



THE QUEENSLAND MYCOLOGIST

Bulletin of
The Queensland Mycological Society Inc.

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 February 1, 2009.

Please ensure that the Secretary (fungiqlld@yahoo.com.au) always has your current email address. The Secretary, Queensland Mycological Society Inc, PO Box 295, Indooroopilly Qld 4068

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.

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QMS WEBSITE: www.qms.asn.au

Have you logged onto the QMS website lately? If not then it is time you did!! Many thanks to Andrew Kettle for getting the site up and running. Please provide feedback to the Committee about any ideas you may have for the site.

OFFICE BEARERS 2008

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QMS acknowledges and appreciates the sponsorship that has been given to the Society by the Queensland Herbarium, SEQ Catchments and Brisbane City Council.



To assist those not in attendance at meetings, notes on the addresses given are included in issues of the Queensland Mycologist. However, the notes never do justice to the topic as they do not reflect the enthusiasm of the speaker or cover the questions and discussions that were raised on the topic. So remember, where possible it is far better to attend the meetings, get the information first hand and participate in the invaluable information sharing opportunity.

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QMS CALENDAR

Members are reminded that 2009 subscriptions (\$20 pp) are now due. Payment can be made by cheque mailed to the Treasurer, Queensland Mycological Society Inc., PO Box 295, Indooroopilly Qld 4068 or directly to the Treasurer at the next meeting. A Membership Renewal Form is included on page 17.

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.

There will be a pre-meeting at 6 p.m. at the Herbarium at Mount Coot-tha for those who attended forays. Photographers are asked to bring all images preferably renamed by field number_initials_number e.g. 15SMF2 = field number 15, initials and the second image.

QMS MEETING PROGRAMME

10 February 2009 Springbrook, Nudgee Waterholes foray report + Member's talk: "Sex and The Fungi" (Andrew Kettle).

14 April 2009 - Springbrook & Bunya Mt reports + Members talk TBA.

12 May 2009 QM AGM Invited speaker. Members bring a plate to share.

9 June 2009 - QMS Meeting

11 August 2009 QMS Meeting Foray reports + Members talk TBA

13 October 2009 QMS Meeting Foray reports + Members talk TBA.

8 December 2009 Festive season celebration + Foray reports. Bring a plate to share.

MEETING SUPPER ROSTER

Two volunteers are required for each meeting – one to bring something savoury and one something sweet.

QMS FIELD TRIP PROGRAMME

Sat 24 January 2009 (not 31st January as previously diarised), which Ken Cowell will lead at the Nudgee Waterholes

In addition to notices at general meetings, detail of forthcoming forays will be posted on Mycena (<http://tech.groups.yahoo.com/group/mycena/>) and also emailed to members by the Secretary.

Fri 27 Feb - 1 Mar 2009 Springbrook Survey- Leader Needed

27-29 Mar 2009 Bunya Mountains. Leader: Sapphire McMullan-Fisher

Sat 25 Apr 2009 QMS Foray Leader: John Wrench

Sat 30 May 2009 QMS Foray

QMS WORKING BEE

Saturday 17 Jan 2009, 10:30 am - 2:30 pm, "The Shed", Forge Close, Sumner Park.
Bring a plate to share for lunch.

Bring all images and data from the Mt Cordeaux and the November Springbrook forays. We are trying to choose, name and save images from the forays and check these against the foray sheets!

Please email records@qms.asn.au if you are interested in attending.

Check the website if you want to know when the next QMS event is: www.qms.asn.au.

2009 FUNGIMAP CONFERENCE V

Organised in conjunction with:

Sydney Fungal Studies Group, Sydney, NSW

Black Gold Country Cabins, Wallerawang (near Lithgow) in the Blue Mountains region of NSW.

Conference V **will run from** Thursday 21st May to Tuesday 26th May 2009.

These dates allow members to attend our Fungimap Conference after the meeting held in NZ by the Australasian Mycological Society (Sun 10th to Sat 16th May 2009).

