fungimap newsletter 41

# AUSTRALIA'S FUNGI MAPPING SCHEME

## Inside this Edition:

News from the President *by* Tom May.....1
Contacting Fungimap .....2
From the Editor .....2
Office Volunteer wanted .....2
Editor *Fungimap Newsletter* .....3
Fungimap VI .....3
Slippery Jack, a field key to *Suillus* species *by* Patrick Leonard & Diane Batchelor .....4
Hidden Treasures: the fungi of the Blue Tier *by* Sarah Lloyd .....9
Fungimap phenology at Black Sugarloaf *by* Sarah Lloyd .....10
Blue Tier: Hidden Treasures ....Colour Insert
A *Xylaria* from Victoria *by* Ed Grey & Virgil Hubregtse .....11
Review. The Fungi CD *by* Ron Nagorcka.11
A flat, salmon pink fungus *by* Katrina Syme .....12
Sally Green's crocheted target species *by* Katrina Syme.....13
*Amanita muscaria* in WA *by* Richard Robinson .....13
Fungal News: QMS, S.A.....14-15
President's Report for 2009 *by* Tom May..15
Annual financial report .....17
Acknowledgements .....20

## FROM THE PRESIDENT

In Victoria, it has been one of the wettest and coldest winters of the last decade. Unfortunately, work on the master fungi name list for the Atlas of Living Australia is keeping me busy and I have not been out in the field as much as I would have liked, but I hope that you have been seeing plenty of interesting fungi in your part of the world.

I did enjoy getting down to Tasmania for the Blue Tier Expedition (see report p. 9). Sarah Lloyd and other members of the Central North Field Naturalists did a great job of organising this week of forays and workshops, not dissimilar in scale to a full-blown Fungimap Conference. Sarah has also put together the colour insert in this *Newsletter*, showcasing species seen on the Expedition.

In June, we farewelled Lee Speedy, after two years as Fungimap Coordinator. As well as her work on the Newsletter, book sales, finances and supporting the office volunteers, I would especially like to acknowledge Lee's efforts in ensuring the success of Fungimap V. Lee selected the venue in Wallerwawang (after several leads in other areas proved unsuitable) and she put a lot of effort into the organisation so that delegates had an excellent experience at the Conference. We wish Lee well in her future endeavours.

With the Co-ordinator position temporarily on hold, I realised how much we rely on volunteers to keep the Fungimap office running when Graham Patterson recently departed for the west on a well-earned extended holiday, Geoff Lay headed for Queensland for a month and John Carpenter took time out for a hip replacement. We wish John well with his recovery, and the others happy travelling; but the situation does reinforce the need for additional volunteers, to spread the workload, and provide a buffer for times when people are away. To that end, there is call for a volunteer to help with book sales and memberships (p. 2).

Another vital volunteer role is the *Fungimap Newsletter* editor. After more than five years of sterling service in this position, Pam Catcheside is stepping down next year. Please consider if you can assist with editing of the *Newsletter*, either as Editor or as part of an editorial team (see notice p. 3).

Organisation for Fungimap VI is well underway. The Denmark Agricultural College has been booked as the main venue. The Conference Organising Committee (Sapphire McMullan-Fisher, Joe Froudist, Roz Hart, Jolanda Keeble, Dawn Pedro and Katie Syme) is busy ensuring that there will be an interesting program of talks, workshops and forays. Put the dates in your diaries (14-19 July 2011) and watch out for the registration form in the next *Fungimap Newsletter*.

**Tom May**

# CONTACTING FUNGIMAP

## Fungimap Incorporated

Royal Botanic Gardens Melbourne
Private Bag 2000
South Yarra VIC 3141
**Telephone:** (03) 9252 2374

**Email:** fungimap@rbg.vic.gov.au
**Website:** http://www.rbg.vic.gov.au/fungimap/home
**Fax:** 03 9252 2413
**ABN 28 290 974 280**

## Fungimap Committee

**President**
Tom May
Royal Botanic Gardens Melbourne
Private Bag 2000
South Yarra VIC 3141
Email: Tom.May@rbg.vic.gov.au

**Secretary**
Paul George
C/-Royal Botanic Gardens Melbourne
Private Bag 2000
South Yarra VIC 3141
Email: psgeorge@bigpond.net.au

**Committee Members**
Pam Catcheside
State Herbarium of S.A.
PO Box 2732
Kent Town SA 5071
Email: Pam.Catcheside@sa.gov.au

**Vice President**
Katrina Syme
1874 South Coast Hwy,
Denmark WA 6333
Email: katrinasyme@gmail.com

**Treasurer and Public Officer**
John Carpenter
C/-Royal Botanic Gardens Melbourne
Private Bag 2000
South Yarra VIC 3141
Email: johncoz@fastmail.com.au

Sapphire McMullan-Fisher
PO Box 1251, Tewantin QLD 4565
Email: sapphire@flyangler.com.au

## FROM THE EDITOR:

This issue of the newsletter includes articles and information about fungi from around the country. Thanks to Sarah Lloyd for design and printing of the colour pages and to the Central North Field Naturalists for their generous contribution to the printing costs. The colour pages feature fungi from the Blue Tier Expedition (see Sarah's article on the Blue Tier Expedition on p. 9).

I have been Editor of the Fungimap Newsletter since 2005 and I have decided, reluctantly, to retire from the position in mid-2011. I have thoroughly enjoyed the whole experience: the correspondence with authors and Fungimap members, receiving the fascinating articles and beautiful images, keeping up-to-date with fungal activities and producing the newsletter, not to mention the contact and companionship of the Fungimap Committee, a truly wonderful group of people. Being editor is stimulating and rewarding. I recommend the position (advertised on p. 3) to anyone who feels they have the appropriate skills and can contribute to Fungimap's aims to improve the knowledge and conservation of Australian macrofungi. I am very happy to help the incoming editor. Please contact me or Tom if you have any questions about the position.

The deadline for the next issue is 29th October 2010. It will be the edition that includes a four page colour section. So please send me your images (resolution at least at 300 dpi), as well as articles and news.

**Pam Catcheside**

### Office Volunteer wanted for Fungimap

Currently, several volunteers in the Fungimap office assist with a variety of tasks. In order to streamline some of this work, and allow individual volunteers to concentrate on specific jobs (such as answering enquiries about fungi or databasing records) we would like to recruit a volunteer to specifically handle incoming book orders, membership renewals and event bookings. Duties include entering transaction details into MYOB and generating invoices, entering and updating membership details, generating membership renewals, and packaging up books for postage. There is also scope to carry out marketing by contacting other organisations and bookshops that might wish to stock *Fungi Down Under*.

A working knowledge of MYOB (or similar financial software) would be an advantage, but training will be provided, and there is support from other volunteers and the Fungimap Co-ordinator. Initially, there is about half a day's work per week, based in the Fungimap Office at RBG Melbourne. A regular day is preferred, but the particular day is flexible.

Please contact Tom May (tom.may@rbg.vic.gov.au) if you are interested in volunteering.

# Editor *Fungimap Newsletter* – can you help?

Pam Catcheside has indicated that she will step down as Editor of *Fungimap Newsletter* in mid 2011. The *Newsletter* Editor is an honorary position that is vital in ensuring regular communication with Fungimap members and the wider community with an interest in Australian fungi. The *Newsletter* Editor is supported by members of the Fungimap Committee and the Fungimap Co-ordinator in the Fungimap office.

The *Newsletter* contains articles about particular fungi, interesting locations for foraying, new records and overviews of individual genera or groups of fungi, as well as regular reports from regional fungi groups. The *Newsletter* is also the venue for information about newly introduced target species.

Three issues of the *Newsletter* are produced each year. The timing of individual issues is flexible, except that sometimes notices for meetings or booking forms need to be available by a certain date. The first issue of each year has a calendar of fungi events. This calendar is then made available on the Fungimap website, and updates are made to the on-line version. Traditionally, one issue per year is printed in colour, and has a four-page colour spread, and this is the issue where new targets are introduced. The other two issues are printed in black and white (although there may be colour images in articles, which are reproduced in colour in the on-line pdf version). Arrangements for colour pages are under review, and it is possible that all issues will include colour pages.

The following steps are involved in production of each *Newsletter*

- Send reminder to regular contributors (such as for reports from regional fungi interest groups and for the calendar of events) and chase up material where needed to fill an issue.
- Copy edit each article (which may require liaison with the contributor).
- Arrange for refereeing articles with technical content (such as new records or outlines of particular genera).
- Lay out articles and images.
- For the colour issue, source images; ensure images are in correct format and with appropriate copyright status; resize and lay out images.
- Proof read final draft and incorporate edits.
- Convert to pdf ready for printing.

Printing and distribution of the *Newsletter* is handled by the Fungimap office, as is the uploading of the *Newsletter* pdf to the Fungimap website.

