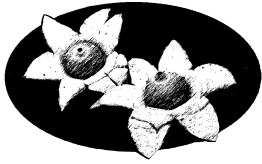


THE QUEENSLAND MYCOLOGIST



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The Queensland Mycological Society Inc.
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The Queensland Mycological Society

ABN No 18 351 995 423

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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 commonwealth 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.

The *Queensland Mycologist* is issued quarterly. Members are invited to submit short articles or photos to the editor for publication. The deadline for contributions for the next issue is May 15, 2012. All original material may be reprinted or reproduced, unless otherwise stated, provided the source of the information and the copyright author are acknowledged.

Cover photo: This photo of *Leucoprinus birnbaumii* was taken by Susan Nelles on the Bunya foray in March. See page 5 for the foray report.

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QMS Calendar 2012

Meetings are held in the Bailey Room at the Herbarium, Mt Coot-tha, commencing at 7pm on the second Tuesday of alternate months from February, unless otherwise scheduled. Check the website for any changes.

To assist those are 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.

QMS Meetings 2012	
Date	Items
14 Aug 2012	Talk: Diana Leemon "Fungi as Biocontrol Agents" Foray reports: Ravensbourne, Linda Garrett, Springbrook update Workshop report: Polypores
9 Oct 2012	TBA
11 Dec 2012	Festive celebration. Talk: Foray reports

QMS Supper Roster 2012		
Date	Savoury	Sweet
14 Aug 2012	Pat Leonard	Gretchen Evans
9 Oct 2012		
11 Dec 2012	Party all to bring a small plate.	

QMS Forays & Workshops 2012

Field trip details may change as a result of drought or other unforeseen circumstances. Check the website for changes.

Date	Location	Leader (contact details)
21 July 2012	Workshop: Polypores and fungi on wood	Maleny Uniting Church hall, 9.30 - 2.30 Patrick Leonard & Susan Nelles (patbrenda.leonard@bigpond.com , zefarella@gmail.com)
6 October 2012	Workshop: How to get to genus, and spores, venue TBA	Patrick Leonard (patbrenda.leonard@bigpond.com)

2012 Workshop Program

Two workshops are scheduled for this year and are listed above. Look out for more details in newsletters and keep an eye on the website. Workshops are given on a cost recovery basis, so there will be a charge.

New Members

We welcome four new members and wish them a long, rewarding and enjoyable association with the QMS.

Joel Carter, Vanessa Ryan, Martin Kornaus and Glenda Walter.

Happy Birthday to John Wrench

Congratulations to John Wrench who turned 80 recently. Happy birthday John, and may there be many more!

Mycology papers online

Megan Prance came across a snippet in the Plant Science Bulletin Spring 2012, vol 58, No 1. It reads

" Mycologist Charles Drechsler's papers to the Smithsonian Institution's Biodiversity Heritage Library.

One hundred and fifty five of the collected papers of noted mycologist, Charles Drechsler (1892-1986) are now available electronically on the Smithsonian Institution's Biodiversity Heritage Library database. To access Dr Drechsler's papers search on Google for CiteBank.org, and then click on Home-CiteBank. On the search line, type Charles Drechsler. Articles may be accessioned by title, keywords, journal title, or date of publication."

Or follow this link to Citebank: <http://citebank.org/>.

This library seems to be different to BHL Biodiversity Library which also makes available many electronic copies of classic publications. Many of the rare and out of print texts for Botany (and Mycology) are freely available on this site. One of interest may be: *Fungi: their nature and uses*, by M.C. Cooke, edited by M.J. Berkeley.

<http://www.biodiversitylibrary.org/>

The 2012 Bunya Mountains Foray

Pat Leonard

The QMS return to the Bunyas in March 2012 was more like an invasion than a foray, 26 members attended, making it the best attended foray in our history. Gretchen had organised three large houses for us to stay in, one was used for looking at fungi and the microscopes were set up there. A second house was used to prepare the food which set another milestone. The evenings were damp and misty in good Bunyas fashion and the cones were literally cascading off the trees all around us to add a bit of atmosphere and excitement.

On Friday afternoon the early arrivals set off to walk the Bunya Bunya circular track. We had been warned that there had been little rain, but as soon as we entered the forest it was clear that there were fungi about and they were in good condition. The Bunya pine *Araucaria bidwillii* dominates the forests here, it does not form ectomycorrhizal associations, so most of the fungi we found were wood decay fungi, and the best places to look tended to be the large old fallen logs of the Bunya itself and of rainforest trees.

