



PUTTING AUSTRALIAN FUNGI ON THE MAP

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NEWS FROM THE FUNGIMAP PRESIDENT

I have just returned from Brisbane, where I attended the very successful Fungi Conference organised by the Cubberla-Witton Catchments Network. The Conference was attended by 150 people, and it was great to see the evident enthusiasm for and interest in Queensland fungi and their conservation. Jutta Godwin and the team from Cubberla-Witton Catchments Network did a fantastic job of organising the Conference, and drawing together a diverse and interesting panel of speakers. Very similar themes were covered by the twelve speakers as in the day of talks that we traditionally have at Fungimap conferences. Presentations ranged from a focus on specific fungi (*Ramaria* by Nigel Fechner) to talks on mycophagous mammals and fungi in bush regeneration.

Chris Burwell (Queensland Museum) gave a fascinating presentation on invertebrates and fungi. I'll be looking much more closely now at the various insects that are associated with fungi, and keeping an especial look out for the tiny eulophid wasps (with patterned

wings) which parasitise ciid beetle larvae. The beetles feed on the context tissue of polypores and other tough fungi. I am also looking forward to finding some 'Pleasing Fungi Beetles' of the family Erotylidae.

Katrina Syme (Fungimap Vice-President) gave a thought-provoking talk about fungi in regional natural resource management planning, a topic on which she has also written in the recent special issue on cryptogam conservation in the journal *Australasian Plant Conservation*. There are more than 50 regions across Australia set up to deliver natural resource management, but only the SCRIPT region in south-west Western Australia has commissioned a technical report on fungi, to guide their management activities.

Katrina also pointed out that the word Biodiversity, as used in so many local, state and federal conservation and management documents, means in practice just vertebrate animals and green plants, and fungi are completely overlooked in most arenas. Neale Bougher provided a rare example of the inclusion of fungi in a bushland management plan; that for Bold Park, in Perth, W.A.

It was heartening to see the efforts that the organisers of the Queensland Fungi Conference had gone to in engaging state government politicians, the Brisbane City Council and agencies such as the Queensland Environment Protection Agency and the Queensland Herbarium. Clearly there is a need to integrate fungi into natural resource management planning in Queensland, and indeed in all local and state government areas across Australia.

On the Fungimap front, the management committee has met regularly (using teleconferencing to bring together far flung committee members). A budget has been prepared and we are looking ahead to planning for the next Fungimap Conference in 2007.

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INTERESTING GROUPS

NSW

Sydney Fungal Studies Group

Fungi forays, talks and workshops in the Sydney area.
Secretary: Donald Gover, Ph: (02) 9661 4898
Email: djgover@bigpond.com

Central Coast Fungi Group

Fungi forays in the Central Coast region of NSW.
Contact: Pam O'Sullivan Ph: (02) 4362 1543

SA

Adelaide Fungal Studies Group

Monthly meetings and forays during the fungi season.
Contact: Pam Catcheside, Ph: (08) 8222 9379
Email: Catcheside.Pam@saugov.sa.gov.au

Qld

Far north Queensland, Cairns region

Contact: Sapphire McMullan-Fisher if interested in going on casual fungi walks. Ph: 07 4093 8556
Email: smcmulla@postoffice.utas.edu.au

Tas

Fungi Lovers Adventure Group (FLAG)

Fungi activities in northern Tasmania.
Contact: Sarah Lloyd Ph: (03) 6396 1380
Email: sarahlloyd@iprimus.com.au

Vic

Field Naturalists Club of Victoria, Fungi Group

Forays, monthly meetings & presentations.
Contact: Geoff Lay, Ph: (03) 9898 4816
or Arthur Carew (03) 5968 4505
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.
Contact: Roz Hart, Ph: (08) 9334 0500
Email: rozh@inet.net.au

WA Naturalists' Club, Fungi Study Group

Fungal forays, workshops, identification evenings and talks, based in Perth.
Contact: WA Naturalists' Club
Email: wanats@inet.net.au
Web: <http://www.wanats.inet.net.au/>

William Bay National Parks Association, Fungi Studies Group

Fungi forays around Denmark.
Contact: Katrina Syme. Email: syme@westnet.com.au

(Continued from Page 1)

John Carpenter (Fungimap Treasurer) has been working on securing the public liability insurance that is necessary these days. Once this insurance is in place, it will be possible for Fungimap to offer support for informal, non-incorporated groups who wish to hold fungal activities such as forays and workshops. Group members would need to join Fungimap, and there would need to be a designated contact person from the group.

