AMS Newsletter

2nd December 2024

Dear AMS Community,

And just like that, another year has passed – the council hopes that you have all had a wonderful year filled with personal successes as well as a chance to enjoy life. As covered last month in our annual general meeting, the society has been going from strength to strength with continuation of our Virtual Seminar series, awarding of research grants, participating in local and international conferences, and working with the community to raise awareness of the importance of fungi within all aspects of life. The scientific excellence of our members has also been recognised by a range of awards in recent months, some of which are featured below. I hope you enjoy the newsletter, and all of us from the AMS council wish you all a safe and happy holiday season!

**Associate Professor Jonathan Plett**
**Australasian Mycological Society President**

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## AMS 2024 Seminar Series Recordings

**April: Dr. Adam Frew, Western Sydney University**
Shared Host, Divided Interests: Interactions between arbuscular mycorrhizal fungi and insect herbivory

**May: Dr. Meghann Thai, University of Sydney**
Bacterial-fungal interactions in *Agaricus bisporus* compost

**October: Ryan O'Donnell, Australian National University**
Discordance Down Under; Combining phylogenomics & fungal symbioses to detangle difficult nodes in a diverse tribe of Australian terrestrial orchids

## AMS Annual General Meeting

For those who were unable to attend the AMS annual general meeting, you can access a recording of the meeting using the following link:
https://us02web.zoom.us/rec/share/reQWpOAJYYSffUnTkHaOemKLjqbaBHmg80Zk7vn-5InqiXN3AOIy9OKbMTUtsIY-.gnLBgdy3bfQgKoE2
Passcode: sCA6$Eq%

## AMS 2025 Seminar Series

**Save the Date** for our other upcoming 2025 Seminars and check our website for updates.:

**January 2025: Rita Tam,** PhD student at the Australian National University
**February 2025: Dr Nirodha Weeraratne,** Charles Sturt University Wagga Wagga
**March 2025: Alistair Mctaggart,** University of Queensland

# Report of the International Conference on Mycorrhiza ICOM12, 4–9 August 2024 in Manchester UK

**By Luke Florence (PhD Candidate, University of La Trobe) and Emily McIntyre (PhD Candidate, University of Melbourne)**

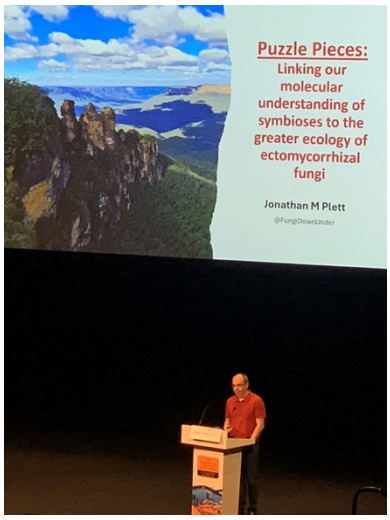
For both of us, ICOM12 was to be our first international conference. ICOM12 promised to be a huge week of talks, workshops, poster presentations, and social events, that was attended by 570 scientists from 61 countries across the world. We were enthusiastic to soak up the latest mycorrhizal research, meet scientists from around the globe, and share some of our own work through our speed talks and posters. The conference would cover research in mycorrhizal ecology, taxonomy, management applications, and regulation and transport in mycorrhizal networks, among others.



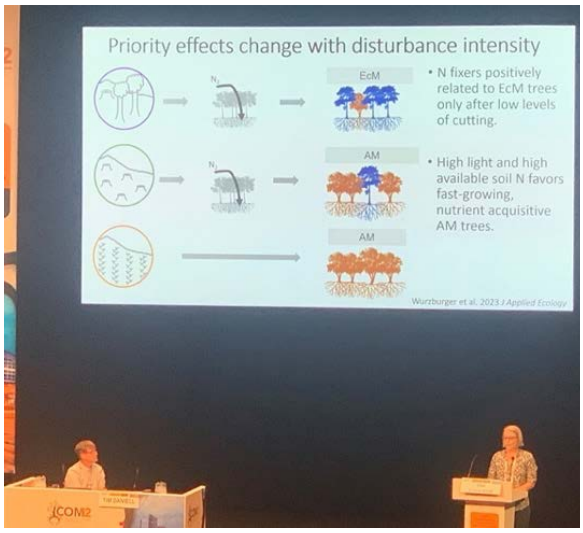
AMS Councillor Camille Truong (Royal Botanic Gardens Victoria) delivered one of the first talks of the week. She spoke to a full hall about ectomycorrhizal (ECM) fungi in Australia, and their dispersal by native marsupials that most attendees had probably never heard of! At a conference that was predominantly attended by researchers from the USA, UK, and EU, it was exciting that Camille could introduce some ECM research from this side of the globe.

Day two of ICOM kicked off with a "Rising Star" presentation by Adam Frew from the Hawkesbury Institute for the Environment (Western Sydney University). His work aims to extend our knowledge of mycorrhizas beyond nutrient acquisition and into defence. His discussion centred on the role of arbuscular mycorrhizal (AM) fungi in herbivore defence in crop plants, and he concluded his presentation by introducing the exciting Dig Up Dirt initiative—a

continental-scale soil sampling effort covering over 60 sites, which promises to shed significant light on the diversity of AM fungi across Australia.




