



Fungimap Newsletter Issue 3 December -- 1996

Australian Fungi Mapping Scheme

Fungimap of Victoria Project

c/o FNCV 1 Gardenia Street

Blackburn 3130

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Success for Fungimap!

Merry Christmas and a Happy New Year to all fungi hunters!

Fungimap has been successful at two out of its three targets for this year. It was critical that Fungimap be successful

- Keeping on track with the number of records being sent in, and
- Gain funds for printing.

As you can see from the "Fungimeter" in the next column at 1 December, 431 records had been received.

We only need another 69 records by 30 December to meet our target of 500 for the year!

Have you checked your records to pull out details of the target species? It would be greatly appreciated if you could do so now and get them to us ASAP.

We now register a steady stream of new people and records are coming in regularly.

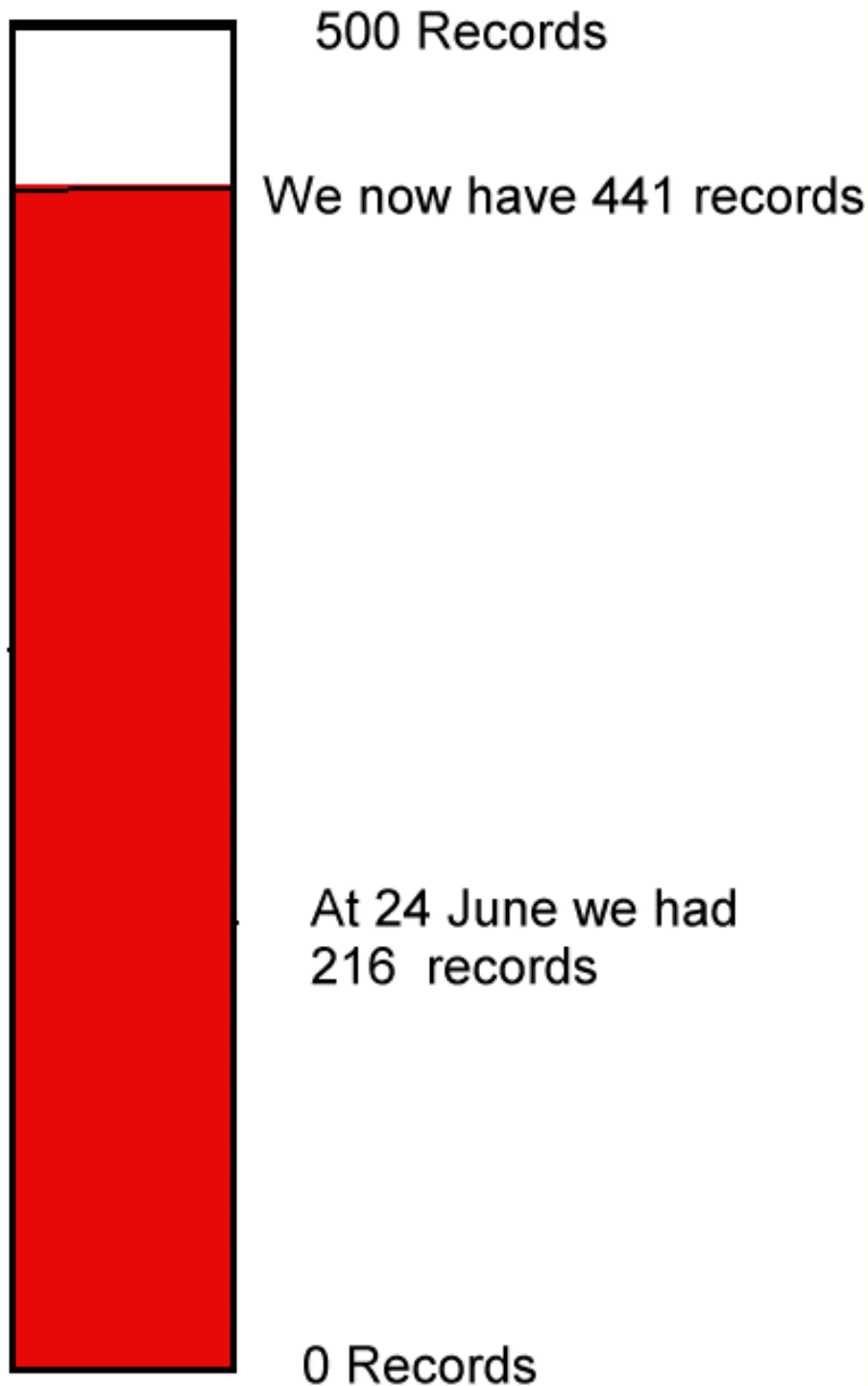
The really good news is the Sydney Myer Foundation has provided Fungimap with \$10,900 to print the booklet or kit for the 100 species that we will be targeting next year.

