fungimapnewsletter 36

fungimap

AUSTRALIA'S FUNGI MAPPING SCHEME

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NEWS FROM THE FUNGIMAP CO-ORDINATOR

Hello, Fungimap members. We are very busily planning our exciting Fungimap Conference for 2009. The Conference will be held from Thursday 21st May to Tuesday 26th May 2009, at Wallerawang (near Lithgow) in NSW. We expect many of our members will enjoy the fabulous train ride from Sydney, past the Blue Mountains to Lithgow. The Blue Mountains region should provide a cool and beautiful location to hold a Conference and be very accessible to Sydneysiders.

We are delighted to be holding this Conference in conjunction with the Sydney Fungal Studies Group Inc. (SFSG).

This is our 5th Fungimap Conference and we have organised a great programme of speakers from across Australia and covering very diverse fungi topics. In this newsletter we have included a Questionnaire, to discover which Workshop topics you would most like to see (your Top 5 topics). Please return this along with your Registration form and we will adapt our list of Workshops where possible.

At previous Conferences, transportation and distribution of microscopes have been challenging and so we have decided to add a truly unique one day Masterclass with microscopes in Sydney, to run at the UNSW, just after our Conference. This will be on the topic of Disc Fungi and led by Dr. Peter Johnston from New Zealand. Places for this workshop will be strictly limited.

In early October, I accompanied Dr. Tom May who made a presentation on behalf of Fungimap to a Panel Hearing for the Victorian Green Paper on *Land and Biodiversity at a time of Climate Change*. Tom gave a very impressive speech and slide show to the hearing panel, which included Sir Gus Nossal. Sir Gus seemed very genuinely interested and asked Tom several insightful questions about how to broaden fungi collection, monitoring and staffing.

Finally, I wish to thank all our extremely valuable volunteer staff, who have given so much to Fungimap this year. They all donate high quality work, sometimes under frustrating conditions, especially where computers are concerned!

Lee Speedy

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Tas

Fungi Lovers Adventure Group (FLAG)

Fungi activities in northern Tasmania.
Contact: Sarah Lloyd, Ph: (03) 6396 1380
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Vic

Field Naturalists Club of Victoria, Fungi Group

Forays, monthly meetings & presentations.
Contact: Virgil Hubregtse Ph: (03) 9560 7775
Web: http://www.vicnet.net.au/~fncv then Calendar of Events

WA

Perth Urban Bushland Fungi Project

Fungi workshops, walks, surveys in Perth Urban bush areas.
PUBF Team: Neale Bougher, Roz Hart, Sarah de Bueger, Brett Glossop.
Contact: Roz Hart, Community Education Officer
Email: pubf@iinet.net.au
Web: http://www.fungiperth.org.au

Fungimap WA, forays in Denmark area

Contact: Katrina Syme
Email: katrina.syme@westnet.com.au

WA Naturalists' Club, Fungi Study Group

Fungal forays, workshops, identification evenings and talks, based in Perth.
Contact: WA Naturalists' Club
Email: wanats@iinet.net.au
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FROM THE EDITOR

Recently, I was gladdened to read a sign, "Fungi are the most important inhabitants of the rainforest." The sign was in the Bukit Timah Nature Reserve, Singapore. Would that I had seen it in Australia! But Fungimappers are certainly doing their bit to promote fungi – and there are five more target species to whet your appetite for the next year's season – pp 12 & 13.
I hope you enjoy this issue and grateful thanks to all contributors. Very best wishes for Christmas and the New Year and I look forward to seeing you at Fungimap V. The deadline for the next issue is Friday, 6th March 2009.

Pam Catcheside

INSTRUCTIONS TO AUTHORS

Members and non-members of Fungimap are welcome to publish in the Fungimap Newsletter. Articles should be no more than 800 words, news items no more than 500 words; images should preferably be jpg, resolution at least 300dpi and submitted in at least the size that they are to be published. Avoid images larger than 1Mb (preferably copied to CD-ROM and posted). Please send your contributions to Pam Catcheside (Catcheside.Pam@saugov.sa.gov.au) or Fungimap, RBG Melbourne, Private Bag 2000, South Yarra, Victoria 3141 (fungimap@rbg.vic.gov.au). Articles submitted for publication in the Fungimap Newsletter should not be submitted to any other journal or newsletter awaiting publication or have been previously published in another Newsletter or journal. Authors submitting manuscripts are responsible for obtaining the copyright holder's permission to reproduce any material for which the author does not hold copyright.

COLLATING INFORMATION ON FUNGI IN AUSTRALIAN POLICY AND STRATEGY DOCUMENTS

Tom May

Strategic plans and other policy and management documents have been prepared at various levels of government and geography across Australia, covering topics such as conservation, biodiversity and land management. Such documents are important guides to action and may also direct funding during the life of the document.

Until recently, fungi were rarely mentioned in policy and management documents; despite their undoubted diversity and vital roles in ecosystem functioning. The lack of attention paid to fungi in management plans and strategy documents compounds the low profile that fungi have in the general community and among management agencies, and does nothing to fill the many gaps in knowledge of fungal diversity and ecology.

The few exceptions where policy document have treated fungi in detail, as in the *Conservation Overview of Australian Non-marine Lichens, Bryophytes, Algae and Fungi* (see box), often suffer from a lack of follow-up action on recommendations.
Among the purposes of Fungimap (as stated in its constitution) are to promote the appreciation of fungi and to foster their conservation. One way that we can achieve these aims is to provide informed input to the development of policy. Fungimap has already made submissions in response to the draft *100-Year Biodiversity Conservation*

Strategy for Western Australia and the Victorian Green Paper on *Land and Biodiversity at a Time of Climate Change* (see box next page). Fungimap can also play a role in monitoring whether recommended actions are carried out.
Continued on page 4

Examples of policy and strategy documents that include fungi

Ryan, P. (2002) *Overview of non-vascular plants, lichens, fungi and algae in the Goulburn Broken Catchment: their status, threats and management*. Ecolines Environmental Services, Canberra. [A background paper for the Goulburn Broken Catchment Management Authority Regional Catchment Strategy review process, containing some specific recommendations.] <http://www.gbcma.vic.gov.au/downloads/Biodiversity/Non-vascularplantsFINALPaulRyan.pdf>

Scott, G.A.M, Entwisle, T.J., May, T.W. & Stevens, G.N. (1997) *A Conservation Overview of Australian Non-marine Lichens, Bryophytes, Algae and Fungi*. Environment Australia, Canberra. [Contains a chapter on fungi, with specific recommendations.] <http://www.environment.gov.au/biodiversity/threatened/publications/action/cryptogams/index.html>

[Western Australia] Department of Environment and Conservation, Science Division (2007) *A Strategic Plan for Biodiversity Conservation Research*. [Covers the period 2008-2017, and includes specific key actions, such as to collate existing taxonomic information on fungi and to undertake research to improve understanding of the conservation status and role of fungi in ecosystem function.]

Continued from page 3.
To assist Fungimap in developing and monitoring policy on fungal biodiversity and conservation, it would be useful to collate the treatment of fungi in existing policy and management documents and reports, from all levels of government around Australia, including organisations such as Catchment Management Authorities and also from non-government agencies. Bringing together these documents will also assist other organisations in lobbying for improved treatment of fungi, such as through the current Fungal Initiative being spearheaded by Pam O'Sullivan in New South Wales.