The Editor can be based anywhere, as long as you have access to email (that can handle attached documents and images). At present the *Newsletter* is laid out in Microsoft Word, but it would be preferable for the Editor to utilise and have experience with desktop publishing or graphic design software such as Page Maker, QuarkXPress or Illustrator.

An editing team could be formed where others assist with some aspects of *Newsletter* production, such as editing of individual articles or final layout. The core responsibility of the Editor is in ensuring sufficient copy for each issue, liaison with contributors and overall coordination of editing and proofs reading.

The 12-month notice provided by Pam means that there is ample scope for overlap between the current Editor and a new Editor to allow for training and mentoring as appropriate.

Please send expressions of interest for the position of *Fungimap Newsletter* Editor to Tom May (tom.may@rbg.vic.gov.au). We are also keen to hear from anyone who is willing to help with particular stages of *Newsletter* production (such as proof reading).

## Fungimap VI

Fungimap VI will be held in Denmark, Western Australia, 14-19 July 2011. Fungimap VI will consist of a day of fungal talks on July 15th followed by three days of forays and workshops. Forays will include a day trip to the Valley of the Giants to see the giant red tingle trees. The Conference includes a celebratory fungal dinner and a fungal trivia night. There will also be exhibitions of fungal photography and fungal art displayed around the town. The main conference venue will be the Denmark College of Agriculture. Participants can stay on site, or arrange their own accommodation. Denmark is a popular tourist centre and there is a range of accommodation and restaurants in the area to suit all tastes and budgets.

The registration form will be available in December and distributed with the next *Fungimap Newsletter*.

For further information see: http://www.rbg.vic.gov.au/fungimap/fungimap-vi-conference.

# SLIPPERY JACK AND HOW TO FIND HIM
# A FIELD KEY TO SUILLUS SPECIES IN AUSTRALIA AND NEW ZEALAND

*Patrick Leonard and Diane Batchelor*

## Introduction

This story starts in a picnic site on Rabbit Island near Nelson in New Zealand. Sometime after the Second World War the island was planted with conifers to stabilise the dunes. As part of that scheme a large picnic site was created with grassy glades which the foresters planted with a wide variety of exotic conifers, acacias and other trees. This was in part as a trial to see what species were best suited to a difficult site.

Arriving there on an overcast May day, we parked in a glade and stepped on to a carpet of *Suillus*. There were obviously several species present but we were unable to identify them with certainty, nor did the available local literature help. This paper presents the results of further long searches through U.S. and European literature to try to make some sense of which species of *Suillus* have arrived in New Zealand and Australia.

The genus *Suillus* is part of the broad group known as Boletes, soft tissued fungi with a cap and stem. The cap has pores on its lower surface from which the spores are produced. Most have a viscid (slimy) cap surface and have glands on their stems which appear as punctae (dots). They are mycorrhizal fungi that closely associate with particular species of conifers and are widespread in the northern hemisphere.

Six species of the genus *Suillus* have been introduced to New Zealand, all of them brought there with their imported coniferous hosts. Seven species are present in Australia, four of which are also found in New Zealand: *S. brevipes*, *S. granulatus*, *S. lakei* and *S. luteus*.

*Suillus* species are mostly distinguished on the basis of macroscopic characters and their associated host tree but they can be hard to tell apart. A field key along with short descriptions gleaned from literature and our field collections are presented, which we hope will make the task of identification easier for others.

Distribution information for New Zealand is from McNabb (1968) and NZFungi (2010) and for Australia is from databased holdings of Australian herbaria (AVH, 2010) and references cited by ICAF (2010), including: Dunstan *et al.* (1998), Grgurinovic (1997), Watling & Gregory (1988; 1989) and Watling & Li (1999).

**Field Key to *Suillus*.**

The field key set out below uses only macroscopic characters observable in the field. The main characters are:

- cap colour,
- viscidity and cap ornamentation,
- the presence of a ring on the stipe,
- the presence of glands on the stipe,
- flesh colour,
- mycelium colour and
- the identity of the associated host.

Many *Suillus* are known to have specific mycorrhizal host associations. So, knowing your conifer can help in identifying your *Suillus*. If you are unsure how to separate pine, fir, larch and spruce, then visit a good arboretum or botanic garden, or consult relevant literature or websites (such as Conifer key or The Gymnoperm database). These sources may also provide information on whether the host conifer originated in Europe or North America.

## Key

| | | |
|---|---|---|
| 1. | Stem with a ring or ring zone | 2 |
| 1. | Stem lacking a ring | 5 |
| 2. | Under Pines (*Pinus*) | 3 |
| 2. | Under Larch (*Larix*) or Douglas Fir (*Pseudotsuga*) | 4 |
| 3. | Cap grey brown, very viscid, flesh pale yellow or white, with Scots pine (*Pinus sylvestris*) or Monterey pine *(P. radiata*) | ***S. luteus*** |
| 3. | Cap pale yellow to pale brownish, flesh orange and under Slash pine (*Pinus elliottii*) or Jack pine (*P. banksiana*) or Caribbean pine (*P. caribaea*) | ***S. salmonicolor*** |
| 4. | Cap yellow to golden brown and under larch (*Larix decidua* or *L. laricina*) | ***S. grevillei*** |
| 4. | Cap reddish brown, squamulose and under Douglas Fir (*Pseudotsuga menziesii*) | ***S. lakei*** |
| 5. | Stipe without noticeable punctae (dots) or with very few | 6 |
| 5. | Stipe with clearly defined punctae | 7 |
| 6. | Cap coppery to reddish brown, convex, under Monterey pine (*Pinus radiata*) or other N. American pines | ***S. brevipes*** |
| 6. | Cap cinnamon, pores large, under Scots pine (*Pinus sylvestris*) | ***S. bovinus*** |
| 7. | Pores subdecurrent, angular and arranged radially, under Lodgepole pine (*Pinus contorta*) | ***S. punctatipes*** |
| 7. | Stipe weakly punctate, smell indistinct, under pines | 8 |
| 8. | Cap yellowish brown and growing with Scots pine (*Pinus sylvestris*) or other European pines | ***S. granulatus*** |
| 8. | Cap mixed colours and growing with Monterey pine (*Pinus radiata*) or other North American pines | ***S. subacerbus*** |

***Suillus bovinus* (Pers.) Roussel**

**English name** Jersey Cow Bolete.
**Cap** convex to broadly convex, 35–80 mm diam.; viscid at first but soon drying; cinnamon to clay pink, with a distinctly paler margin.
**Stipe** cylindrical; 40–60 × 5–8 mm; concolourous with cap; ring absent, not punctate or barely so, mycelium pink.
**Pores** ochraceous; quite large (1 or 2 per mm) and angular.
**Flesh** white or slightly yellow, slowly turning clay pink on exposure to air.
**Spores** subfusoid; 8–10 × 3–4 µm.
**Habitat:** mostly recorded with Scots pine (*Pinus sylvestris*)
**Records:** a few in Australia; absent from N.Z.
**Notes.** Recognised by its pale cinnamon colour, lack of a ring, angular pores and its association with Scots pine.

***Suillus brevipes* (Peck) Kuntze**

**English name** The Short Foot Bolete.
**Cap** convex and remaining so as it matures but eventually applanate (flattened); 50–100 mm diam.; viscid at first but soon drying; coppery brown to dark reddish brown, it retains its colour as it dries out.
**Stipe** cylindrical; 20–50 × 8–25 mm; lacking a ring or conspicuous glands; pale cream, often with a reddish zone at the base.
**Pores** pale yellow, becoming olivaceous; more or less circular.
**Flesh** white at first, yellowing with age.
**Spores** subfusiform; 7.2–8.8 × 2.6–3.2 µm.
**Habitat:** found with Monterey pine (*Pinus radiata*).
**Records:** present in New Zealand; a few reports from Australia.
**Notes.** Its Latin name implies that it has a short stem, but that is not always the case. It appears to fruit late in the season.

***Suillus cothurnatus* Singer**

**Cap** convex becoming applanate; 16–60 mm diam.; smooth, viscid; orange, dirty yellow or pale brown.
**Stipe** cylindrical; 25–60 × 5–10 mm; with a white gelatinous ring and reddish brown punctae on a yellowish background.
**Pores** yellow to orange, fading to brown; angular; 1–2 per mm.
**Flesh** yellow to orange, darker in stem base, not changing on exposure to air, staining brown with KOH.
**Spores** subfusoid; 7–10 × 2.5–3.5 µm.
**Habitat:** mycorrhizal with Loblolly pine (*Pinus taeda*).
**Records:** one record from urban Brisbane, Qld, Australia (Watling & Li 1999). The identity of the host is not recorded nor any field characters.
**Notes.** There seems to be some disagreement in the American literature on the critical differences between *S. cothurnatus* and *S. salmonicolor*. The Qld record appears to pre-date the publication of *S. salmonicolor*, and thus needs to be re-examined before the presence of *S. cothurnatus* in Australia can be accepted, especially since recent collections have all been of *S. salmonicolor*. *Suillus cothurnatus* is not included in the key.

