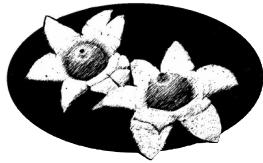


THE QUEENSLAND MYCOLOGIST



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The Queensland Mycological Society Inc
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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 2016**, 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@qldfungi.org.au) of changes to their contact details, especially e-mail addresses.

Cover photo: The termite mound fungus *Podaxis beringamensis* photographed during the Cairns foray. See page 10. Photo © Susie Webster.

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QMS Activities

Meetings

Meetings are held in the F.M. Bailey Room at the Queensland Herbarium, Mt Coot-tha Botanic Gardens, Mt Coot-tha Road, Toowong, 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 and on the website 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.

Suppers are provided by volunteers. If you are able to assist please contact the Secretary.

Forays

QMS hold regular forays during the first half of the year. The dates are nominally the 4th Saturday of the month, but actual dates may vary and additional forays may also be held. 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 Guard or another member of the Executive.

Workshops

QMS runs workshops in the second half of the year, when there is little field activity. In 2015 workshops were held in August and October.

What do you, our members, want to learn more about that could be presented in a workshop? QMS is always on the lookout for workshop ideas. Members are encouraged to suggest topics, whether new or reruns of past workshops.

Send your ideas to Fran or Ronda (info@qldfungi.org.au).

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

QMS Calendar – 2016

MONTH	MEETINGS	FORAYS/WORKSHOPS
February	9th Speaker: Dave Wood Electronic record Keeping	27 th Chermside Hills Leaders James Hansen & John Wrench
March	8th Speaker: Dr John Stanisic Australian Snails and Fungi	11th to 13 th RESIDENTIAL FORAY Maroochy Bot Gardens Woondum NP Linda Garrett NP
April	12 th Members: February Foray Reports: March Foray Reposts	23rd Great Sandy NP, L. Cooroibah Leader Fran Guard
May	10 th Members contributions	28 th Cunningham's Gap Leaders Peter and Ronda Warhurst
June	14 th Speaker: AGM Dr Tony Young: Hygrocybes	24 th Bribie Island Leader Patrick Leonard
July	14th Members: Foray Reports	2 nd Murrumba Downs Leaders Susie Webster & Bev Miles
August	9 th Speaker: Foray report: Bribie Is.	27 th Workshop:
September	13 th Members evening: Foray Report: Great Sandy NP.	-----
October	11 th Speaker:	30 th Workshop
November	8 th Members: Workshop report	-----
December	13 th Christmas Party	Christmas Break

Editor's Comments

Congratulations to QMS on its 10th anniversary. And a big thank you to those who organised the celebrations.

A special thanks from me to **Ray and Noreen Baxter** who founded the newsletter and left me a great foundation to build on. It is much easier to take something that already exists and work with it than to start from scratch.

It seems appropriate that at this time of year we have two items on mushrooms as food. One from Pat on recipes for fungi in old cookbooks, and an article based on Kim Nguyen's "Can I Eat It?" talk from earlier in the year. There is also a short note and link to a website on growing shiitake mushrooms.

To cap the newsletter off Susie Webster and Patrick Leonard report on a foray near Cairns, an area that cries out for more attention from mycologists.

Finally, congratulations to **Donna Davis** for recognition of her wonderful artwork.

One of her first Fungi Artworks has been selected for the **Queensland Regional Art Awards** state tour in 2016. The work features *Laccaria* and *Pycnoporus coccineus* in reference to the Purga Nature Refuge.

To read more check out:

<http://flyingarts.org.au/queensland-regional-art-awards-2015-winners-and-touring-artists-announced/#jp-carousel-3082>

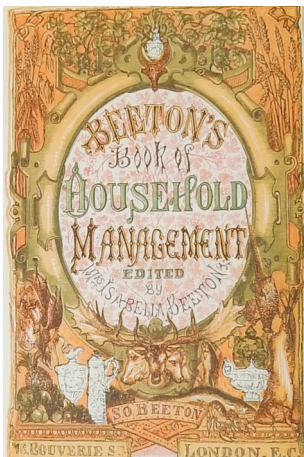
Merry Christmas and Happy New Year!