Collation of existing documents is useful for two reasons: (1) to expose gaps in the coverage of fungi, but also (2) to locate positive examples of programs that do have the capacity to improve the conservation status of fungi, and which can be used as models in other regions.

Please send documents and reports to me at the address below; either in hard copy or electronically, or provide an address or internet link where documents can be sourced. Documents that should include fungi but do not are also of interest. Examples of documents are provided in the box on the previous page, and a full list will be published in a future *Newsletter*.

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Fungimap response to the
Victorian Green Paper on *Land and biodiversity at a time of climate change*

The government of Victoria is preparing a White Paper on *Land and biodiversity at a time of climate change*. This will set the direction for Victorian government policy in natural resource management and biodiversity for the next 20-50 years. The first step in preparing the White Paper has been the drafting of a Green Paper (follow the Land and biodiversity White Paper link from <http://www.dse.vic.gov.au/dse/nrence.nsf/>). Fungimap has prepared a detailed response to the Green Paper, which can be viewed at:
<http://www.dse.vic.gov.au/CA256F310024B628/0/3E610FB3FF2E639CCA2574890004981F/$File/Fungimap+Inc.pdf>

The Fungimap response indicated that the White Paper needs to include more information about the diversity of fungi and their important roles in ecosystems, and it should also include recommendations about:

- Better documentation of known fungi, such as through inventories, and also the need for comprehensive threat assessment of known fungi.
- Explicit strategies for the conservation of fungi, taking into account the poor knowledge, such as testing of vegetation as a surrogate for fungi and inclusion of target fungi in monitoring programs.
- Improved support for community group biodiversity monitoring, both financially and through provision of standards for data collation and analysis.

Fungimap also made a presentation to a Panel Hearing for the White Paper, which included the above points, as well as a recommendation for the creation of a Fungal Ecologist position within the Victorian Department of Sustainability and Environment.

YELLOW/ORANGE AMANITAS - TRICKS TO IDENTIFICATION

Sapphire McMullan-Fisher

When I see a yellow/orange *Amanita* I think first of the glorious Fungimap Target *Amanita xanthocephala* (Vermilion Grisette). When I lived in Tasmania it was usually the correct thought. Really, how many yellow/orange *Amanitas* could there be? Since I have moved to south-east Queensland and become familiar with the yellow to orange-yellow capped *Amanita flavella*, I have learnt to take a moment to consider the combination of characters of any yellow/orange *Amanita* I find.

A comparison of the main characteristics of *Amanita flavella* and *A. xanthocephala* is provided in Table 1, summarised from the main current reference on *Amanita* (Wood 1997). Although Wood (1997) suggests that *A. flavella* has limited velar remains on the base, from the images here it can be seen there are distinct yellow remains but these do not appear as a distinct rim (Plates 1b & 1d). Remember that all characters are not necessarily present under all circumstances. One morning I saw a shiny, yellow capped *Amanita*; it had no ring and no veil remnants or warts on the cap. The night before there had been heavy rain, washing away any remnants, so it looked like a particularly yellow *A. xanthocephala*. The base on the stem however just didn't seem right, so I didn't record it as a Fungimap target. A month later my doubts were
Continued on page 5

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confirmed when two specimens of *A. flavella* popped up in exactly the same spot.
The characters I look for first to separate these two species are: *A. flavella* has a large but fragile annulus present that sometimes may be appendiculate on the cap margin and there are distinct scales (warts). In contrast, *A. xanthocephala* has no annulus (Plate 1c), but a distinct rim on the stipe base, which in my experience is often coloured, and the scales on the cap are felty and often indistinct. Where the cap's velar remains are absent I look at the cap margin to see if it is grooved-striate, which is a distinguishing character of *A. xanthocephala* (Plate 1a).

One of the difficulties of identification is deciding which characteristics are important to be able to confidently characterize a species. The best way to be sure of a macrofungal identification is to photograph and collect a specimen then check both macro and microscopic characters. Most of the characters should match the written description.

Matching what you see to the written description is easier said than done. For example, for *A. flavella* from Wood (1997), the description implies that there are limited amounts of velar remains on the stem base. Yet from images seen here (Plates 1b & 1d), it is clear that *A. flavella* has abundant yellow velar remains on the base of the stem. This apparent contradiction may arise from interpretation of what is meant by phrases such as limited. Also taxonomists may write descriptions from limited number of collections. These collections particularly those which are not seen fresh may loose or have reduced characters like velar remains. So although it is important to consider the suggested relative frequency of characters, remember the specimen in front of you may not be 'typical'. But if most of the characters both macro and microscopic fit well you can usually make a confident identification. When collections fit the written descriptions poorly it is best to compare your collection with a specimen which has been identified by an expert in that group. This usually means a trip to a herbarium and if you are lucky they will have a specimen of that species which you can compare it to.

Most of the *Amanitas* described from Australia are found in Wood (1997). Using Wood's (1997) key it seems there are five named yellow/orange *Amanitas*: A. *armeniaca* A.E.Wood (Figure 5), *A. flavella* E.J.Gilbert & Cleland, *A. flaviphylla* O.K.Mill. *Amanita strobilaceoides* A.E.Wood and *A. xanthocephala* (Berk.) D.A.Reid & R.N.Hilton. There are also five species that have some yellow or orange coloration [*A. muscaria* (L. : Fr.) Lam., *A. grisella* E.J.Gilbert & Cleland var. *luteolovelata* (D.A.Reid) D.A.Reid, *A. ochrophylla* (Cooke & Massee) Cleland, *A. ochraceobulbosa* A.E.Wood, and *A. sordidobubalina* A.E.Wood]. Who knows how many unnamed yellow-orange *Amanitas* are out there waiting to be described (Plates 1f & 1g)?

Unfortunately I am not the only one to mix up my yellow/orange *Amanitas* – in the nice new publication 'Fungi out West – Some fungi of southern inland Queensland' (2007) published by the Chinchilla Field Naturalists' Club, page 37 has two lovely pictures of yellow/orange *Amanitas* which are likely to be *A. flavella*, rather than *A. xanthocephala* as the title indicates. For those with sharp eyes the presence of a ring (annulus) and the definition of the warts on the cap distinguishes them. Colour, although an appealing character, is rarely the most important diagnostic character for macrofungal identifications.

My final advice is never travel without your collecting permit! I was on Fraser Island earlier in the year and saw a fabulous yellow *Amanita* (Plate 1f). This specimen is clearly at an early stage of development, nonetheless the dense woolly veil remnants don't look quite right for either *A. flavella* or *A. xanthocephala* and it may match one of the described yellow/orange species or varieties. So if I'd had my collecting permit with me we would know if it is a named or new yellow/orange *Amanita*. Alas I did not so a mystery it remains.