It was interesting that many members happily remembered fungi we had found on our last visit in 2009. The names of *Auricularia cornea*, *Stereum ostrea*, *Cymatoderma elegans* and *Lycoperdon pyriforme* come to us much more readily now, we have all seen them lots of times. There were good specimens of an earthstar with a felty reddish brown outer skin (ectoperidium) and a striate grey peristome through which the spores are ejected at the top. It proved to be *Geastrum velutinum*.



Geastrum velutinum. © Susan Nelles

There were masses of *Scutellinias* on one large log and Megan made a good collection of these for the Herbarium as there is an overseas researcher interested in the group. On the next log was a very interesting *Lentinula* which proved not to be the same as the Australian shitake which we had found on our previous visit. This is a striking brick red fungus with a sheathing ring made up of large upturned squamules.

As on all forays in the Bunyas there were many wood inhabiting fungi that we could not identify. We tried very hard with a large pink polypore which has a look of an *Aurantiporus* but proved not to be.

Most of the good fungi found were growing on the very large logs that are frequent in this part of the forest. But we did find a few fungi growing on rich compost and leaf litter on the ground. Amongst them was a very attractive *Gymnopus* growing in a clump, and a very small delicate



Scutellinia sp © Megan Prance



Lentinula sp. © Fran Guard



Pink polypore © Ray Baxter



Gymnopus aff *percava* © Pat Leonard

pink gilled fungus which proved to be *Agaricus comtulus*. This is distinguished by its small size and having vinaceous fibre in the cap.



Agaricus comtulus © Jon Atkinson.

We recorded 32 species on this foray and returned to an excellent roast dinner prepared by Bob Philpot. The forayers who had been at work arrived from supper time right through to late in the night.

The 2012 Bunyas Foray Day 2

Saturday morning was damp and overcast, excellent foraging weather. It was decided over breakfast that there were too many of us for a single foray so we drew lots (buttons actually) to split the party in to two groups. This proved difficult as some couples did not wish to be separated from their partners although it was unclear whether these were matters of the heart or if it had something to do with who had the packed lunch. Ross and Wilma Tait led the slightly larger group off to the Munro Camp track, which we had not visited on our previous excursion to the Bunyas. Pat Leonard led the other group along the Paradise Falls Track.

The Munro Camp foray started badly with Peter Warhurst finding the weed species *Favolaschia calocera* at the start of the foray. It appears to be the first time this species has been found so far north and west of Brisbane. Ray Baxter has reported the find to the Queensland Parks and Wildlife Service. Things did get better with the discovery of the dark red capped *Marasmius haematocephalus* on its wiry black stipe. As on the first day the best finds were almost all on very large logs with one in particular yielding over 20 different fungi.

Amongst the litter rotters, a huge *Volvariella speciosa* was the star attraction. Interesting that some forayers, who had not seen this fungus before, were convinced it was an *Amanita* because of the free gills and the volva. This is the exact reverse of the problem that led to fatalities in Canberra earlier in the year where the victims apparently collected *Amanita phalloides* in the mistaken belief that it was a *Volvariella*. An excellent pink spore print produced by the fungus back at the lab, put the matter beyond doubt. *Volvariellas* have pink spores!

The brightest find of the day was undoubtedly the bright yellow *Leucoprinius* found on a well rotted log. At first we all thought this was *L. birnbaumii*, the well known small fungus that is quite common in mulch around pot plants, but seldom seen in the wild. But there is some doubt as

to whether this is exactly the same and a sample has now been sent to Matt Barrett in WA to have its DNA checked.



Leucoprinius birnbaumii © Susan Nelles

The Bunyas seem to have unusual puffballs, on our last visit we found the spectacular *Calvatia lilacina*, and this time Megan found a *Lycoperdon scabrum* which is darker and has much more prominent scales than the common *L. pyriforme*.



Lycoperdon scabrum © Susan Nelles

There were 40 fungi recorded on this foray but many more were seen during the day.

Finally, some forayers obviously have better eyesight than others. There appears to be no record of who spotted this minute fungus, but it took all of Peter Warhurst's skill and an expensive lens to photograph it. This is an undescribed *Campanella* species.