On day three of the conference, AMS president Jonathan Plett (Western Sydney University) presented to a full audience in the Plenary Session. Jonathan discussed his work on the genetics and function of *Pisolithus*, where he aims to connect a molecular information of *Pisolithus* to the broader ecology of ECM fungi. Jonathan emphasised that despite the benefits that *Pisolithus* provides to *Eucalyptus*, it is a poor competitor and often replaces less advantageous species within *Cortinarius*, *Scleroderma* and *Telophora*. He currently is unsure why this is, but it may involve competitive exclusion and the contribution of small secreted proteins contribute to niche colonisation and nutrient acquisition.

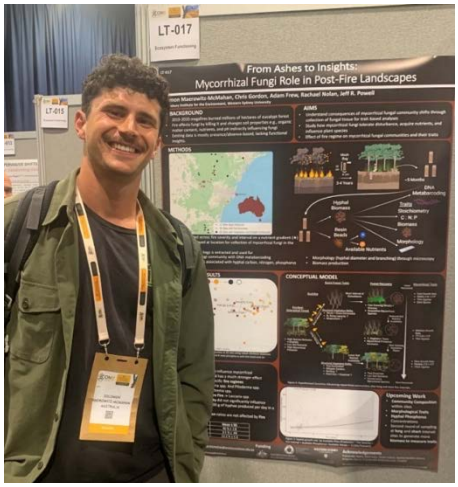



Nina Wurzburger (University of Georgia) presented her work on managing ECM forests from a biogeochemical perspective, which we found to be one of the most intriguing talks at ICOM. Nina's research explores how historical disturbances, such as selective cutting, clear-cutting, and agricultural abandonment, influence the shift from ECM to AM tree dominance in forests. Nina's findings indicate that forest recovery in highly disturbed sites, like clear-cut areas or abandoned agricultural land, promotes nitrogen-fixing trees in early succession. These trees increase soil nitrogen availability, which in turn enhances the competitive success of AM trees over ECM trees.

Nina concluded by offering insights into her current research, which focuses on how fire affects different carbon fractions in soil, specifically particulate organic carbon (POC) and mineral-associated carbon (MAOC). The current paradigm is that ECM-dominated forests have high POC, which is relatively more labile, and less MAOC, which has a slower turnover time. However, differences between POC and MAOC in soils from AM and ECM forests have been informed during an anomalous time when fire has been excluded. By examining the long-term effects of fire, Nina finds that fire increases the proportion of soil carbon held in MAOC. This suggests that ECM forests that experience fire may have the potential to store more slow-cycling carbon than previously thought.

*Thismia rodwayi*, a mycoheterotrophic plant from Tasmania (photograph by Tim Rudman)

The last talk we would like to highlight was given by Vincent Merckx (Naturalis Biodiversity Center, Netherlands). He spoke about mycoheterotrophs, plants which are fully dependent on fungi for carbon, and do not produce any chlorophyll. They may rely on fungi throughout their development, or only at the initial stage (e.g. many orchids). Others may be partially mycoheterotrophic, where they obtain carbon from both photosynthesis and from fungi, operating along a spectrum of dependency. Many of these plants associate with mycorrhizal fungi, which also form symbiotic partnerships with surrounding plants. This association is significant for understanding common mycorrhizal networks, as mycoheterotrophs provide evidence of carbon transfer from an autotrophic plant to a mycoheterotrophic plant through a mycorrhizal fungus.




Congratulations to Solomon Maerowitz-McMahan (Western Sydney University), an attendee from Australia, for receiving an award for best speed talk at the conference. Solomon presented his work on the role of mycorrhizal fungi in ecosystem recovery post fire.

At the end of the conference, Jonathan introduced ICOM13 (2026) in Cairns, Australia (he helpfully noted, for those outside of Australia, that we pronounce it ‘cans’). We are certainly looking forward to reconvening with our international colleagues then, and we hope to see lots of AMS members there too!