As well as wishing to support non-incorporated groups with a focus on fungi, Fungimap is committed to fostering links with a variety of existing groups, such as the Field Naturalists Club of Victoria Fungi Group. One way that Fungimap can assist groups is by publicising group activities in the Forthcoming Events section of the Fungimap Newsletter. Please send your events calendar to the Newsletter editor.

The Fungimap Office is being maintained entirely by volunteers at present. Wendy Cook, Graham Patterson and Libby Read have done a great job of filling book orders and dealing with membership. They have also started to make some headway into the backlog of batches of Fungimap records that need to be added to the database. Graham has also been answering the amazing variety of enquiries that come in from all around Australia, often about stinkhorns, but including questions about all sorts of interesting fungi.

The summer being a relatively quiet time for fungi (at least in southern Australia), we plan to recruit a new Fungimap Co-ordinator, and look forward to starting the fungus season next year with a bumper colour issue of the *Fungimap Newsletter*.

Tom May

MEMBERSHIP FEES 2006

Fungimap membership fees are due each year on the anniversary of joining. A reminder form will be sent out for memberships due each month. 2006 membership fees will remain the same as 2005.

Ordinary	\$30
Concessional	\$25
Associate	\$10 (additional member at same address)

STOP PRESS -ASEROE IN THE WEST

The Anemone Fungus *Aseroe rubra* has recently been sighted in Western Australia for the first time, in bushland west of Denmark by Gay Blake. The nearest known location is Adelaide, and otherwise the Grampians in Victoria.

FROM THE EDITOR

This issue includes an article by Jurrie Hubregtse on the vexed question of name changes; also an account by our much-missed previous Coordinator, Cassia Read, on her present studies, a summary of Fungimap III, and news from the Regions.

The next issue, which is scheduled to come out in April 2006, will be a colour edition. We welcome images of fungi, especially unusual or rare species. Contributions on name changes are also welcome and, of course, your observations of the fungal world.

Articles should be no more than 800 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 (which are preferably to be posted on CD-ROM).

Please send articles and images to Pam (Catcheside.Pam@saugov.sa.gov.au) or Fungimap, RBG Melbourne, Private Bag 2000, South Yarra, Victoria 3141 (fungimap@rbg.vic.gov.au).

**Deadline for the next issue is
Friday, 24th March 2006.**

FUNGIMAP BOOKSHOP

As a service to members, various fungi books and other items are available for sale, including *Fungi Down Under*, a guide to the Fungimap target species.

See order forms at the Fungimap website (<<http://www.rbg.vic.gov.au/fungimap>>) or in Newsletter 25, or write for an order form.



Don't forget that you can still purchase the Fungimap badge, with a distinctive design by Katrina Syme featuring *Aseroe rubra*. The badge is hard enamel with a brooch back fastening by a pin. Actual size 27 mm diameter. Cost \$10.00 plus \$1.00 postage and handling.

MY MEMORY AND THE PROBLEM OF EVER-CHANGING FUNGI NAMES

by Jurrie Hubregtse

Once again a familiar fungus whose name I had committed to memory has changed! For some reason it has been moved into another genus. It seems that the rate of name changes is increasing to a point where I can no longer accommodate them. This is making me feel acutely conscious of my lack of knowledge, and (ruefully) well aware of my limited ability to redress the problem. Why are the names of fungi changing so often? Is something about taxonomy causing this state of affairs? Can something be done about it?

To answer some of these questions we need to go back to the beginning. The founder of modern taxonomy, Swedish botanist Carolus Linnaeus (1707-1778), was largely responsible for the hierarchical classification system and taxonomic nomenclature we use today. Another Swedish botanist, Elias Fries (1794-1878), developed the process of classifying fungi: his contribution made him one of the fathers of mycology. Using the Linnean system, Fries classified fungi based on the morphology of their fruiting bodies and spore colour. This system allowed taxonomists to classify fungi according to macro and micro features, and also produced a relatively stable morphology-based keying system.