Conference speakers, workshop and foray details will be announced at a later date.

For more information, visit: http://www.rbg.vic.gov.au/fungimap/_welcome/

QMR – QUEENSLAND MYCOLOGICAL RECORDS

To increase the knowledge about the diversity and distributions of local macrofungi a subgroup of QMS members was formed in June to try and create a recording system and data base. By improving the recording sheets and guidelines we hope to improve the quality of the macrofungal observations made by QMS, particularly during forays. Once the database has been created, tested and data read into it we should be able to produce reports and maps based on our records and in the longer term we might be able to see trends and associations of different macrofungi.

The members of this subgroup are Andrew Kettle, Karalyn Herse, Patrick Leonard, Sapphire McMullan-Fisher, Megan Prance, Klaus Querengasser and Kim Nguyen. We've coined the abbreviation for the sub-group 'QMR' which stands for Queensland Mycological Records. QMR has so far had three meetings in person and many often technical emails. Creating a database is a huge task if we want to be able to get the maximum amount of data out of it but I'm confident that with the ingenuity and determination of the members will create an elegant database. If you have any ideas or comments you can contact the QMR members by emailing records@qms.asn.au.

GENERAL MEETING HIGHLIGHTS 9TH SEPTEMBER 2008

This was the first General Meeting in the new format. As discussed at the July General Meeting, meetings will be structured so as to allow more time for member participation; and as part of this change, routine business will no longer feature at General Meetings. The motion to effect this change was proposed by Sapphire McMullan-Fisher, seconded by James Hansen and carried unanimously.

Unfortunately, Diana Leemon who was to talk on the Springbrook programme preparatory to our planned weekend there in November was unable to attend.

Sapphire reported on negotiations with the Herbarium regarding QMS' access to Herbarium facilities. The Bailey Room will continue to be available for meetings. QMS has also been offered use of the Herbarium's collection & microscopes and there are now four members who have been accepted as Honorary Research Associates.

Susan Nelles was introduced to the meeting in the new role of librarian.

Reports were given on three very successful QMS activities:

(1) The *Mycena* workshop conducted by Patrick Leonard in July at the home of Ken Cowell and Floss Wainwright.

(2) An illustrated discussion by Patrick Leonard of selected species, *Dermocybe*, *Grifola*, *Hygrocybe* and *Geastrum*, from the June foray to Baroon Pocket Dam and the microscope identification session afterwards at Fran Guard's home at Maleny

(3) A description by Jon Atkinson of the August foray with Tony Young to Mt Hobwee, Lamington NP to search for *Cyttaria* which appears in spring on the Antarctic beech trees (*Nothofagus cunninghamii*) there.

The Society is very appreciative of the facilities and hospitality made available to the members for identification sessions by Ken, Floss and Fran.

Jon Atkinson briefed members on the forays planned for the Queensland Mushrooms' farm in September and for Mt Cordeaux in October. He also reviewed the new proposal form, in which safety details are detailed on the back for members to refer to before signing on. A car pooling column has also been added to the form.

At Griffith University's Endangered Species Day in September, QMS mounted a display of information on both fungi and QMS activities but was disappointed by the poor public attendance. This may have been related to there being many other functions in Brisbane that day but also may have been a result of limited advertising. While it was a useful exercise for us to learn what is needed to set up such a display, in future we may be wise to ascertain if adequate publicity has been done to warrant our efforts. Later that week, Sapphire gave a lecture at the EcoCentre on the role of fungi in the ecosystem.

The potential environmental and planning implications of the SEQ Regional Plan were discussed, especially as fungi were not considered in the environmental analysis. Patrick Leonard questioned the scientific basis of the plan and concern was expressed about the short period (2-3 weeks) allowed for consultation instead of the usual 3 months. Patrick has made a submission on behalf of QMS and members were asked to submit formal comments on the plan to the authorities. John Wrench made the point that bushland has no protective status – it is essentially freehold land owned by one of the three tiers of government and as such, its undeveloped status is not protected.