# ASBS Nancy T. Burbidge medal awarded to Tom May

**By Camille Truong (Royal Botanic Gardens Victoria)**

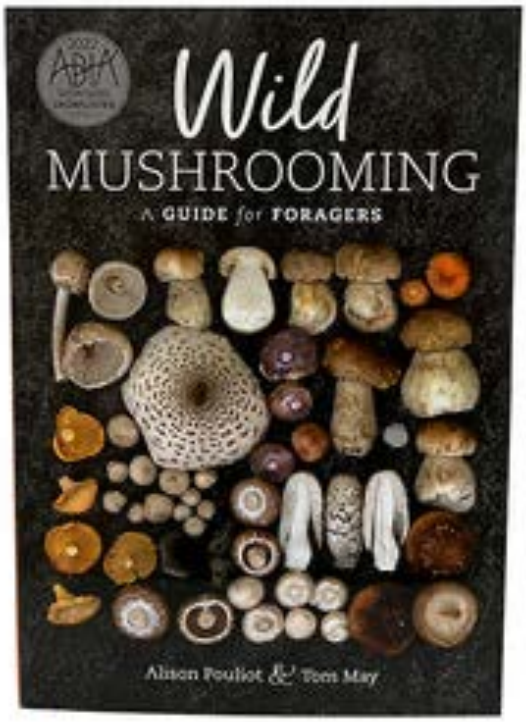
Dr Tom May, Principal Research Scientist (Mycology) at the Royal Botanic Gardens Victoria, was awarded the 2023 Nancy T. Burbidge Medal at the Biosystematics 2023 Conference in Canberra. This is the highest award of the Australasian Systematic Botany Society (ASBS) in recognition of Tom's longstanding and significant contribution to the discovery, description, understanding and conservation of Australia's vast fungal diversity.


Dr. Katharina Nargar (President of ASBS) presenting the award to Tom, and Tom's keynote speech at the Biosystematics 2023 conference in Canberra.

Tom's vast research includes morphological taxonomy, fungal conservation, biogeography, phylogenetics and, more recently, genomics and environmental metabarcoding. He has also published extensively on fungal nomenclature and was a co-author of the latest edition of the *Code of Nomenclature for Algae, Fungi and Plants* (Shenzhen Code). A champion of fungi-specific language such as 'fungarium', 'funga' and 'sporing body', Tom is active in raising awareness of the vital ecological roles of fungi and the need to address their conservation. His dedication to mentor the next generation of mycologists and citizen scientists is renown, as illustrated by the FungiMap program that he initiated and led for over 20 years. During his career, Tom has taken substantial leadership roles in Australia and internationally, including the steering committee of Taxonomy Australia, the Fungal Conservation Committee of the IUCN, the UNITE management board, and as a founding member of our very own Australasian Mycological Society (AMS).

When Tom first became interested in mycology back in the 1980s, there was no national mycological organisation, so the ASBS meetings were the go-to place to network with other taxonomists. Realising the value of professional societies through his positive interactions

with ASBS, Tom participated in the initial organising committee set up in 1992 to consider the incorporation of a national mycological society. He was a member of the founding executive when the AMS was incorporated in 1995 and served as Secretary from 1995 to 1999. He was the lead organiser for the inaugural conference of AMS, held in Melbourne in 1996, as part of the "1996 Conferences" together with ASBS to commemorate the 150th anniversary of the death of Ferdinand von Mueller. 1996 was a big year for mycology in Australia, with the launch of the ABRS Fungi of Australia series. Tom also coordinate the AMS Australasian Fungi Conservation Group together Peter Buchanan and was a Subject Editor for the AMS journal Australasian Mycologist from 2007 to 2013. To showcase new and interesting fungi from Australasia, Tom also compiles the Fungus Portraits on the AMS website and a popular book on wild mushroom foraging with co-author Alison Pouliot.




Tom told us "I've always enjoyed my interactions with AMS. It is so good to see the society continuing to be active, and especially to see the support for students through the travel and research grants, and the Dr Jack Warcup Memorial Prize. I had the chance to meet Jack once at an Australasian Plant Pathology Society conference in 1987. I wish that AMS had been there when I was first interested in mycology, as a place to learn about fungi and connect with other mycologists on a regular basis. I remember particularly fondly the post-conference foray in 1996, when we decamped to Marysville after the hectic week of the AMS and ABRS conferences. It is when I first met lifelong friends and collaborators including Peter Buchanan, David Catcheside, Pam Catcheside, Eric McKenzie, Ian Pascoe, Bettye Rees and Katrina Syme. It was also the first time I had the pleasure of discussing the wonderful world of fungi with a group of mycologists." A big congratulation to Tom and thank you for your long-lasting contribution to the AMS!

# International Mycological Association Fellow Medal Awarded to Tom May


Tom was also the recipient of the prestigious IMA Fellow Medal at IMC12. It is always fascinating to hear how people have arrived at this stage in their career, and we asked Tom to give a brief synopsis of his career and how he came to be an eminent mycologist:

How did I get to be a mycologist? I initially studied population genetics and worked on the model organism *Drosophila melanogaster* for my Honour's thesis, but I've had a strong interest in nature since I was very young. In the early 1980s, I was working as a research assistant at the Australian National University and lived adjacent to bushland, where I regularly went for walks. One autumn, I noticed numerous types of mushrooms and this set in train a quest to identify them – a quest that I am still on!

During my PhD, which was a taxonomic study of the genus *Laccaria*, I went off on many tangents, including commencing a checklist of Australia fungi, and my work program continues this multi-facetted approach. When the National Herbarium of Victoria was moving into a new building in 1989, I had a lucky break getting some work curating the fungi collection, which had been neglected for many decades. This was followed by a position supported by the Australian Biological Resources Study (ABRS) which led to production of several Catalogue volumes in the

*Fungi of Australia* series. In 1994, I was appointed to RBGV as a mycologist, and I have worked there ever since.