***Suillus granulatus* (L.) Roussel**

**English name** Weeping Bolete.

**Cap** convex at first, becoming applanate; 30–90 mm diam.; viscid at first becoming shiny when dry; rusty to yellowish brown, becoming paler as it dries.
**Stipe** tapering slightly towards the base; 35–80 × 7–12 mm; ring absent; creamy yellow and covered in yellow punctae that exude the milky drops that gives the fungus its English name.
**Pores** buff to pale yellow, unchanging.
**Flesh** lemon yellow to lemon chrome in the stipe, paler in the cap.
**Spores** subfusiform; 8.4–11.7 × 2.7–4.2 µm.
**Habitat:** grows in troops with the Scots pine, *Pinus sylvestris* and other European 2-needle pines.
**Records:** commonly reported from Australia and N.Z. However records in association with North American pines are more likely to be *S. subacerbus*, and presence of *S. granulatus* needs confirmation.
**Notes.** Distinguished from *S. subacerbus* by its association with Scots pine and the negative reaction to a drop of KOH on the cap.

***Suillus grevillei*** (Klotzsch) Singer

**English name.** Larch Bolete.
**Cap** convex becoming applanate; 30–100 mm diam.; viscid at first but soon drying and becoming shiny; lemon yellow to golden brown.
**Stipe** cylindrical, relatively slender; 50–70 × 15–20 mm; with a yellow to whitish ring; lemon chrome above ring, cinnamon below, bruising rust colour.
**Pores** small (2-3 per mm), pale yellow.
**Flesh** lemon yellow to straw, unchanging or flushing slightly vinaceous.
**Spores** subfusiform; 7.8–11.4 × 3–4 µm.
**Habitat:** restricted to Larch trees (*Larix decidua* and *L. laricina*).
**Records:** present in N.Z.; not confirmed from Australia, but would not be unexpected.
**Notes.** Readily recognised by its yellow to apricot cap and association with Larch trees. American and European collections appear to be indistinguishable.

***Suillus lakei*** (Murill) A.H. Sm. & Thiers.

**English name** Western Painted Bolete.
**Cap** convex becoming shallowly convex; 50–150 mm diam.; surface squamulose to fibrillose and usually dry or only slightly viscid.
**Stipe** cylindrical; 30–80 × 10–30 mm; with a ring; no punctae; pale yellow to white above ring, streaked reddish below.
**Pores** pale yellow to fawn; bruising pale brown when rubbed; distinctly elongated to angular near stipe.
**Flesh** yellowish or whitish, slowly flushing pale brown on exposure to air.
**Spores** subfusiform; 7–11 × 3–4 µm.
**Habitat:** grows only with Douglas Fir (*Pseudotsuga menziesii*).
**Records:** present in New Zealand; known from a few reports from Australia.
**Notes.** Recognised by its squamulose red brown cap and association with Firs. Some authors (e.g. Singer, 1986) consider this species to be a synonym of *Suillus amabilis*.

***Suillus luteus*** (L.) Roussel

**English Name** Slippery Jack.
**Cap** convex; 50–120 mm diam.; very viscid but becoming dry and shiny eventually; purplish chestnut to cigar brown, sometimes with olivaceous or sepia tints.
**Stipe** cylindrical or slightly clavate; 50–100 × 20–30 mm; with a large pale glutinous ring; glandular dots above and

below ring; yellow above the ring and straw coloured below at first but becoming a vinaceous brown.
**Pores** lemon yellow to straw colour; small (2-3 per mm) and round.
**Flesh** white overall, but pale lemon near top of cap and vinaceous brown at base.
**Spores** subfusiform; 7–9.5 × 2.5–3.7 µm.
**Habitat:** usually found with Scots pine or other 2- needle European and North American pines.
**Records:** present and common in both Australia and New Zealand.
**Notes.** Easily recognised by its large membranous ring, cap colour, vinaceous brown glandular dots and association with two needle pines.

***Suillus punctatipes*** (Snell & E.A.Dick) A.H.Sm. & Thiers

**Cap** convex becoming applanate; 60–160 mm diam.; glutinous at first becoming glabrous and shiny when dry; dark brown, walnut brown.
**Stipe** cylindrical or tapering towards base; 30–50 × 10–20 mm; thickly covered in sticky dark brown glandular punctae; ring absent.
**Pores** angular, subdecurrent, radially arranged; pale brown to ochraceous yellow.
**Flesh** white becoming pale yellowish with vinaceous brown at base; unchanging.
**Spores** subfusiform; 7.5–9 × 3–4 µm.
**Habitat:** under Lodgepole pine.
**Records:** reported from S.A. and Qld by Watling & Gregory (1988; 1989). However, Watling & Gregory (1989) expressed doubt about the identity of the Qld collection, and Watling & Li (1999) referred to the S.A. material as 'possibly' *S. punctatipes*. Presence of the species in Australia awaits confirmation. Absent from New Zealand.
**Notes.** Easily recognised by its unusual radiating angular pores, and its association with Lodgepole pine (*Pinus contorta*).

***Suillus salmonicolor*** (Frost) Halling

**English name** Slippery Jill.
**Cap** convex becoming applanate; 30–100 mm diam.; smooth, viscid; orange, dirty yellow or pale brown.
**Stipe** cylindrical; 30–100 × 8–15 mm; with a white gelatinous ring and often with a conspicuously thickened cottony roll on the base; reddish brown punctae on a yellowish background.
**Pores** yellow to orange, fading to brown; angular; 1–2 per mm.
**Flesh** yellow to orange, darker in stem base, not changing on exposure to air, purplish red with KOH.
**Spores** subfusoid; 7–10 × 2.5–4 µm**.**
**Habitat:** mycorrhizal with Slash Pine (*Pinus elliottii*) Caribbean pine (*P. caribaea*) and Jack pine (*P. banksiana*).
**Records:** a single collection from Qld, Australia in a Caribbean pine plantation (BRI, MEL). Newly reported herein.
**Notes.** The Australian collection consists of small fruiting bodies, which have remarkably orange flesh. The host is believed to be an F1 hybrid of Caribbean and Slash pines. See notes under *S. cothurnatus*, which is separated by the reaction to KOH on the flesh and microscopical differences in the structure of the punctae.

***Suillus subacerbus*** McNabb

**English name** Monterey Pine Bolete.
**Cap** plano-convex to applanate; 70–140 mm diam.; viscid becoming glabrous and shiny when dry; very variable and often mixed colours ranging from pale creamy yellow to olivaceous grey and a range of yellowish browns.
**Stipe** cylindrical or clavate; 50–80 × 20–25 mm; faintly reticulate at apex; covered in pinkish brown glandular punctae that exude creamy droplets; ring absent.
**Pores** dull yellow, becoming darker with age; angular and quite large, 1 per mm.
**Flesh** white, becoming yellow when exposed to air.
**Habitat:** grows in large troops with *Pinus radiata* and other North American pines.
**Records:** present and common throughout New Zealand, not yet reported from Australia.
**Notes.** It can be distinguished from *S. granulatus* by its association with Monterey pine (*Pinus radiata*) and the vinaceous brown reaction to a drop of KOH on the cap. Its Latin name implies that it has a slightly bitter taste.

## Discussion and conclusions

Collection of the information used in this paper has confirmed the difficulties of identifying *Suillus* species in the field, even for the small subset of species present in Australia and New Zealand. It has also thrown up a number of interesting anomalies.

About a third of European species of *Suillus* present in the main home countries of early settlers have arrived in N.Z. and Australia. But a much smaller proportion of North American species have been introduced. This perhaps reflects the fact that the early settlers imported live trees complete with soil and their mycorrhizal inoculants, whereas many of the American conifers were imported by foresters as seed, or seedlings rooted in a sterile medium.

Some *Suillus* species such as *S. luteus* and *S grevillei* are present in both Europe and North America and are indistinguishable when detailed descriptions from both continents are compared. Circumstantial evidence suggests that the populations of these species present in Australia and N.Z. are probably of European origin because their mycorrhizal associates frequently appear to be European conifers.

The fungus called *Suillus granulatus* in North America appears to be somewhat different to the European species given that name. Rather bizarrely the North American fungus was first described by McNabb in N.Z. and is more correctly known as *S. subacerbus*. Although *S. subacerbus* has not been reported for Australia, it is very likely to be present there.

There are no confirmed records of *Suillus grevillei* from Australia. Where specimens are available, early records under synonyms or possible synonyms such as *Boletus elegans* and *B. flavus* have proved erroneous.