At that time (early 19th century) Christian biologists believed that all plant and animal species were created, perfect, static and need be classified only in terms of form or structure, i.e. morphologically. The concept of evolution was not yet established. This was to happen in 1859 when Charles Darwin (1809-1882) published *The Origin of Species*, after which the approach to taxonomic classification started to change. As taxonomists began to accept evolution, they recognized that similar characteristics in organisms could be explained as relationships by evolutionary descent. The Linnean hierarchical classification system was now being converted (as the debate on evolution continued) into a phylogenetic (evolutionary) tree rather than a discrete set of morphology-based classes.

Until recent times the Friesian system for cataloguing fungi according to their morphology (macro and micro) was still in use: this is evident as most species within a genus have similar features. However, there are two reasons why species can have similar features. One is that they have a common ancestor and hence belong in the same genus. The other is convergent evolution, where different species start to look the same because they are influenced by similar environmental factors - in which case they are not related and should not be classified in the

same genus. A corollary to this is that species within a genus do not necessarily have to have the same features. Before the advent of DNA analysis, the difficult task of separating these evolutionary processes and classifying a fungus in its correct position was based on expert opinion. When more data about a particular fungus becomes available opinion may change as to where it should be classified. With the present taxonomic nomenclature a change of position in the phylogenetic tree mandates a change in the species name, and this is the main reason for all these name changes. In the past, name changes occurred at a rate we could adapt to. That is changing as we enter the new era of DNA analysis.

It has become quite evident through DNA analysis that the use of morphology to identify the genetic relationships between various species of fungi does not work. Papers are now being published in which researchers using DNA data are starting to re-align fungi relationships, which were largely based on similarities in morphology. For example, the genus *Coprinus* also has the common name 'Inkcap', i.e. a mushroom where the cap autodigests into an inky mess. Recent DNA studies of this genus show that the Inkcaps are a mix of evolutionary lines, and that the inkiness does not imply genetic closeness. The Shaggy Inkcap *Coprinus comatus* is more closely related to the genus *Agaricus* (e.g. the field mushroom) than to any other *Coprinus* species. This example is only the tip of the proverbial iceberg: now a steady stream of publications is grouping dissimilar looking species into the same genus. Since the nature of genera as we used to know them is disappearing, it is becoming significantly more difficult to identify a fungus by its morphological features.

DNA analysis has ushered in a new period of discovery and revision in our understanding of fungal taxonomy. It is putting a lot of pressure on the Linnean system, which seems not to have enough ranks to accommodate the phylogenetic trees being produced based on DNA analysis. To overcome this problem a new system called the PhyloCode was developed and is being hotly debated in the literature. The PhyloCode places species in clades (a clade is a group of species with a common ancestor). What looks attractive about this system is that it is intended to reflect the branching pattern of evolution; it has no formal ranks, no genera, and no binomial nomenclature. The species name has no rank implications and should therefore be stable. Because of the interesting times we are in it seems that the only thing we can do is smile and hope the taxonomic community settles on a stable taxonomic system.

A BELATED FAREWELL

Cassia Read, University of Melbourne

Walking through Princess Park this morning I recognised the unmistakable yellow caps of *Bolbitius vitellinus*, growing amongst the couch grass after a week of spring rain. I was reminded of how lucky I am to be familiar with the enigmatic kingdom of fungi; to greet an emerging agaric like a friend with a name and a life-history that I know something about. My interest in fungi has been kindled through my time working as Fungimap Coordinator at the National Herbarium in Melbourne and I am tremendously grateful for this experience. Particularly for the opportunity to work with the knowledgeable and inspiring mycologists Tom May and Teresa Lebel, the enthusiastic volunteers who keep the project running and make life in the Fungimap office so lively and interesting, the committed Regional Coordinators who have helped grow Fungimap into a national organisation with an important role in community education, and the daily communications from a diversity of Fungimappers across Australia. A sincere thanks to you all for making my time at Fungimap a real pleasure. I look forward to staying in touch as a Fungimap member.



Fungi growing out of ant nests in Timbaroo Nature Reserve, the Mallee, north-western Victoria.

I've moved from Fungimap to begin a PhD at the University of Melbourne. Although my project is not specifically about fungi they are an important component of my research topic. I'm investigating the role of cryptogamic soil crusts in the health of semi-arid landscapes. Cryptogamic soil crust refers to the diverse community of moss, lichen, algae, cyanobacteria and fungi, existing at the soil surface in ecosystems of low canopy cover. Although the cryptogamic crust has been linked to ecological functions (such as nutrient cycling, soil stability and seedling establishment) the importance of the cryptogamic crust in ecosystem health is still poorly understood, particularly in the Australian environment.