Our greatest appreciation goes to the Sydney Myer Foundation for this grant. Without it the project would have just limped along.

Unfortunately, we have not yet been able to gain any salary and operating funds but I have agreed to continue my role as voluntary executive officer. However, I do have other work commitments and may be late with correspondence at times.

The Australian Fungi Mapping Scheme Committee met in October and the details of the 100 species are nearly finished.

John Julian



FUNGIMETER

The target for the number of records for the 1996 fungi season is 500.

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A special thank you to the Sydney Myer Foundation

A grant of \$10,900 has been received to assist with the costs of printing material for the 100 species project.

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Fungi identification

Amanita

Two of the 8 species in the pilot project are *Amanitas*. This will be a good place to start our genus descriptions as well as the fact that most poisonings occur from people eating this species. It is also a good mushroom to start with because it shows the importance of digging up, or around, each fungus to check whether it has a volva or not. The genus includes the aptly-named death cap, *Amanita phalloides*, and the beautiful fairy mushroom commonly called the Fly Agaric, *Amanita muscaria*. The latter is the most commonly drawn fungus to show the characteristics of the fruiting body.

Defining characteristics

Amanitas have pale gills, a universal veil and white spores.

Volva: present at base of stipe. The universal veil, which breaks as the fungus grows, forms a cup, collar or swelling at the base of the stipe, often underground.

Gill attachment: free or attached.

Stipe: attached centrally to the cap.

Cap: fleshy and easily separates cleanly from the stipe.

Other characteristics: The veil completely envelopes the young mushroom (i.e. universal veil) and often leaves various size patches on the cap. These can be felty type pieces called scales as in *Amanita xanthocephala* or smaller angular pieces called warts as on the exotic *Amanita muscaria*.

The gills can be white, off-white or other colours such as yellow or pink although they are pale.

Many Amanitas also have a partial veil leaving a ring of material in the upper part of the stipe called an annulus.

Habitat: The amanitas are found growing in the ground and usually have a mycorrhizal association with trees. For instance, *A. muscaria* is found growing in conjunction with pine trees, oaks, chestnuts and other exotics. The native *A. xanthocephala* however is found growing in conjunction with native vegetation, presumably associated with eucalypts and other indigenous plants.

Name meanings: Musca means fly and amanita is an ancient term for mushroom.

Dangers: The genus includes the most dangerous of mushrooms, *Amanita phalloides*, commonly called the death cap. This fungus is the greatest cause of death by eating mushrooms in the world, and has several fatalities in Australia. Only a little is required to cause death, with Cleland reporting a child who died from eating bread with the juice of the mushroom on it. Cleland also reports that poisonings occurred by some amanitas being mistaken for young field mushrooms due to the pink colour of the gills.

Coprinus

Defining characteristics: Coprinus (inky caps) have gills that deliquesce when mature.

A black spore print is the other main identification feature. Note: The gills turn into a

black liquid (hence the common name) when mature. In doing so, this allows the edge of the cap to curl, exposing the spores to the wind -- while many are dropped onto the ground as part of the ink, many millions are still blown away by the wind.

Volva: may or may not be present

Gill attachment: free to adnate.

Gills: crowded and parallel sided and deliquesce when mature.

Stipe: attached centrally to the cap, is tough and generally does not have a ring.