The critical differences between *Suillus cothurnatus* and *S. salmonicolor* do not seem entirely clear from the American literature available to us. On balance, the strong salmon colour of the flesh and purplish red reaction of the flesh to KOH in the recent collection from Queensland suggest that this is more likely to be *S. salmonicolor*.

In the Northern hemisphere *Gomphidius* species are usually found growing in association with *Suillus*. So, for example *G. roseus* can often be found growing with *Suillus bovinus*. It has been speculated that the *Gomphidius* is parasitic upon the *Suillus*. A further possibility is a three way mycorrhizal association between the host and the two fungi. Only *G. maculatus*, which grows in association with *S. grevillei*, has been reported from N.Z.

Species of *Suillus* are quite hard to identify, as we discovered at the start of this exercise on Rabbit Island. But it is a rewarding task for the field mycologist because, with attention to detail, most can be identified without resorting to use of a microscope.

## Acknowledgements

The Authors would like to thank Dr Stephen Hartley of Victoria University, Wellington, for helpful comments on an earlier version of this paper. We would also like to thank Noah Siegel and Bill Roody in the U.S. for their advice on the *Suillus salmonicolor-cothurnatus-subluteus* problem.

## References

Alessio, C.L. (1985) *Boletus, Funghi Europaei* Vol 2. Biella Giovanna, Saronno.

Alessio, C.L. (1991) *Boletus supplemento, Funghi Europaei* Vol 2A. Biella Giovanna, Saronno.

AVH (2010) *Australia's Virtual Herbarium*. Web site: htpp://www.ersa.edu.au/avh/

Bessette, A.E., Roody, W & Bessette, A.R. (2000) *North American Boletes*. Syracuse University Press, New York.

*Conifer key*. Website: http://www.ibiblio.org/pic/GymnospKey/Gymnosperm_Key.pdf.

Dunstan, W.A., Dell, B. & Malajczuk, N. (1998) The diversity of ectomycorrhizal fungi associated with introduced *Pinus* spp. in the Southern Hemisphere ..., *Mycorrhiza* 8: 71-79.

Engel, H., Dermek, A., Klofac, W. & Ludwig, E. (1996) *Schmier- und Filzrohrelinge in Europa*. Weidhausen B. Coburg, Germany

Galli, R. (1998) *I Boleti*, Editanatura, Milano.

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

*The Gymnopsperm Database: Pinaceae*. Website: http://www.conifers.org/pi/

ICAF (2010) *The Interactive Catalogue of Australian Fungi.* RBG Melbourne. Website: http://www.rbg.vic.gov.au/dbpages/cat/index.php/fungicatalogue

Kuo, M. (2010) *MushroomExpert.Com* Website: http://www.mushroomexpert.com/suillus

McNabb, R.F.R (1968) The Boletaceae of New Zealand. *New Zealand Journal of Botany* 6: 137-176.

NZFUNGI (2010). Website: http://nzfungi.landcareresearch.co.nz/html/mycology.asp

Phillips, R. (1991) *Mushrooms of North America*. Little Brown & Co., Boston.

Phillips, R. (2006) *Mushrooms*. Pan Macmillan, London.

Singer, R. (1986) *The Agaricales in Modern Taxonomy*, 4th edn. Koeltz Scientific Books, Koenigstein.

Watling, R. & Gregory, N.M. (1988), Observations on the boletes of the Cooloola sandmass, Queensland and notes on their distribution in Australia. Part 2A. ..., *Proc. Roy. Soc. Queensland* 99: 45-63.

Watling, R. & Hills, A.E. (2005) *Boletes and their Allies*. British Fungus Flora, volume 1. Royal Botanic Garden Edinburgh.

Watling, R. & Li, T.-H. (1999) *Australian Boletes a Preliminary Survey*. RBG Edinburgh.

# HIDDEN TREASURES: DISCOVERING THE FUNGI OF THE BLUE TIER

*Sarah Lloyd*

In a very moving address Aboriginal elder, Gloria Andrews, welcomed us to Meenamatta. Thus began the weekend (21-23 May 2010) of forays, workshops and talks, the public events associated with the 'Hidden Treasures: discovering the fungi of the Blue Tier' expedition.

The expeditioners (mycologists Tom May, Pam Catcheside, Katrina Syme, Sapphire McMullan-Fisher, Teresa Lebel, Kentaro Hosaka and PhD student Elizabeth Sheedy; photographers Paul George, David Catcheside & Sarah Lloyd; scribe Ron Nagorcka and Tom Thekathyil, our local guide), who had been in the area for several days, had already been captivated by this very special place. The Blue Tier is not a prominent landmark like Mt Victoria and Mt Albert, two of the peaks south of the Blue Tier that make up Tasmania's northeast highlands, but it has a wonderful ambience and the great advantage of vehicle access to the plateau.

One of the mycological attractions of the Blue Tier is the myrtle-beech (*Nothofagus cunninghamii*) so on our first day in the field we headed for the rainforest at Mt Michael. But for the first few hours we didn't get past the Goblin Forest walk at Poimena. This walk winds through a forest of tall tea tree (*Leptospermum* sp.) with scattered myrtle-beech and blackwood (*Acacia melanoxylon*), a sparse understorey of native pepper (*Tasmannia lanceolata*), goldey wood (*Monotoca glauca*) and cutting grass (*Gahnia grandis*) with the forest floor completely carpeted by coral lichen (*Cladia retipora*) and *Spaghnum* spp. The fungal diversity was stunning.

At this point there was some friendly banter between the mycologists and the photographers. It's not that the mycologists don't appreciate the beauty of the organisms about which they are so passionate, as many an exclamation will attest, but they are so eager to collect! This entails, for any one species, obtaining a range of fruit bodies of different ages and sizes so that their features can be documented back at the 'lab' (i.e. the old billiards room at Weldborough). Other characteristics are investigated in the field. The mushrooms are extracted from the ground, handed around and any discernable odour is discussed. To establish the attachment of the lamellae the mushroom must be cut in two; knives appear if this character is an important identifying feature. The bewildered photo-graphers watch as the photogenic fungi are picked, wrapped and put in a bucket. Fortunately there was enough fungal variety to keep everyone happy.

We eventually made it to the patch of *Nothofagus* where another colourful array of fruit bodies was admired, photographed, collected and mapped (see Colour Insert). During the following days we enjoyed the fungal diversity in a variety of vegetation communities at the Blue Tier.

The set up at Weldborough was almost perfect, marred only slightly for some by very frosty mornings after overnight temperatures of -4°C. During the afternoon and sometimes late into the night, the raging wood fire in the billiards room almost took the chill off the air as the mycologists described, drew, dried and otherwise dealt with their collections. They are an incredibly dedicated group of people who, in the course of just three days, made over 34 collections that will be deposited in various state Herbaria.

We were delighted that the visit of several other mycologists coincided with the Hidden Treasures activities. Dr Kentaro Hosaka from the Natural History Museum in Tokyo has a grant to collect particular genera of fungi, including *Geastrum* and *Cordyceps* spp. from around the world. Elizabeth Sheedy, a PhD student studying with Tom May, was in Tasmania to collect *Laccaria* sp. A, a large *Laccaria* that grows only with *Nothofagus*. Imagine her delight when she found more fruit bodies up the road at Weldborough than in the whole of the previous week she had spent in the Tarkine, the Mt Field National Park and other areas in northern Tasmania! Elizabeth was able to meet local people who will assist her with her collections. Mycologist from the Royal Botanic Gardens Melbourne, Teresa Lebel, had also been in the Tarkine continuing her important work of tracking the advance of *Amanita muscaria* in the *Nothofagus* forest at Philosopher Falls. Teresa has a particular interest in truffle-like fungi and while at the Blue Tier she collected several species in a variety of beautiful pastel shades.

On the Friday, two classes from the St Helens school, including twenty-one very excited primary students and 19 older students studying microbiology, were guided around the Weldborough rainforest walk and later met and interviewed the mycologists. They may have been surprised to learn that mycologists like to spend their holidays looking for fungi!

Over 50 people attended the weekend talks, forays and workshops. 'Introduction to fungi' by Paul George stimulated much interesting discussion about, amongst other things, how fungi reproduce and where they appeared in evolutionary history. Beginner and seasoned photographers all benefitted from Paul's expertise and were able to gain useful tips on photographing fungi using relatively inexpensive equipment. Katie and Pam ran a beginners workshop in the billiards room while Sapphire and Tom demonstrated 'Funkey', a computer based interactive key to fungi, across the road at the Weldborough Hotel.

