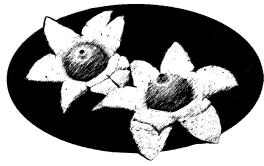


THE QUEENSLAND MYCOLOGIST



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The Queensland Mycological Society

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Society Objectives

The objectives of the Queensland Mycological Society are to:

1. Provide a forum and a network for amateur and professional mycologists to share their common interest in macro-fungi;
2. Stimulate and support the study and research of Queensland macro-fungi through the collection, storage, analysis and dissemination of information about fungi through workshops and fungal forays;
3. Promote, at both the state and federal levels, the identification of Queensland's macrofungal biodiversity through documentation and publication of its macro-fungi;
4. Promote an understanding and appreciation of the roles macro-fungal biodiversity plays in the health of Queensland ecosystems; and
5. Promote the conservation of indigenous macro-fungi and their relevant ecosystems.

Queensland Mycologist

The *Queensland Mycologist* is issued quarterly. Members are invited to submit short articles or photos to the editor for publication. Material can be in any word processor format, but not PDF. The deadline for contributions for the next issue is 14 February 2014, but earlier submission is appreciated. Late submissions may be held over to the next edition, depending on space, the amount of editing required, and how much time the editor has. Photos should be submitted separately at full-size to allow flexibility in resizing and cropping to fit the space available while minimising loss of quality. Authors who have specific preferences regarding placement of photos should indicate in the text where they want them, bearing in mind that space and formatting limitations may mean that it is not always possible to comply. Material from published sources may be included if that complies with copyright laws and the author and source are properly acknowledged.

Membership

Membership of QMS is \$25 per annum, due at the beginning of each calendar year, and is open to anyone with an interest in Queensland fungi. Membership is **not** restricted to people living in Queensland. Membership forms are available on the website, <http://qldfungi.org.au/>.

Could members please notify the membership secretary (memsec [at] qldfungi.org.au) of changes to their contact details, especially e-mail addresses.

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Cover photo: This photo of *Microporus xanthopus* was taken during the Chermshire Hills foray in May. ©David Holdom

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QMS Calendar 2014

2014 Meeting Schedule

Meetings are held in the F.M. Bailey Room at the Queensland Herbarium, Mt Coot-tha, commencing at 7pm on the second Tuesday of the month from February (no January meeting), unless otherwise scheduled. Check the website for details and any changes. There will be 3-4 guest speakers invited during the year and other meetings will be informal. Suggestions from members for topics or names of potential speakers or talks will be welcome at any time. Please contact a member of the executive.

To assist those unable to attend meetings, notes on the

talks are included in the Queensland Mycologist wherever possible. However, the notes never do justice to the topic as they do not reflect the enthusiasm of the speaker or cover the discussion that follows. So remember, where possible it is better to attend the meetings, get the information first hand and participate in the invaluable information sharing opportunity.

Supper. Suppers are provided by volunteers. Check the website for details of the roster and if you are able to assist please contact the secretary.

February 11

Speaker- Nigel Fechner "Fungal Biology"

March 11

Members' talks

April 8

Speaker – Robert Ashdown "Fungal Photography"

May 13

Members' Talks

June 10

Speaker – John Dearnaley "Mycorrhizal Fungi"

July 8

Members' talks

August 12

Speaker – Vanessa Ryan & Susan Nelles "Stinkhorns"

September 9

Members' Talks

October 8

Speaker-Andrew Franks "Bryophytes"

November 12

Members' talks

December 10

Christmas Party

QMS Forays

QMS hold regular forays during the first half of the year. The dates are normally the Saturdays following the QMS meetings of February to July, but additional forays are also held, and this year there are a series of forays associated with the Fungimap festival in April.

Field trip details may change as a result of drought or

other unforeseen circumstances. Check the website for changes.

Members are invited to suggest venues for additional forays. If you have any suggestions (and especially if you are willing to lead a foray), please contact Fran or another member of the executive.

2014 Foray schedule

Date	Location	Leader
February 15th	Mt Cordeaux	Susan Nelles
March 8th	Murrumba Downs	Susie Webster & Bev Miles
March 16th (Sun.)	Bellthorpe	Pat Leonard & Glenda Walter
March 28-30th	Ravensbourne NP weekend	John Dearnaley
April 12th	Lockyer Valley	Frances Guard
April 26-27th	Fungimap Forays	Multiple leaders
May 17th	Cooloola NP	Frances Guard
June 14th	Linda Garrett Reserve	Pat Leonard

QMS Workshop Program 2014

The 2014 workshop program has not yet been developed.