I've been on several trips to the Mallee in north-western Victoria since I began my studies and have found some interesting fungi at my semi-arid field sites, including agarics fruiting inside the wide-holes of ant nests, presumably to avoid desiccation. I'll be keeping my eyes open for other interesting arid fungi when the rains come (hopefully) next autumn.



Cryptogamic crusts at Timbaroo Nature Reserve in the Mallee of north-western Victoria, showing a profusion of foliose lichens growing on the soil surface.

8th INTERNATIONAL MYCOLOGICAL CONGRESS

IMC8 will be held in Cairns, Qld, 20-25 August 2006.

See: <https://www.sapmea.asn.au/imc8>

FUNGIMAP III - GOWRIE PARK, TASMANIA

Pam Catcheside

Fungimap III held at Gowrie Park, near Sheffield, in Tasmania from 29th April to 3rd May proved just as enjoyable and successful as its predecessors, but with its own special flavour. The conference centre was in a magnificent setting, ringed by craggy, snow-covered mountains, dominated by Mount Roland. The day of our arrival was warm and sunny, although as the conference progressed we were glad of the warm clothing we had been advised to bring.

The Australasian Mycological Society meeting was held the day before the Fungimap conference and provided sessions of excellent talks. At the Fungimap Conference we were welcomed by Cassia Read, Fungimap Coordinator, Tom May, Convenor and Sarah Lloyd, Tasmanian Coordinator. Then followed talks on the bioregions of Tasmania, strategies for fungal conservation, fungi and climate change, the ecological roles of fungi, relationships between wood decay fungi and saproxylic beetles in living trees, fungi and birds, chytridiomycosis: the fungal disease of frogs and the Perth urban bushland project. Before lunch Leon Costermans and Dr Mary White launched the Fungimap book, *Fungi Down Under*, the result of the combined efforts of Fungimappers and compiled so admirably by Pat and Ed Grey and Leon Costermans. After dinner Mary White gave the Keynote Address; Mary is well known for her work and books on palaeontology. She gave a fascinating talk covering her early interest, in Rhodesia, in palaeobotany and Gondwana and went on to explain the roles of symbiotic fungi in the evolution of life forms.

The next three days were dedicated to forays and workshops. We started to settle into a daily routine: breakfast in the dining room near the hostel accommodation, morning foray, afternoon workshop, and lunch and dinner in Weindorfers Restaurant, part of a lovely old log cabin with solid timber beams and a shingle roof. Varying activities were arranged for each evening.

Sarah and Cassia had previously surveyed the area around Gowrie Park and had worked out the foray sites, which were listed each evening prior to the foray. A brief description of each site (its accessibility, vegetation) was given, a leader assigned and Fungimappers filled in the lists. After breakfast, we gathered together, sorted ourselves into groups and set off in cars for a morning of foraging. Collecting was limited to leaders, the permit-holders, and all fungi brought back were put on display tables, identified and either used for workshops or dried for herbarium specimens. Forays on the first day were around the local area with sites in *Nothofagus* forest, eucalypt and mixed woodlands. The second foray was to Cradle Mountain – a day to experience the grandeur of its scenery and hunt for fungi in the alpine meadows, button grass and *Nothofagus* woodland. Some magnificent fungi were noted, including a fascinating multicolored

Hygrocybe in hues of pink, olive and orange, the tiered *Grifola frondosa*, and the *Nothofagus* specialist fungi *Mycena toyerlaricola* and *Cortinarius* (formerly *Rozites*) *armeniacovelatus*. On the third morning all Fungimappers went to Iris Farm, the property of our conference bus driver, Peter Sims and John Wilson. Groups fanned out through the wonderful bushland, appreciating such fungi as the green *Hygrocybe graminicolor* and yellow *H. chromolimonea* and several examples of truffle-like fungi including two species of *Cystangium*. Peter and John provided morning tea which was greatly appreciated.

Workshops were conducted on the afternoons of the second and fourth days. Topics covered were introductions to fungi at basic and intermediate levels, cortinarioid fungi, truffles, the family Entolomataceae, fungal photography, Boletes and wood-rotting fungi. As with the forays, numbers were limited to avoid overcrowding.