QMR developments— a draft record sheet has been produced to be tested over the next couple of forays. The use of sequentially numbered jewellers' tags to connect the identity of specimens and field photos will also be trialled.

16 members attended; 8 apologies received

GENERAL MEETING & XMAS PARTY HIGHLIGHTS 11TH NOVEMBER 2008

Rachel Griffiths gave a very interesting talk on Beatrix Potter who, as well as being an artist, writer, farmer, naturalist and conservationist was also a mycologist. While we know now of her groundbreaking discoveries, in the late 19th and early 20th centuries, her efforts were frustrated and her work ignored because she was a woman. Her interest in fungi started when she was in her early 20s and later, in her 30s, she started studying them microscopically. Independently, she developed the theory that spores had a reproductive role, and was the first person in Britain to grow mycelium from them. She prepared a paper on the germination of spores of Basidiomycetes to present to the Linnean Society but was not permitted to attend the meeting. The Society eventually published the paper - 100 years later – with an apology. She also theorized correctly, in opposition to then orthodox thought, that in lichens, the relationship between algae and fungi was symbiotic. Her artwork, even as a child, was quite superb and we are indebted to the French who published a book of her drawings of fungi, *Le Champignon*, in 1903.

The report of our visit to Queensland Mushrooms farm at North Maclean in September was given by Kim Nguyen who described, with illustrations, the stages of the process. The compost is mixed and matured outdoors, then placed on long shelves in climate controlled and computer-monitored rooms. A layer of peat moss, imported from Holland or Germany is placed on top. In fact, much of the technology comes from Holland and some of the raw materials are also imported or supplied from interstate. The mushrooms are introduced in the form of spawn, that is, spore coated grain, produced by specialist suppliers in Sydney. The compost beds are watered by hand three times daily and three crops are taken from each sowing, with the first flush being the highest quality. This firm produces 70 tons of mushrooms a week, all *Agaricus bisporus*, and export to Japan as well as supplying the local Queensland and some interstate markets. It is preparing to double their capacity. We also heard of Kim's own production of oyster mushrooms and the kits she sells; and also saw pictures of the several varieties of edible mushrooms available in Brisbane.

The foray to Mt Cordeaux in October located over 40 different species of fungi in a 500 metres walk, including 3 or 4 *Coprinus* species. Polypores and other wood fungi were relatively numerous. Fungi pictured included *Cymatoderma elegans*, *Coprinus* sp (probably *truncorum*,) *Geastrum* sp, a truffle and a *Bolbitius* species which may be new.

The evening concluded with the Christmas party supper and activities. Fungi Charades was very skillfully devised by Karalyn Herse and rather tested our knowledge(?) of Latin and Greek. Great fun nevertheless so, thank you Karalyn very much; perhaps if we study those Latin and Greek roots over the next 12 months, we will be more successful next Christmas. While there were only a couple of entries in the literary competition, the photo competition attracted quite a few dozen entries, many of them quite spectacular.

PRESIDENTS REPORT

We had a fabulous celebration at the last meeting (11 Nov 08). The evening started with everyone enjoying the food – many of which were tasty mushroom dishes. I think it would be great to share recipes so I've also included my stuffed mushrooms recipe and look forward to more recipes in future Newsletters. Kim and Jon gave a great report on the Mushroom farms foray. Rachel then gave us a fascinating talk about Beatrice Potter and her talents and original but unappreciated mycological research. Susan then gave an animated foray report from the Mt Cordeaux. Foray participants tested the new foray sheets and found that it was hard to record data for all specimens as new fungal finds kept hurrying the recorders on!

I was delighted that competition entrants were happy to donate their entrance fee (Gold coin donation and up to 5 entries) I'm pleased to say we raised \$87 for our library. Our QMS librarian is Susan Nelles. She is working with the committee on how to best utilise our collection. I'm sure these funds will improve our library. We had four categories for the fungi image competition: Best Action shot, Prettiest Fungus, Best People Shot and Ugliest Fungus (Figure 1). It was impressive to see that we have such a creative and talented bunch of members. There were also some inspiring and creative poems, limericks and acts/spoken word pieces.