Characters and Glossary:
As with most groups there are characters which are important for the identification of species. In the case of *Amanita*, characters which remain from the universal and partial veils are particularly important. These remains from the veils are called velar remains or remnants and in Wood (1997) are referred to as scales when present on the cap or stem base.
annulus – a ring-like partial veil around the stem after the expansion of the cap (Grgurinovic 1997).
appendiculate – *of the cap margin*, having the margin of the expanded cap fringed with remnants of the partial veil (Grgurinovic 1997).
grooved-striate - *of a cap*, with shallow radial grooves at the margin (but not pellucid-striate).
pellucid-striate – *of a cap*, appearing striate because the gills are visible through the thin, translucent cap (Grgurinovic 1997).
warts - are pieces of tissue adorning a mushroom's cap, resulting from the deterioration of a universal veil. Warts are similar to patches, but there are more of them. They may be densely arranged or more sparsely distributed. Warts are also frequently washed off with rain, making them a difficult feature to be sure of (Kuo 2006).

Acknowledgments:
Thanks to Pam O'Sullivan for permission to use her images in this article.

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Table 1. Character comparison between *Amanita xanthocephala* and *Amanita flavella* (summarised from Wood 1997).

	Amanita xanthocephala	*Amanita flavella*
Cap shape	• convex and finally plane (flat)	• convex to flattened convex
Cap colours	• yellow-orange to rust-orange	• bright golden yellow, orange-yellow
Cap veil remnants (velar remains)	• felty to slightly membranous scales, flat, sometimes moderately thick, off-white to yellow (Plate 1a)	• scattered soft velar scales, more membranous at centre, outer parts more diffuse membranous and more concolorous with cap or cream-buff (Plate 1b)
Cap margin	• grooved-striate (Plate 1a)	• not striate (Plate 1b)
Gills	• white to pale yellow	• white to pale cream
Stem above annulus (if present)	• smooth, white to yellowish orange	• smooth, more or less white
Annulus	• absent – partial veil residue a fine fibrillose yellowish zone on upper stem	• present - membranous, very large flared, somewhat fragile, pale egg-yellow to orange-yellow coloured (Plate 1b)
Stem below annulus (if present)	• smooth, white to yellowish orange	• pale egg yellow, sometimes with bands and zones which are more or less concolorous with cap.
Stem base	• rounded bulbous, occasionally clavate bulbous, white to off-white	• expanded or somewhat bulbous, dull cream
Velar remains on stem base	• definite rim on upper base, almost as a small membranous free limb, may be reduced, and never saccate (Plate 1c)	• absent or at most a few vague scales (Plate 1d)

References:

Grgurinovic, C. A. (1997) *Larger Fungi of South Australia.* Botanic Gardens of Adelaide and State Herbarium, Adelaide, South Australia.

Kuo, M. (2006) *Glossary of mycological terms.* Page retrieved from the MushroomExpert.Com web site: http://www.mushroomexpert.com/glossary.html.

Wood, A. E. (1997). Studies in the genus *Amanita* (Agaricales) in Australia. *Australian Systematic Botany* 10: 723-854.

Legend to Plates (on page 9)

Plate 1a. *Amanita xanthocephala*. The cap has a distinctive grooved-striate margin and cap velar remains are felty and do not form distinct scales (warts). Photo: Sapphire McMullan-Fisher.

Plate 1b. *Amanita flavella*. An annulus is present but fragile, remains sometimes being attached to the cap margin rather than the stem. Photo: Sapphire McMullan-Fisher

Plate 1c. *Amanita xanthocephala* has no annulus present, and basal velar remains form a distinct rim. Photo: Sapphire McMullan-Fisher

Plate 1d. *Amanita flavella*. Basal velar remains are distinct. Photo: Pam O'Sullivan.

Plate 1e. *Amanita armeniaca* from central NSW in woodland with *Allocasuarina torulosa* and *Angophora costa* dominants. Photo: Pam O'Sullivan

Plates 1f & 1g. Two unidentified *Amanitas* (1f) from Fraser Island in heathy woodland and Photo: Sapphire McMullan-Fisher (1g) from Palm Grove (central NSW) in warm temperate rainforest. Photo: Pam O'Sullivan

MYCOACIA SUBCERACEA – A FUNGIMAP TARGET SPECIES UNDER INVESTIGATION

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Although crust fungi are often overlooked as they fruit on the underside of decaying wood, some have spectacularly colourful fruiting bodies. One such example is *Mycoacia subceracea*, a target species of Fungimap. This species forms large, bright yellow crusts, which on closer inspection can be found to be covered in small, rounded spines (Plate 2a; photo #375, p243, Fuhrer 2005). *Mycoacia subceracea* has been reported from the southern parts of Australia (NSW, Victoria, South Australia and Tasmania). It has also been collected in New Zealand and even on the subantarctic Auckland Islands, although specimens from the early days of mycological study were erroneously grouped under the name *Odontia archeri.*

Despite its high public profile thanks to Fungimap, the microscopic features and relationships of *Mycoacia subceracea* have not been well understood. It has been thought to be similar or the same species as *Phlebia uda*, a species reported from Northern Hemisphere (Sweden, Canary Islands, Morocco and Ethiopia – Hjortstam & Ryvarden 2007; Europe and North America – Nakasone 1997). Microscopes have improved vastly since the original description of *Mycoacia subceracea* by Elsie Wakefield (1930), and an important microscopic character has since been recognised – the presence of acanthocystidia. Acanthocystidia are sterile elements of the fruit body with pin-like outgrowths near their tips (Plate 2b) that occur within the hymenium (spore-producing layer) of the fruiting body. These structures are also known for another species of *Phlebia*, *P. acanthocystis*, which has been described from Hawai'i (Nakasone & Gilbertson 1998). A recent study, not yet published, has also confirmed that this species occurs in New Zealand and Taiwan but it was not detected among specimens from Australia. DNA sequence analyses suggest that both *Mycoacia subceracea* and *Phlebia acanthocystis* are closely related while *Phlebia uda* is a more distant cousin. Despite their close relationship, *Mycoacia subceracea* and *Phlebia acanthocystis* are clearly separate species. Fruiting bodies of *Phlebia acanthocystis* are lacking the bright yellow colour observed in *Mycoacia subceracea,* and have more slender teeth (Plate 2c, cf. Plate 2a) and smaller spores.

Name changes are an important (although some would say frustrating) part of taxonomy that help us to understand fungi better. As concepts of species and genera are refined, the name of a fungus may need to change to reflect this new understanding. Some fungi of Australia and New Zealand have been given Northern Hemisphere names in the past – only to be shown by DNA and morphological studies to be separate species from their Northern Hemisphere look-alikes. The opposite is also true where re-examination of species from different parts of the world shows that the same species has been recognised under different names in different localities.

Even Fungimap species are not safe from name changes. A new name has recently been proposed by Karen Nakasone (2003) for *Mycoacia subceracea*: *Phlebia subceracea*. Different lines of evidence suggest that the genus *Mycoacia* can be simply described as a *Phlebia* with spines. Microscopically, *Mycoacia* agrees with *Phlebia*, and molecular results also support this observation. The second species with acanthocystidia, *Phlebia acanthocystis*, was only recently (re)discovered in New Zealand, but it had been known already since the 1950s under the name *Odontia fragilis.* Similar to the original description of *Phlebia subceracea*, acanthocystidia were not described for *Odontia fragilis* but were detected when original specimens were examined. The convention is that the older name has priority, and hence, *Phlebia acanthocystis* may soon share a similar fate to *Mycoacia subceracea* in receiving a new (but in this case old) name.