Evening events included slide shows and a new departure for Fungimap conferences: an exhibition of photographs, art and craftwork depicting fungi. The standard of exhibits was very high and all agreed that this was an excellent venture.

On the third afternoon, after the trip to Cradle Mountain, the Special Fungimap Meeting was held, a momentous meeting for Fungimap in that it was agreed to authorise the incorporation of Fungimap. A Statement of Purposes and the Constitution were accepted and future directions for the fully fledged society were discussed. The support of the Royal Botanic Gardens, Melbourne, and the Field Naturalists Society of Victoria was gratefully acknowledged.

The Conference Dinner was held on the final evening. As with all previous conference dinners, this proved a thoroughly enjoyable event, combining excellent food, a convivial atmosphere and – the Fungi Trivia Quiz. The quizmaster, wearing the official headgear of the *Aseroe rubra* ‘bonnet’, produced a variety of questions, eliciting many quirky responses. An hilarious evening, and one in which we continued with our mycological education.

On the following morning, farewells were said and agreements made to keep in touch and meet again, if not before, at Fungimap IV. I think it is one of the strengths and joys of the Fungimap network that the camaraderie which started at Fungimap I continues on and that new members are swept up in the enthusiasm and enjoyment of pursuing a common ‘hobby’. Fungimap III had been a great success, due very largely to the magnificent organisation and hard work of the committee and particularly to Cassia Read and Sarah Lloyd. We are all sincerely grateful to them for providing another most memorable and enjoyable conference.

FUNGAL NEWS

News from Victoria

Paul George (with thanks to Pat & Ed Grey and Arthur Carew for extracts from their Foray Reports).

The Field Naturalists Club of Victoria's Fungi Group has completed its second year of fortnightly forays. After each foray, members take turns to write up a report and a list of species we have found. We usually meet on the following Monday to review our collected specimens, and are frequently fortunate to have either Tom May or Teresa Lebel to assist with our identifications. This year we managed to find quite a few unusual and interesting species. The following extracts from our Foray reports illustrate some of our more interesting finds.

Blackwood. "...we became quite excited at the display of colourful fungi spread all around us – almost every colour in the rainbow plus black and white. Most of these were *Cortinarius* and *Dermocybe* species. Two yellow species stood out, *Dermocybe canaria*, yellow all over and dry (not slimy or sticky), and *Cortinarius sinapicolor* – yellow-orange cap and slimy all over. A number of the blue *C. rotundisporus* with their yellow-brown centred cap were scattered through the bush. One really good find was the dark violet *C. austroviolaceus* with its dark violet cap, dark violet to almost black gills and violet stem. This is another rare species. *Dermocybe clelandii*, which has a dark, reddish-brown cap, pale yellow stem with bands of fibres and may have yellow or white basal mycelium. This is a common species and we should now be able to recognise it in the field. Of great interest was the small (to 10 mm across) tough, shell-shaped fungus growing in a troop on a living *Eucalyptus obliqua*, Messmate Stringybark. The brown caps cover amazingly long white pointed spines. This fungus is attached by a short stem to the tree bark. It is an undescribed species and possibly the first record for Victoria. Tom agreed that the tiny specimen with spines looked a bit like the northern hemisphere Earpick Fungus *Auriscalpium vulgare* (= *Hydnum auriscalpium*). This is the first time that Tom has seen it in Victoria, although David Ratkowsky has found this species (or something very similar) in Tasmania. It has obvious field characters and could perhaps be added to the CD list, even though it doesn't have a name."

Upper Yarra Reservoir. "*Hemimycena* sp. 'white perfections'. Tiny whitish agaric. Cap 10 mm, convex, slightly yellowish in centre, smooth, dry; gills vaulted, moderately close, shallow; stipe 40 mm, narrowing at base, white brownish at base, silky. Odour slightly radish or like old celery. The reference to *Hemimycena* in Grgurinovic p 315 was a synonym for *Rickenella fibula*. *Hemimycena* differs from *Mycena* in the structure of the cap cuticle. In the Collins Field Guide, *Hemimycena* is noted as: outline mycenoid or omphalinoid; pale colour spores non-amyloid. We were again to find *Hemimycena* at The Beeches a few weeks later. We have since learnt that Heino Lepp has published a short paper '*Hemimycena*

tortuosa, newly recorded from Australia' in the *Australasian Mycologist* 23 (3), 2004 and with a reference list."