I've been fortunate to be involved in several step changes in mycology, often through participation in large collaborative teams – including establishment of ITS as the fungal barcode, the first global soil metabarcoding study, the move to one fungus : one name, and the establishment of the discipline of conservation mycology. I think the most important breakthrough I led was coming up with the idea of target species for the Fungimap mapping scheme. This concept is now superseded in the current citizen science platforms such as iNaturalist, but in the 1990s, when Fungimap was founded, a focus on readily recognizable species assisted greatly in making sense of what can often be a chaotic kingdom, for the beginner.

My focus at present is on two things: how to get more names on fungi within a robust species delimitation framework but also the wider context of developing policies and strategies to ensure that fungi get the attention they deserve and that appropriate resourcing is directed to mycology so that mycologists can adequately address the challenges of the scale of fungal diversity. I am working with the peak body for taxonomy in Australia (Taxonomy Australia), advocating for increased resourcing for the Australian Biological Resource Study. Even a modest uplift in the 2 million dollars distributed annually in their grant program would make a big difference – as the grants cover all organisms from mushrooms to mosquitos.

I am honoured to receive the Fellowship from the IMA in recognition of my work on fungal nomenclature, especially through my several-decade association with the Nomenclature Committee for Fungi and the International Commission on the Taxonomy of Fungi. I have friends across the network of mycologists in Australia and globally and I always enjoy catching up with them at International Mycological Congresses. At the recent IMC in Maastricht, my favourite talks were Meritxell Riquelme celebrating 100 years of the spitzenkörper (my favourite organelle) and Alex Idnurm recounting the search for mating type loci in early-diverging fungi, especially the part about looking for something that was not there as being a promising approach. You never run out of things to do as a mycologist and I learn new things every day!

My institutional webpage is: https://www.rbg.vic.gov.au/science/science-staff/tom-may/ and I can be contacted at tom.may@rbg.vic.gov.au

# International Mycological Association Best Early Career Presentation: Elle Bowd


Australasian mycology was very well featured at IMC12 this year, and we would like to congratulate AMS member, and former AMS Research Award Winner, Elle Bowd for the receipt of the best young mycologist talk award at the conference. The conference was attended by ~1,400 researchers and we were treated to five days of amazing talks, so this gives just a taste of how well regarded Elle's talk and research is. Elle was interviewed following the conference by Johanna Wong to gain insight into Elle's career to date:

***Can you tell us about yourself and your research? What are the most exciting findings or breakthroughs you have made in your work?***

I am an ecologist and early-career research fellow at the Australian National University, Australia. My research focuses on understanding the responses of biodiversity, including fungi, to fire, and anthropogenic disturbances. I work predominantly in Australian, eucalypt fire-prone forests, including the tallest angiosperm forests in the world – the Mountain Ash forests of Victoria. I have broad research interests including plant-soil-microbial associations and forest management and restoration. In my research I really enjoy partnering with First Nations Peoples to achieve cross-cultural outcomes through co-design. These include those that aim to support the restoration of cultural burning in grassy woodlands.

Some of my work has highlighted how fungi can respond to wildfire across space and time

and in different Australian forests. Most recently my work on this topic has described different responses of some fungi to fire in the dry sclerophyll forests of Booderee, NSW (some increasing species, some declining). It has also disentangled some of the pathways through which fire can affect ecosystems through plant-soil-microbial feedbacks.

**What inspired you to focus on mycology?**

I have always had a fascination, deep appreciation of fungi, and inclination to explore what is happening in ecosystems beyond the surface level. Ive spend much of my research career trying to understand above-ground responses to big disturbances like wildfire and logging, which has led to my work diving deeper to understand the disturbance responses of below-ground communities that themselves may be driving changes above ground. So in short, my interest in fungi stems from an interest in wanting to better understanding ecological responses to change and what this means in relation to ecological function - given their fundamental function role in key processes and diversity.

**Can you tell us about your experience in the International Mycological Congress in the Netherlands?**

The conference was an awesome opportunity to finally meet many mycologists that I have been following for years. It was inspiring to meet so many dedicated individuals at all different career stages. Listening to many talks and having great conversations with new researchers gave me several ideas for future research collaboration and projects – my head was full on fungi by the end of the 3 days. Talks on the role of fungi in ecological restoration was a particular highlight.

**What does this award mean to you?**

It was a great honour to receive the best talk award for early career researchers, I was very humbled, and pleased to hear so many people were interested in my topic of Fire and Fungi in forests.

**What future research areas or directions are you planning on taking?**

I would love to better understand fungi and fire in Australian ecosystems and how they interact with parts of the ecosystem. This includes understanding how fungi might change in response to cultural burning working with First Nations Australians, and the role of fungi in restoration practices to advise future management practice.

**For those interested in following up with you, how best should they contact you?**

People can contact me by email (Elle.bowd@anu.edu.au) or on my ANU researchers profile.