Cap: Conical when young, expands as it matures. Many have EM radial grooves on the cap. A young cap may be covered by a thick woolly veil that leaves behind felty scales, and some species will have no veil.

Other characteristics: This fungi has a black spore print.

Habitat: As the name infers, many species are found on dung. However, they can also be found on wood or in grass, usually associated with decaying matter. Cleland suggests that this species was not present in Australia before European settlement. However, while about two hundred species are known world wide, only thirteen are known in Australia, Arora suggests that it is difficult to study this group as it is so "ephemeral (sometimes only lasting a few hours)...".

Name meanings: Copr means dung and inus means belonging to.

Dangers The genus is famous for the effect some species can have when combined with alcohol, which is similar to Antabuse. It has a disulfrum-like compound that reacts with alcohol to make one feel very sick. If you regularly indulge in alcohol, steer clear of this mushroom.

While it is reported many species are edible it is also reported that some species in the genus are poisonous.

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Wattle Park

Due to popular demand and scientific curiosity, a further survey of the park will be organised in 1997.

This will be held on Sunday 20 April and will be a followup of our pioneering survey of fungi in an urban park in Australia. *Venue:* Chalet car park, Wattle Park (Melway 60K3). *Time:* 10 am *Contact:* Pat Grey (03) 9435 9019.

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Books and kits

Following the successful Fungi Identification Seminar on Saturday, 16 June, a number of people expressed an interest in books.

1. Cleland, J.B. (1934-1935) *Toadstools and Mushrooms and other larger fungi of South Australia* Part I. (A.B. James, Government Printer, South Australia.) Reprint 1976.

In particular, Cleland was mentioned at the Seminar as being on sale at the Museum for a reasonable price. It is not available there any more!

Pat Grey however has contacted the publisher in South Australia and we will be getting 10 copies of the booklet. It will cost about \$7.00 posted.

Only two are now left.

2. Cole, M, Fuhrer, B. & Holland, A. (1984) *A Field Guide to the common genera of gilled fungi in Australia*. Revised edition (Inkata Press: Melbourne)

But Fuhrer has also been able to get us nine copies of *The Field Guide to Common Genera* by Cole, Fuhrer and Holland. This will cost about \$10.00 when packaged and posted. This guide is made up of a folder and a number of loose leaf sheets.

Only four are now left. Please contact John directly to order a copy.

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Joke of the month

Patient: Doctor, is it all right to eat mushrooms?

Doctor: Oh yes, you can eat **mushrooms** -- it's just that with some you can only eat them once.

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Rus Shulla's Column

As you will all now be finding, identifying mushrooms is very hard and can take a few years to develop your skills.

When I first started out, I used a little trick that Margery Smith has also told us about in a letter to John. Margery said: "I find a dentists mirror is a great asset in a fungi researcher's field kit. It simplifies studying the underside of rare species without causing disturbance." I used to use a little square mirror but Margery's idea is a lot better. It would be great if everybody could send in their tips to us about searching for fungi! I am sure John would pass on your messages and I could put them together in this column! In learning about fungi, one of the strategies I found really useful was to learn in detail about the genera that only had one or two species such as *Schizophyllum*, *Anthracophyllum*, *Omphalotus*, *Oudemansiella* and so on. I will give a few more next time.

The other way is to learn the genera in your area. This edition of the newsletter starts out with descriptions of two genera. Study them and look up your books!

Speaking of which, when I got a little more advanced I went out and bought a few more books. These were:

Roger Phillips; *Mushrooms and other fungi of Great Britain & Europe*; Pan Books;

London; 1981 & David Arora; *Mushrooms Demystified*: Ten Speed Press; Berkeley; 1986. The Herbarium Bookshop currently has Phillips' European book. In addition, he has just bought out one on *Mushrooms of North America*. His photographs are extremely good. David Arora's book was very useful, especially on genera identification. He has quite a sense of humour as well with a very readable style. Increasingly, I find this book is the one I use most as a reference.

