

THE QUEENSLAND MYCOLOGIST

Bulletin of the Queensland Mycological Society (Inc pending)

Welcome to the first issue of The Queensland Mycologist - the Bulletin of the Queensland Mycological Society (QMS). Your input is encouraged to make this publication both informative and educational for all QMS members; it will evolve in response to feedback from you. Members are invited to submit contributions to Noreen Baxter. The deadline for contributions to the next issue is 20 July 2006.

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Committee	Jutta Goodwin	Ph 3378 1929	jrgo@bigpond.net.au

THE SOCIETY OBJECTIVES are still being refined; the current draft is set out below:

1. *To provide both a forum and a network linkage for amateur and professional mycologists to share their common interest in macrofungi*
2. *To stimulate and support the study and research of Queensland macrofungi through the collection, storage, analysis and dissemination of information about fungi through workshops and fungal forays*
3. *To promote an understanding of, and appreciation for the roles macrofungi play in the health of Queensland ecosystems*
4. *To assist in cataloguing the biodiversity of Queensland through documentation of macrofungi*
5. *To promote the conservation of macrofungi and their relevant ecosystems*

QMS CALENDAR

Tuesday, 2 May 2006 at 7pm: Committee Meeting.

Wednesday, 10 May 2006 at 7 pm: General Meeting in the Herbarium at Mt Coot-tha. The Speaker will be QMS President Nigel Fechner. He will be presenting a brief overview of coral fungi belonging to the genus *Ramaria*, that both he and Dr Tony Young are currently researching.

Saturday, 13 May 2006 from 8.40am to 1pm: Pilot Workshop “Basic Fungi for Beginners” at the Hut (THECA) 89 Flemming Rd, Chapel Hill. The Workshop will be conducted by Sapphire McMullen-Fisher, Nigel Fechner and Ray Baxter. Prior registration is essential as numbers are limited. The Convenor is Ray Baxter Ph 32025008 or rbaxn@acr.net.au. The cost is \$5 for QMS & THECA members, \$8 for non-members.

Tuesday, 13 June 2006 at 7pm: General Meeting in the Herbarium at Mt Coot-tha. The Guest Speaker will be Dr Roger Kitching of Griffith University. His subject will be the BATH Project, which has a fungi research component that he is establishing at Lamington this year.

The Queensland Naturalists Club have advised that **Dr Alan & Mrs Joan Cribb will be speaking on “Wild Foods”**, which will include some Fungi, on **Monday, 22 May 2006, 7.30pm at the Royal Geographic Society of Qld, 237 Milton Rd** (next to XXXX on Milton Rd.). For further information please contact Susan Nelles Ph 38351386

A SUMMARY OF QMS FROM CONCEPTION TO INCEPTION

5 November 2005: The Cubberla-Witton Catchments Network Inc organised a Fungi Conference in Brisbane. This was attended by over 150 people and demonstrated a high level of interest in fungi amongst professionals and the general community. In order to harness this enthusiasm, Jutta Goodwin, Cubberla-Witton Catchments Network Inc President, undertook to convene a meeting following this conference with a view to commencing a “Fungi Interest Group”.

8 December 2005: Jutta Goodwin convened the first meeting in consultation with Nigel Fechner, Mycologist and Senior Botanist, Queensland Herbarium. This meeting was attended by 28 persons.

Issues discussed and agreed upon at this meeting were:

1. Given the level of interest general discussion proceeded to the mechanics of establishing a group and the need for Incorporation. Jutta had a copy of the standard documentation required to apply for Incorporation, this generated further

discussion regarding details such as an appropriate name and objectives for the organisation.

2. Nigel Fechner agreed to become President, Karalyn Herse to be Secretary and Rachel Griffiths to be Treasurer.
3. The Office Bearers undertook to work through the requirements for Incorporation.
4. Nigel Fechner & Diana Leemon agreed to work on an appropriate title and the Objectives for the Society and present these to members for consideration at another meeting.
5. Consensus was reached regarding the matter of the cost of membership. Initially it is to be set at \$20 per person.

