developed notably, had a diameter of about 60 mm revealing a more yellowish colour in the cracks, and still sealed to the stipe on the underside. I was waiting to see what this little beauty would reveal by way of gills to allow me an identification (Picture 2- right).



Day 4 and my wait was finally over – the cap had doubled in size overnight – now measuring approx. 100+ mm diameter and was standing tall and proud at around 120 mm. (Picture 3 – left)

It was no longer sealed underneath and instead revealed a lovely pore structure (Picture 4 – right).



I understood that in order to get a definitive identification at this stage, as much as it appeared to be a *Bolettelus emondensis*, I would need to cut it vertically in half to reveal the colouration of the flesh and stipe once exposed. Having felt like I was watching a child grow, I couldn't bring myself to cut the one fruit I had followed this photographic journey with, but instead decided to sacrifice one of its "siblings".



Fully expecting (on assumption) that this would be of a blue colour (cyanescent) I was pleased when this showed true (Picture 5 – left)

An interesting note on the "Sibling" – this one was growing some 2.5 meters above the ground which, from what I have read, is not a usual occurrence.





## Great Piccy



Last edition we had a hairy little guy which was trying to be bald, but this edition we have a great pic by Connie Kerr of Cow Bay in the Daintree region. It was photographed in Connies' garden in early October 2017. These are (probably) *Panus fasciatus* and I wonder why they are so hairy compared with those we have seen further south. The hairs could be used to trap moisture, like we suspect for *Mycena lomavriitha*, or they could be used to repel water, or they could be used like bird-spikes to stop fungus-munching insects from landing on the caps or to make life difficult for snails and slugs. Any other ideas from our readers? Connie is a new member to CFF Newsletter and we thank her for her two contributions. Connie can be contacted through this newsletter.

**Disclaimer:** we have tried to use only original material in preparation of this newsletter. Any text, photographs or other material used herein, and from other sources, is for research, educational and/or non-profit purposes only and is thus not limited by copyright. References have been provided where appropriate.

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