When I got into it a bit more I found, however, to my great consternation, that my books disagreed at times. The main culprit in this was apparently incorrectly labelled photographs in Shepherd and Totterdell's book, *Mushrooms and Toadstools of Australia*. So be careful, read the description and look at the photograph -- if they do not match, it may not be you but rather the book! It's all great learning.

See ya out there.

Rus.

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100 Species Booklet

As announced, funding has been received to produce this booklet allowing Fungimap to get into full swing. As we do not yet have any operating funding, the project will remain low key during 1997. The major problems are that John can only handle a certain volume of work as a volunteer and the Herbarium is also only able to handle a certain number of records coming in without additional assistance. We are extremely fortunate in gaining the time we have from Tom May and we need to be careful not to overstretch this goodwill.

Next year we will be producing a booklet covering the expanded list of 100 species. We hope to make some copies of the booklet available to our serious recorders, and

otherwise sell the booklet for approximately \$40.00 -- the estimated cost of colour photocopying. We are still exploring some options and hope to improve on the price. Do not send orders now -- an order form will be provided once we have printed the booklet. Next year we will also be producing another colour brochure with approximately 8 to 12 additional species. **New people registering and all people receiving the newsletter will get a copy of the brochure.** That means you will have a wider selection of species to get your initial six records registered!

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Spore print by Tom May

The current tally of records stands at 431, almost exactly twice the June figure. We expect to reach our target of 500 records for 1996. Thank you to all who contributed records.

Thank You

Thanks to all who have sent in records over the last couple of months: Jean Hawkes, Heather Mann, Brian Mitchell, Dorothy Mahler, Ewen Johnson, Sheila Houghton, Julia Davis, Laurel Anderson, Hilary Weatherhead, Margery Smith, Ilma Dunn, John Eichler, Ken Hamer, Keith Marshall, Robert Bender, Dick Bashford, Andrew Walsh, Ian McCann, Bruce Fuhrer, Rosemary Robb, Cecily Falkingham, Garry Cheers, Trevor and Joan Faragher, Joan and Bob Rowlands, Robin Corringham, David Albrecht, and William Stockdale.

The 300th record

The 300th record was received on 16 August from Ian McCann of Stawell. It was fitting that Ian's record was the one that reached this milestone, since he has been one of our

most prolific recorders, sending in nearly 50 records so far. The record was of *Mycena interrupta* from near Golton Creek, Grampians. Victoria. This is an interesting record, because while *M. interrupta* is certainly quite common in wet gullies in mountain forests (as for example the Central Highlands and Otways in Victoria), it is still unclear where it occurs outside of such habitats. The record for the Grampians indicates that it may well be quite widespread.

The 400th record

The 400th record was received on 15th October from Garry Cheers of Maryborough, who sent in a batch of 14 records from an interesting variety of localities in western and central Victoria.

Highlight

A highlight of the mail from the last couple of months was receiving from Bruce Fuhrer a listing of 80 Fungimap records. Bruce had combed through his pictures and notes over many years and come up with numerous records of four of the target species. The localities included Bruce's favourite collecting grounds in the Grampians and the Portland area and also some further afield such as *Battarraea stevenii* from 'mallee scrub about 55 km north of Yunta. South Australia', and a record of *Mycena interrupta* from New Caledonia. Bruce's records show what can be achieved by regular recording over many years.

Recent publications

Australian Biological Resources Study, who produce the multi-volume *Flora of Australia* series, have recently embarked on an ambitious project to put together a similar series on fungi, entitled *Fungi of Australia*. Two introductory volumes (IA Introduction--

Classification, IB Introduction--Fungi in the Environment) have appeared this year. *Fungi of Australia* IA has chapters on classification, biology, biogeography, fossil fungi and the history of mycology, as well as an extensive glossary. *Fungi of Australia* IB provides an overview of a number of topics including freshwater and marine fungi. parasitic fungi, fungi associated with arthropods and herbivores, mycophagy, toxic and disease-causing fungi and Aboriginal use of fungi. These are books for the serious student of fungi, and provide an in-depth and authoritative coverage of each topic, with copious references and some colour illustrations. Prices for both volumes: Paper--\$54.95, Hardback--\$69.95. Available from CSIRO Publishing, PO Box 1139, Collingwood, 3066. PH: 03 9662 7666.