The 2012 Bunyas Foray Day 3

The first track to Paradise Falls winds steadily upwards at a gentle pace, it is not particularly long or hard, but the QMS seems destined never to reach the falls, there are too many fungi on the way. Amongst the 47 fungi recorded, the outstanding find was probably the *Cordyceps* that Damien found. This was a very large



Campanella sp. © Peter Warhurst

specimen and was dug up with the larvae still attached. It is probably *Cordyceps gunnii* although we had no literature that allowed us to confirm this. On our return to base, Noreen and Ray arranged for everything to be put down for spore prints and that included the *Cordyceps*. It dropped a very good spore print and none of us had ever seen spores like these before, they are long and thread like and apparently later break in to short lengths.

One of our targets for the day was to find the Australian shitake, *Lentinula lateritia*, it had been found along this route in 2009 but we did not obtain good photos. We were lucky and a whole log was found covered in this beautiful pink fungus.

Our other target which was *Oudemansiella canari* did not put in an appearance.



PF 028

Cordyceps sp., possibly *C. gunnii* © Ray Baxter

The most common maze gill fungus around Brisbane is probably *Lenzites acuta*. A log with a large number of tiered fawn coloured *Trametes* attracted our attention and when some were turned over we discovered two brackets that were superficially very similar from above. One was indeed a *Trametes*, but the other had maze gills and turned out to be *Lenzites betulina*.

There are records of this fungus in Queensland going back to Bailey in the 1880s, but it is seldom recorded nowadays, indeed there are no Queensland records in this century. It also seems very unlikely that a European species should be found in the Bunya Mountains.



Lentinula lateritia © Jon Atkinson

Nevertheless, for those characters that we were able to check there was a good match.

We all returned to our chalets (well almost all) in the early



Lenzites betulina and *Trametes* sp. © Pat Leonard.

afternoon before the heavens opened and it poured with rain for the rest of the afternoon and some of the night putting paid to our plans for a Sunday morning foray. Our endeavours were rounded off by an excellent curry dinner prepared by Miranda Mortlock.

Just under 120 collections were made over the weekend, thanks to Gretchen and Susan for keeping the records and to Susan for typing many of them up. As ever, many of our finds in the Bunyas could only be identified to Genus, the literature on wood rotters being poor. But the success rate was certainly higher than our last visit and there are some spectacular fungi still to be described. Our techniques are also improving, a concerted effort to obtain spore prints was very successful thanks to Ray and Noreen getting all our collections put down promptly on the kitchen benches. Keeping track of 120 odd specimens is not easy. We are also not very good at putting the specimens we can name out on display so that beginners can check them. Ken and Floss helped in keeping some order to specimens and records and have plans to improve our display, which we hope to implement at the next residential foray. Thanks to all the members who made the Bunyas 2012 foray such a memorable occasion.

Mt Cordeaux, Main Range National Park Foray

Susan Nelles

The foray was on Saturday 26 May, 2012. Foray morning was sunny, less than 10C; after 2 days of rain the track was firm, the substrates still damp.

10 people attended, including two young children, but no one experienced in field ID. So we were content to observe, record and photograph at a leisurely pace. The youngsters had inherited the keen spotting skills from their hawk-eyed parents, and were walking at eye level with many of the fungi in the rain forest.

Pat was hoping we'd photograph *Hygrocybe graminicolor* – sighted in 2010, but no luck this year.

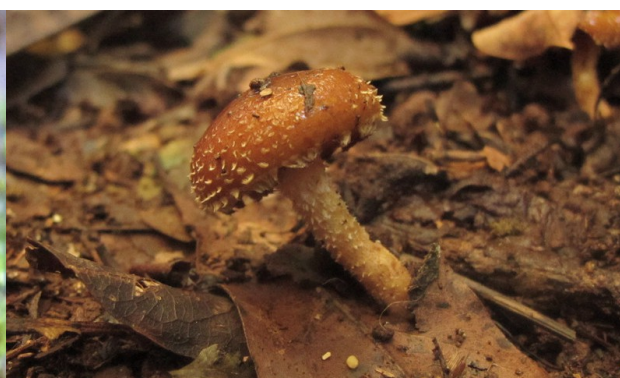
Amongst the interesting fungi photographed are: a white *Lentinellus*, that grows on logs and fallen wood and has gills with an eroded edge; a *Scutellinia* with splendid 'eyelashes' and a *Lentinula* that is possibly *L. lateritia*, the Australian shiitake.