Members acting skills were tested but very entertaining in the first 'Fungi Charades'! I don't think we'll ever forget the acts of *Aseroe rubra*, *Cortinarius roseolilacinus*, *Dermocybe splendida* and *Hygrocybe graminicolor*! To improve members' etymological skills I have included *Tremella mesenterica* and its etymology. Perhaps those members who have better Latin and Greek skills would like to enlighten members in future newsletters? Hopefully next time we play charades more brave souls will delight us with their creativity.

QMR (the QMS fungal records group) have been digesting some great feedback about the new foray forms from the Mt Cordeaux trip. We realise that the recorders have a difficult task. We are also having difficulties in finding a system which allows the correlation between photos taken in the field and names recorded or discovered after identification. To improve everyone's understanding and to hopefully get a system going that allows all the data, names and images to be correlated and shared among members we (QMR) are going to host a Foray Working Bee on Saturday 17 January. We want to get as many of the members, data and images from the Mt Cordeaux and the November Springbrook trip together. Then we want to work through the images and select the best for identification and aesthetic purposes. We hope that images can be collected and renamed and filed so that they are easy to find in the future.

On the topic of forays I think one thing that is becoming clear is that there is no way that we can identify every fungus that is seen. This is partly because much of the taxonomy of Australian Fungi has not been written yet. Also our collective experience of the local mycota is still developing. To get the most out of our forays it would be wonderful if different members started to focus on particular groups and become our 'local expert'. So little is known about our local fungi that even a little bit of research into some of the fungal groups would make most members an expert!

Some members have already picked a 'pet' group of fungi: Nigel Fechner as most members know is a *Ramaria* and coral fungi expert, he is also working on Boletes; Pat Leonard works on *Russula*, *Lactarius*, *Agaricus*, *Cymatoderma* and Boletes; Fran Guard has picked *Marasmius* to focus on; Megan Prance is hoping to get a handle on Polypores and is starting with *Trametes* and *Polyporus*; Gretchen Evans is starting to work on *Stereum* and other Thelephores (Leather fungi). I'm keen to help and learn from everyone and I'm hoping to get my head around the local *Amanitas*.



Figure 1. Ugliest Fungus entrants.

If members want to start to get to know a fungal group – the groups which already have some good Australian literature (keys, descriptions and diagrams etc.) are: *Amanita*, *Entoloma*, *Galerina*, *Gymnopilus*, *Hygrocybe*, *Macrolepiota*, *Mycena*, and perhaps if someone is keen on Ascomycetes they might try the Helotiales (Geoglossaceae, Orbiliaceae, Sclerotiniaceae, Hyaloscyphaceae). These are just some suggestions there are many more Genera that members could focus on. Also if someone else is already working on a group that interests you, go for it pairs or small groups. People often learn faster when they can bounce ideas off each other. For those who aren't quite up for picking a group yet the Fungimap targets are still great to look for and record. We also are planning on systematically collating identification notes on individual fungal species. There will be more about this in the next newsletter.

Finally I would like to thank all the enthusiastic members who have already paid their 2009 members Rachel says we already have 27 members for 2009. This is fabulous, and for those who haven't been so quick off the mark, please renew your membership as soon as possible.

My best wishes for a happy and safe festive season.
Sapphire

Tremella mesenterica

Etymology (Grey 2005):

Latin tremo I tremble, ella small, little

Greek mesos middle, *enteron* intestine

This orange jelly-like fungus is a Fungimap target. It has an interesting mode of nutrition, it is a fungus which decomposes other fungi. It looks like it is emerging from woody substrates but it has actually been digesting fungi which were rotting the wood!

Reference: Grey, P., and E. Grey 2005. Fungi down under. Fungimap, Melbourne.

© Sapphire McMullan-Fisher.