Members are invited to suggest topics for workshops. Send your ideas to Susan Nelles (info@qldfungi.org.au)

Details will be included in future newsletters and on the QMS website.

Fungimap Festival 2014

Fungimap Festival will be held from 24th to 27th April 2014 in Brisbane. It will be a combined event, with the Australasian Mycological Society, Fungimap and Queensland Mycological Society participating.

There will be lectures on a variety of Fungal topics on the first day, followed by two days of workshops and forays.

Many other exciting details are being worked on.

It is a great opportunity to hear top mycologists speaking in one location, and to meet other enthusiasts from interstate at the forays and workshops.

Please note it in your diaries.

Editor's Comments

Welcome new members Rohan Davis, David Wood, Keith Treschman and Susan Nuske.

There have not been a lot of fungi around and so no forays, so this is a fairly short newsletter.

Susan Nuske has written up her talk on a truffle with a hitchhiker- another fungus that may be a parasite, but that has yet to be determined.

And Vanessa has written up her talk from the November meeting on an uncooperative white punk that may be something else.

Another successful workshop was held in October, this time a beginners workshop conducted by Fran and Patrick.

Dorothy Miller has kindly written a brief account and Vanessa provided photos.

Fran rounded that off with her solution to the "problem" of leftover mushrooms at the end of the workshop- mushroom soup! Recipe included.

The newsletter concludes with a short report on the Chermshire Hills foray that was held last May. Contained in the report is a bit of a lesson (to me at least) about jumping to conclusions on identifications.

Merry Christmas and happy New Year!

David Holdom

Fungi-linx

Vanessa has a web page up on the beginners workshop. You can find it at:

<http://qldfungi.org.au/memberresources/past-workshops/beginners-workshop-2013>

Susan came across this link to a book that may be of interest:

<http://www.scribd.com/doc/97323446/Mushroom-Growers-Handbook-1-Oyster-Mushroom-Cultivation>

A truffle with a hitchhiker

Susan Nuske

I never thought of myself as a mycologist, but this year I think I am converted! I have started my PhD with James Cook University and delved into the world of truffles, mycophagy and mycorrhizae. Being new to this world I still boggle at the diversity of fungal forms; some colourful, some odorous and some rather bland and inconspicuous.

One group of rather well-camouflaged truffles are the *Mesophellia* group. If I hadn't seen one in the herbarium (a big thank-you to Nigel Fechner) I would have completely overlooked it! Their peridium is tightly packed with dirt and rocks – one could simply mistake it for a harder lump of soil.

I collected this specimen when I was up in North Queensland for my first field trip collecting soil. I have to confess, it wasn't this specimen that drew my eye. First I noticed the animal diggings. I'm sure you've seen them before. Many mammals make them in search of insects, worms, tubers or (importantly) truffles! My reading thus far has told me that truffles can usually be found close to those diggings – so now I was alert!

Then I noticed some olive-green dust on the surface of the soil next to a digging and some strange white-ish shells. My mind clicked – *Mesophellia*!

Mesophellia truffles consist of many layers. I identified my specimen as *Mesophellia glauca* (with the help of Nigel Fechner ☺). Only the innermost layer, the glebal core, tends to be eaten by animals and most of the spore mass and outer layers are discarded. While messy, this littering serves an important function. Without these animals to dig up and consume them, truffle spores cannot be dispersed. Some of these spores remain on the soil surface to be moved with rain or wind but some are inadvertently eaten by mammals and dispersed further in their scats.