In his presentation 'The importance of Tasmania's *Nothofagus* forests to fungal diversity' Tom May outlined his concern that the fragmented areas of myrtle beech rainforest, which now only persist along creeks and in sheltered moist valleys on the Australian mainland, may not survive the more frequent droughts and wildfires that are predicted as a result of climate change. In light of this it is imperative that the *Nothofagus* forests that remain in Tasmania are preserved.

The Hidden Treasures event was made possible through a grant from NRM North, with additional assistance from Fungimap Inc, The Royal Botanic Gardens, Melbourne and the Central North Field Naturalists. We would also like to thank the Launceston Field Naturalists for providing a data projector and screen; owners of the Weldborough Hall and Billiards Room, Rick and Cate Bick; and locals Tom Thekathyil and Beris Hansberry who assisted with planning and publicity.

## FUNGIMAP PHENOLOGY AT BLACK SUGARLOAF

*Sarah Lloyd*

I noticed information about the Fungimap phenology project on the Fungimap website not long after the fungi season started in central north Tasmania. (Phenology is the study of the timing of natural events, and how these are affected by the seasons and by long-term variation in climate.) This project requires regular visits to a site (or sites) to monitor the appearance of particular species. Some of the suggested species, including *Amanita xanthocephala*, *Oudemansiella radicata* and *Mycena interrupta*, occur where I live so I started noting their times of appearance. I added several species that also occur regularly, but had difficulties with these for various reasons and abandoned all but *M. austrororida*.

The areas I monitor vary depending on the species. *A. xanthocephala* can appear after rain in any season and for that species I am monitoring the eucalypt forest upslope from my house at Birralee, Tasmania. For *O. radicata* I am monitoring an area of 'marsupial lawn' that is cleared of much of the native vegetation to reduce the risk of fires. These species are easy to monitor as they appear as individuals or small groups.

My daily walk takes me through wet forest where *M. interrupta* and *M. austrororida* occur. These fungi have not been as straightforward to monitor as the other two species, something I attribute to the weather, my frequent (usually daily) visits and the sheer volume of substrate.

Both *Mycena* species start to appear after autumn rains. Instructions on the Fungimap phenology sheet, that can be downloaded from the website, suggest counting only fresh fruit-bodies or to note the stage of development e.g. button, mature, over mature and/or dried out. In autumn 2010, we had rain once or twice a week after which I saw many mature specimens and a scattering of buttons. More rain would cause the buttons to mature; however, if there was no follow up rain the buttons would not develop – so should these individuals be counted? Given that I was returning each day to the site, (and there is not enough room on the data sheet if all stages have been observed) I decided to count only mature fruit-bodies and note this on the sheet.

Decades ago, the track I am monitoring was used to extract sawlogs. As a result of the disturbance pioneer plants, including forest daisybush (*Olearia lirata*), thrived then died providing suitable substrate for *M. austrororida*. When I began the project small groups of 13, 5 and 51 appeared on consecutive days. As the substrate got wetter, larger groups appeared. On April 17th I counted 192 fruit bodies; the following day another 268. At this stage I started having difficulties, mostly because of the sheer numbers of fruit-bodies. Should I count all fruit-bodies each day to determine if more had appeared? I realised that given the volume of suitable substrate, the area I was monitoring (250 m track) was too large for this species. The weather conditions (i.e. regular rain) which stimulated daily flushes also made things tricky. A period of absence from home allowed me to, in effect, start afresh—old fruit bodies had all but disappeared making it easy to determine the stage of development of the latest arrivals. Weekly surveys would probably be adequate for this species.

Two months after starting I continue to count the mushrooms. On 9th June, after a night of steady rain, I counted three *A. xanthocephala*, no *O. radicata*, fewer *M. interrupta* (19) than earlier in the season and another flush (338) of *M. austrororida*.

This is an interesting project and I encourage others to get involved. For all my difficulties, it is certainly easier than counting forest birds!

Thanks to Sarah for trying out the **Fungimap Phenology Recording Sheet** that can be downloaded from http://www.rbg.vic.gov.au/fungimap/phenology. Thanks also to Teresa van der Huel for contributing phenology records from the Bodalla region of N.S.W. Teresa comments that *Omphalotus nidiformis* appears several times each year along a 700 m walk, but on different logs each time. The current recording sheet suggests that records can be made from walks, such as along several hundred metres of track. However, as Sarah concludes, given the potential number of fruit-bodies, it seems that focussing on smaller areas (even individual logs) would be more manageable.

If you would like to try out the phenology sheets, don't forget to include negative as well as positive sightings.

*Tom May*

## AN INTERESTING XYLARIA FROM BUNYIP STATE PARK, VICTORIA

*Ed. Grey and Virgil Hubregtse*

Bunyip State Park is located some 60 km east of Melbourne. On a recent FNCV Fungi Group foray into the wet sclerophyll forest, a number of erect, slender, filament-like fruit-bodies were found growing on fallen dead tree fern fronds and dead eucalypt leaves. They resembled fine *Xylaria hypoxylon*. However, since *X. hypoxylon* is reported as growing only on dead wood (Breitenbach & Kranzlin 1984; Fuhrer 2005; McCann 2003), samples were taken for further examination. The macro- and microscopic features match those of *Xylaria filiformis*, which grows on herbaceous debris and leaves.

***Xylaria filiformis***

*Fruit body.* Unbranched, thin (filiform); length to 60 mm, diameter 1 mm or less; colour black, merging to white about halfway to the top. As it ages the entire fruit body becomes black. *Microscopic features.* Perithecia small, scattered on black section (seen under stereo microscope). Spores 12–12.5 x 6–6.5 microns, elliptical with one side flattened, brown-black, smooth.

The stature, spore size and substrate of our collection match the description of *Xylaria filiformis* from Switzerland by Breitenbach and Kranzlin (1984) and the description of New Zealand material under *Xylaria* cf. *filiformis* by Rogers and Samuels (1986). The latter authors comment that the original application of the name is uncertain and there are likely to be a number of taxa around the world under the name as currently applied.

The sole report of *X. filiformis* in the Australian literature with descriptive information is based on a collection from Qld, tentatively identified by Cribb (1990). The collection was immature, and may well represent another taxon since it was growing on dung. Australia's Virtual Herbarium (http://www.ersa.edu.au/avh/) shows seven collections of *Xylaria filiformis*: the one from north Qld mentioned by Cribb (1990) and six others, all in the National Herbarium of Victoria (MEL), two each from Qld, N.S.W. and Victoria. All the MEL collections are on wood (not leaves) and thus are more likely to be *Xylaria hypoxylon* (T. May pers. comm.). Among the 220 collections of *Xylaria* in MEL only one is on leaves, and this is a white fungus that appears not to be a *Xylaria* (T. May, pers. comm.). Thus, our collection (to be lodged at MEL) is the first of *X. filiformis* from Australia on leaves.

**Acknowledgements**

We thank Dr Tom May for supplying valuable additional information. Both Dr Tom May and Pam Catcheside provided helpful advice that improved the draft.

**References**

Breitenbach, J. & Kranzlin, F. (1984) *Fungi of Switzerland*, Vol. 1. Ascomycetes. Verlag Mykologia, Lucerne.

Cribb, A.B. (1990) Species of the fungal genus *Xylaria* at Iron Range, Queensland. *Queensland Naturalist* 30: 17–23.

Fuhrer, B. (2005) *A field guide to Australian fungi*. Bloomings Books, Melbourne.

McCann, I.R. (2003) *Australian fungi illustrated*. Macdown Publications, Vermont, Vic.

Rogers J.D. & Samuels C.J. (1986) Ascomycetes of New Zealand 8. *Xylaria*. *New Zealand Journal of Botany* 24: 615–650.

## REVIEW - THE FUNGI CD, 2ND EDITION

*Ron Nagorcka*

If you're in a hurry on a fungi foray in the field, CD-ROMs may not be the thing for you. Maybe it's easier just to leaf through all the books and see what fits. But if you are more patient, take home a specimen, get a spore print and have the thing in front of you; this CD is just a joy. It's easy to use, even at my age (where one finds oneself technologically challenged by grandchildren!). Keys in books (as any budding naturalist will tell you) are maddening compared to the way one can 'flick through the pages' with the aid of a trusty rodential assistant (mouse).

That's all given the proviso, of course, that the quality of the material you are looking at is good, clear, with excellent explanatory notes and has photos you'd dream of taking yourself which show clearly all the features you need to check out. And when you feel really stumped there should be (as there seldom are in books on fungi) clear and detailed scientific descriptions.

What can I say except that this CD fills all the above criteria? I think it's the best thing to hit the fungi scene since mouldy sliced bread. The only possible criticism is that the mould on your sliced bread is not likely to be amongst the species included. But given the dedication of the people involved in this project, I daresay that one day it will be, along with thousands of other species yet to make it.

In short, if you are at all interested in getting your friends as interested in mouldy sliced bread as you are, buy it! It's just wonderful!