Maps

It was intended to include some maps in this issue of the Fungimap Newsletter, but technical glitches with the computer program used to produce maps, and pressure of other work means that the maps will be held over until the next issue.

Question corner

Q: What causes the variation in the throat colour of *Aseroë rubra*?

A: The spores of *Aseroë* are produced in the slimy mass which sits on the disc at the top of the stalk-like portion on the fungus. The arms radiate out from the disc. The spore mass is very smelly and attracts flies, which remove spore mass and disperse the spores. The spore mass can also be washed off by rain. So initially the disc is covered with olive or brownish spore mass, but may eventually be red or pale pinkish when the surface of the disc is exposed. Note that the disc is a thin layer covering the apex of the stalk, and at length this may rupture, revealing the hollow stalk.

Accuracy of records

One very pleasing outcome of this pilot stage of the project is that the level of accuracy of the records seems very high. About 15% of records have been accompanied by photographs, and of these 63 photos only one has been classed as doubtful, and this because the photo is not close enough to see if it was of the species indicated or not. No incorrect records have been detected. We are thus very confident of the quality of the data which has been collected so far.

Interesting records

From Ian McCann of Stawell, Victoria -- *Battarraea stevenii* from Cullyamurra Waterhole on Coopers Creek, east of Innaminka. This is certainly the most remote record we have received of this dry country fungus. Just as the newsletter was being put together we received from David Albrecht (Alice Springs Herbarium) a batch of records based on the holdings of the herbarium. Not unexpectedly, the only species collected from the Northern Territory is *Battarraea stevenii*, of which there are four collections in the Herbarium; from Simpson Desert, Finke River, Undoolya Bore and George Gill Range. The species is likely to be widespread in the arid interior. That is a huge area, and we need many more sightings to fill up the blanks on the map.

Aseroë rubra

Most of the more than 50 records of *Aseroë rubra* received so far have been from the alpine and subalpine country of Victoria and southern New South Wales. Another city sighting to add to the one from Wattle Park was made in October by Rosemary Robb, who spotted the fungus at Blackburn Creeklands Reserve, Melbourne. The time of year of this record is of interest since most high country records have been from summer and autumn. It is likely that *Aseroë* has been introduced into the urban environment.

Reidentifications of illustrations in field guides to Australian fungi -- I

It is evident that some illustrations in field guides to Australian fungi are misidentified. This can be very disconcerting for the beginner and expert alike. To remedy this confusion batches of reidentifications will be provided from time to time. This batch relates to illustrations in Shepherd & Totterdell *Mushrooms & Toadstools of Australia* (1988) and results from careful examination by Tom May and Bruce Fuhrer of illustrations in the book. Some other illustrations in the work are probably also incorrectly named, but in the absence of voucher specimens, it is not possible to be certain of what they represent. Further reidentifications from this and other works will be compiled in future newsletters.

Shepherd & Totterdell

p. 51. *Cortinarius austrovenetus* Definitely not this species. Possibly an *Armillaria* or else *Tricholoma*. Note the habit among pine needles, and the ring.

p. 51. *Crepidotus eucalyptorum* This is *Melanotus hepatochrous*. The short stipe and the rich vinaceous brown gills are distinctive. *Melanotus* is a close relative of *Psilocybe*, sharing with that genus spores with a germ pore.

p. 58. *Galerina marginata* This is *Mycena sanguinolenta*.

p. 62. *Hygrophoropsis aurantiaca* *Paxillus infundibuliformis* group. See p. 88 for another illustration of the same.

p. 79. *Marasmius oreades* (colour) This is certainly not this species, especially due to the presence of a ring zone. and also the brown cap. Most likely a *Tubaria* sp.

p. 83. *Omphalina fibula*

This species is always found among moss, and has an orange cap. The photo is of a species of *Mycena* or *Marasmius*.

p. 83. *Mycena* aff. *eucalyptorum*

Mycena cystidiosa. The rhizomorphs are characteristic.

p. 87. *Panus stipticus*

More likely *Panellus panuoides*. Note the pine needles. This species is common on pine wood.

p. 95. *Rhodophyllus* sp.