We recorded some details of 21 species, and noted:

- Agarics -12
- Polypores 9
- Leathers/crusts 6
- Corals 3
- Jellys 6
- Puffballs 3
- Asco 1
- No Boletes

This is far fewer than in previous years, so next year, we'll be going in a warmer month.

25 Oct 2008	48 species
13 Mar 2010	67 species
30 April 2011	31 species
26 May 2012	21 species



Top left: *Scutellinia* sp © Susie Webster, right *Lentinula* sp. © Jon Atkinson. Other photos © David Holdom. Row 2 left, *Lentinus* sp. Others not identified.

Two Queensland Rooting Polypores

Fran Guard, Pat Leonard and Sapphire McMullan-Fisher

Pat was driving, a few kilometres north of Happy Valley on a rough inland track and he was looking out of the side window when he suddenly shouted Bolete and did an emergency stop. Now this is not a method of foraging that is recommended by the QMS. It is a bad habit that he developed from hanging around with Alan Hills, a well known British boletologist who uses this method and has been known to spot rare Boletes whilst travelling at 110 kph. We trooped out of the vehicle to find a large pale brown fungus on a tall stem. In outline it looked like *Amauroderma rude*, it was leathery, but far too pale and appeared to have white spores. Clearly it was not a Bolete that any of us had seen before either. We were late and the tide was coming in and we needed to make it down the beach to Eurong or risk a night with the Fraser Island dingos. So we did not photograph the fungus, and when we came to collect it we discovered that the stipe went way down in to the sand and became irregular, sort of knobby and it broke off about 30 cms below ground.



On looking more closely at our single specimen that evening, the angular pores and smooth cylindrical spores pointed us towards the genus *Polyporus*. There are some species that are known to fruit on buried wood. But our poor collecting practices did not allow us to confirm whether it had been attached to dead wood. Fortunately we made a second collection two days later but also failed to confirm the attachment of the base to wood.

The other possibility is that it could be a *Laccocephalum*, an Australian genus separated from *Polyporus* by having a sclerotium (a food storage tuber) at the base of the stipe. Ryvardeen, the authority on polypores, says that he does not think possession of a sclerotium is sufficient justification for having a separate genus. So we sent a small sample off to Melbourne for sequencing.

Selective tree for *Polyporus*.

The tree shows that our specimen (*Laccocephmt* 2093) fits neatly in *Polyporus* and is close to *P. tuberaster* which has a small sclerotium.

This year a similar type of fungus has been found by Fran at Dilkusha. Fran thought it was an agaric at first sight, and was very surprised to find that it had a long tough 'root' extending almost 10cm underground, and ending in a knob. There was no sclerotium and it did not appear to be attached to wood.

The hymenial layer was fairly undeveloped as the specimen appeared to be a juvenile and there were only rudimentary pores. No spores were found.