**Further details on *The Fungi CD, 2nd edition***

- The Fungi CD is published under the auspices of the Field Naturalists Club of Victoria Fungi Group.
- The CD can be used on PCs, Macs, and Linux computers.
- 250 species are described, and there are more than 1100 images. Jurrie Hubregtse did all the work (voluntarily) and provided most of the images.
- Species can be searched for by shape, genus or species. Spore colour may also be accessed from the 'shape' page.
- Each species is illustrated by up to five images, basic field characters are described. A detailed description including microscopic features and references can be accessed.
- The Contents page includes headings for information about the CD, about Fungi, Fungi Skills and a Glossary. All these sections have various sub-headings.
- Available from Fungimap bookshop.

## A FLAT, SALMON PINK FUNGUS – SOUNDS BORING? IT WASN'T

*Katrina Syme*

Some years ago, a group of Fungimappers stayed at Maydena (Tasmania), spending time hunting for fungi. Heino Lepp, then ACT Fungimap coordinator, was one of our number. At that time, Heino had been producing 'The Flat Fungi Files', a newsletter all about corticioid fungi and I can remember commenting (rather rudely) on how boring they were. How wrong I was!

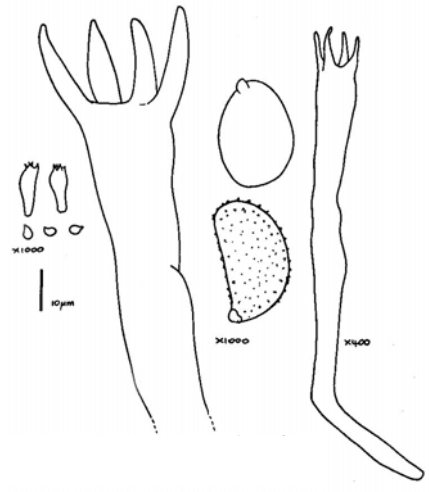
Corticioid fungi are those which look rather featureless to the naked eye, forming crusts or skins on wood. Some of them are beautifully coloured, some are wrinkled, and that seems to be it—but in order to see how interesting they really are, you need a microscope. Under low power, all sorts of patterns and formations are revealed but other, more surprising, characters can be seen at a higher magnification.

Last year, while working in the lab at Manjimup on collections from the Jarrah forest FORESTCHECK sites, I was astounded at what I saw. At the beginning of July 2009, we had found dead *Banksia grandis* cones covered with pale salmon-coloured cushion-like discs which joined up in places to form a thin, watery, soft crust over the surface of the cone. The name assigned to it was *Aleurodiscus* sp., and this was the collection under investigation. The basidia were huge! In fact they were so enormous that when drawing them at ×1,000 I couldn't fit them onto an A4 page. One cystidium did fit—but that was because it was bent in the middle. The spores, which were covered with short spines, were more than 30 µm long and amyloid (that is, they turned purple-blue when put in an iodine solution).

The collections need more work to correctly identify them, but they seemed to share characters with both *Aleurodiscus* and *Megalocystidium*.

The FORESTCHECK Project is conducted by the Science Division of the Department of Environment and Conservation in Western Australia. Fungi surveys are headed by Forest mycologist Dr Richard Robinson, with Jon McCalmont and me as part of the 2009 team.

*Aleurodiscus* sp.
Photo: Richard Robinson



*Aleurodiscus* sp. (collection FC1473)
Basidia and spores. Spores and basidia on the left are from an *Agaricus* sp., for comparison. Scale bar for spores=10 µm.

**Reference**

Breitenbach, J. & Kränzlin, F. (1986) *Fungi of Switzerland*, Vol. 2, Non Gilled Fungi. Verlag Mykologia, Luzern.

## SALLY GREEN'S CROCHETED TARGET SPECIES

*Katrina Syme*

Both Teresa Lebel and I have made fungi using textiles. You may not know it, but Teresa designed, knitted and felted the extraordinary—and enormously heavy *Aseroe rubra* hat which Tom May has worn at various Fungimap events. My achievements are minor by comparison but neither of us has reached the heights achieved by Sally Green, who has crocheted three-dimensional fungi—including all the Fungimap Target species!

Earlier this year, while constructing some fanciful pieces of coral reef in hyperbolic crochet as part of a worldwide project to draw attention to the plight of those reef ecosystems, it struck me that perhaps we could draw attention to the lack of knowledge of fungi by asking people to make small sculptures of these.

When I mentioned this idea to Tom, he told me about Sally who had sent in images of her work—and it is simply extraordinary. Sally has crocheted a group of *Calostoma fuscum*, complete with their discarded cap-like covers lying nearby, both species of *Cordyceps* with caterpillars, dainty lilac wax-caps, boletes, broad cup-like *Plectania campylospora* and even *Hericium coralloides*! A crocheted brown log displays fungi which grow on wood, while fungi which grow on soil also have a crocheted substrate. It is apparent that many hours of thought and meticulous work have gone into the construction of Sally's painstaking creations.

We hope to include pictures of some of these fungi in our colour edition. The photo shows her models of *Austroboletus occidentalis* (left) and *A. lacunosus* (right).

## AMANITA MUSCARIA IN WESTERN AUSTRALIA

*Richard Robinson*

In 2009, *Amanita muscaria* was reported for the first time from Western Australia (article in press in *Australasian Mycologist*). It was found growing in a rural residential garden on the outskirts of Manjumup, under a 14 year-old birch tree. The owners of the garden observed that it had fruited the previous year as well. In June this year two more records were reported from the south-west. A group of about 10 fruit bodies were found by Jack Bradshaw, a well known local forester, under a group of cork oaks in a rural arboretum at Glenoran, about 20 km west of Manjimup. The oaks were grown from germinated acorns found under several 60 year old trees, at the abandoned Glenoran settlement about 4 km distant, and planted in the arboretum in the late 1980s. No sign of *A. muscaria* fruit bodies were found under the parent trees.

The other record comes from a rural property in Cowaramup, about 10 km north of Margaret River, reported to me by local artist Pat Negus (*The Magical World of Fungi*) and author Jane Scott. I visited the property with Pat in early July and we found about 35 *A. muscaria* fruit bodies growing on the lawn under an old *Pinus radiata* tree, which was likely planted in the group settlement days during the 1920-30s. Bob Penfold, who regularly mows the lawn on the property, reported that a few fruit bodies were also present last year. Specimens from both locations have been photographed and collected for inclusion into the Western Australian Herbarium.

*Amanita muscaria*

Photo: Jane Scott

*Amanita muscaria* is a common associate of introduced conifer and deciduous trees in south-eastern Australia, but it has not been reported in Western Australia until now. It is a conspicuous fungus and well known, thanks to it being the fungus of choice when illustrating children's books. It is also a Fungimap target species. It is surprising and interesting that it has suddenly appeared in several wide spread locations in the south-west under host trees with a wide range of ages. The question remains, how did it arrive in WA and how long has it been here? I am very interested to receive further sightings of *A. muscaria* in WA (as is Fungimap) and collections of fruit bodies to go with the reports. I can be contacted at the Department of Environment and Conservation at Manjimup on (08) 9771 7997 or email: richard.robinson@dec.wa.gov.au .

# FUNGAL NEWS

For a list of **Fungi events** and activities around Australia, see the calendar of fungi events on the Fungimap website, where you can also find contact details of the various regional fungi groups.

## News from the Queensland Mycological Society

*Sapphire McMullan-Fisher*

The wet summer and autumn have continued with a wet winter so QMS has continued to have some great 'fungiful' forays. The fungi season here is very long sometimes and it is hard to remain diligent about writing up foray lists, processing photographs and keeping track of fungal collections. I'm looking forward to some drier weather so I can catch up and take stock of what has been a bumper season. It's hard to pick the highlights as there have been so many but I will mention two: both are coral fungi found on wood in rainforest at the Mary Cairncross Reserve near Maleny. *Deflexula fascicularis* was found for the second time in Queensland; the first collection was reported from a rainforest site on the Springbrook platueau in 2008. So it seems this fungus may have an affinity for rainforests. Also recorded was the Fungimap target *Hericium coralloides*, this is a rare species in Europe and northern America but seems to be more common in Australia.

*Deflexula fascicularis*
Photo: Sapphire McMullan-Fisher

As well as a full foray schedule, QMS has had its bi-monthly meetings during which we catch up with the highlights of recent forays. This is particularly useful if you missed the foray and is a good way to find out the final identifications. We have also had two interesting talks from members. David Fisher delved into fungi-related literature to investigate the depth and breadth of cultural attitudes towards fungi. Some of the commentaries from the past about fungi were quite dark, but the extravagant prose of some authors was entertaining. John Wrench researched the nomenclatural literature to inform us about the basis of modern botanical etymology.