The Beeches, near Marysville. "After lunch we returned to the bridge to look for the rare *Chlorovibrissea* spp.. Immediate success, as *Chlorovibrissea melanochlora* (Dark Green Pin) was found in the same location as last year. Within minutes, Arthur Carew called to the group that he had found another sample but that it differed from *C. melanochlora*. Upon close inspection it was found to be the extremely rare *Chlorovibrissea bicolor* (Two-toned Pin), only the second/third registered sighting with Fungimap. 'Tiny, White Cornflakes' – a field name given to a very small, white, thin, often twisted species that was growing abundantly on the moss. This is *Arrhenia retiruga* (now combined from *Leptoglossum retirugum* and *L. conchatum*). Tom found it very interesting, and suggested that we make a collection next time we come across it. Amazingly, this species is related to *Omphalina* which looks nothing like it macroscopically – it is all in microscopic features. *Omphalina* have been undergoing generic changes – *Omphalina chromacea* (Fungimap Target) is now *Lichenomphalia chromacea*; *O.* (more recently *Gerronema*) *postii* is now *Loreleia postii*, and *Rickenella fibula* was once *O. fibula* (among many other names!)"

Ned's Gully, Cathedral Range. "A group of small white pleurotoid shells found by Glenyce Leathhead, growing in moss on a tree stump, proved very interesting indeed. Looking somewhat like tiny *Crepidotus* sp., they were not particularly remarkable, and the story may have easily ended there. However, Tom May's discerning eye noticed a hint of pink in the gills and suggested that it was possibly an *Entoloma*. *Crepidotus* have brown spores and *Entoloma* have pink spores, but unfortunately we could not obtain a spore print from our specimen. So Paul examined the specimen under the microscope, and a surprise awaited us - the spores appeared elliptical, rather than the angular shape that is typical of *Entoloma*. Perhaps we were looking at *Crepidotus* after all. Closer inspection revealed that the spores actually had longitudinal ridges – a distinctive characteristic of the genus *Clitopilus*. Tom May was then able to identify our specimens as *Clitopilus hobsonii*. The satisfaction that came from achieving identification was increased by the knowledge that this species has not previously been recorded in Victoria. This exercise serves to highlight the importance of close attention to detail and the value of the microscope as an aid to identification."

The FNCV Fungi Group published a CD-ROM last year, containing over 60 species that we think are readily identifiable in the field – some of you may have seen it at the Fungimap Conference in Tasmania last May. The CD-ROM proved to be very popular and we soon sold all our copies. This year we found many other distinctive fruit bodies, and we are proposing to update our CD-ROM with the addition of another 50 species, as well as including many new photos of our original species.

News from Tasmania

Sarah Lloyd

Is five times more than coincidence? – A possible fungi/ant association.

Soaking rains and late October sultry weather have created perfect conditions for fungal growth. Around home at Black Sugarloaf (central north Tasmania), several target species have appeared in the past week including *Marasmius elegans*, *Mycena viscidocruenta*, *Morchella esculenta*, *Hygrocybe graminicolor* and *Amanita xanthocephala*.

Unlike some fungi, such as the Purple turnover (*Leucopaxillus lilacinus*) or the bright yellow *Dermocybe canaria*, which reliably appear in exactly the same place in consecutive years, fruit bodies of *A. xanthocephala* turn up just about anywhere in the eucalypt forest around home. Interestingly, of the six fruit bodies that have appeared in the past week, three are within 20 cm of the pile of small stones, twigs and other material that constitute a jack jumper's (*Myrmecia* sp.) nest and one is adjacent to a rock which covers the nest of the ground dwelling bull ant (or bulldog ant) *Myrmecia forficata*.

[Jack jumpers and bull ants belong to the genus *Myrmecia* in the family Myrmeciinae and, apart from one species that lives in New Caledonia, are only found in Australia, predominantly in the southern regions. They are among our most distinctive ants; most are over 8mm long and although some are placid and camera shy, many have a ferocious disposition and a very painful sting. Fortunately, unlike some people who are extremely allergic to their sting, my reactions have lessened over the years and although cautious rather than complacent, I do venture close to their nests to observe their behaviour and photograph any nearby fungi.]