# Congratulations to our AMS Research Award Winners

Every year, the AMS uses a portion of the proceeds from membership fees to support student and early career researchers through small grants. Once again this year we received many great research proposals from across the Australasian region covering a range of very cool topics. Voted on by the AMS council, our decision as to the awardees was a very difficult job as the quality of the applications and applicants was top notch! We would like to congratulate the winners of this year's round: Eric Asare (Edith Cowan University) and Ramalka Kaslge Western Sydney University).

**Eric Kumi Asare**
(e.asare@ecu.edu.au; kumiasare@yahoo.com)
Edith Cowan University, Western Australia

**Investigating myrtle rust and other foliar fungal pathogens on *Agonis flexuosa***

**Project summary**

Endemic to south-west of Western Australia (swWA), *Agonis flexuosa* (commonly called the WA peppermint) is an important tree species that provides habitat, food, and protection for fauna, particularly the vulnerable Western Ringtail Possum (*Pseudocheirus occidentalis*). However, this tree species is threatened by diseases caused by fungi including *Phytophthora* and *Neofusicoccum australe*. Commonly, these fungal pathogens cause dieback resulting in tree death. Recent detection of *Austropuccinia psidii* (myrtle rust) in the Kimberley adds to fungal pathogens threatening *A. flexuosa* in WA. It is uncertain how *A. flexuosa* will respond to a myrtle rust incursion in swWA, given that *A. flexuosa* has high rust susceptibility but is genetically diverse across native range. The strategic approach towards species conservation, which forms part of my PhD thesis, includes identification of resistant *A. flexuosa* individuals through artificial inoculations. Phenology studies will also be undertaken to identify species vulnerability periods. Further, my PhD investigates other fungal pathogens causing diseases on *A. flexuosa*, aiming to build a reference library of disease symptoms and existing pathogenic fungi. The findings of this study will facilitate disease differentiation from myrtle rust and increase our knowledge of fungal pathogens on *A. flexuosa*.

**Biography**

**Eric Kumi Asare** has gained experience during his research career in plant pathology as a mycologist. He has special interest in understanding how fungal pathogens spread and develop into epidemics, and management using cultural, biological and chemical control methods. However, he grows fungi for food and money. Simply, he is a mushroom farmer!

**Ramalka Kaslge**
(X: @Rama_Kasige)
Western Sydney University, New South Wales

**Build a better plant: the role of silicon and arbuscular mycorrhizal fungi to augment crop defense against *Spodoptera frugiperda* (Lepidoptera, Noctuidae) in Australia**

**Project summary**

Australian agriculture encounters serious challenges from invasive pests, especially armyworms. In the context of grasses, employing Si accumulation alongside AM fungi offers a dual approach for enhancing physical and chemical defenses against insect herbivory. Recent investigations suggest a potential augmentation of Si accumulation in the host by AM fungi while Si availability influences fungal colonization in roots. However, the implications of different fungal taxa and Si interactions on FAW remain unclear.

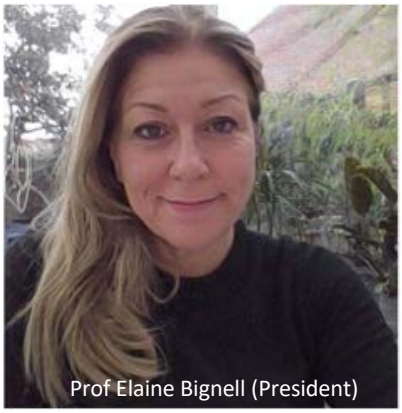
Using the AMS Research Grant, Ramalka will assess how AM fungal-enhanced Si uptake varying among different AM fungi in maize, different AM fungal families differentially affect plant Si, their effects on FAW and how Si and FAW effect on root-colonizing AM fungal diversity and composition. The findings will disentangle emerging patterns of the tripartite interaction and develop a framework for how fungi can alter defences in plants based on susceptibility to plant enemies

**Biography**

Ramalka has been captivated by the insect world since childhood. She completed her Bachelor of Science (Hons.) in Zoology with First Class honours from the University of Colombo, Sri Lanka, focusing on the ecology and behaviour of the Fall Armyworm (*Spodoptera frugiperda*) (FAW). She served as an Assistant Lecturer in university while being a volunteer, a journalist, and a Toastmaster. As she embarked on her PhD journey, her research interests shifted towards studying insect-plant interactions and uncovering natural biocontrol for pests. She is currently pursuing her PhD in Biology at Hawkesbury Institute for the Environment, Western Sydney University, under the guidance of Prof. Scott N. Johnson and Dr. Adam Frew, aiming to develop an innovative approach with silicon (Si) and arbuscular mycorrhizal (AM) fungi to manage FAW in maize.

# Introduction to the British Mycological Society

**Dr. Emma Thompson (Executive Officer, British Mycological Society)**


Prof Elaine Bignell (President)


David Harries (Vice-resident)

The British Mycological Society was founded over 125 years ago to promote the scientific study of fungi and has since grown to be one of the major mycological societies in the world, committed to promoting cutting-edge scientific research, fungal conservation and species recording, and the provision of educational resources.