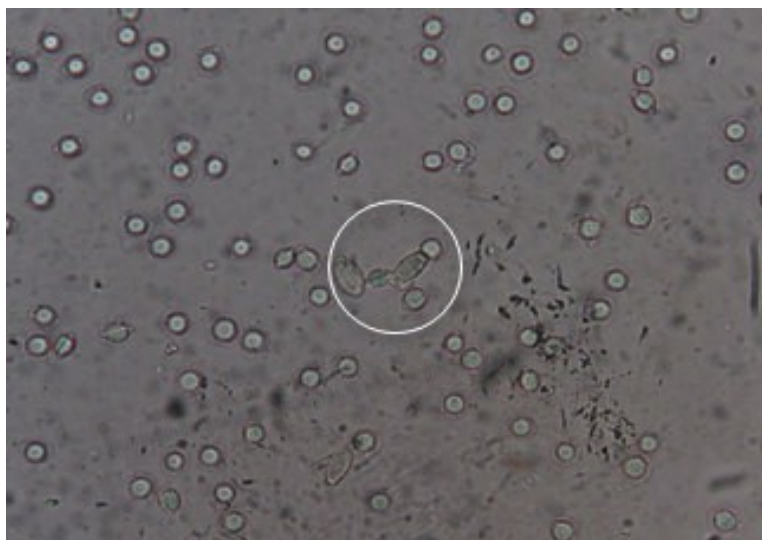
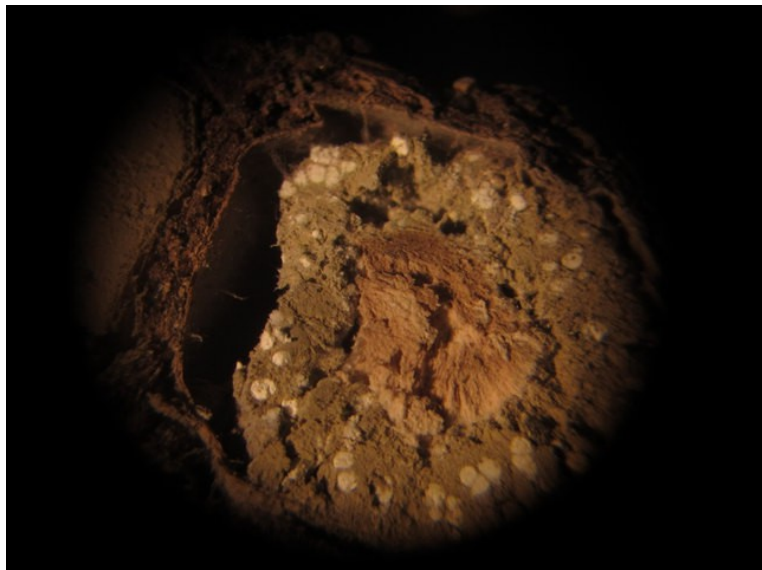


Or is it really 'inadvertent'? Some scientists have even speculated that truffles have co-evolved to have animals consume and disperse their spores: A co-evolution exemplified by *Mesophellia* and their sterile, edible core and specialist fungi-eating mammals like bettongs and potoroos. What do you think?

A peculiar thing about this specimen was that it seemed to have a hitchhiker. See those white dots amongst the olive-green spore mass? They have completely different spores to the *Mesophellia*! In fact, a completely different phylum; they are ascospores!

The couple of long spores I have circled are the basidiospores of the *Mesophellia*. The round spores are the hitchhikers. If you look closely you may even see some that look like mini Saturns! They seem to have a thin wing-like ornamentation.

The presence of the hitchhiker intrigued me and I tried to find out what it was. I remembered a paper that mentioned the presence of 'truffle parasite' spores within North Queensland pademelon scats. It seemed like as good a place to start as any, so I searched the name: *Microthecium beatonii*. It turns out that some of the members of this genus have been moved into the genus *Pteridiosperma*, meaning 'winged seed' in Greek. That sounded promising! But unfortunately I couldn't find out more than that. Unsurprisingly, not much is known about wild truffle parasites (with the exception of some that occur on *Tuber* sp. – the famously expensive delicacy in Europe). So we will have to wait for science to catch up! This draws to light just how little we know about fungi. I am looking forward to constantly being surprised!



White Punk

Street Gang, 80's Rock Band, or a Fire-starting Fungus?

Vanessa Ryan

I first saw this fungus during my one of my forays in Girraween National Park earlier this year. It was quite a large, whitish-coloured bracket, growing about 10 meters off the ground on the trunk of a living, but fire-charred, Stringybark. My husband kindly offered to give me a boost up, but I politely declined and made do with taking some photos.



The first one was high up out of reach.

A couple of kilometers further along the track, I came across another fungus that looked to be the same as the first. This one was, serendipitously, lying on the ground at the base of a Stringybark that had also been fire-damaged at some time.