Chefs, Chanterelles and Ketchup

A foray around my favourite mushroom cookery books

Patrick Leonard

Back in 1861 a large cookery book was published in London containing over 1100 pages of recipes and household hints. It devoted three pages to mushrooms, they could be baked, broiled (on the



Front cover of Mrs Beeton's Household Management 1861

barby!) or stewed, and they could be preserved by making them in to ketchup. Isabella Beeton, the 25 year old author of this tome was the celebrity chef of her age. She was the eldest of 21 children, had 4 of her own and died at the tender age of 28.

It is interesting that she gives a recipe for ketchup. The idea of a tasty brown spicy sauce was originally from Indonesia/Malaya where

it was called 'kecap'. It appears to be the British who took the idea to Europe early in the 18th century and changed the recipe so that mushrooms became the principal ingredient.

Mrs Beeton's mushroom ketchup. Take a peck (9 litres) of mushrooms, ½ lb of salt, ¼ oz of cayenne pepper, ½ oz allspice, ½ oz ginger and 2 blades of mace to make her mushroom ketchup. By 'mushroom' she means *Agaricus campestris*, although she doesn't say so directly. It takes almost a week to make this ketchup and you will need a large crock (stone pot) and a very slow stove and a cook and a scullery maid as well, so it is not really practical in 2015.



Charles Badham. Edible *Lactarius deliciosus* and *Ramaria species*

The words 'tomato ketchup' seem to have been introduced in the USA by the Heinz company in the 1890s, tomatoes perhaps being more plentiful than mushrooms in Ohio.

Only two years after Mrs Beeton's *Book of Household Management* was published, a Doctor by name of Charles David Badham published *A treatise on the Esculent Funguses of England* listing

almost 50 fungi species that one could eat, but he offers no recipes. It was left to Mordecai Cooke who published *British Edible Fungi – how to distinguish and how to cook them* in 1891. By this time the list of edible fungi had grown to almost 200 species. Cooke devotes a whole chapter to mushroom ketchup offering his own recipe and one from Mrs Hussey, neither very different from Mrs Beeton's, the main preservative is still salt. Cloves and pepper replace mace, allspice and cayenne. He suggests that *Amanita rubescens* and *Coprinus comatus* may be good additions to the traditional *Agaricus campestris* that formed the basis of the Beeton ketchup.

In 1892, a year after publishing his 'edible fungi',



Mordecai Cooke. *Agaricus haemorrhodarius*, *Agaricus campestris* and *Agaricus elvensis*

Cooke went on to publish his *Handbook of Australian Fungi* in which he makes no mention of whether any of them are edible; thus starting the great tradition of keeping quiet about the 'esculent funguses' of Australia.

None of the authors of these books were cooks or mycophagists. Isabella Beeton was a journalist helping out her publisher husband. Charles Badham an Eton and Oxford man who qualified as a doctor but

never practised. Mordecai Cooke was apprenticed as a draper's assistant and completely self-taught.

The first half of the 20th century was occupied by wars and economic recessions; not much happened in terms of fungal gastronomy in the English speaking world. But, in France, in 1929, the publisher Flammarion organised a contest with the help of Radio Paris to find the best recipes in France. Thousands of recipes came in and a grand jury was formed with 10 cooks and gourmets as jurors including Escoffier and Prosper Montaigne, the celebrity chefs of the time. They chose the 100 best recipes of France and these were published as *Les Belles Recettes des Provinces Francaises*. They included the classic recipe for mushrooms in cream.