Its origins can be traced back to the activities of natural history field societies in the mid- to late-19th century when fungus enthusiasts engaged in, and promoted, the study of mycology. Their activities culminated in the formation of the British Mycological Society in 1896 with officers including mycologists from the Royal Botanic Gardens, Kew, together with other eminent mycologists of the day. The first BMS foray was held the following year in Sherwood Forest, Nottinghamshire, England. The activities and operations of the BMS are governed by an elected Council, supported by four main Committees: Fungal Biology Research, Fungal Education and Outreach, Field Mycology and Conservation, and Publications.

The Fungal Biology Research Committee promotes fungal biology as pursued at universities and research institutions, creating a community of academic, industrial and other professional fungal biology researchers engaged in all aspects of mycology. Support for research includes events such as the Annual Scientific Meeting, which attracts academic fungal biologists and leading speakers from across the world, and financial grants that are awarded to researchers at all levels and to support other mycology-focused projects:

The Fungal Education and Outreach Committee develops resources for education including classroom activities and university teaching materials. The committee also organises, supports and promotes events and activities which run concurrently across the country as part of UK Fungus Day. This annual event provides opportunities to discover more about fungi through art and performance, online talks, crafts and creations, blogs, quizzes, competitions and much more! Plus, an online, all-day webinar of international speakers highlights mycology around the world.

The Field Mycology and Conservation Committee focuses on recording and describing the diversity of fungal life and promoting its conservation. Responsibilities include management of the Fungal Records Database of Britain and Ireland (FRDBI) and the provision of field events and workshops for field mycologists.

The Publications Committee oversees the external production of three journals - *Fungal Biology*, *Fungal Biology Reviews* and *Fungal Ecology* - together with the in-house production of *Field Mycology*.

As a charity and membership body, the BMS is open to all who are interested in supporting, promoting and studying any aspect of fungal science and conservation. It aims to maintain links with other relevant national and international learned societies and organisations, and enable connections across the breadth of the mycology community.

Website: www.britmycolsoc.info and www.ukfungusday.co.uk
X: @BritMycolSoc @BMS_Scientific @UKFungusDay
BMS Facebook Group: www.facebook.com/groups/18843741618
BMS YouTube channel: www.youtube.com/@BritmycolsocOrgUk
UK Fungus Day on Instagram: www.instagram.com/ukfungusday

# Report of Australasian Mycological Society – Australasian Fungi Conservation Group

**By Tom May (Royal Botanic Gardens Victoria) & Peter Buchanan (Manaaki Whenua – Landcare Research)**

The Australasian Fungi Conservation Group operates as a Google Group, connecting members and others with an interest in fungal conservation. Membership is open to any interested persons. There have been a few posts to the mailing list for the Conservation Group over the last year.

The AMS website has a page about fungi conservation: (https://www.australasianmycologicalsociety.com/conservation-group). There is a table with information on species from the Oceania region that have been assessed for the IUCN Red List of Threatened Species. The table was recently updated to now include 84 species. Of these, 39 are native to Australasia and considered threatened, including three assessed as Critically Endangered and 18 as Endangered. There remains scope to prepare nominations of fungal species for threat assessment under state and commonwealth legislation in Australia.

Internationally, the 16th Conference of the Parties (COP16) of the Convention on Biological Diversity was held in Cali, Colombia in October 2024. At COP16, a network of mycologists coordinated by the IUCN Fungi Specialist Group distributed a document about the 'Contribution of fungi to the Global Biodiversity Framework' (available at: https://drive.google.com/file/d/18t7xchAkh4RR_C29YA5lYl20l7yZzr2E/view?usp=drive_link) . The Kunming-Montreal Global Biodiversity Framework (GBF) sets out a pathway toward achieving the vision of a world living in harmony with nature by 2050. 'Contribution of fungi to the Global Biodiversity Framework' demonstrates the importance of fungi for achieving the GBF goals and targets. The aim is to encourage countries, in meeting their GBF goals and targets, to integrate fungi into their conservation policies and actions.

Another mycological initiative at COP16 was the presentation of a pledge "Towards the recognition of fungi as an independent kingdom of life in national and international legislation, policies and agreements, …" [https://assets.ffungi.org/FungalConservationPledge2024_EN.pdf]. Essentially, the pledge calls for a greater emphasis by the CBD on fungi. This pledge was presented by the governments of Chile and the U.K., in association with the Fungi Foundation, and now has the support of a dozen or so other countries – but not yet Australia or New Zealand. Fungimap will be coordinating efforts to encourage the government of Australia to sign on to the pledge – and will be contacting organisations such as AMS for their support in this advocacy.

# Letter from Taxonomy Australia

**By Tom May (Royal Botanic Gardens Victoria) & Peter Buchanan (Manaaki Whenua – Landcare Research)**

Taxonomy Australia is the peak body for taxonomy in Australia, created as part of the implementation of *Discovering diversity: a decadal plan for taxonomy and biosystematics in Australia and New Zealand 2018–2028*. Taxonomy Australia is supported by the Australian Academy of Science and has a Steering Committee that includes representatives from sector organisations. Tom May represents AMS on the Steering Committee of Taxonomy Australia, which meets four times year.