The bracket was not a good specimen. It was absolutely riddled with holes and very weathered-looking. I had no idea what it might be, only that I definitely did not have it on the list of fungal species that I am compiling for the park. I decided to collect it for further examination, even though I knew I would not be submitting it to the Queensland Herbarium.



The second was in very poor condition.

A third specimen I found was in an even worse condition than the second. That, I left untouched.

Upon examination and recording, my mystery fungus proved to be very difficult to cut. Even though it was full of holes, the remaining flesh was very tough. The holes went right through the fungus and seemed to have been made by insects, though I couldn't find any still present. There were no obvious structures, such as pores, and there was no particular odour.

The next step was to try to identify what it might be. In Bruce Fuhrer's book "A Field Guide to Australian Fungi", I came across something called *Laetiporus portentosus*. The size, shape, colour and *Eucalyptus* sp. host certainly all matched my specimen. However, this statement nailed the identification: "*The soft spongy flesh is the food of certain insect larvae, and old and fallen brackets are riddled with the resulting tunnels*".

Ian Hood's "An Introduction to Fungi on Wood in Queensland" gave me some more useful descriptions. It is a large, hoof-shaped bracket, attached near the apex; occurs singly or in groups; has a thin brown upper surface, paling to white at the margin; white flesh that is firm when fresh and corky when dry; pores present when fresh, white in colour but browning at edges with age, 1-3 per mm; fresh fruit-bodies have a sweet, spicy odour.

Laetiporus portentosus is found throughout Australia, Papua New Guinea, New Zealand, Argentina and Chile. It causes brown cubical rot in living trees of various *Eucalyptus* species in Australia and southern beech (*Nothofagus* spp.) overseas. The dry fruit-bodies are combustible and were used as tinder for starting fires by Aborigines and early colonists in Australia and by Maori in New Zealand. Aborigines in Tasmania may have eaten it as an emergency food. The living fruiting body is called a "conk" and one that has fallen from the host tree is called a "punk" - thus the species' common name of "White Punk".

I was confident as I could be that the fungus I had found was a *Laetiporus portentosus*. This was well and good, but I needed a good-quality specimen to give to the Herbarium for the official records. I didn't like my chances as they seemed to like growing high up in trees.

During another visit to the park in October, I came across a fair-sized, white bracket growing on a fallen tree and within easy reach. I think the tree was a *Eucalyptus* species of some sort - not a Stringybark but perhaps an Ironbark. The tree also didn't have any signs of having ever been burned.

The fungus was very difficult to remove. It was growing on the underside of the log, close to the ground and was extremely tough to cut. There were signs of recent insect activity - but the damage seemed limited to just the pore area.

Best of all, the fungus appeared to be reasonably fresh, which was surprising as it was during a dry spell. I managed to coax a light spore print from it over the span of two days and nights.



A nice, fresh specimen!

Examination revealed that the upper surface was smooth; the flesh was very firm and white in colour; the pores were white, but had gone brown at the exposed edge; the odour was very pleasant and sweet. This all nicely matched the description of *Laetiporus portentosus*. The only discrepancy was the pores per mm. My specimen had quite large pores at 1-2 per mm, not the 1-3 that Hood mentioned.

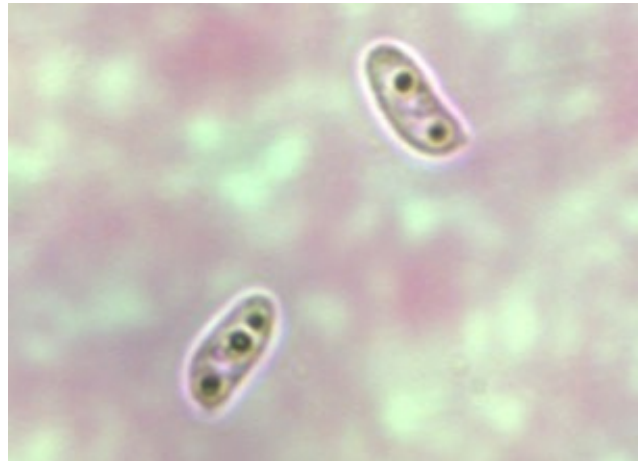


The pores and flesh revealed.

A microscopic examination revealed the hyphae of the flesh to be monomitic (I think) and they looked very similar to the illustration I found in Cunningham's "Polyporaceae of New Zealand".



Monomitic(?) hyphae



The problematic spores.