7 February 2006: The General Meeting was attended by 29 persons.

Issues discussed and agreed upon at this meeting were:

1. Nigel Fechner recommended that the title of the Queensland Mycological Society be adopted.
2. Society Objectives would be reviewed and finalized by Nigel Fechner & Diana Leemon for consideration at the next meeting.
3. The Financial Year will be based on the calendar year. Memberships to be due on the 1st January each year. Members joining after the 1st October in any year to pay a single membership valid for the current and following year.
4. The number of Management Committee members to be no more than 7 (President, Secretary, Treasurer and four others). Expressions of interest for the Management Committee were received from Ray Baxter, Susanne Nelles, Frank Gordon, and Jutta Godwin.

21 February 2006: Management Committee met and began planning for the future of the QMS, incorporation and running of the Society's first Basic Fungi Workshop for Beginners.

14 March 2006: The General Meeting was attended by 29 persons.

Issues discussed and agreed upon at this meeting were:

1. The President, Secretary and Treasurer were formally re-elected to the positions.
2. The Society Objectives, developed by Nigel Fechner and Diane Leemon were accepted in principle, but still require a little more polishing by the Committee in preparation for Incorporation.
3. The Office Bearers were authorised to lodge the Incorporation documentation and establish a Bank Account once Incorporation is achieved.
4. After the conclusion of the General Meeting Ray Baxter showed some fungi slides.

11 April 2006 The General Meeting was attended by approximately 29 persons.

Issues discussed and agreed upon at this meeting were:

1. Secretary Karalyn Herse was unable to attend due to work commitments but advised that the Incorporation application process would be completed shortly.
2. The Minutes of all General and Committee Meetings are available to members on request and will be available at all future meetings.
3. Ray Baxter, Convenor of the May Basic Fungi Workshop for Beginners reported: Numbers were limited to 12 QMS & 12 THECA members although some overlap would exist due to the high numbers of THECA members who also belong to QMS; registrations for attendance were received; and the possibility of a future Workshop in Maleny was discussed.
4. Ray Baxter has prepared a Members' Skills/Interest Audit Questionnaire (included on page 9). Members are requested to complete this questionnaire and return it to Ray by email or at the next General Meeting.
5. Newsletter Editor – Noreen Baxter offered to produce and edit the Newsletter with the support of a Scientific Editor. Members accepted this offer and Dr Tony Young agreed to be Scientific Editor.
6. Dr Tony Young gave an address to the meeting on the Genus *Amanita* (notes included on page 5).
7. Nigel Fechner showed some photos of the *Ramaria* - the genus that he and Dr Tony Young are currently researching. They requested assistance from members in reporting any sightings and circulated a *Ramaria* Description Sheet. (This document is also available online at http://www.sites.ourbrisbane.com/cubberla-witton/fungi/coral_fungi.)

THE FINANCIAL MEMBERSHIP has increased steadily as follows:

- At 28 February 2006 the financial membership total was 24;
- At 31 March the total was 34; and
- At 24 April the total was 43.

GENUS *AMANITA* BY DR TONY YOUNG (QMS General Meeting on 11 April 2006)

The genus *Amanita* has a long history (at least one species was first scientifically documented in 1753) and it also contains a large number of species – all of which are have a classic “toadstool” shape with well documented characteristics.

The taxonomy of fungi is a very complex and difficult study made even more so by the fact that as more knowledge has accumulated, the names and classification of many species has changed (sometimes frequently) and this can be very confusing for beginners. The study of nomenclature deals with the correct name and author citation to be given to a particular species, and is an entire science on its own.

Until 1987, the starting point for fungal nomenclature was 1821, the year of publication of the book *Systema Mycologicum* written by Elias Fries (1794-1878). This changed in 1987 when the Berlin Botanical Congress adopted a major alteration to the International Code of Botanical Nomenclature: the starting date for fungi was reset to 1753, the publication date for *Species Plantarum* written by Carl Linnaeus (1707-1778). This brought mycology into line with botany which had always used the Linnaean date.