'TIS THE SEASON FOR RECIPES

Well, any season is, really. Send in your favourite recipes for future newsletters. It would be good if we could have least one in each newsletter

Porcini Mushroom & Olive Christmas Stuffing

For the Christmas bird - turkey, duck, goose, chicken.

Ingredients

50gm packet dried porcini mushrooms	2 chicken livers, chopped
(approx equiv. 250gm fresh porcini/ceps)	120gm bread, crusts removed
3 shallots, chopped	Milk
2 tablespoons olive oil	80gm melted butter
80gm stoned black olives, quartered	4 fillets anchovies
50gm parsley, chopped	Salt & pepper
2 cloves garlic, finely chopped	

Method

Soak dried porcini according to instructions on the packet – usually for 20 minutes in lukewarm water. Saute shallots gently without colouring in the oil for 10 minutes, then add the soaked porcini, cut into 2 cm pieces. Fry for another 10 minutes. Add to a bowl containing the olives, parsley, garlic and chicken liver. Add a little milk to the bread and work with the fingers so it turns into a thick paste, then add this to the previous ingredients and mix. Finally add the melted butter and anchovy fillets.

Ruth Thomson

Stuffed Mushrooms

1 kg mushrooms (<i>Agaricus bisporus</i>)	Fresh flat leaved Parsley ~ 20 leaves
Buttons or field*	1 egg (optional – makes a neater paste)
1.5 cups sunflower seeds	Salt & pepper
1.5 cups pepitas (green pumpkin seeds)	400 grams feta cheese
1 cup pine nuts	100 grams parmesan cheese
Fresh Basil ~30 leaves	
Fresh Sage ~10 leaves	2 cups semidried tomatoes
Fresh Rosemary ~10 leaves	1 teaspoon dried chilli
Fresh Marjoram or Oregano ~ 50 leaves	

Preheat oven to 150 degrees Celsius. Crumble feta and grate parmesan cheese, set aside. Add seeds and nuts to food processor and wiz until crumbs, set aside. Add fresh herbs of choice to food processor and wiz until a green paste. Add seeds and cheese (add chilli and tomatoes if doing spicy tomato version) to herb paste with 1 egg and wiz until a stiff paste.

Remove stems from mushrooms and add paste to centre, lay mushrooms tops down on an oiled tray. Bake in oven for 20-30 mins. Best served hot but also tasty cold.

*Button mushrooms work best as 'finger food' and large flat field mushrooms are great served one per person as part of a meal.

Sapphire

Phlebopus marginatus

This is possibly Australia's largest mushroom, with specimens 1 metre in diameter having been recorded. This one is more modest (though still quite spectacular), and part of a large group found on the corner of Dapsang St and Eagle Hts Rd, Mt Tamborine. These were mostly 20-30 cm in diameter. Photographed on 12 April 2008.



© David Holdom

Agaricus xanthodermus

The well-known yellow stainer. Photographed alongside Queenscroft St, Chelmer on 15 February, 2008



© David Holdom

HOW TO RECOGNISE A: *Russula*



Russula species from Fraser Island. Note regular shape, coloured cap and white gills.

Introduction: Russulas are relatively easy to recognise as a genus, much more difficult to determine the actual species, in part because the same species can sometimes be found with caps that are different colours. Twelve *Russula* species have so far been identified in Queensland but there are undoubtedly many more.

Size: Most Russulas that you find in Queensland are moderately sized with cap diameters over 50 mm. Occasionally you will find a smaller one with a cap between 30 and 50 mm.

Cap: The caps of Russulas are remarkably regular, starting out convex when young, then as they get older broadening out as the centre becomes depressed, sometimes ending up funnel shaped. Russulas are colourful, they can be black, white, green, yellow, red, pink, brown or purple and some have mixtures of colours.