The spore print was white. The spores were hyaline, smooth and fusiform cylindrical ...

And that was suddenly a problem.

Both Tony Young and Cunningham had described the spores as being globose to subglobose! Had I found a different species of *Laetiporus*?

A quick search in ICAF revealed three known species of *Laetiporus* in Australia. One was *Laetiporus portentosus*, the other two are *L. persicinus* and *L. sulphureus*.

Laetiporus persicinus initially looked promising as it has a white flesh and is brownish on the upper surface, but its pore size is 3-4 per mm and the spores are oval to elliptic in shape.

Laetiporus sulphureus is a bright yellow to orange colour and looks nothing like my specimen. Its pores are also smaller at 2-5 per mm.

The synonyms for *Laetiporus portentosus* are *Polyporus portentosus* and *Piptoporus portentosus*. I remembered seeing another *Piptoporus* during my research - *Piptoporus australiensis*. Even though its common name is "Curry Punk", this proved to be another dead end as it looked nothing like my specimen. It is also the only remaining *Piptoporus* species in the Southern Hemisphere, so there weren't any further local relatives of that genus to chase up.

I went back to Cunningham to see if I could find any more leads. He mentioned a species called *Piptoporus cretaceus*, which ICAF said is now called *Ryvardenia cretacea*. It supposedly looks a lot like *Laetiporus portentosus*, but again the pore and spore descriptions simply didn't match those of my specimen.

So, after a lot of head scratching, what I can say is this: It is most likely that my first specimen is, indeed, a *Laetiporus portentosus*. I have no idea what my second specimen is, but it's none of the above mentioned species. My research will continue.

In conclusion, I would like to mention that, during my research, I came across a poem that had been written by John Kinsella about *Laetiporus portentosus*. If you wish to read the poem, you can find it in Fungimap's Newsletter 37 - April 2009, on page 8:

<https://www.fungimap.org.au/newsletters/NL37.pdf>

Thoughts on the Beginner's Workshop

Dorothy Miller

The workshop was held at the Cubberla-Witton Catchment Network's new centre at Chapel Hill on 12 October. The centre is a very pleasant house with a large central meeting room, kitchen and verandah which was very suitable for our needs. Fifteen of us gathered around the very large table in the meeting room with our two leaders, Patrick Leonard and Fran Guard at the end facing us all. It was good to have some young folk with us enjoying the activities.



digging through the hard planting soil - to use for identification purposes. The larger mushrooms were easier for identification than our smaller ones.

We were taken through the "sieve method" of identifying fungi on a foray - asking an expert, using the field guide etc. and a key to the genera.

Then we were given a sheet with all the areas we had to check:

The workshop was centred on the *Agaricus* species - using the regular mushrooms. Fran had some specimens freshly prepared for us to learn how to do a spore print. We each took a specimen, cut flush with the gills - straight down. We folded a piece of paper in half, cut a corner and put the stem through. We then took a moist tissue to make the specimen less dry and covered it with a container, making sure the gill's side was onto the paper.



Firstly we had to draw our specimen from Fran's "dark cave box", then we had to check the pileus (cap) shape, size, colour etc. with the help of a laminated sheet prepared by Patrick. Then the stipe (stem) attachment, the lamellae or gills, the flesh colour, changes etc the spore print, substrate, habit, location and any other notes e.g. smell.

We were given a laminated copy of a "Key to *Agaricus* species in Queensland" and a sheet of numbers in squares with cm.

By the end of the day we were able to lift the container and see our spore prints - some of which were very good.

measurements to use when photographing separate species in the field, and a sheet of Collection slips for recording details of our "collections". We discussed ID tags, description sheets, photos and different field guides.



Patrick gave us a very comprehensive list of things to take in our "Basket" when going on a foray. We discussed exactly what happens on a foray - stick close to the leader, make our own notes, ask questions - what name? why that name? check what the specimen is growing on and under, to take photos - but to be careful to take a good look at tiny features before digging out with a dibbler or knife - carefully lifting out.

After morning tea - lovely fruit etc. we all had to take a specimen of mushroom from Fran's large box - carefully



We finished the day with Patrick setting up a microscopic viewing of spores to show cells that produce the spores, their shapes etc. So interesting.

To finish our great workshop we were all given a dried specimen to take home to practice our skills. Thank you leaders for a great day for beginners.