Auguste Escoffier, the master of haute cuisine who was in charge of the kitchens at the Grand Hotel in Monte Carlo and the Savoy in London was a favourite with Kings and opera stars, including Australian Nellie Melba. He cooked boletes simply in olive oil 'a la bordelaise' and morels in cream.

His master work was published under the imaginative title of *Ma Cuisine*.

Champignons a la crème Bressane. Take a pound of blue legs (*Lepista saeva*) immerse them in spring water with a handful of salt and a dash of cider vinegar. Drain them well. Heat up some butter in a pan (use olive oil if you are from southern France). When it is hot add a small clove of chopped garlic and when that sizzles add the mushrooms. Stir until the juices run, add a handful of finely chopped parsley, a cup of fresh cream and a teaspoon of vinegar. Serve on hot plates.



PLATE VI. The Chanterelle—easiest to detect and easiest to handle—known as 'Egg Sponge' (*Cantharellus cibarius*)
No. 12. See page 67

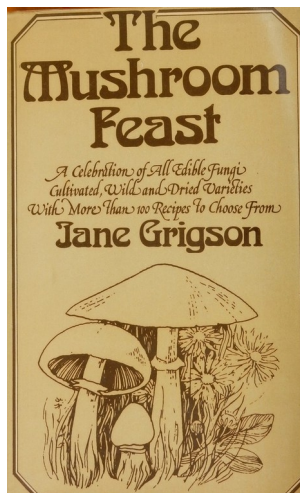
Claire Lowenfeld. Chanterelles.

The end of the Second World War and more specifically the end of rationing (1950 in Australia, 1953/54 in Europe) led to a renewed interest in food including wild food. In 1956, Claire Lowenfeld, brought out *Fungi* in the *Britain's Wild Larder* series. It dealt with 30 wild fungi and contained 83 recipes including the classic for giant and other puffballs (*Calvatia gigantea*).

Egg and crumbed giant puff-ball. Find a fresh giant puff-ball. The flesh must be white and crumbly. Cut it in to ½ inch thick discs with a sharp bread knife. Beat up two eggs and 4 tablespoons of milk in a shallow bowl (big enough to take the mushroom disks). Dip the puff-ball discs in the egg and milk and then coat with breadcrumbs. Homemade crumbs are best but Japanese panko crumbs are a good substitute. Heat up some dry cured bacon fat in a pan or use salted butter if you can't get good bacon fat. Fry slices turning them over once. Lift them out, drain and then dry on kitchen paper. Serve on hot plates with salt, pepper and a sprinkle of lemon juice or cider vinegar.

Joan and Alan Cribb included a number of fungal species, both edible and poisonous in their *Wild Food in Australia* in 1975. Introduced fungi were listed as well as the native species *Ramaria ochraceo-salmonicolor*, *Cyttaria gunnii* and *Polyporus mylittae*. But there were no recipes and as far as I have been able to determine none have been published for these species in the 40 years since.

Jane Grigson was one of the most entertaining and well-read cookery writers of her generation. She



Front cover of Jane Grigson's *The Mushroom Feast*.

lived in southern England but had a second home on the Loire amongst the troglodytes of Touraine. These caves were where the first commercial production of mushrooms for the table was undertaken. There are 250 recipes in her *The Mushroom Feast* and brief descriptions of just over 20 edible species. It first appeared in 1978.

The book has lots of interesting short stories, try her description of truffles as an aphrodisiac

drawn from Oliver's *The French at Table*. This book marks a boundary in that it is completely devoted to fungi, is well researched, contains recipes matched to species and the author had collected the fungi and tried the recipes herself.