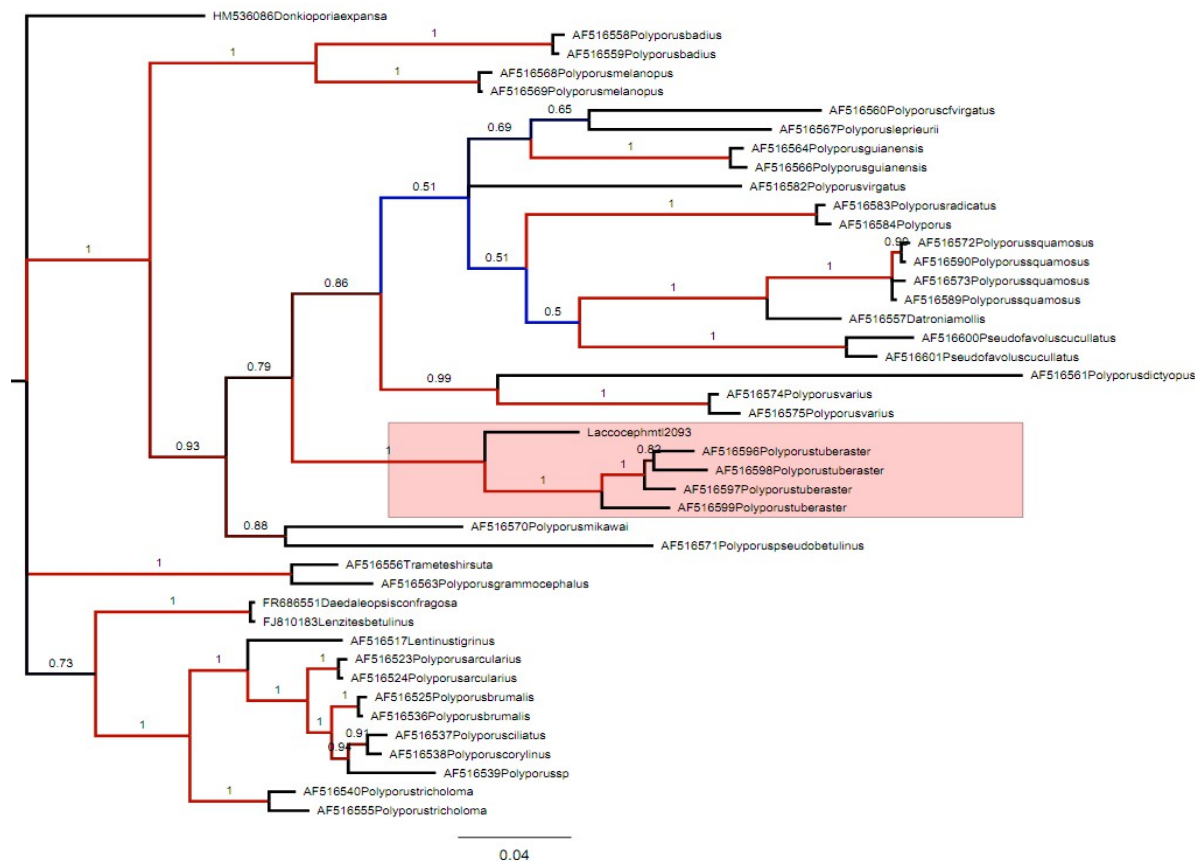
It was growing in very well rotted mulch from an old dead fig tree, on the edge of rainforest. Possibly there were still some tree roots present.

The specimen was collected and lodged in the Herbarium. It has not yet been sequenced.



Neither of these two collections appears to be described in the literature, nor do they appear to be common. Preliminary descriptions have been made but more collections are needed before we can be certain that they are new species. Our experience also shows the importance of careful collecting techniques to determine what the substrate is for these fungi.

Our thanks to Teresa Lebel at Melbourne for arranging to have the collection sequenced and for preparing the tree.



Genomics Of White Rot Fungi and the End Of Major Coal Formation

A comparative study of the genomes of 31 fungi has shed light on how white rot fungi evolved the ability to degrade the recalcitrant plant biopolymer lignin. This work may open new avenues of research to biofuels, as white rot fungi are the only organisms capable of substantially decaying lignin.

In addition the team were able to reconstruct the history of gene mutations and found that the first of the peroxidase enzymes that are a key part of the process arose 290 million years ago, which is when the massive formation of coal ended.

The paper is published in the prestigious journal *Science*, which unfortunately is only available through academic libraries or subscription. The study was conducted by a team of 70 researchers led by [David S. Hibbett](#) of Clark University, in Worcester, Mass., and Igor V. Grigoriev of the Department of Energy's [Joint Genome Institute](#).

This article is summarised from Chemical and Engineering News, and the full article about the paper can be found at: <http://cen.acs.org/articles/90/i27/Genomics-White-Rot-Fungi-Yields.html>.

Thanks to Sheryl Backhouse for sending it in.

Queensland Mycological Society Inc

ABN 18 351 995 423

Membership Renewal 2012

Surname: _____ **Given Names:** _____

Address: _____

_____ **Post code** _____

Phone: _____ **Mobile:** _____

Email: _____

Date: _____

Amount due: \$20.00 per person

Due date: 1st January 2012

Amount paid: \$ _____

Renewal Forms may be submitted in person at a QMS general meeting at the Queensland Herbarium, Mt Coot-tha or posted to:

The Treasurer

Queensland Mycological Society Inc

PO Box 295

Indooroopilly QLD 4068

Payment Options

Please circle as appropriate:

Cheque / Money Order / EFT / Cash (only in person – not by mail)

Electronic Funds Transfer (EFT) Bank Details:

Receipt No

Account Name: Queensland Mycological Society Inc

Westpac Bank BSB 034 055 Account Number 21-3324

*** Please ensure your name is on the transfer entry**

*** Please also send an email, including EFT reference number to**

The Treasurer at mcmpaulus@hotmail.com