QMS Beginners' Workshop Challenges

Fran Guard

Holding a Workshop in the fungal off-season presents some challenges. The most obvious of these is the lack of fresh material to use for practical exercises in collecting, describing, getting spore prints and checking microscopic details.

For our most recent Workshop, I decided on an alternative strategy.

It entailed rising at 5am on the previous Sunday, driving 25km to a dark, warm, humid set of caves (more usually known as a mushroom farm) where one of the "caves" was being emptied of mushroom compost. Each room is harvested three times and then the bags of compost are sold at \$2 per bag. One needs to arrive very early as keen gardeners and others take it away by the truckload. Some like to pick a bucket of mushrooms before they pile their vehicles high with compost.

I arrived at 5.30am and was third in line. A number of bags had good buttons still growing, so I selected 5 bags and carefully carried them home.

The next challenge was to keep them for 6 days, in a cool moist shady place in the garden, away from marauding brush turkeys. Some shade cloth helped here, but left a distinctive imprint on the cap surface of a few specimens.

The mushrooms continued to grow at an alarming rate. By Tuesday, I knew I had to gather some for fear they would be spoiled by Saturday. Storage in paper in the refrigerator slowed the growth down, and kept them fresh. I left as many as I dared, so we could actually collect the mushrooms from their substrate.

That week we experienced a heat wave (hottest October temperatures on record!) I kept hosing the bags with the sprinkler and the mushrooms kept growing. By Friday, I could see that a number were producing masses of spores (great), and there were all stages of development, from tiny buttons to enormous mature fungi (a good collection!).

The Workshop went off well, and some participants got to take their mushrooms home. I was left with more than a kilo of superb, but large, mature specimens of *Agaricus bisporus*.

What to do with them?

My husband suggested **Mushroom Soup**, and here is the recipe we followed.

500 gm mushrooms, sliced
60 gm butter
30 gm flour
600ml milk
150 ml chicken stock
2-3 cloves garlic
~½ glass port or red wine
salt and pepper to taste
nutmeg grated
chopped parsley (for garnish)

Melt the butter, and fry garlic and mushrooms. Add wine and cook gently for 2 minutes. Stir in flour, cooking for 1 minute. Add warmed liquids gradually. Season with salt, pepper and nutmeg. Puree for a smoother soup, or serve chunky, sprinkled with parsley.

It was a delicious end to a good workshop.

Chermside Hills May 2013 Foray Report

David Holdom

The Chermside Hills field trip on May 18 was led as usual by John Wrench and James Hansen. The site is open eucalypt forest with some *Allocasuarina*, and has yielded some interesting material over the years. It was the first time I have been to this site, and first impressions were not very positive. It was very dry and rather unpromising.

But as our small group wandered further in we came to an area with retained moisture that produced some interesting and attractive fungi, with a total of 16 species found. Those included several boletes, as well as brackets and polypores, including *Microporus xanthopus* (see page 1).

Agarics included a large pink and rather battered *Russula*, as well as a *Cortinarius*, a *Marasmius* and a probable *Laccaria*. With none of our expert mycologists present, relatively few were identified to species.

A misidentification on the day turned out to be very interesting and a mystery. We came across a large brown fungus that looked like a small version (a bit over 200mm diameter) of the often huge *Phlebopus marginatus*. Even while photographing it, we didn't notice that the underside looked nothing like a bolete and jumped to conclusions that indeed it was *P. marginatus*. Fortunately Fran (who was

not on the foray) picked it up in a draft of this newsletter. As you can see in the photos (top row on page 11) the underside looks more like *Amauroderma*, but the upper surface does not, and even so it would be a huge *Amauroderma*. Maybe it was one of the fleshy polypores, but in reality I do not know what it was, and nobody else I have contacted has recognised it. Next time I will try to focus on a bit more than just getting photos, and actually look more closely at the fungi!

Especially given the dry conditions at the time, the Chermside Hills site has again proven its value as a worthwhile foray target.

Photos (Page 11).

Top row: Unidentified fleshy polypore, with inset showing pores. Scale on tag (LH photo) is 3cm;

2nd row: unidentified agaric (with a mirror made from a hard drive platter by Michael Stephenson) and an unidentified bolete (upper and lower views);

3rd row: *Cortinarius* sp. and an effused-reflexed polypore;

4th row: A bolete with large pores, and a small agaric (*Laccaria* sp?).

All photos © David Holdom.