References

Fuhrer, B. (2005). *A Field Guide to Australian Fungi*. Bloomings Books, Melbourne.

Hjortstam, K. & Ryvarden, L. (2007). Checklist of corticioid fungi (Basidiomycotina) from the tropics, subtropics and the southern hemisphere. *Synopsis Fungorum* 22: 27-16.

Nakasone, K.K. (1997). Studies in *Phlebia.* Six species with teeth. *Sydowia* 49: 49-79.

Nakasone, K.K. (2003). Type studies of resupinate hydnaceous Hymenomycetes described by Patouillard. *Cryptogamie. Mycologie* 24: 131-145.

Nakasone, K.K. & Gilbertson, R.L. (1998). Three resupinate hydnaceous basidiomycetes from Hawai'i. *Folia Cryptogamica Estonica* 33: 85-92.

Wakefield, E.M. (1930). Australian resupinate Hydnaceae. *Transactions and Proceedings of the Royal Society of South Australia* 54: 155-158.

Legend to Plates (on page 10)

Plate 1a. Fresh fruiting body of *Mycoacia subceracea* (BCP5544) showing bright yellow fruiting bodies with soft spines. Photo. Ross E. Beever.

Plate 1b. Acanthocystidium of *Mycocacia subceracea* (PDD92133); note the pin-like projections. Photo: Barbara Paulus.

Plate 1c Dried fruiting body of *Phlebia acanthocystis* (PDD94400) showing long and slender spines. Photo: Barbara Paulus.

NEW ADDITIONS TO FUNGI LISTED IN WESTERN AUSTRALIA'S FLORA CONSERVATION CODES

Neale Bougher
Department of Environment and Conservation

Fungi are protected 'Flora' under Western Australia's Wildlife Conservation Act. However few fungi in Western Australia have been surveyed adequately to assess their geographical distribution, abundance, habitat requirements and threatening processes. No fungi have been declared under the Act as 'Rare Flora' in Western Australia – defined as taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection.

Until recently only two fungi species have been listed on the Western Australian Flora Conservation Codes - *Amanita carneiphylla* and *Amanita griseibrunnea*. They are listed as 'Priority Flora' - which covers poorly known taxa and facilitates recognition by the Western Australian Government that special consideration should be given to the management of these taxa. After a recent submission, now two more fungi have been listed as Priority Flora - *Torrendia grandis* and *Torrendia inculta.* All four fungi are listed as designated as category P2: defined as taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

Torrendia is considered to represent a secotioid relative of the mushroom genus *Amanita* and the gastroid genus *Amarrendia* (Bougher and Lebel, 2002). Fruit bodies of *Torrendia* develop and mature underground, but they usually crack the soil surface or partially emerge at a late stage of maturity. *T. grandis* has stocky fruit bodies with a mushroom-like cap, smooth stem, and a broad saucer-shaped volva. It is larger than the other two known Australian species of *Torrendia* (Bougher 1999). The cap of *T. inculta* (Plate 2d) fragments as the stipe elongates. The third known species in Australia - *T. arenaria* has similar-sized basidiomes to *T. inculta*. However, it has a globose pileus which remains intact and is less fragile than that of *T. inculta*. There are also significant microscopic differences (Bougher 1999).

At the time I submitted them for conservation listing, *T. grandis* was only known to occur in a cluster of four locations north of Kellerberrin in the WA wheatbelt, and *T. inculta* was known from five locations near Kellerberrin and Corrigin. Since that submission collections of *T. inculta* and *T. grandis* have been made by Katie Syme in the south coast region of WA (Syme 2008). I did not submit *T. arenaria* for conservation listing because it was already known from a larger number of locations spread across a range of rainfall/vegetation zones in Western Australia, and also recently it has been collected from South Australia by Pam and David Catcheside.

Designation of *T. grandis* and *T. inculta* as P2 conveys formal recognition of the need for further surveys to be undertaken to more adequately assess their conservation status. Like many fungi *Torrendia* fruits intermittently and unpredictably, and further collections of the newly designated P2 species are to be anticipated in more locations. Furthermore, the recent records of *T. arenaria* outside Western Australia raises the possibility that *T. grandis* and *T. inculta* may also occur elsewhere in Australia. So keep an eye out for them in your territory.

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Syme, K. (2008). Fungi survey of the South Coast Natural Resource Management Region, 2006-7. Department of Environment and Conservation, Albany.

TROPICAL FUNGI OF NORTHERN QUEENSLAND MYCOBLITZ 2009

The School of Marine & Tropical Biology, James Cook University Cairns, have organised a fungal foray (**Mycoblitz**) in the Wet Tropics World Heritage area of Far North Queensland to be held in **February 2009**. Further details may be obtained on:
http://www.rbg.vic.gov.au/fungimap_/__data/page/2993/Mycoblitz_2009_Brochure.pdffro,an
or from Sandra Abell, phone: (07) 4042 1254 or email: Sandra.abell@jcu.edu.au

NEW FUNGIMAP TARGET SPECIES

The following species are newly added to the list of Fungimap target species. Comprehensive information on each species will be available shortly on the Fungimap website (http://www.rbg.vic.gov.au/fungimap_/target_species).

Austroboletus occidentalis and ***Austroboletus lacunosus*** (Plates 4a, 4b page 12) (see also *Fungimap Newsletter* 18, page 3)
Both species are boletes with a deeply reticulated stem surface, dusky pink to yellow-rusty-brown caps with uneven, appendiculate margins (margins which hang down). Tubes are creamy white, becoming pinky-brown. However, *A. lacunosus* has dry caps and stems, while those of *A. occidentalis* are sticky and very bitter. Katrina Syme discusses these two species in *Fungimap Newsletter* 18, page 3.

Dermocybe canaria (Plates 4c, 4d, 4e, page 12) (see also *Fungimap Newsletter* 23. Plate 3e)
A rare and beautiful fungus with bright yellow, dry cap and stem. The mycelium is similarly coloured. The partial veil is quite thick compared to the cobwebby cortina in related species and forms a ring zone or definite ring on the mid to upper part of the stem, that becomes rusty from fallen spores.
Another target species, the usually larger and rusty-brown *Gymnopilus junonius*, grows at the base of trees in large clumps; *D.canaria* grows in soil and leaf litter and fruit bodies are not clustered.

Gyrophragmium inquinans (Plate 4f, page 12)
This is an uncommon, woody, desert fungus with a convex to conic, grey to light brown, wrinkled dry cap, a stem clothed in series of large, soft scales. Black gill plates hang down from the cap. It has a leathery, cream ring half way up the stem and a fragile, dish-like volva.
Another desert fungus, *Montagnea arenaria* (Plate 4g, page 12) differs in its disc-like cap with gills attached to, and radiating from, the disc margin, whereas the cap of. *G. inquinans* is cone-shaped, its margin is inrolled and the gills are under the cap and do not radiate out from it. *M arenaria* has a shorter (to 75 mm, *G. inquinans* to 140 mm high) and ringless stem.