A complete scientific name often provides a “potted history” of the particular fungus. For example, the “Fly Agaric’s” scientific name is *Amanita muscaria* (L. : Fr.) Lam. Linnaeus was first to describe the species as *Agaricus muscaria* in 1753, but Fries also took up the name in 1821 and his abbreviation is included as a special note to indicate the importance of his particular work in 1821. However it was Lamarck who first altered the genus to *Amanita* in 1783, hence his name after the brackets. (It may seem odd that Fries is placed within the brackets because he is not credited with the change of genus from *Agaricus* to *Amanita*, that had already been done by Lamarck 38 years earlier, however Friesian names have a special “conserved” status in mycological nomenclature and this is so indicated by the colon (:) in front of his abbreviation.) To see the whole history, you need to obtain reference works which not only list the nomenclatural changes but also give the journal references in which these changes were made.

Agarics are fungi with gills (lamellae) from which the fungus produces spores. The species of *Amanita* are agarics and all have some essential characters in common, but they do display many variations.

Amanitas can have white, cream, pinkish (or even greenish) smooth spores. They all have a pileus (cap), stipe (stem) and a universal veil (an outer membrane covering the entire fungus while it is in the juvenile or button stage). Microscopically, all species of *Amanita* share a very important gill structure: if a gill is sliced to show a cross-section, the ‘cells’ in the gill tissue (trama) will be seen to be diverging away from the central strand of the gill. The tramal structure can only be seen using a microscope using at least x100 magnification.

In the ‘classic form’, A species of *Amanita* progresses through a series of developmental stages:

- **Button stage:** a membrane, the universal veil, covers the entire fungus, including the base;
- **Juvenile stage:** the universal veil splits to leave a cup (volva) at the base of the stem and possibly a few fragments on the top of the cap (pileus); the partial veil (a

- thin membrane at first protecting the gill area) which connects the edge of the cap to the stem (stipe) starts to break away to produce a ring (annulus) around the stem;
- **Mature stage:** the universal veil remains as a well developed cup to the stem base, the cap and stem have now expanded fully and the partial veil remains as a pendant ring about a third of the way down the stem; the stem base is usually swollen into a bulb in these species.

Species of *Amanita* can vary considerably within the above concept. Some species have very crumbly or friable universal veils. As result, no cup remains at the stem base and the veil is reduced to large numbers of remnants ('scales') on the cap surface. Other species have no partial veil or ring and yet others display neither universal veil or ring fragments...however *all* species of *Amanita* display the divergent gill trama and the following species demonstrate the variation that occurs in this genus.

Amanita phalloides (the 'Death Cap') contains amanitine, a poison. One third of a cap can kill a child; half a cap can kill an adult. Europeans have a long history of using fungi for food and they amassed their knowledge of which were good to eat on the "try & die" method: if you tried it this year and you were still alive afterwards, then you could probably eat the same species again next year. During the centuries, many deaths occurred annually, and even today, the Death Cap is responsible for approximately 50-100 deaths in Europe per year. There is every reason to believe that the Roman emperor Claudius was poisoned by his wife Agrippina using the Death Cap. If you pick this species without care, the stem usually breaks and leaves the large volva, which helps to identify it, behind in the litter.

The sequence of Death Cap poisoning moves through a series of phases:

1. A long incubation period – from 6 to 24 hours.
2. Violent vomiting, nausea, diarrhoea, dehydration and shock.
3. After 2 days the symptoms disappear for 12-24 hours.
4. During the second latent period liver damage increases.
5. Then symptoms reappear with increased intensity.
6. Coma and death result in 4-7 days depending on the amount eaten.

During phases 1 & 2 toxins effects are largely gastrointestinal, however the toxins are now beginning to reach the liver, which is progressively damaged. In phase 3, the gastrointestinal symptoms temporarily disappear, but by this stage the intestine-blood stream-liver-bile-intestine loop is established and the toxins being dumped by the liver are returned back to the liver to do further damage. Phases 5 & 6 are marked by total liver collapse.