Our most recent meeting in May was our AGM. It is always a bit difficult for groups with small memberships to fill positions and we are grateful to have a new secretary, Fran Guard. We are now on the look-out for a Treasurer! Following the reports and election we had an excellent presentation from Alisa Holland, the chief curator at the Queensland Herbarium (BRI). Not only did she go into some of the interesting botanical and mycological history but Alisa also found some historic books and specimens from the collections for members to enjoy.

We have planned three workshops for the drier season ahead. There will be two workshops about photography; the first will cover the data management of photographs with a particular focus on Extensis Portfolio, the second will be 'How to improve your photographs to enable fungal identification'. The final workshop, for beginners, will be on how to use microscopes for fungal identifications. Then it will be time to wait for the rain and the next season of fungal forays!

*Hericium coralloides*
Photo: Sapphire McMullan-Fisher

## News from South Australia

*Pam Catcheside*

The fungal season in South Australia started earlier and has been wetter than in the previous five years. Specimens of pale orange *Lactarius clarkeae* reached 145 mm in diameter at Kuitpo, while at the other end of the size scale the tiny Cannonball Fungus *Sphaerobolus stellatus* delighted us with its catapulting spore sacs. On Kangaroo Island we were pleased to find numerous groups of the fragile white Underground Amanita *Torrendia arenaria* (Bougher & Syme, 1998, pp. 174-175) cracking through the sandy lateritic soil. This fungus, which occurs in WA, has been recorded only in SA at Flinders Chase National Park; but we had not found it since the Park's devastating bushfires of 2007. Nearby were large patches of tiny white upright clubs of a lichenised fungus, a species of *Multiclavula* growing over the sodden soil. Other significant finds were a specimen of a blackish red-brown, scaly-capped *Sarcodon* with its under cap surface of dark greyish 'teeth', and Common Prettymouth *Calostoma fuscum* (Bougher & Syme, 1998, pp. 112-113), its stipe composed of gelatinous strands. The peridia were rather washed out but the fallen caps lay on the ground beside them. This is the first time we have found this Fungimap target in SA, although there are collections in the Adelaide herbarium made in the late 1930s and the 1940s.

**Reference**

Bougher, N.L. & Syme, K.S. (1998) *Fungi of Southern Australia*, University of WA Press.

*Sarcodon* sp. Upper: scaly pileus surface; Lower: toothed surface underneath the pileus.
Photos: David Catcheside

# FUNGIMAP - PRESIDENT'S REPORT

### Year ending 31 December 2009

At the end of 2009, there were 174 members (96 full, 58 concession and 20 associate). This is a significant decrease from the 212 members for the previous year, but the decline may in part be due to differences in the method of calculating membership (for this year's figures, only paid up members were counted). There is a high rate of retention of members from one year to the next; but some new members joined, particularly as a result of attending the Fungimap V Conference. Fungimap has members from all states and the Northern Territory, as well as some overseas members.

In the Fungimap office, the Fungimap Coordinator, Lee Speedy, dealt with a wide range of tasks, such as ensuring that books were ordered and providing assistance to volunteers. Lee's focus for the first half of the year was organising the Fungimap V Conference. After the completion of the Conference, the Coordinator position was altered from two days per week to one day, in line with available finances.

The major event for the year was the Fungimap V Conference, held at Wallerawang in the Blue Mountains, New South Wales in May. The Conference was organised jointly with the Sydney Fungal Studies Group. The Fungimap V Conference Organising Committee comprised Paul George, Ray Kearney (representing SFSG), Teresa Lebel, Pam O'Sullivan, Lee Speedy (Chair) and Karl Vernes. The Conference was a great success, with 80 delegates along with 19 speakers and foray and workshop leaders. Thanks are due to Ray Kearney and Pam O'Sullivan, in particular, for doing so much of the on ground preparation in the area prior to the Conference and to Lee Speedy for all her work on logistics and organisation that made the Conference run smoothly for delegates.

Debriefs from Fungimap V were prepared by Lee Speedy and Tom May, and a brief prepared for the next conference. The Committee agreed to hold the Fungimap VI Conference in south-west Western Australia in July

2011, jointly with the Western Australian Field Naturalists Club. A Fungimap VI Conference Organising Subcommittee was appointed with Sapphire McMullan-Fisher as chair, and consisting of Joe Froudist, Roz Hart, Jolanda Keeble, Dawn Pedro, Lee Speedy and Katie Syme.

The report from the 2008 Fungimap expedition to Kangaroo Island was finalised and submitted to the funding agencies that supported the expedition (the South Australian Wildlife Conservation Fund and Native Vegetation Fund). A total of 97 specimens were collected and a further 44 records of fungi were made.

The get together that Fungimap organises in the year in between the Conferences, to facilitate face-to-face meetings of the Committee, will be held in 2010 in Tasmania. Katie Syme and Sarah Lloyd (Central North Field Naturalists) are organising the get together and associated activities. Planning is well underway and funds have been secured from NRM North to support 'Hidden treasures: discovering the fungi of the Blue Tier'. This event will include forays and workshops as well as an expedition to collect and document the fungi of the Blue Tier.

Fungimap records continue to be submitted, with a total of 32,814 records logged in the Fungimap database at the end of the year. Some 3,215 records were entered in 2009, a significant increase over the total of 2,198 for 2008. Five new target species were 'launched' in 2009 (*Badimiella pteridophila*, *Heterodea muelleri*, *Nephroma australe*, *Psora decipiens* and *Xanthoparmelia semiviridis*). In addition, records of non-target species continue to be entered into the Fungimap database, particularly from foray lists compiled by fungi interest groups, such as the Field Naturalists Club of Victoria Fungi Group. The Fungimap bookshop provides a service to members and also an important source of funds, contributing about one third of income. The Fungimap publication *Fungi Down Under* continues to sell steadily. Retail sales decreased, but this was more than compensated by an increase in wholesale sales, direct to bookshops, as a result of a marketing campaign by the Fungimap Coordinator. *Fungi Down Under* was reprinted in January, which was a considerable expense for the organisation, but there was a resulting transfer of equity from cash to the book inventory. The replenished stock of *Fungi Down Under* enables continuation of income from book sales that is vital for the financial viability of Fungimap.

Three issues of *Fungimap Newsletter* were prepared in 2009, appearing in April (20 pp) and September (20 pp), with the colour issue (24 pp) not distributed until January 2010. The four-page colour section depicted new lichen target species and other colourful or interesting fungi. The *Newsletter* continues to provide comprehensive information about forays and other fungal activities, and is also a venue for reports from fungi groups around Australia. It also includes a mix of short reports on interesting fungi or locations for foraying and an increasing number of articles about particular groups of fungi. The option of seeking feedback from external referees was introduced, for those papers with technical content. The *Newsletter* was edited by Pam Catcheside, Tom May and Lee Speedy. Pam carried out much of the organisation behind the *Newsletter*, especially soliciting articles and information for the calendar of events and also doing the layout, and Lee organising the printing.

Fungimap made written submissions in response to the draft *Australia's Biodiversity Conservation Strategy 2010-2020* and in response to the Discussion paper on *A new Biodiversity Strategy for New South Wales*, providing the background document on *The conservation and management of fungi in New South Wales – issues and recommendations* that had been prepared in 2008 for the Fungi Initiative. Fungimap also commented on the omission of fungi from the report on *Australia's Hidden Treasures* prepared by WWF.

Three committee meetings were held during the year: two by telephone hook-up, and one face-to-face after Fungimap V in Wallerawang. All committee members were present at each meeting (except that John Carpenter was an apology for the May and September meetings), and the whole committee actively contributed to the running of Fungimap.

Volunteers continue to be a vital part of Fungimap, both through the submission of records and images, but also in the Fungimap office. John Carpenter, Wendy Cook, Geoff Lay and Graham Patterson continued to provide a wide range of support in the office, dealing with book orders, membership renewals, enquiries about the identity of fungi and logging and databasing records. In December, Lee Speedy organised a successful Christmas party for the Fungimap volunteers.

Royal Botanic Gardens Melbourne continued to provide valuable assistance in hosting the Fungimap office and employed the Coordinator on behalf of Fungimap.

The Austral Fungi Fund is the special fund that receives tax deductible donations under the Deductible Gift Recipient status granted to Fungimap. In 2009 donations to the Austral Fungi Fund totalled only $266. There was no expenditure from the Fund. We need to raise the profile of the Austral Fungi Fund and encourage donations, which will be a priority in 2010.

In 2009 Fungimap made a loss of around $1500. Such an annual loss is not sustainable in the long term. The organisation is doing well at delivering services to members as far as the newsletter and conferences, but there are still challenges in securing sufficient income (especially outside funding) to support the necessary co-ordination activities and to advance projects such as the Fact Sheet Database and to expand the website to its full potential.