Panellus longinquus (Plates 4h, 4i, page 12) (see also *Fungimap Newsletter* 23. Plate 2a)
Fruit bodies grow on wood and have a lateral stem and a small, fan-shaped cap. The caps are sticky, usually pinkish-white but may bleach whitish or become pale orange-brown. The gills are white but may also become tinged pink.
Pleurotus can be pink, but the stipe is not always lateral, fruit-bodies are usually fleshier and the pileus surface is not sticky.

Phlebopus marginatus (Plate 4j, page 12)
This bolete is usually found under eucalypts and is distinguished by its large size: the cap may reach 600 mm diameter. Cap colours are dull browns and its dry, leathery cap surface usually cracks into irregular polygons. The thick cap margin becomes upturned. The very thick stem is bulbous towards the base. Tubes are yellowish brown (without red margins), often turning blue-green on bruising.

FUNGIMAP SURVEY OF FLINDERS CHASE NATIONAL PARK, KANGAROO ISLAND, JUNE 2008

Paul George

Kangaroo Island is the largest island off the coast of South Australia and contains much remnant vegetation and many endemic plants and animals. Flinders Chase National Park (FCNP) has an area of almost 33,000 ha and abuts the Ravine des Casoars Wilderness Protection Area of over 41,000 ha.

Our survey expedition members were Tom May, Teresa Lebel, Richard Robinson, Katrina Syme, Paul George, Pam O'Sullivan, Pam and David Catcheside, Lee Speedy, Helen Vonow, Thelma and Phil Bridle. The survey was funded by grants from the Wildlife Conservation and Native Vegetation Research Funds.

Pam and David Catcheside started coming to the Flinders Chase NP in 2002 (and every year since) and have shown that this is a hot spot for fungal diversity in SA, and the Park contains rare and undescribed species some of which are threatened by severe disturbance by feral pigs and goats. Devastating bush fires burnt 84% of FCNP from 6 December 2007 to March this year. Our aim was to add to the records and collections of fungi in the area and evaluate their conservation status.

On our first day travelling from Adelaide to KI we stopped off at Deep Creek Conservation Park. This open messmate and stringybark forest is also a recognised fungal hot spot and we were rewarded with many interesting fungi, including the pale violet *Inocybe violaceocaulis*, *Dermocybe magentiannulata* with a magenta-tinged ring on the pale stem, and the deep red of *Dermocybe kula.*

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After settling into the Flinders-Baudin Research Centre, our next day was set aside for talks, workshops and a short fungal walk for the Park rangers, DEH staff and Friends of the Flinders Chase NP. Ranger Derek Snowball told us some of the history and diversity of the park and also the extent and impact of the recent fires. Tom talked on Fungi in the environment, their functions, interactions with other life forms and their role in keeping a balance in the whole ecosystem. Pam spoke about the trips to KI that she and David made since 2002 and the variety of fungi they had found – their cumulative totals of recorded species continue to increase each year. Katie spoke of her collecting activities in southwest WA – in many ways not a dissimilar environment to SA. Richie Robinson spoke on Fungi after fire – particularly appropriate given the recent bush fires on the island. He described five distinct succession groups of fungi and gave examples of those species that appear (1) only immediately after fire; (2) within the first year; (3) over the next 25 years; (4) in sporadic fire areas and (5) in unburnt areas. After lunch we had a short walk in the nearby bush to find some specimens and these were then described and discussed with the rangers, staff and friends.

Day three saw our first foray into the burnt forests of the Ravine des Casoars (Plate 3a). More like a shallow valley than a ravine, the sandy soil was burnt black and the blackened trunks of the slight Sugar Gums were sprouting fresh green regrowth. It was here we found *Laccocephalum* species – the Stone Maker (*L. tumulosum*) and the smaller and more colourful Marble Maker (*L. sclerotinium*) (Plates 3b, 3c, 3g: *Laccocephalum* spp.). Older specimens of *Anthracobia muelleri* (Plate 3d) (often with green algae bordering their rims) were overshadowed by the much brighter orange and reds of the small discs of *Pulvinula* sp. (Plate 3e) covering the ground in large numbers. Larger *Peziza tenacella* (Plate 3f) were also abundant. They start as small flat cups of deep violet and then expand and flatten into large brown wrinkled discs.

Later in the afternoon we went to a higher sandy ridge more windswept than the gully, this area had very little leaf litter and most of the ash had been blown or washed off the white sandy soil. Here we found many *Cortinarius sublargus* (Plate 3h) (surely the synonym of *C. radicatus* is much more descriptive) – the deep roots pushing up little cones of sand on top of their dull caps. A deeply rooting black *Hygrocybe* sp. was also quite common here. *Ramaria* aff. *capitata* also pushed up mounds of sand – the areas exposed to the elements were a dull cream, but the branches beneath had a delicate violet colour. A single *Nothocastoreum cretaceum* 'starburst' shell was found – I guess these had fruited and blown away much earlier.

Day four we walked from May's Cottage at Rocky River to Platypus Ponds. Much of this area was lightly forested with thin Mallees and Grass Trees and had been burnt. More *Pulvinula* spp. were found and we amused ourselves by blowing on them to watch the copious white clouds of spores erupt a few seconds later. By this stage I was beginning to tire of seeing black or brown discs on blackened soil. A few false truffles were found of interest. First, a *Castoreum* sp., which appears as a very non-descript lump of soil. On closer inspection, the soil around the fruitbody was held together with a rubbery mass of gummy mycelium and was quite spongy and elastic. The fruitbody had two layers of peridium and the gleba was pale brown. Then there was *Mesophellia* sp. (Plate 3k) with a much harder peridium that resembled a peanut shell. This had three layers protecting the green spore mass and suspended within the gleba was an oily and nutritionally rich ball, which Teresa assured us was like a hit of peanut butter to the Potoroos and other small marsupials that ate it.

I had also started to become a bit blasé about the many *Laccocephalum* we were seeing, assuming that they were all either Stone Makers or Marble Makers. However, Richie pointed out that some of the smaller specimens that I had thought were *L. sclerotinium* had a marbled sclerotium similar to Native Bread *L. mylittae* (Bruce Fuhrer compares this to compressed boiled rice), rather than the smooth textured sclerotia. This may well be a new species of *Laccocephalum*.

Our last foray was to the unburnt area of the Kelly Hill CP. This area was lightly wooded with Mallee, Sugar Gums and Grass Trees. The deep leaf litter supported lots of fungi and it was a nice change to get away from charcoal and ash. One of the first finds was of a *Pleuroflammula* sp. (Plate 3i). It is hard to imagine that such a small brown and rather unassuming mushroom could attract such interest, but Tom felt that this rare find might have been the highlight of the trip. The tough little pallid fruitbodies grow on dead wood and have an eccentric stipe. The moderately spaced gills, with almost crystalline cystidia on the edges, dropped copious amounts of rust brown spores.

Leucopaxillus lilacinus with its large deep mauve to purple caps was surprisingly well hidden amongst the leaf litter. It is a comparatively rare Fungimap target. Katie found quite a few *Cortinarius erythraeus* (Plate 3j), with bright orange-red viscid caps, dull pale purplish gills, and the thick glutinous red at the base of the dull beige stem. This species appears more common in drier woodland forests of southern Australia.