The treatment for Death Cap ingestion aims to:

1. Reduce symptoms.
2. Remove any undigested fragments.
3. Block the intestinal-liver-bile feedback loop.
4. Remove toxin from blood circulation.
5. Treat for shock and dehydration.

Hospital admission is vital as fatality occurs in 90% of cases without treatment, but only 10% with treatment. Two fatalities have already occurred in Australia and several non-fatal poisonings have been documented. The bottom line is "do not eat anything white underneath."

Amanita caesarea is famous in the Mediterranean, and excellent to eat. The Romans highly prized this species and called it “Boletus”.

Amanita muscaria (the fly agaric) is a toxic species introduced to Australia. It has gradually migrated north to Queensland. This amanita has a very bulbous base with remnants of the universal veil appearing as rings of scales on the bulb surface. It derives its common name from the use by Europeans as a “fly killer”. Pieces of the fungus were soaked in sugared milk and saucers of the result left out to attract flies which became stupefied or died. The fungal toxin is actually an intoxicant with effects that are similar to alcohol. It was used by certain Russian tribes for this purpose, although the men used to get their women to prepare the fungus by chewing it and moulding it into small pellets which the men could then swallow without getting the bitter taste. (A wonderful example of women really getting the wrong end of the stick?) The fungus then produced intoxication followed by sleep for several hours.

Amanita ochrophylla occurs naturally in Queensland. It has tiny fragments of the universal veil on its cap, a bulbous base and a remarkable display of two, separate partial veils.

Amanita punctata has a volva, basal cup, universal veil fragments on the cap but no ring.

Amanita nauseosa has no ring, no volva, no bulbous base and an extremely strong, pungent, urinous odour. Once touched, it is very difficult to get the odour off the hands for some time.

Amanita ananiceps has a bulbous base and large numbers of white, veil fragments hanging from the cap margin.

Amanita sp. unknown from North Queensland is yellow with an orange ring, white bulbous volva and is found in Casuarina litter.

Amanita sp. aff. A effusa, looks similar to *A ananiceps*. It has an odour like crushed ants.

It is not known how many species of *Amanita* are in Australia. Vol2A of Fungi of Australia lists 84 taxa but it is reasonable to estimate 150 species. The occurrence of *Amanita* in Queensland wet tropics is largely unknown and in WA there seems to be a species accumulation that is quite different from the taxa elsewhere.

Author: Dr Tony Young

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QMS “Pilot” WORKSHOP BASIC FUNGI FOR BEGINNERS

Learn the basics of macrofungal (mushrooms, coral fungi and the like) identification. Topics will cover the basics of names and identification, tools of field mycologists, Fungimap and helping in fungal conservation, what fungi do in the environment. There will also be a book display of useful fungal books.

Cost: Financial Members (THECA &/or QMS) \$5, Non-financial Members \$8

Location: The Hut Environmental & Community Associations Inc, 89 Fleming Road Chapel Hill 4069

Workshop: 8:40 am to 1 pm, 13 May 2006.

Bookings are essential contact Ray Baxter 3202 5008 or email rbaxn@acr.net.au

Timetable: Beginners workshop

8:40 am	Registration
9:00 am	Convenor Introduction - Ray Baxter
9:05 am	Fungi in the environment – Sapphire McMullan-Fisher
9:30 am	Overview of major macrofungal groups - Sapphire McMullan-Fisher
10:00 am	Tools of the Trade – Ray Baxter
10:15 am	Questions – Sapphire McMullan-Fisher & Ray Baxter
10:20 am	Morning Tea
10:50 am	Parts of Agarics – Sapphire McMullan-Fisher
11:20 am	Group identification of fungi
11:50 am	Getting names to fungi – Nigel Fechner
12:20 pm	Fungimap and fungi conservation - Sapphire McMullan-Fisher
12:50 pm	Questions – Sapphire McMullan-Fisher & Nigel Fechner

Fungi in the environment – Sapphire McMullan-Fisher

- What fungi do in terrestrial ecosystems
- Define fungi by their roles saprotrophic, symbiotic etc.