In the same year, Librairie Larousse issued their encyclopaedia: *Larousse des Champignons* in France. It contains over 300 pages of interesting and accurate information (at least the second edition) about edible and poisonous fungi. Larousse attempted to list the best edible mushrooms by reference to a survey conducted by the *Revue de Mycologie*. The St George's mushroom (*Calocybe gambosa*), that appears in spring in Europe, topped the list. *Amanita caesarea* and the morel (*Morchella conica*) were second and third. The much vaunted cep or porcini (*Boletus edulis*) only makes it to 11th place just ahead of *Amanita rubescens* at 14. Very surprisingly the chanterelle (*Cantharellus cibarius*) only makes it to 20th place and *Lactarius deliciosus* (one of my favourites) is at 48. The editor of *Larousse*, Claude Moreau, notes that the results may have been biased by too many responses from Jura and other regions of eastern France.

Few mycological societies have ventured in to the field of edible fungi and how to cook them. The Federation des Associations Mycologiques Mediterraneenes is an exception, publishing its own recipe book assembled by its members in 1991. 'Morels like grandmother made them' is one of those complex old fashioned recipes involving wine and cream and there is even a recommendation for an accompanying wine: Pinot gris de Alsace. (Note: the Granite Belt is said to be a good place for Morels and Pinot gris!)

In the early 1990s there was a renewed interest in wild foods in Europe and North America. Television programmes that involved collecting and cooking wild mushrooms began to be shown and a bunch of books soon followed. The best of this new generation was probably *A Passion for Mushrooms* by Antonio Carluccio. He is an Italian living in London and was chef/proprietor of the Neale Street Restaurant in London's Covent Garden. The restaurant specialised in wild mushrooms and served a wide variety.

Risotto con porcini. Chop a small white onion finely and fry in a mix of 2 tablespoons of olive oil and 2 of butter, when it starts to take colour add 350 grams sliced porcini. (You can use dried ones but you must soak these for at least 15 minutes in water). Add 350 grams Arborio rice and stir for a minute or 2 more. Now slowly add 1 ½ litres of pre-heated chicken stock and the water in which your dried mushrooms soaked, keep stirring. The rice will be ready in about 20 minutes. Take off the cooker, stir in a knob of butter and serve with grated Parmigiano Regiano on top.

This has to be one of my favourites.

The post 2000 publishing explosion has seen a great raft of mushroom cookery books appear. Many of these books contain great photos in the best 'food porn' tradition of the twenty first century. Unfortunately most have a puerile content and many unimaginative recipes. The blessed Stephanie (Alexander) is, as always, an exception, head and shoulders above most other food writers,

Can I Eat It?

And Other Good Questions You Should Ask About Fungi

Kim Nguyen

I would like to start with my own interest in the edibility of mushrooms. I describe myself as a MYCOPHAGIST, one who eats fungi. I've been a cultivator of edible and medicinal fungi and a forager of wild mushrooms and I'm still a forager of wild mushrooms. I sometimes buy mushrooms, but generally only ones that were foraged or where I know the farmer's growing methods. I generally don't eat supermarket varieties as they are grown with a lot of chemical additives and I prefer organic food. I absolutely believe in the conservation of

and Australian. More on Australian fungi you can eat and relevant recipes will follow in the next issue.

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fungi and the sustainable use of any natural resource, including fungi.

I reckon most of us are mad about mushrooms, either as a recently acquired thing or a longstanding obsession. At some point we've either asked "Can I eat this mushroom?!" or been on the receiving end of that question. Whatever the case it is a very vexing question! Yet a question every person interested in fungi will end up thinking about at some point in their mycological journey.

It is a funny thing that while efforts to understand plants and animals seem very common-sensical and generally scientific (most people do have a clue about those two kingdoms!), some ideas about fungi seem positively medieval! Some wild yet widespread myths about eating fungi include:

- A silver utensil will go black if touched by a poisonous mushroom!
- Watch to see if other animals consume it ... if they can eat it so can humans.
- Once you peel the cap you can eat any likely looking mushroom.
- Cook the hell out of it and you'll be rid of all the toxins.
- Poisonous mushrooms will taste terrible ... and that's how you know!