Stipe: Usually cylindrical and about the same height as the cap diameter or a bit shorter. The common name for a *Russula* is 'Crumble cap' and this is the most important clue to its identity. If you break the stipe of a *Russula* it snaps rather like an old fashioned piece of schoolroom chalk. The stipe can be white, or the same colour as the cap but paler, or in a very few with purple caps it is a contrasting reddish colour.

Gills: well developed and relatively thick, they are mostly white or cream in colour. They are usually adnexed, meeting the stipe at a right angle, but can be decurrent. Usually in

one series that extend from the stipe to the cap edge, but sometimes with interspersed shorter gills that only reach part way from the cap edge, these are called lamellules.

Spore print: generally white but can also be various shades of cream, yellow or even yellowish-ochre.

Flesh: Usually white, but in a few species turning red and then black, or directly turning black. Mycologists that work on *Russula* usually taste a small piece of lamellae on the tip of their tongue, it can be mild, acrid or hot.

Chemical tests: Mycologists that work on *Russula* carry a ferrous sulphate crystal and rub it on the stipe. It can turn a salmon orange (the most common reaction) or green and the reaction can be strong or faint. These reactions are usually recorded in the field when the fungus is fresh.

Spores: mostly globose or subglobose in shape and generally somewhere between 7 and 12.5 μm long. In very early books they were thought to be plain, without ornament and that is what they look like if you make a slide of spores mounted in water. But, thanks to Dr Melzer, if you mount the spores in the iodine based Melzer's reagent you discover that *Russula* spores have ornamentation that turns blue-black with iodine, that is they have an amyloid reaction. The ornamentation can be small warts, sharp spines, rows of warts forming ridges, and can be connected by fine lines or consist entirely of a network of interwoven lines (reticulate).

Context: If you examine a cross section of the flesh of a *Russula* under the microscope you will see that it is made up of round or ovoid cells rather than long hyphae, this explains why the flesh snaps!

Key features: A medium sized fungus with a very regular shape, white to cream spores and where the stipe snaps like chalk is likely to be a *Russula*. Check the spores, if they have amyloid ornamentation then it is almost certainly a *Russula*.

What else could it be: if it yields milk when cut it is a *Lactarius*, a genus very closely related to *Russula*.

Patrick Leonard

DASTARDLY DOGGEREL

Thanks to Patrick for this somewhat macabre warning:

A Cautionary tale for Mushroomers.

There was a young lady of Roma,
Who found a bright green Entoloma,
She said: 'Yippety yee'
and et it for tea,
She's now in a psilocin coma.

FUNGI ON THE WEB

Directory of Open Access Journals

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

Surprisingly many scientific journals are freely available on the web, ranging from small society journals to the more prestigious Public Library of Science (PloS). As I write this, there are 239,827 articles in 3,769 journals, with 1,317 are searchable. Of course not all are in English, and that can be frustrating at times, but it is worth the effort to search.

You can search alphabetically, within subject areas, or click on “find journals” and enter all or part of a title or keyword, e.g. “mycology”. It does not seem to accept parts of words for more complex searches.

Notable among mycology journals is *Studies in Mycology* <http://www.studiesinmycology.org/>, from the Centraalbureau voor Schimmelcultures in the Netherlands, a leading international collection. This journal publishes major taxonomic monographs (warning! Some are very large).

North American Fungi (formerly Pacific Northwest Fungi) <http://www.pnwfungi.org/> has a “featured fungi” section that is well worth a look.

Micologia Aplicada Internacional (<http://www.micaplint.com/index.html>) is another interesting journal devoted to fungi. International and apparently with strong Mexican connections, but published by the University of California.

Also on the web: **Mycological Resources on the Internet: Mushrooms**

<http://mycology.cornell.edu/listings.aspx?findex=Mushrooms>

This directory has some great sites- and a lot of links that don't work. Still, there are some gems among those that do. Happy browsing!

TIMELY FUNGI QUOTE:

Karalyn Herse sent this in. The situation is at least as bad in Australia.

A work colleague sent me this quote (found it in a New Scientist article) and I thought it might be worth passing on:

"Assessing ecosystems without taking into account the fungi is like taking care of computers but not the chips inside."