Probably *Panellus longinquus*, which typically has a lateral stipe like the specimen illustrated, and has a cap varying from rich pink to almost white.

p. 137. *Cyttaria gunnii*

Certainly not. Appears to be a slime mould (*Lycogala* sp.)

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1997 Seminars

We are planning one big educational event over two weekends in April and May next year. Another seminar will be held on mosses.

Saturday 19 April

Fungi -- identification and survey techniques: Part One: Workshop with Tom May & Rus Shulla. *Venue:* FNCV. *Time:* 10a.m. - 4 p.m. *Cost:* \$25 for FNCV & Fungimap members, \$50 non-members. BYO lunch, tea and coffee provided. Contact: FNCV Office.

Friday 16 - Sunday 18 May

Fungi -- identification and survey techniques: Part Two: Field Trip to Mount Buffalo in North East Victoria This will be an exciting two day field trip with accommodation at Mount Buffalo. Costs will vary from \$50 (backpacker's hostel, with lunch only provided) to \$170 (motel style accommodation with full food). Costs are for two nights accommodation. Contact. FNCV Office or John Julian on 0419 895 873 or (03) 5750

1795. Bookings need to occur by 30 April, 1997.

Saturday 15 March

Identification of Bryophytes. Workshop with David Meagher and Arthur Thies. Learn the difference between a moss and a liverwort, and basic techniques of identification.

Venue: FNCV. *Time:* 10 am - 4 pm. *Cost:* \$25 for FNCV members, \$50 non-members.

BYO lunch, tea and coffee provided. *Contact:* FNCV Office at 1 Gardenia Street Blackburn 3130 (Locked Bag 3, Blackburn 3130) Telephone (03) 9877 9860.

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Target species and colour brochure

The pilot scheme is well and truly running and we would like to thank those people who have already sent in fungi records.

The project will have new brochures available next year on the original eight target species plus a new brochure on another 12 species.

A small charge may still have to be made for us to cover costs and will mean that we will be able to keep printing copies of the brochure to maintain supply.

In addition to photographs, the brochures will again include descriptions with sizes of the target species and what to record.

In 1997, the list will be expanded to the full 100 species. Currently, final details are still being worked on and it is hoped that this will be finished early in the new year.

We sincerely thank Bruce Fuhrer who provided the photographs at no cost.

The eight target species are:

Amanita muscaria (Fly Agaric)

Amanita xanthocephala (Vermilion Amanita)

Aseroë rubra (Anemone Fungus)

Battarraea stevenii (Drumstick Fungus)

Dermocybe austroveneta (Green Dermocybe) (= *Cortinarius austrovenetus*)

Mycena interrupta (Pixies Parasol)

Omphalina chromacea (Chrome Omphalina) (= *Omphalia chromacea*)

Omphalotus nidiformis (Ghost Fungus) (= *Pleurotus nidiformis*)

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Who to contact

All fungi records should be sent to the Fungimap Project, National Herbarium of Victoria, Birdwood Avenue, South Yarra, 3141. All administrative and general enquiries should be sent to John Julian, c/- FNCV, Locked Bag 3, Blackburn 3130. John can be contacted on (03) 9830 4795.

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The Who's Who on the Scientific Advisory Committee

The Field Naturalists Club of Victoria has agreed to auspice the Australian Fungi Mapping Scheme.

The Committee which guides the project is made up of the following people:

Dr Tom May - National Herbarium of Victoria (Convener)

Professor Rob Wallis, Deakin University School of Aquatic Science and Natural Resource Management

Bruce Fuhrer - Monash University/National Herbarium of Victoria

Cheryl Grgurinovic - Australian Biological Resources Study

Dr Noel Schleiger - Field Naturalists Club of Victoria

Jack Simpson - State Forests of New South Wales

John Julian has been appointed as Executive Officer and currently works half a day per week in an honorary capacity.

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Putting Australian fungi on the map