Also unscientific is the idea that most fungi are poisonous ... actually less than 100 species are **definitely** known to be poisonous ... many more are to be sure, but out of the **described** fungi, that's how many are definitely known to be not for consumption. Now, the number of edible species... that is more difficult to quantify given the vast number of undescribed species. There is edible (where ingestion won't kill, maim or harm you) and then there is palatable (pleasing to your average keen forager). Best keep the conversation to the more manageable question of which ones are toxic.

There is a belief that many people die from mushroom poisoning ... the proportion of fatalities to foragers is actually not at all high. Most foragers are experienced and have a level of the relevant taxonomic skills and caution required to forage. In the USA 1% of reported poisonings are due to mushrooms and of that number, 1% are fatal. As for Oz ... I reckon taboos about collecting and eating in Oz means any really reliable baseline information is still a way off, though it shouldn't be. My take on that is, any data collected about fungi is good data.

Another incorrect generalisation is that species that are known edibles are safe to eat ... this is not always true! Individuals react differently to different compounds in food ... think of your gluten-intolerant friends and those who go into anaphylactic shock when they eat nuts. One person's tasty mushroom omelette is another's vomiting misadventure. Other reasons why not all edibles should be eaten are related to why I don't buy the ones in supermarkets. The specimens collected might be old and spoiled or growing in a polluted spot by the road or near agricultural spray drift.

A quick look and it is clear there are a whole lot of 'IFS', 'BUTS' and 'MAYBES' around the question. One way mycological groups deal with the confounding issue is by having an express policy about edibility. In QMS for example, we are all about conservation, education and supporting scientific bodies like the Queensland Herbarium and Fungimap, mostly with information that

members collect on forays. The society strongly recommends that wild mushrooms are should **not** be consumed. As a member, even in casual conversations within the group, the issue of edibility is regarded as a tricky one and best avoided. Many of you will be familiar with the wildly popular *Tasmanian Fungi* Facebook group. This active group with many thousand members expressly states that it is **not about edibility**. Nor is it, by the way. a '*shroom*' page. Another Facebook group of mushroom lovers is the **Fungimap Group**. This group also explicitly states 'please don't eat wild fungi unless you are 110% sure of the identification and edibility status' ... 'we are not an edible fungi group.'

Yet my issue with having a hard-line attitude about not eating is that it **does not** stop people from asking the question. People still ask and I am sure many who are silenced still ask themselves, 'I wonder if that is an edible species?' I reckon there are plenty of good reasons why newbies as well as experts should be asking the question.

An Australian mycological society with a different approach is **The Sydney Fungal Studies Group**. In the past they have hosted forays in the hills around Sydney with foraging experts, chasing slippery Jacks, saffron milk caps and other edibles. This group has recipes on their website for wild fungi.

One of the most fascinating and venerable mycological societies around is the 50-year-old **New York Mycological Society**. In their words, a not-for-profit... '*dedicated to raising awareness of mushrooms in science, cuisine and more.*' This organisation just sounds so cool! Aside from a serious lecture series in winter when pickings are few, as well as walks (undertaken by the awesomely named **Foul Weather Friends**), the society famously throws an annual banquet called the **Mycophagists' Table** with a different host every year. I have read about and seen pictures of members on their well-attended forays. Many sport baskets full of collected fungi! Identification in this group also extends to determining whether the specimens are good to eat or not. The NYMS has had a few illustrious members, including Gary Lincoff (past president of the North American Mycological Association and author of the Audubon Society's Field Guide to American Mushrooms). Eugenia Bone has been a past president. She is a well-known food writer and author of the fantastic book *Mycotopia*. The society's founding member, the avant-garde composer John Cage, is famous for eating an apple on stage as a performance. John Cage was an admirer of the American amateur mycologist Charles McIlvaine, who wrote the book *One Thousand American Fungi*. It is known as a classic work on mycology as well as mycophagy.