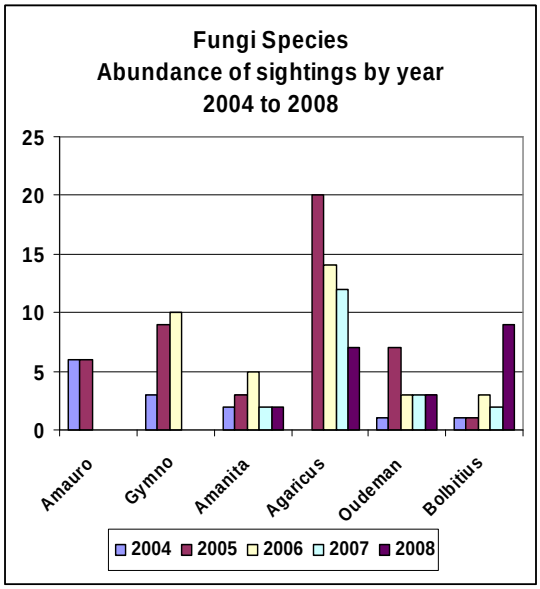
And so ended our KI expedition. Our last adventure was to endure the ferry ride from Penneshaw to Cape Jervis – the rough seas made for an exhilarating trip for some, although a somewhat debilitating ordeal for others. The expedition was quite a success, with about 30 species being recorded for the first time in SA (Pam and David have recorded about 600 species in SA over the last 7 years). Thanks to Pam and David Catcheside for their meticulous planning and organization (not to mention their warm hospitality) and to all the team members for sharing their enthusiasm, knowledge and good company.

FUNGI-MAPPING IN IVANHOE, MELBOURNE

Robert Bender

The Yarra River flows along the southern boundary of Ivanhoe and its flood plain is covered with golf courses and conservation zones. Wilson Reserve, a municipal park of 40 hectares along the river's north bank is one of the locations for Fungimap species. A Friends group was formed in 1996 and has taken on many different projects, one of which is fungimapping.

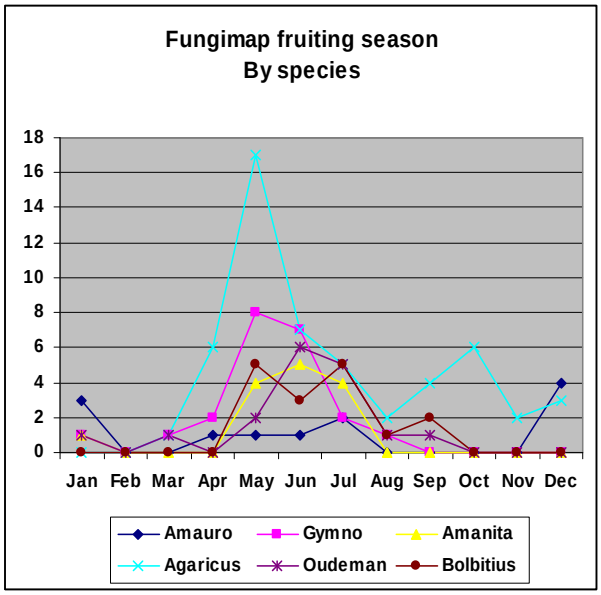
Eleven of the current 105 Fungimap species, and many others not on the list, have been found there, mainly as I walk my dog around the golf course and meadows. After about ten years of reporting sightings I find that some species that were once commonly seen seem to have disappeared from the area and others have appeared quite recently.



For several years since 2000 *Amauroderma rude* was fruiting widely around the woodland on the river side of Ivanhoe golf course, but since 2005 it seems to have vanished. *Gymnopilus junonius* was in the reserve, on roadside nature strips, in recreation parks, but since 2006 has disappeared, while *Bolbitius vitellinus* has moved from seeming rare, confined to a small patch on the golf course, to becoming quite widespread around roadside nature strips, many fairways of the golf course and neighbouring sports fields.

The seasonal pattern seems fairly predictable some years, but when there is unseasonal rain some species are opportunistic and pop up fruiting bodies at odd times after the season seems well over. Fungi season is generally April to July but every month of the year there may be something fruiting if there is enough rain.

In 2004 I spotted an odd bright orange fungus while doing a bit of weeding in the reserve and sent some photos in for identification. A few months later I was told it was the first Australian sighting of the newly invasive *Favolaschia calocera*. Several more nearby sites were discovered, then one of the group's members went on a training day to a conference centre several kilometres further north and, on being taken for a weed identification walk, found another colony of *Favolaschia*. So visiting these sites each rainy season to see if they still thrive has become a routine activity – unfortunately they are all doing well.



Two years ago I decided to try something different, photocopied a Melway street directory page and set out with my dog to walk a different street each morning before work and map occurrences of *Agaricus xanthodermus*. As well as finding several specimens of *Omphalotus nidiformis*, I discovered there were little colonies of *A. xanthodermus* in nearly every street in Ivanhoe. It looked as though the Yellow Stainer must have taken over most of Melbourne.

A standardised spreadsheet was sent out for use in recording sightings in 2004 and has proved invaluable as a way of keeping records organised and locating patterns in the data. Always taking a digital camera on walks has also proved valuable, as the photo file is now quite large. Tom May and Graham Patterson have been wonderful with identifying things that were mysteries to me, and pointing out at times that what I saw was different from what I thought it was.

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It is very useful to be able to take daily walks around an area, to watch a fungus fruiting body go through its life cycle, see how long it lasts, see whether it is succeeded by others, visit the same site in later years, and often just ramble aimlessly in case there are undiscovered wonders. Just following my dog as he meanders to cock a leg at every other tree has revealed a few surprise fungi. The spreadsheet has me now habitually noting any nearby tree species. So, thanks to Fungimap for opening my eyes to a different world and enriching my idea of the diversity of organisms worth noticing.

PHALLUS MERULINUS NEWLY REPORTED FOR THE TOP END

Matt Barrett & Ben Stuckey

The 'Top End' of the Northern Territory is an area of high rainfall (1000+ mm) and diverse landscapes in the monsoonal tropics. Despite the large number of visitors for tourism, and reasonably reliable wet season access to many areas, Top End fungi have been extremely poorly collected. Recently, the Darwin Herbarium have increased their interest in 'microflora', with Ben recently taking on curation of the fungal collections and beginning collection of the local fungal flora. In February this year, Matt visited Darwin Herbarium for some plant taxonomic research, and we took the opportunity to make some fungal forays.

Among the fungal beauties found was one particularly worthy of mention because it is a distinctive, yet rarely reported species in Australia. We hope that by bringing it to attention we might stimulate more collections.

Species of 'veiled stinkhorns', variously treated as members of the genus *Phallus*, or as a separate genus *Dictyophora*, are spectacularly beautiful and frequently noticed by gardeners and bushwalkers. In the suburbs of Darwin (more specifically in NT botanist Phil Short's garden!) there are at least two species of veiled *Phallus*, including pale and bright forms of the common tropical yellow/orange-veiled *P. multicolor*, and the white-veiled *P. merulinus*. Early reports of *P. merulinus* in Australia were possibly all based on a single misidentification, although there is a collection from Queensland in the Melbourne Herbarium. It seems high time that there be a modern record, with a photograph of Australian material, and a discussion of its identification.