This is not the first time I have observed *A. xanthocephala* close to the nests of *Myrmecia* sp. My first record was in April 2003, when I saw 5 fruits emerging at the edge of the mound of tiny stones of a jack jumper's nests. In April the following year, *A. xanthocephala* grew within the heaped stones of another jack jumper's nest, this one about one kilometre from the first. In May this year, a fruit pushed through the soil adjacent to the home of the ground nesting bulldog ant *M. forficata*. And, as noted above, the current crop of fruits are near either a jack jumper's or bull ant's nest.

It may be that the fungus seeks out the nutrient rich zones of the ants' nests. If so, why don't other species of fungi seek out this resource? If anyone has observed this possible association or have other thoughts please let me know. sarahlloyd@iprimus.com.au

References:

Personal communication: Peter McQuillan.
Shattuck, S.O. (1999). *Australian Ants, their biology and identification*. CSIRO Publishing, Melbourne.

News from Far North Queensland

Sapphire McMullan-Fisher

In August, I gave my usual talk – 'Fungi in Ecosystems' to the local environmental and tree-planting group in Kuranda (EnviroCare). The talk went down well and a number of good practical questions came from the audience. I gave what answers I could but after recent reading, I began to doubt my initial 'off the cuff' answers. Below are the questions, my answers and further information.

Question: How do you ensure plantings get local mycorrhizal symbionts?

My Answer: Hopefully the native fungi would come back on their own, but there was a better chance where native mycophagous animals (spore spreading) were active.

New Information: <http://www.fungibank.csiro.au/>

Question: How do you get good (weed free) mulch?

My Answer: Try to get sources of mulch which are clean, for example where possible don't buy from places which have lots of exotic trees around the site.

New Information: There was anecdotal evidence from the group that using 'local' mulch (leaf litter from rainforest) plantings grew better than where other mulch like pasture grass was used.

Question: How do you stop weedy fungi?

My Answer:

- Use prevention methods similar to those used to prevent the spread of *Phytophthora*, like not moving soil about e.g. clean boots & tools;
- Remove exotic plants;
- Remove all fruit bodies of known weedy fungi (appropriate for people's gardens or nurseries).

I'd be interested in hearing other people's thoughts on weedy fungi and ways to include fungi in local conservation efforts.

An exciting outcome from all this discussion about concrete things that we can do for fungi conservation is that some of the people in Environcare are going to see if we can put some of the suggestions from the Fungibank website into action. So with luck by the end of the wet season, spores of local mycorrhizal species will be included in the nurseries' potting mix.

As for things more Fungimap, the list of targets I have seen in FNQ (Far North Queensland) stands at *Anthracoophyllum archeri*, *Cyptotrampa aspratium*, *Dictyopanus pusillus*, *Dictyophora indusiata*, *Marasmius elegans*, *Microporus xanthopus*, *Mycena viscidocruenta*, *Oudemansiella radicata*, *Schizophyllum commune* and *Stereum ostrea*. I hope that this wet season, the humidity of which is already being felt, will add further to this list.

News from the South Coast Region of Western Australia

Katrina Syme, October 31st, 2005

On a walk to the beach just two weeks ago, I discovered a group of the wax cap *Hygrocybe polychroma* fruiting on the fringes of the white sandy track. There were also a few *Cortinarius* nearby, of the usual difficult-to-distinguish small rusty brown sort! We've had more rain till now than we've had for the past eleven years, but with a relatively dry July, which resulted in a season of variety, but a lack of abundance of macrofungi. This afternoon there were still piles of hail lying around from the overnight storm.

I've been looking up information on a few websites for a talk I'm giving in a few days' time. Using the internet is a painfully slow exercise here, as we cannot get Broadband. To make matters worse, the line has begun dropping out at frequent intervals. However, I have managed to discover that the word 'biodiversity' which is frequently used in discussions of biodiversity inventories and biodiversity hotspots, does not in fact refer to biological diversity at all, but to plant diversity - or sometimes to plants and vertebrates.

I have begun to challenge use of the term, asking if the biodiversity being talked about includes the fungi, invertebrates and microbia - or 99% of the biota. If we can wake up people in this way, they may begin to take a bit more notice of the forgotten organisms which are part of the world's biological diversity.

News from NSW

Pam O'Sullivan

I have been going out with the Central Coast Australian Plant Society on their monthly bushwalks and talk about the fungi as we go along. Many members have now become avid fungi spotters and will leave arrows on the path to indicate their finds if I'm lagging behind. There are a number of members who are now also taking the most wonderful fungi photos and these are now included in presentations to the group. Each monthly meeting I take along one to four fungi for the specimen table and give a little talk about them. This year the group also included a fungi display in their marquee at the annual Spring Flora Festival, which is a very large garden festival in our region.