*Australian Journal of Taxonomy* (https://www.taxonomyaustralia.org.au/ajt/home) is published by Taxonomy Australia, as a venue for rapid publication of new taxa and updates to taxonomy, across all organisms. So far, AJT has published 78 papers on various groups, including a number of papers on fungi covering new species of, *Minivolcanus*, *Neospadicoides*, *Pseudobaeospora* and *Russula*.


Taxonomy Australia is currently developing an advocacy strategy focussed on the concept of a mission to describe all the biota of Australia (animals, fungi and plants) within a generation (25 years). Key enablers of this mission are a call for an uplift in the annual grant funding distributed by the Australian Biological Resources Study (ABRS) from $2M to $20M and the completion of the Australian National Species List (NSL). Taxonomy Australia is currently liaising with organisations represented on the Steering Committee to gauge support for the mission and the ask.

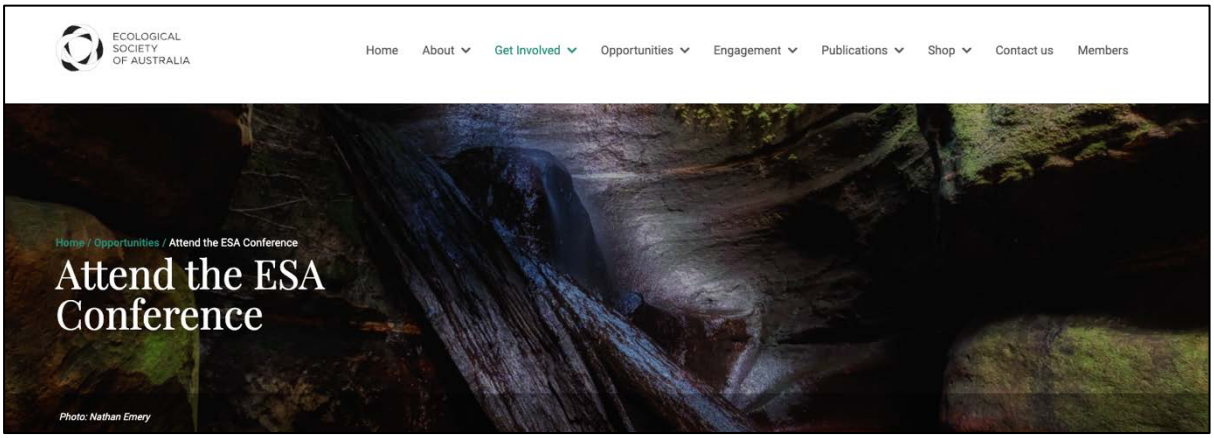
A complete documentation of Australia's biota has benefits across multiple sectors, including conservation, biosecurity and utilisation. According to a report by Deloitte Access Economics,

every dollar invested in a mission to document the biota of Australia has the potential to yield a return of up to 35 dollars. The ABRS grant program is a key component of being able to describe fungi and other poorly known groups of the biota. However, the ABRS grant pool has remained static for at least several decades, and even in the 1990s the funding distributed by ABRS was regarded by the Australian Academy of Science as “critically underfunded”.

# AMS at the Ecological Society of Australia Conference

The AMS will be at the ESA conference a little later this month to celebrate the end of a great year of mycology. Fungi will be front-and-centre on the Monday including an AMS-led symposium on "Fundamental and applied mycology: a global nexus for cross-kingdom interactions." This symposium, headed by Dr's Camille Truong, Anna Hopkins, and Jonathan Plett, will focus in both terrestrial and aquatic systems to show how fungi provide fundamental ecosystem services and establish a wide range of beneficial and antagonist interactions with animals, plants and microbes. These interactions are increasingly recognized to play critical roles in regulating population dynamics, biodiversity patterns, ecosystem processes, and host health. With less than 10% of an estimated 2.5 million fungal species that have been described to date, mycology is among the largest reservoirs for new discoveries, yet the discipline is often neglected in academic programs in Australia. The Australasian Mycological Society (AMS) is the sole scientific society dedicated to Fungi in the region.

Every two years, AMS hosts a mini conference as a platform for ECR and established mycologists to network and present their research. Collectively, this symposium will provide the opportunity to bring together scientists from different disciplines and career stages around a shared interest in harnessing knowledge about Fungi and cross-kingdom interactions. The presentations will showcase innovative approaches to answer fundamental questions and develop hand-on applications to address the consequences of anthropogenic-driven disturbances, climate change and biodiversity loss. Central to this symposium is the broad spectrum of research topics and scales, from cells to whole ecosystems, highlighting the importance of a multidisciplinary approach to better manage both natural and agricultural ecosystems, as well as benefit host health. As such, this symposium will have a particularly broad appeal, and generate interest from researchers across a range of disciplines in ecology. We hope to see you there, and that you come by and say 'hi'!