Phallus merulinus (Plate 2e) can be readily distinguished at all growth stages from other veiled stinkhorns reported from Australia. At maturity it is characterised by the cap appearing smooth under the spore mass, and when old and the spores have worn away the cap is pale and granular-rugulose (Plate 2h). In contrast, the other two species of veiled stinkhorn, *Phallus multicolor* (Plate 2f) and *P. indusiata*, have a distinct raised reticulum over the cap which is not obscured by the spore mass, and in age the surface between the reticulum is ± smooth, not granular-roughened. The unexpanded 'eggs' of *P. merulinus* are easily distinguishable from other veiled *Phallus* in being dark dirty-brown and smooth on the upper surface, vs cream to dirty cream and usually with at least some spines on the upper surface (Plate 2g).

More observations of this beautiful species are needed to determine its distribution in Australia, and also to determine whether the species is native or introduced.

HIDDEN IN PLAIN VIEW: THE FORGOTTEN FLORA - AN EXHIBITION REVIEW

Sarah Lloyd

When the director of the Queen Victoria Museum and Art Gallery, Patrick Filmer-Sankey, spoke at the opening of the exhibition 'Hidden in plain view: the forgotten flora' he had obviously been bitten by the cryptogamic bug. He bubbled with enthusiasm about his attempt to find *Amanita muscaria* (which was destined to fail given the time of year) and his delight at extracting from its subterranean chamber a parasitised caterpillar still attached to the fertile finger-shaped fruit of one of the strangest fungi, *Cordyceps gunnii*.

This exhibition had its genesis in "The Forgotten Flora" poster series that was created several years ago. The poster series and the exhibition are the brainchildren of staff at the Royal Botanic Gardens, Melbourne: mycologist, Dr Teresa Lebel and bryologists, Dr Josephine Milne and Dr Karen Beckmann.

This exhibition, like any other concerning the natural world, has an intrinsic beauty. But to further stimulate our interest the curators have extended the exhibits beyond the

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predictable by including an eclectic mix of science, art, history and some of the quirkier aspects of the forgotten flora: the mosses, liverworts, hornworts, fungi and lichens.

Alongside the carefully dried and pressed specimens and the exquisite drawings and paintings there is textile art and bizarre looking sculptures. The drawers and cupboards of the beautifully crafted curiosity cabinet contain, among other things, a jar of vegemite, some Irish moss, nests incorporating lichens and mosses, bugs and 'minibeasts' that dwell in the litter layer and a series of hats coloured with fungal dyes. Each comes with an explanation about why these things are pertinent. Even Alice in Wonderland rates a mention: where else would a talkative, hookah-smoking caterpillar sit if not on a mushroom?

The highlight for me was seeing the work of architect Richard Bastow who lived in Tasmania in the 1880s. His meticulously drawn *Illustrated Key to the Genera of Tasmanian Mosses*, pages of dried and mounted specimens and his tray of samples that he took to field naturalists' gatherings demonstrate a passion for his subject that he was keen to share. The necessity for him to sell his undoubtedly beloved microscope to pay for his family's debts is a poignant tale and a reminder that the study of more obscure organisms rarely attracts adequate funding.

During the past several years the exhibition has travelled to regional centres where activities were organised to coincide with the displays. Nothing was organised for Launceston but I had the privilege of dining after the opening with the dynamic trio, Teresa, Josephine and Karen, who related some of the highlights and difficulties of touring such a show.

Securing finance was the first hurdle - nine different funding bodies were involved with staging the Launceston exhibition alone. Liaising with local staff and fine tuning each display to fit the available space posed no difficulties at the Launceston site – the old railway yards are so suited to exhibitions that the building could have been purpose built.

School groups were catered for at some of the regional centres and on some days almost 400 students viewed the exhibition – an exhausting prospect! Drawing classes attracted numerous people with the most memorable story being of a nine year old girl who returned repeatedly to refine her work. I have little doubt that seeing the exhibition and meeting three women passionate about their chosen subjects will have a marked effect on the direction of that young girl's life. It certainly inspired me to return home and resume my exploration of this "fascinating, weird and beautiful world

FUNGAL NEWS

The 2008 PUBF Fungi Season – in brief

The PUBF Team:
Neale Bougher, Roz Hart, Sarah de Bueger and Brett Glossop

PUBF fungi activities swung into action again this winter. In 2008 PUBF conducted five weekend events and a number of other non-public surveys. After a dry start in May and June, the 2008 fungus season in the Perth region extended well into July due to sustained rainfall during that month. However, near the end of July, the fungi in Perth's bushlands stopped fruiting very abruptly due to the sudden onset of dry sunny days and miserably low rainfall throughout August.

The weather provided a real challenge at times during the fungi season - varying from ferociously stormy at Jarrahdale to balmy and sunny at some of the other events. The events provided learning opportunities about topics such as information resources, photography and painting, microscope work, identification of fresh fungi specimens as well as data collection, tracking and use of GPS equipment. Once again, the PUBF fungi leaders led small groups of people and introduced them to many aspects of fungi, including finding a diverse range of fungi in the bush. Leaders also taught participants that fungi are extremely significant for maintaining the health of our bushlands, including via their interactions with plants and animals. Many different forms of fungi were found including bracket, coral, cup, earthstar, jelly, mushroom, puffball, shell, slime mould, truffle and tubular fungi. The fungi exhibited a great variety of sizes, interesting and beautiful shapes and a wide range of colours. The fungi included 37 records of Fungimap targets representing 17 species (to be submitted).

The PUBF data for 2008 is now being compiled and analysed. Reports for the various bushlands will be completed and posted on the PUBF website before the end of this year. Many hundreds of records of fungi were made in 2008. About 230 fungi were processed, described and kept for vouchering at the Western Australian Herbarium by PUBF from the 2008 season. The PUBF team is busily compiling data and reports from the 2008 season, and then will begin preparations for the 2009 season. Fortunately, PUBF has been successful in securing sufficient funding to operate in 2009. Also the Perth Fungi Field Book now has been re-worked to improve its functionality, and a significant number of new species will be added in time for the 2009 season. Keep checking www.fungiperth.org.au for field book updates.

News from SA

Pam Catcheside

One of the highlights of the Adelaide Fungal Studies Group's year was a five-day trip to Mount Remarkable and Flinders Ranges National Parks in late July. Conditions were dry, but the number of truffle species collected showed that the underground habit pays off when things get tough. Basidiomycetous truffles included two *Gymnomyces* species and *Hysterangium inflatum* with its greenish-blue gelatinous chambers; amongst the ascomycetes were *Labyrinthomyces varius* and *Dingleya ?turbinata*, both with tiny white-grey meanders in their white glebas, also lots of whitish, waxy twisted balls of *Hydnoplicata convoluta*. We were excited to find the brown-tipped waxy columns of Beaton's Clubs, *Underwoodia beatonii* just pushing through the leaf litter in Wilpena Pound.