McIlvaine includes many, many recipes for preparing wild fungi. He claimed to have sampled over 600 species of American fungi! The NAMA (North American Mycological Association) publishes a scientific periodical named in his honour, the *McIlvanea*. John Cage said of McIlvaine, '[he] was able to eat anything, providing it was a fungus. People say he had an iron stomach. We take his remarks about edibility with some scepticism, but his spirit spurs us on.'

Many of us are already aware of the mycophobic cultural tendencies we have here in Oz, thanks largely to an Anglo-Saxon heritage. Fungi are unknowable mysteries at best and associated with toads, snails, spiders, witches, all scary things ...at worst. Even if we put these old-fashioned unscientific ideas in the past, there is a modern phenomena informing people to think eating wild fungi is unwise. The inhabitants of modern societies don't generally have a hands-on intimacy with natural and wild things. Foraging for your food and knowing the names of plants and animals or fungi just isn't done much. Interacting with the wild and acquiring bush know-how is done by fewer and fewer people. Australian indigenous knowledge of fungi is mostly lost, and non-indigenous knowledge is newer than in most other countries.

Because this is the type of society we live in, Charles McIlvaine's passion for experimentation is a sensibility that really speaks to me. It is essentially why I think that **CAN I EAT IT?** is an important question to ask and answer. That enthusiastic people want to go beyond the packages in the supermarket to where the wild fungi grow is a heartening thing. McIlvaine's spirit, as I read it, is about curiosity and seeking to understand nature in a visceral way. He was, at the same time, extremely methodical and not foolhardy! He wrote a detailed tome of a book and survived those 600 tastings!

If, as mycophiles, we can bear to be asked (again) **Can I Eat It?** we could patiently point out, as suggested by Dr John Danon of the Eastern Pennsylvanian Mushroomers Club, that better questions to ask might be:

- *How can I tell whether this mushroom is edible or not? And then...*
- *If I want to identify this mushroom how do I go about it?*

Experienced foragers can have a lot of useful advice to impart to a newbie mycophile. In reality, most of it will be caveats in the form of cautious mottos like '*If in doubt throw it out*' or '*Start with only the ones that can not be confused with anything else*' or '*Leave one mushroom for the mycologist and one for the doctor*'.

A preoccupation with edibility, in the right hands, can turn into an understanding of taxonomy and the bricks-and-mortar basics of identification. And from an appreciation of taxonomy and scientific research skills, understanding can radiate out in many interesting and digressive directions. Correct identification in the wild involves understanding substrate, habitat, climates and ecosystems, which can turn an amateur forager into a thoughtful conservationist. Good taxonomic practices can turn a 'shroomer' into a more generalist appreciator of all things fungal. I've seen this over and over in online communities. A little knowledge in edibles can propel a person to seek out other mycophagists, who more likely than not are also into:

- The fascinating history of cultural uses of fungi (from dyeing fabric, to lighting fires, to treating illnesses, to getting high, to getting spiritual).
- Cultivating mushrooms (think truffles, think grow your own mushroom courses, think Paul Stamets)
- Applied mycology. Here I think of past QMS president Diana Leemon and her work with fungal insecticides. I think of cutting edge company Ecovative and their pioneering work with mycelium housing insulation and packaging material. I think of Paul Stamets, who frankly seems to have a finger in everything!
- And then there are the slime moulds and the lichens and of course so many more directions an interest in fungi can go.

That initial amateur's query, "Can I eat it?" can be the start of a long, complex and beautiful relationship with fungi, which we in QMS are lucky enough to have. As a member of a few fungi groups I would like to see our bias against asking the question be a thing of the past. Evidence shows us that it isn't a deeply dangerous question nor is mycophagy a more dangerous activity than many things we do, accepting that some guidelines will reduce our risks. Censorship and prohibition get in the way of knowledge and understanding, be that cultural or scientific understanding. Not asking that one question may mean that folks don't have a starting point for asking better questions. Once enthusiastic newbies have their questions about edibility answered thoughtfully and with respect, many people expand their interests quickly beyond the palate. Those who stay attached to the palate become expert mycophagists with a wealth of first hand experience. In any case, open engagement, in my experience, enhances understanding all-round.