Joan Kelley of the Centre for Agricultural Bioscience International in Wallingford, UK, warning that the study of fungi in the UK could end in 10 years because it is no longer taught at universities (*The Independent*, London, 28 November)

The original article, *Fungi scientists are endangered species* can be found at:

<http://www.independent.co.uk/news/science/fungi-scientists-are-endangered-species-1038862.html>

Worth it for the picture of a *Penicillium*! There is also a link to further reading.

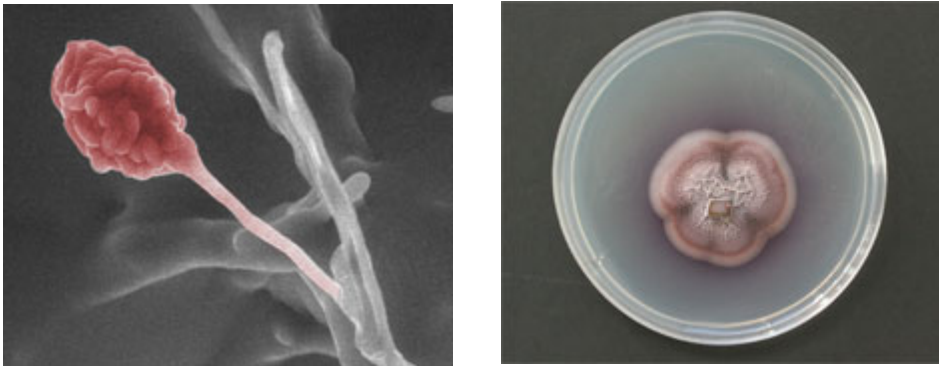
MYCODIESEL?

A fungus called *Gliocladium roseum*, an endophyte in a tree (*Eucryphia cordifolia*) from Patagonia, produces hydrocarbons of the type found in diesel. Production of biodiesel typically involves taking oils or fats from animal or plant sources and chemically modifying them, so direct production by an organism sounds like an advance. However, that will depend on whether commercially viable yields can be obtained. Nevertheless a great demonstration of the amazing metabolic abilities of the fungal kingdom.

This fungus was found (and patented) by Gary Strobel, a professor of biology at [Montana State University](http://plantsciences.montana.edu/faculty/strobel/strobel.html) and a world authority on endophytes, a seriously unrecognised set of fungi and bacteria. The story has received a great deal of coverage around the world.

The following pictures are from Gary Strobel's web site:

<http://plantsciences.montana.edu/facultyorstaff/faculty/strobel/strobel.html>



Left: Colorized environmental scanning electron microscope photo of *Gliocladium roseum*, an endophytic fungus that produces myco-diesel hydrocarbons.

Right: Culture plate of *Gliocladium roseum*, an endophytic fungus that produces myco-diesel hydrocarbons.

To read the story on the ABC web site, go to:

<http://www.abc.net.au/science/articles/2008/11/05/2410683.htm?site=science&topic=energy>

If you are really keen, the paper can be downloaded from Gary Strobel's web site:

<http://plantsciences.montana.edu/facultyorstaff/faculty/strobel/documents/mycodiesel.pdf>

FUNGAL SNIPPET

Last Stand for the Body Snatcher of the Himalayas?

The caterpillar-hijacking fungus *Cordyceps sinensis* is used in Chinese medicine as a stimulant- and is popular with athletes. Its popularity is spreading around the world and it is touted as a natural Viagra and even a source of anti-cancer drugs. It occurs in the Himalayan foothills in Bhutan, Nepal, and parts of China.

Increasing demand has made it a lucrative local industry, but overharvesting is now threatening its survival. Efforts are under way to produce it artificially, with some success, so hopefully pressure can be taken of wild populations before it is too late. (This piece was inspired by the header of a story on the web site Sciencemag.org, but the full text is not publicly available.)