## Special Screening @ESA: Follow the Rain


As covered earlier this year in the March Newsletter, a new documentary featuring input and interviews with many members of the AMS was debuted. In FOLLOW THE RAIN Stephen Axford and his partner in life and all things fungi, filmmaker Catherine Marciniak take us into their fungi obsessed world. They share their fungal finds in some of the most stunning wild landscapes of Australia – tropical islands, ancient rainforests, the hostile majesty of the desert. Since that time it has been screened globally and has even been taken up by Netflix! The AMS has also arranged a special screening of this documentary at the upcoming ESA conference – we hope that you are able to join us!

## Upcoming Events

### Conference of the Ecological Society of Australia

**9-13 December 2024** | Website | Melbourne, VIC

The ESA fosters excellence in ecological science and practice. We create an inclusive community to support research and knowledge sharing to better understand ecological systems. We apply this knowledge for the benefit of people and nature. More information on the conference will be announced in early 2024.

### Immunology of Fungal Infections Gordon Research Conference

**19-24 January, 2025** | Website | Ventura, CA

The Immunology of Fungal Infections GRC is a premier, international scientific conference focused on advancing the frontiers of science through the presentation of cutting-edge and unpublished research, prioritizing time for discussion after each talk and fostering informal interactions among scientists of all career stages.

## Fungal Update: Mycology 2025

**14-15 March, 2025** | Website | London, UK

Ready to explore the cutting-edge of medical mycology? Registration for Mycology 2025 is officially OPEN! From AI Innovations to *Candida* Resistance, Climate Change to Clinical Conundrums, register now to be part of the conversation.

## Australasian Plant Pathology Society Conference 2025

**26-28 May, 2025** | Website | Sydney, NSW

Plant pathology collections are valuable to agriculture, ecology, and biosecurity, preserving specimens, and living cultures, from both economically and environmentally important plant species. At the 25th APPS conference we aim to put the spotlight on these collections, highlighting their role in research and biosecurity and how they can be used, and improved, to ensure they continue to be a vital resource for researchers and decision makers into the future. Plus all your favourite plant pathology topics!

## Mycotoxins and Phycotoxins Gordon Research Conference

**15-20 June, 2025**| Website | Easton, Massachusetts

The Mycotoxins and Phycotoxins GRC is a premier, scientific conference focused on advancing the frontiers of science through the presentation of cutting-edge and unpublished research, prioritizing time for discussion after each talk and fostering informal interactions among scientists of all career stages. The conference program includes a diverse range of speakers and discussion leaders from institutions and organizations worldwide, concentrating on the latest developments in the field.

## Australian Society for Microbiology National Meeting 2025

**14-17 July, 2025**| Website | Adelaide, SA

Mycorrhizae, plant-fungal symbioses, which are widely distributed across terrestrial ecosystems, are critical to the evolution, ecology, and diversity of plants, fungi, and beyond. We hope to create a space for scientists to share their research from different disciplines, and aim to provide a platform to encourage young and creative scientists to start a great career by exchanging ideas and knowledge with scientists from all over the world

## 7th International Molecular Mycorrhiza Meeting

**16-18 September, 2025** | Munich, Germany

Mycorrhizae, plant-fungal symbioses, which are widely distributed across terrestrial ecosystems, are critical to the evolution, ecology, and diversity of plants, fungi, and beyond. We hope to create a space for scientists to share their research from different disciplines, and aim to provide a platform to encourage young and creative scientists to start a great career by exchanging ideas and knowledge with scientists from all over the world.

## International Conference on Mycorrhiza 13

**July 2026** | Cairns, QLD

The 13th International Conference on Mycorrhiza (ICOM13) will be held in Cairns, QLD. The conference is being organized by 12 Australasian mycorrhizal scientists co-led by Associate Professor Jonathan Plett (Western Sydney University) and Dr Stephanie Watts-Fawkes (University of Adelaide).

**We are calling for illustration and photograph submissions for the AMS merch store!**


Do you have some awesome illustration that you would like to share? Or maybe an incredible photograph of a mysterious mushroom? We want you to contribute your 'fungi art' to our shop!

All proceeds of our shop will contribute to research grants and networking activities for mycological researchers in Aus & NZ.

You can already get T-shirts, jumpers, stickers, pins, or tote bags like this from our shop featuring Jordan Bailey's "Mushroom basket".

Submit your artwork to: ausmycsoc@gmail.com

To support our society, check out our products here at the RedBubble AusMycSocShop

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If you have anything you'd like to contribute to the next edition of the AMS Newsletter, or if you would like to have your research or event featured, please contact our Interim Secretary Camille Truong (ausmycsoc@gmail.com). We're after content highlighting your latest research, profiles on mycologists from your network, mycological events and news, career and scholarship opportunities, and photos or artwork of new or interesting fungal species.

In our continued effort to promote and disperse the amazing mycology research being done in the Australasian region and beyond, we are also still looking for suggestions of people you would like to hear from in our monthly seminars. Please contact Camille Truong (ausmycsoc@gmail.com) with your recommendations or to let her know if you would like to give a seminar yourself!

Associate Professor Jonathan Plett
AMS President, on behalf of the AMS Council