I want to finish by talking about **SEQ Fungi**, an online group many QMS members also contribute to. So far it has been a fast-growing open and passionate bunch of folks. About 700 converts so far. Edibility does come up occasionally as a topic. There is a wide spectrum of views on the wisdom of ingesting anything that is not store-bought, and all opinions are open to discussion. The administrators have a very vague policy of caution but not prohibition, slightly more reticent than Charles McIlvaine's outlook. I actually see parallels between his words '*I take no man's word for the qualities of a toadstool! I go for it myself!*' and the

attitudes of the members of SEQ Fungi and QMS. We may start out with a lot of naive questions, if then encouraged to explore, experiment and learn by doing, we end up doing a lot of things ourselves! Taking great pics. Using field guides correctly. Wrangling with microscopes ourselves and making the correct identification ourselves. Allowing all questions means that we each can then eventually make an informed decision about the type of interaction and intimacy we have with these "mysterious mongrels" we choose as our particular interest.

Cairns Foray

Susie Webster and Pat Leonard

The Cairns foray was planned at the Brisbane Fungi Festival dinner. There seemed to be enthusiastic support for it as providing a chance for QMS members to see a bit more of the state and to meet fellow members up north. In the end we were only four!

We visited various locations on the Atherton tableland including Denton Forest, Davies Creek (Falls Track), and several Tinaroo Dam sites. It had been a reasonably good wet season and there were lots of different fungi around, from trusty *Russulas* to fungus-infected flies; from yummy *Ramarias* to elegant *Helvellas*, a feast for the eyes.

Russulas were in fine form, including a pale baby-pink unknown species and the more familiar cinnamon brown *R. cheelii*.



Russula cheelii © Susie Webster

North Queensland proved to be a good place for bug fungi; even the flies can't escape the great mycelial web.



Entomophthora muscae © Susie Webster

The *Ramarias* were spectacular with their salmon and orange hues, unfortunately not plentiful enough for fine dining, which reduced us to eating the *Agaricus* from the James Cook University grounds.



Ramaria ochracea-salmonicolor © Susie Webster

It is a long drive from Susan Nuske's lab to her research site at Tinaroo Dam. Despite careful observations by the four forayers and thousands of termite mounds on both sides of the road we did not find a single fungus, possibly due to the speed

of Susie's driving! We did however benefit from a refreshing stop at an isolated ice cream shop, which had the most amazing flavours, some tastes being wattle seed and vanilla, and dragonfruit.

The corrugated dirt road to Davies Creek was more productive even though the find, *Podaxis beringamensis*, was singular.



Podaxis beringamensis © Susie Webster

The only toothed fungus found in our searches was a *Steccherinum* growing on a living eucalypt in a burnt out hollow at the base of the trunk.



Steccherinum sp. © Susie Webster

When we arrived at Tinaroo Dam we were greeted by a glorious view and due to the surprising range of habitats our finds were widely varied. Damp gullies leading down to the lake produced our first *Helvella* and also a first for QMS. This site produced a number of amazing species including multiple *Scleroderma cepa* infected by *Penicillium*.



Tinaroo Dam © Susie Webster



Helvella dissingii © Pat Leonard



Scleroderma cepa with *Penicillium* infection © Susie Webster

We found a lot of unnameable boletes; one of the few exceptions was this lovely lilac coloured *Tylopilus griseipurpureus*.



Tylopilus griseipurpureus. © Susie Webster

While awaiting the return of our illustrious leader we wandered off for a look along the edge of the Barron River, just in case... and were delighted to almost fall over a spectacular example of *Inonotus albertinii* buried in the long grass! Other fungi included a tiny *Mycena interrupta* that had to be photographed at X200 through a portable USB microscope.