DRAG RACERS OF THE FUNGAL WORLD- THE FASTEST FLIGHTS IN NATURE-HIGH-SPEED SPORE DISCHARGE MECHANISMS AMONG FUNGI

Fungi that live in cattle dung spread by having cattle eat their spores, which pass through the gut unharmed so as to land in the perfect food supply. Trouble is, cattle avoid dung, so the fungi have a problem: how to get far enough away from the cow pat to be picked up. Using an ultra-high speed camera, Levi Yafetto and others describe the remarkable acceleration of the spores of these fungi as they are forcibly discharged by the fungi.

Launch speeds ranged from 2 to 25 metres per second and corresponding accelerations of 20,000 to 180,000 g propelled spores over distances of up to 2.5 meters. This is the fastest airborne acceleration seen in the living world. By comparison, astronauts experience accelerations of up to 4 g on launch.

The original paper is available at the open-access journal PloS-One:

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0003237>

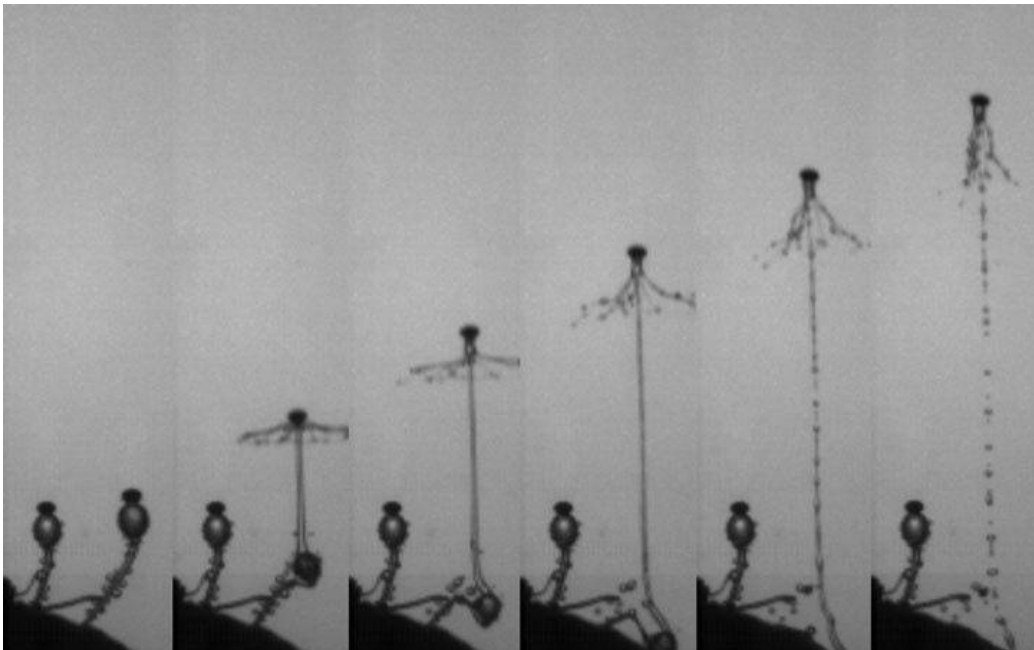
New Scientist describes this work in a more user-friendly way at:

http://www.newscientist.com/article/dn14747-fungi-break-acceleration-record-to-escape-dung.html?feedId=online-news_rss20

A video of the spore discharge is also available:

[High-speed cameras reveal that dung-dwelling fungi spores achieve amazing acceleration when they are dispersed](#)

High-speed cameras captured the squirt-gun action of dung-loving fungi (Image: Yafetto et al.) This image was downloaded from the *New Scientist* web site.



Queensland Mycological Society Inc

ABN 18 351 995 423

Membership Renewal 2009

Surname: Given Names

Address

..... PostCode

Phone Mobile.....

Email Address:.....

Date:

Amount due: \$20.00 per person

Due date: 1st January 2009

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:

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 rachelgriffiths8@bigpond.com

Receipt No