I have also been doing a number of surveys in our area and working in with Landcare, Bushcare groups and the local councils. I have given presentations on fungi at the inaugural Landcare Conference for the region in June, to the Australian Plant Societies locally and in Newcastle. I am helping groups by compiling CDs and photographic records of the fungi on their plots so that groups can have some information about their fungi. This is also providing baseline data for future monitoring. The groups are able to include species lists of fungi for their grant applications

and general information about 'their patch'. This is making their members very aware of fungi and now when I turn up I invariably get 'come and look at this', 'what do you think this might be?' and so on. It's great to see the enthusiasm.

I'm currently a conjoint lecturer at Newcastle University, based at the Central Coast campus at Ourimbah. I gave a two hour lecture and ran a three hour practical class on fungi for some plant taxonomy students. It was their first experience with fungi for many of the students and the response was good. Hopefully the course will be repeated each year and would give students some awareness of fungi and their significance.

On the Fungimap front I have been on a couple of forays with Kirsti Musicka on her property to the north of the Hunter Valley where there are lots of great fungi. A group from the SFSG surveyed Ros Runciman's property towards the end of the season. Ros has sent photos and specimens for identification and Alec Wood has helped me with some of these specimens. Two new Fungimap members are Jim Buckland and Margie, who are great bushwalkers and nature lovers and are bubbling over with enthusiasm, keeping me on my toes with photos to identify and questions to answer. They are old friends of Mary White.

News from SA

Pam Catchside

Glenshera Conservation Park, a swampy area near Mount Compass, has an interesting suite of fungi. The Adelaide Fungal Studies Group, on its foray in late July, recorded 39 species, including Fairy Club, *Macrotypophula juncea*, beautiful pink-brown 'vases' of *Podoscypha petalodes*, two species of *Panaeolus*, *P. paludosus* and *P. rickenii* and an 'l.b.m. (little brown mushroom) on grass stems, probably *Pholiota graminum*. The soil and leaf litter was dry at Hale Conservation Park, near Williamstown, when the Group surveyed it in late August. We had to work hard to find fruit bodies; most species were fruiting in ones or twos but a club fungus, *Clavulina vinaceocervina*, was valiantly pushing its mauve-fawn prongs through the litter in numerous patches.

It has been altogether a strange season. In recent forays around Adelaide I have recorded six species of *Amanita*. Scattered, but frequent specimens of two grey-capped, relatively large species, *Amanita umbrinella* and *A. griselloides*, were found. *A. umbrinella* has inamyloid spores, *A. griselloides* has amyloid spores, a feature which helps in the separation of these species. Russulas, which I think of as being an early fruiting genus in S.A., were also found; red-capped *R. lenkunya* with the pink hues on the stipe and *R. persanguinea* which has a white stipe.

20th NEW ZEALAND FUNGAL FORAY and inaugural meeting of the **Fungal Network of New Zealand** will be held at the Westport Field Station 7-13 May 2006.
Contact: Paula Wilkie (wilkiep@LandcareResearch.co.nz)

ACKNOWLEDGMENTS: FUNGIMAP RECORDERS AND OFFICE VOLUNTEERS

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Heino Lepp	35				
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		Ray & Noreen Baxter	23	Sarah Lloyd	177
		Jel & Ted Brown	1	Roy Skabo	6
		Jim Buckland	1		
		Jackie Miles	10	VIC	
		David Read	1	Robert Bender	53
		Paul Scannell	2	Wendy Cook	18
		Margery Smith	6	Jane Dennithorne	1
		Sydney Fungal Studies Group		Cecily Falkingham	26
		(sent in by Joan Freere)	15	Friends of	
		Teresa Van Der Heul	46	Ocean Grove Reserve	1
				Sally Green	3
		QLD		Sheila Houghton	9
		David Moss	1	Virgil Hubregtse	60
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					Thelma Daniell
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					Shirley & Graham Fisher
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FUNGIMAP WEBSITE:

<http://www.rbg.vic.gov.au/fungimap/>

The Fungimap Website is in the process of being updated.

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This Fungimap Newsletter was edited by Pam Catcheside & Tom May.

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