Inonotus albertinii © Susie Webster

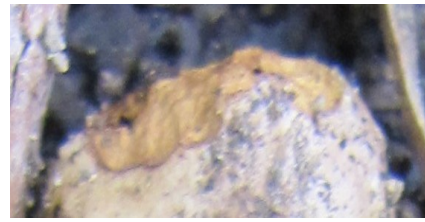


Mycena interrupta
© Susie Webster

Susan Nuske is a PhD student at the James Cook University in Cairns. Her PhD is an ecological study of the interaction between fungi, mammals and plants.

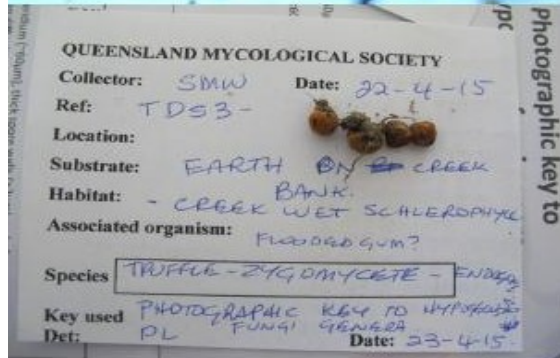
Specifically, she investigates the dispersal of ectomycorrhizal fungi by mammals in North Queensland, including the endangered Northern Bettong. Ectomycorrhizal fungi are important soil fungi that mutualistically associate with plant roots. In exchange for sugars from the plants, these fungi help the

plants to access a greater pool of soil nutrients, protect against pathogens and increase



These tiny teeth marks were barely visible as this truffle was only 8mm in diameter
© Susie Webster

tolerance to stressful conditions. By consuming the below-ground fruiting bodies of these fungi (truffles), mammals disperse the spores of ectomycorrhizae and play an important role in maintaining the plant-fungi relationship and ecosystem functioning. Susan's project is the first to examine this dispersal on a community-wide scale within Australia. The project will also contribute to the conservation of the endangered northern bettong, a specialist truffle-eater and the ectomycorrhizal fungi they disperse.



Endogone is a truffle belonging to the Zygomycota. They were white prior to collection © Susie Webster

Susan's tools of trade are rakes, patience and collecting boxes.

By the end of our weeks' frantic foraying (or was that over-collecting?), fatigue was setting in... and any old ditch would do for a well earned rest!

The work currently being done by the University may very well save the northern bettong from its spiralling decline into extinction. There is a 60 minute documentary coming in 2016 called "BETTONG – SAVE OR DELETE" which is a collaboration between WildCAM and the JCU. Look out for it.

http://www.wildcamaustralia.com/northern_bettong.html



The end of a hard week's work © Susie Webster

Log-grown Shiitake Mushroom Production

A project of The Otway Agroforestry Network and The Australian Master TreeGrowers

By *Parsuram Sharma Luitl and Rowan Reid*

This project is supported by the Victorian Government Department of Innovation, Industry and Regional Development's Next Generation Food Strategy, 'Network to Success' Program

The cultivation of shiitake mushrooms on oak logs (*Quercus* spp) has been practiced for centuries in China and Japan. In fact, the word *Shiitake* literally means *Oak-Mushroom*. The fungus colonises dead timber then fruits in response to moisture. The mushrooms are harvested and currently sell for around \$35 per kilo in the Melbourne wholesale markets. Field based production is now relatively common practice amongst North American forest owners. Inoculated logs are stacked in the forest to rest then repeatedly treated to stimulate fruiting. A single oak log can be produce mushrooms for up to 4 to 5 years.

http://www.agroforestry.net.au/main.asp?_=Shiitake

Many thanks to Sheryl Backhouse for sending this link. The text here is copied from the website. Follow the link to read more and view photos.

Coming Up

The 10th anniversary of QMS was something to celebrate. A report on the December meeting/celebration will be in the next newsletter, due in March. In the meantime, for those who missed it:



Photo © Susie Webster.