Overview of major macrofungal groups - Sapphire McMullan-Fisher

- Basic difference between Ascomycetes, Basidiomycetes and Slime moulds
- Agarics, cup fungi, puffballs, coral fungi, club fungi and jelly fungi

Tools of the Trade – Ray Baxter

- Show & tell of things used for fungi
- Mirrors, GPS etc.

Parts of Agarics – Sapphire McMullan-Fisher

- Naming the parts of Agarics

Getting names to fungi – Nigel Fechner

- Scientific names and why they change
- Getting an identification to genus is good
- Photographs and field notes that will aid identification

Fungimap and fungi conservation - Sapphire McMullan-Fisher

- What is Fungimap and how you can help

QUEENSLAND MYCOLOGICAL SOCIETY INC

Members Interest/Skills Audit Questionnaire

This questionnaire aims to establish the areas of interest and knowledge/skills of each member in order to build a database of human resources that can be tapped into to achieve the proposed objectives of the Society. Your assistance in providing answers and any comments to the following questions is appreciated.

Surname:.....**Given Name:**.....

Phone No:.....**Mob:**.....**Email:**.....

1. What stimulated your interest in Macrofungi?

.....

2. How long have you been interested in Macrofungi? Years..... Months.....

3. Are you a member of any other fungi group? Yes.....No.....

4. Which of the following activities would you like to be involved in? (Tick as many activities as you wish)

a. General interest to learn about macrofungi b. Going on forays c. Collection & preparation for collections d. Photographing macrofungi e. Fungimap reporting	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	f. Scientific research g. Conducting surveys h. Public education i. Assisting in organising/setting up Displays/workshop/conferences etc	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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5. How would you rate your level of knowledge of Macrofungi? (Tick as appropriate)

a. Nil or very limited – interested to learn more b. Nil or very limited – general interest in social aspects of nature groups and excursions c. Some experience – can record data and identify some common genera/species d. Attended Macrofungi workshops – some experience in describing & identifying e. In addition to c & d can prepare & preserve Herbarium Voucher collections	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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6. What level of Workshop would you like to attend?

a. Beginners – to learn the basics (anatomy; collecting techniques; collecting materials; recognising the most common genera.) b. Intermediate (how to conduct surveys; write macrofungal descriptions; recognition of a larger range of genera & some common species.) c. Advanced (preparation of Herbarium collections, photography, recognise & record species listed under Fungimap.)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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7. Have you any particular skill/s you would be willing to contribute to the society, such as (tick as appropriate)

	Yes	No		Yes	No
Photography	<input type="checkbox"/>	<input type="checkbox"/>	Organising Workshops	<input type="checkbox"/>	<input type="checkbox"/>
Specimen preservation	<input type="checkbox"/>	<input type="checkbox"/>	Audio-visual equipment operation	<input type="checkbox"/>	<input type="checkbox"/>
Knowledge of macrofungi foray sites	<input type="checkbox"/>	<input type="checkbox"/>	Newsletter preparation &/or editing	<input type="checkbox"/>	<input type="checkbox"/>
Preparation or Grant Applications	<input type="checkbox"/>	<input type="checkbox"/>	Web site development & management	<input type="checkbox"/>	<input type="checkbox"/>
Public relations experience	<input type="checkbox"/>	<input type="checkbox"/>	Access to photocopying equipment	<input type="checkbox"/>	<input type="checkbox"/>
Field excursion experience	<input type="checkbox"/>	<input type="checkbox"/>	Creating display materials eg	<input type="checkbox"/>	<input type="checkbox"/>
Organising group outings	<input type="checkbox"/>	<input type="checkbox"/>	Posters/flyers	<input type="checkbox"/>	<input type="checkbox"/>

8. List by title and author any books you own on Macrofungi – particularly those on Australian Macrofungi:

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9. Comments:

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Signature.....**Date**.....

This Questionnaire has been developed by Ray Baxter and, when completed, should be returned to him either at the May meeting or via email to rbaxn@acr.net.au