**Tom May, President**

**Fungimap Inc No A 0047228L**
**Statement of Financial Perfomance**
**January - December 2009**

| | | |
|---|---|---|
| **INCOME** | | |
| Memberships | | $5,655 |
| Booksales: | | |
| "Fungi Down Under" -Retail | $1,661 | |
| "Fungi Down Under" -wholesale | $3,990 | |
| Books not "Fungi Down Under" | $1,974 | $7,625 |
| Fungimap CD-ROM | | $123 |
| Sales of other stock | | $215 |
| Handling and Postage: payment received | | $495 |
| Bank Interest Earned | | $10 |
| Donations | | $267 |
| Grants: | | - |
| **Total Income** | | **$14,390** |
| **EXPENDITURE** | | |
| Cost of Stock sold: | | $1,923 |
| Replenish Inventory: Books | $1,003 | |
| Other | $151 | $1,154 |
| Printing Newsletters and Brochure: | | $2,160 |
| Insurances: Fungimap Volunteers | | $807 |
| Administration Expense: | | |
| Coordinator Salary and on-costs | $9,863 | |
| Travel | $455 | |
| Teleconferencing | $183 | |
| Office supplies and Stationery | $50 | |
| Subscription (Philanthropy Australia) | $68 | |
| Postage Paid & Couriers | $25 | |
| Bank Charges | $133 | |
| Merchant Card Charges | $575 | |
| Accounting fees | $501 | |
| Filing and Compliance Fees | $40 | $11,893 |
| **Total Expenditure** | | **$17,937** |
| **Surplus from Conference:** | | **$2,011** |
| **NET SURPLUS/(LOSS)** | | **($1536)** |

**Fungimap Inc No A 0047228L**
**STATEMENT OF FINANCIAL POSITION**

| **ASSETS** | | **Dec 09** | **Dec 08** |
|---|---|---|---|
| **CASH AND AT BANK** | | | |
| Petty Cash: | | | |
| (held at the Fungimap office, Royal Botanic Gardens Melbourne) | | **$48** | **$113** |
| Cash at Bank: | | | |
| Bendigo Bank Account 633-000 125124321 | | **$16,188** | **$29,403** |
| Austral Fungal Fund: | | **$1,431** | **$1,165** |
| GST Credits | | **$331** | **$696** |
| **TOTAL CASH AND AT BANK:** | | **$17,998** | **$31,377** |
| **OTHER ASSETS:** | | | |
| Stock of Books held at RBG: | | | |
| (Inventory taken 14 January) | | **$10,396** | **$3,037** |
| Debtors | | **$377** | **$100** |
| **TOTAL ASSETS:** | | **$28,771** | **$34,514** |
| **LIABILITIES** | | | |
| Creditors | | **$1,122** | **$5,601** |
| **NET ASSETS:** | | **$27,649** | **$28,913** |
| **MEMBERS EQUITY:** | | | |
| B/f 31 December | $28,913 | | **$28,913** |
| *Adjustment - Acounts take-on: Note 1* | $272 | | |
| Surplus/(Loss) from 'Financial Performance' | ($1536) | | |
| | $27,649 | | |
| **TOTAL EQUITY** | | **$27,649** | **$28,913** |

*Note 1: An anomaly in GST accounting was revealed during the audit of the 2009 accounts. There was no error in the BAS returns filed with the ATO, and the matching account was Members Equity.*

Fungimap Inc No. A 0047228L

Report of the Committee of Management

Your committee is pleased to submit the financial accounts of Fungimap Inc for the calendar year January to December 2009.

The names of the committee members in office at the date of this report are:
J Carpenter, P Catcheside, P George, T May, S McMullan-Fisher and K Syme
The Public Officer of Fungimap Inc is Mr J Carpenter.

The principal activities and objects of Fungimap Inc. are to promote and support the study and conservation of Australian macrofungi.

The net loss for the twelve month period is $1,536. No provision for income tax is required, as Fungimap Inc has been self-assessed as income-tax exempt.

No office holder has received or become entitled to receive, during or since the end of the reporting year, a benefit because of a contract made by Fungimap Inc with the office holder or any entity with which the office holder has a substantial interest.

During or since the end of the reporting year, Fungimap Inc has not entered into any mortgage or other arrangements affecting any of the property of the association. Fungimap Inc has not created any trusts, and is not a trustee of any trust.

Signed on 24/5/2010, in accordance with a resolution of the Committee of Management.

Director ..... T May (President)

Director ..... P George (Secretary)

Statement by the Committee of Management

The office holders declare:
(1) that the following financial statements and notes give a true and fair view of the financial position of Fungimap Inc for the 12 month period 1 January 2009 to 31 December 2009, and of the financial performance of Fungimap Inc for that period.;

(2) that at the date of this statement, there are reasonable grounds to believe that the association will be able to pay its debts as and when they fall due;

(3) that in the intervening period between 31 December 2009 and the date of this declaration, there have been no material changes to the affairs of the association.

Signed on 24/5/2010, in accordance with a resolution of the Committee of Management.

Director ..... T May (President)

Director ..... P George (Secretary)

## ACKNOWLEDGEMENTS: RECORDS AND VOLUNTEERS

**AUSTRALIA** (by email)

| | |
|---|---|
| Sally Butler | 1 |
| Kath Matthews | 2 |
| Beth Palmer | 1 |

**NSW**

| | |
|---|---|
| Doug Blackwell & Alyson Shepherd | 1 |
| Suzanne Bower | 4 |
| Martin and Frances Butterfield | 18 |
| Geoff Davidson | 1 |
| Helen Drewe | 1 |
| Jono Gunawan | 1 |
| Michael Keats | 1 |
| Barry Kemp | 6 |
| Jenny Ralph | 1 |
| Ben Rebase | 1 |
| Sydney Fungal Studies Group | 51 |
| Simon Turner | 1 |
| Teresa Van Der Heul | 55 |

**QLD**

| | |
|---|---|
| Phil Ashford | 2 |
| Ernie Brinkmann | 1 |
| Rod Hobson | 1 |
| Mycoblitz 2009 | 197 |
| Craig Robbins | 1 |
| Stuart Webber | 1 |

**SA**

| | |
|---|---|
| Kath Alcock | 3 |
| John Kentish | 1 |

**TAS**

| | |
|---|---|
| Carolyn Hall-Jones | 4 |
| Patricia Harrisson | 29 |
| Rebecca Kearns | 2 |
| Sarah Lloyd | 92 |
| Alison & Angus Moore | 41 |
| Roy Skabo | 30 |

**VIC**

| | |
|---|---|
| Robert Bender | 27 |
| Wendy Cook | 111 |
| Jane Dennithorne | 4 |
| John Ellis | 1 |
| Karen Garth | 5 |
| Geelong Field Naturalists Club Inc. | 2 |
| Sally Green | 31 |
| Cath Greenop | 16 |
| Elizabeth Hatfield | 8 |
| Jenny Holmes | 4 |
| Teresa Lebel | 2 |
| Jean Lightfoot | 12 |
| Tim Lowe | 34 |
| Ivan Margitta | 79 |
| Wolfgang Marx | 4 |
| Lee McKenzie | 2 |
| Malcolm McKinty | 10 |
| Dave & Lyn Munro | 85 |
| Adam Muyt & & John Sago | 27 |
| Catherine Nield | 4 |
| Jenny O'Donnell | 25 |
| Graham Patterson | 21 |
| Daryl Quirk & Wendy Keall | 1 |
| Helen Rommelaar | 5 |
| Rowan | 1 |
| Kellie Showell | 1 |
| Nigel Sinnott | 78 |
| Glenys Thomson | 1 |
| Simon Thomson | 1 |
| Jeroen van Veen | 1 |
| Gidja Walker | 1 |

**WA**

| | |
|---|---|
| Ruth Eszenyi | 1 |

Thanks to Royal Botanic Gardens Melbourne and our volunteers: John Carpenter, Wendy Cook, Geoff Lay and Graham Patterson for providing office and administrative support

**FUNGIMAP**
Royal Botanic Gardens Melbourne
Private Bag 2000
South Yarra Victoria 3141
**E-mail:** fungimap@rbg.vic.gov.au
**http://www.rbg.vic.gov.au/fungimap/**

© 2010 Fungimap Inc. ABN 28 290 974 280
Vic. Cert. Inc. No. A0047228L

This Fungimap Newsletter was edited by Pam Catcheside & Tom May.
The colour insert was designed and printed by Sarah Lloyd.

FUNGIMAP NEWSLETTER 41
Registered by Australia Post PP No. 325649-00087

SURFACE MAIL

POSTAGE PAID AUSTRALIA

**FUNGIMAP**
Royal Botanic Gardens Melbourne
Private Bag 2000
South Yarra Victoria 3141