Favolaschia sp.
Photo: David Catcheside

A profitable site was Mount Panorama, Kuitpo where turning over bits of moist wood yielded many small species. Slime moulds included Icicle Fairy Fans, *Ceratiomyxa fruticulosa* and a red *Trichia* sp. Tiny hanging yellow-grey bowls of a *Favolaschia* sp. with their beautiful pored networks were admired, as were the blue short-stalked discs of *Chlorociboria aeruginascens*. Our final foray was to Cox's Scrub Conservation Park where collections were made of beautiful white *Amanita farinacea*, the specimens surrounded by a floury deposit of veil fragments, and *Descolea recedens*, distinguished by its yellow-fringed ring, small scales on its cap and its growth on almost buried timber. Our year ended with a meeting where PowerPoint's of photos of fungi found during the season were shown.

News from SEQ – Queensland Mycological Society

Sapphire McMullan-Fisher

QMS has had a busy winter and spring, and with the weather bureau predicting another wet summer we should stay busy for some time. Our new editor, David Holdom, brought out a great new issue of the Queensland Mycologist (Vol. 3 Issue 3 – Spring 2008). This was full of reports and images from the recent talks and forays.

Since then recent forays have included a tour of mushroom farms and one to Mt Cordeaux, Cunningham's Gap.

Figure 1. QMS members walking through piles of steaming compost.

Visiting the commercial mushroom farm Mushroom Exchange North Maclean, (a.k.a. Queensland Mushrooms) was a real eye opener and lesson in logistics! As one of the largest producers of mushrooms (*Agaricus bisporus*) there were literally tonnes of straw, manure and peat moss that go into each batch of mushroom compost; each batch is cycled over two months, with the site producing ~70 tonnes of mushrooms a week (Figures 1 & 2)!

Figure 2. Mushrooms being harvested.

After the 'big mushroom farm' visit our own Kim Nguyen kindly showed us her 'small mushroom farm' – which is in two small rooms under her house. Kim and her partner produce gourmet mushrooms and mushroom growing kits which they sell at a local farmers' market. They are currently growing Tree Oyster (*Pleurotus ostreatus*), *Continued on page 19*

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White Elm Oyster (*Hypsizygus ulmarius*), King Oyster (*P. eryngii*) and hope to include Shiitake and Lepistas in the future. To finish a wonderful day off - we shared a delicious gourmet mushroom picnic in the local park.

The recent foray to Mt Cordeaux, Cunningham's Gap was rich in decomposer macrofungi. Foray members tested the new foray sheets and photographers tried to remember to include a jeweller's tag with the field number in at least one of their images to help collate images with identifications. Collating names, collection, images and other field data is a real challenge. QMS is trying to set up a database for its records and deciding what to record is a real balance between the wants of good science and the reality of fungal forays in the field. The foray was enjoyed by all and the discussion stimulated by the new foray sheets has been instructive and should help develop the database.

Our final meeting for the year will be on the 11th November, which will be an end of year celebration. This year there will be fungi competitions: photographic, spoken word and written. We are also going to see if we can play 'fungi' charades! I'm looking forward to an evening of fun, frivolity and fungal antics! Best wishes for a safe a happy festive season and new year to all you mycophiles ☺

THE FUNGAL INITIATIVE

Pam O'Sullivan

The Initiative arose out of frustration at the lack of awareness about fungi and the resulting lack of funding for resources in NSW. In 1997 there had been a great report prepared, by the Commonwealth Endangered Species Program called 'A Conservation Overview of Australian Non-marine Lichens, Bryophytes, Algae and Fungi'. (Often these non-vascular organisms are called 'cryptogams'.) This report stated that these organisms 'play an essential but poorly recognised role in the ecosystem … Fungi are significant as decomposers and nutrient cyclers, as partners of vascular plants in mutualisms (mycorrhizal), as food for native mammals, and as parasites. Without algae and fungi in particular, lakes, forests and grasslands would not function and agriculture could not survive' … !!

The report highlighted that 'despite their undoubted values, there has been little effort by the scientific community to promote the significance of cryptogams to the wider public' and with fungi 'only some 5% of the estimated 250 000 species have been described. At current rates of progress this task will take more than 1000 years to complete'! And that 'There is a serious lack of resources and staffing devoted to the study and teaching of cryptogam taxonomy and ecology in Australia' (Currently there is only **one** mycological ecologist employed in Australia and in NSW only **one** taxonomist that deals with macrofungi based with DPI in Orange! I ask you to ponder on the number of plant ecologists and taxonomists that are employed over the same area.). Also that 'fungi in particular … tend to be poorly represented in herbarium collections … and that they 'have been treated academically and practically as a continuation of the vascular plants, and the whole approach to their conservation is skewed in ways that are inappropriate for them.'

Peter Bridgewater, Head, Biodiversity Group, Environment Australia, said in his forward to the report that 'the onus is now on us all – policy makers, land manager, researchers, the wider community – to make a serious commitment in addressing the recommendation' that came out of this report. That 'it would be to our considerable loss if, as a nation, our 'forgotten flora' were allowed to become our 'vanished flora'. The recommendations covered five areas: Resources, Research, Conservation Management, Education/Awareness and Additional Recommendations for Fungi.

The Initiative was set up to try and start to 'address these recommendations' and has brought together end users such as Councils, CMA, NGOs involved with the environment and community reps together with academics, scientists and those from various government departments working with fungi and other cryptogams for an exchange of information and ideas. A meeting was held at Narara, NSW in September 2008. At this meeting, five sub-committees were formed covering the five areas of recommendations from the 1997 report with a brief to review the current situation. The sub-committee will report to the next meeting on the 26th November, when a single committee will start working on the process of how to implement their recommendations. For further information or contributions please contact me on pam@osullivan.com.au

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Bryan Haywood	1
Edward Jenkins	1
Grace Keogh	1
Cameron Slatyer	1
Viehol	1

NSW

Barbara Duncan	2
Robert Hudson	1
Martin & Frances Butterfield	1
Andrew McDonald	1
Hazel McIntyre	1
Jackie Miles	3
Joel Owen & Tarrah Laidman	1
Suz Rogers	1
Judy Shellard	1
Teresa Van Der Heul	7
Audrey Wyatt-Thibault	1

QLD

Donna Allan	1
Rod Hobson	1
Belinda Lee	1
Patrick Leonard	52

SA

Angus Forgan & Catherine Dandie	1

TAS

Patricia Harrisson	14
Sarah Lloyd	111
Roy Skabo	7

VIC

Andrew Beales Lee	1
Robert Bender	2
Wendy Cook	17
John Ellis	1
Field Naturalists Club of Victoria	724
Jenny Holmes	4
Virgil Hubregtse	9
Valerie Linden	1
Tim Lowe	13
Malcolm McKinty	3
Pina Milne	6
Jenny O'Donnell	15
Julie Parker	1
Graham Patterson	55
Helen Rommelaar	2
Nigel Sinnott	3
Michael Williams	1

WA

Prue Anderson	2
Katrina Syme	107
Diana Vincent	1

The Norman Wettenhall Foundation

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