

In this issue: Highlights from BUC 2024 and the Second Student Botany Festival, the art and photography competition, dendrochronology, elders, book & podcast reviews and more!

BUC IN FEBRUARY 2025

BUC is an annual competition between teams of university students, undergraduates & postgraduates. It embraces many aspects of botany: plant identification, plant science, plant pathology, plants in history and culture, amongst other themes. BUC 2024 involved 28 teams and expect similar numbers to compete in 2025! The BUC 2025 online rounds will take place on 12, 17 and 26 February, followed by the semifinal and finals held at The University of Cambridge Botanic Garden later in the year, all live streamed on YouTube - why not join in?

In 2025 there will be two knockout rounds of multiple choice questions until 8 teams are left. In the quarterfinal the teams will also be asked multiple choice questions with the four top scoring teams competing in the semifinals. These will involve free answer questions to reveal the champions and runners up in Botanical University Challenge 2025.

Dates

Call for BUC 2025 teams!

17 January: Team registration deadline

12 February: Knockout Round 1, online start 14:00

19 February: Knockout Round 2, online start 14:00

26 February Quarter Finals, online start 14:00

NB All BUC 2025 rounds will be live-streamed!

Follow us on Social media: X @BUCBotany
 Instagram @botanicalunichallenge
 Threads @botanicalunichallenge
 Bluesky @bucbotany.bsky.social

How can I enter Botanical University Challenge 2025?

One teams of 4 BSc MSc or PhD students with one reserve can enter the competition from each institution. Where there is a lot of interest (and why wouldn't there be?!) we suggest holding an internal contest to select team members and the reserve. Any questions email i.mitchley@reading.ac.uk or follow the link to the registration form below:

Read more about BUC on our website

<https://botanicaluniversitychallenge.co.uk/>

Watch past contests on [BUC YouTube channel](#)

To enter a team for BUC 2025 follow the link:

<https://forms.gle/dEiLFjWoSARhjZ3r8>

Registration Deadline: Friday 17 January 2025



FINALS OF BUC 2024!

By Meriel Jones,
The BUC Team



The semi-final and final were hosted by the Oxford Botanic Garden and Arboretum and The Queen's College, University of Oxford at the end of August 2024. Teams from the Universities of Cambridge, Reading, York and the Royal Botanic Garden Kew competed in the semifinal.

All the teams answered a range of free-answer questions and were also given a live plant and asked questions about it. Most excitingly, a new format of question was introduced for the first time – The Botany Grid or Wall! This was inspired by the TV quiz show *Only Connect*. Teams had to group sixteen plant names into four sets, and then explain what they thought connected the four groups. You can try an example at <https://puzzgrid.com/grid/98713> and watch the team from University of York smashing through one of the walls in the semi-final here: <https://bit.ly/3YYuZ4j>

Our brilliant question askers were Dr Lucy Sutherland, Director of the National Botanic Garden of Wales/Gardd Fotaneg Genedlaethol Cymru in the semi-finals, and Professor Lindsay Turnbull, University of Oxford, in the finals. As always the teams astounded the audience with their knowledge, to the visible and audible delight of the audience in the room and on-line. Universities of Cambridge and York teams made it into the final and after a very closely fought contest, the team from University of Cambridge were declared the BUC 2024 champions!

There were prizes galore, and teams who had reached Round 2 had already received some publications from the Field Studies Council and all who had reached the quarterfinal had received a year's paperless student membership of BSBI. Now, the winning team each received copies of *Frustrating Flowers and Puzzling Plants* by John Warren (kindly donated by Pelagic Publishing), and they and the runners up received additional FSC publications - and as well as gift tokens. The winning team had their name inscribed onto the Sid Thomas Trophy and received it to care for until it is handed on to the winners of BUC 2025!



BUC 2024 Champions from University of Cambridge left to right: Lottie Apsey, Bertie Titley, Jake Dalzell, Andrew Berley, Yi Zhao

THE WINNERS!

By Jake Dalzell, University of Cambridge

This year's Botanical University Challenge was a fantastic experience and a wonderful way to meet other young botanists. As captain, I tried to find people with varying and complementary interests so we each brought something different to the team. The Cambridge team came in second last year so we felt the pressure to beat our previous record. However, we decided to take it easy and focus on having fun - and it paid off! While being under the spotlight in Oxford was slightly terrifying, we particularly enjoyed this year's edition of the grid, which took the challenge to a new level. Afterwards, we were all buzzing for this year's Student Botany Festival, which was definitely the highlight of the whole experience. I would highly recommend BUC 2025 to anyone considering forming a team!



The runners up team from the University of York!

THE RUNNERS UP!



By *Amelia Lyons, University of York*

I was very excited to join the York BUC 2024 team, as it can be hard to find other people who love plants as much as I do when doing a general biology course - most of my friends are human biologists. This was my chance to be around other like-minded people as well as hone some of my botany skills. To prepare for the knockout rounds I practised my Latin binomials and got to grips with plant families, form, and fun facts. After we successfully got through to the semi-finals, I started reading more books in preparation - covering topics from temperate rainforests to fungal mythology.

As August approached, I found myself increasingly both excited and nervous. I was delighted at the prospect of spending three days solely with other botanists, including some of my favourite plant scientists who had written the very books I had been reading over the summer. I was also scared about competing in front of a live audience, but it wasn't nearly as bad as I had anticipated, and I actually had a lot of fun. It was a tense yet rewarding afternoon. While we didn't win in the end, we were strong competitors to the Cambridge team the whole way through. The two-day botany festival was brilliant, informative and highly enjoyable. I would strongly encourage anyone interested in plants or who just love quizzes and competition to sign up next year, as it truly was a formative experience.



STUDENT PERSPECTIVES FROM THE FESTIVAL

BUC for entomologists as well!

Harper Hemlocks, Harper Adams University



Our team, assembled by Dr Andy Cherrill, were invited to take part in the Botanical University Challenge, even though none of us were botany specialists. Knowing little about the competition, we did some research and prepared as best we could, focusing on understanding the fundamentals of botany, particularly native plants and plant-insect relationships, as they were most relevant to our interests. As we progressed through the competition, we became more competitive, and we were determined to get to the second round. Succeeding in this aim was such a pleasant surprise, considering the knowledge of the other teams. Although we were disappointed not to advance further, we are still incredibly proud with what we have achieved. As next year's team will be a completely new set of students, we hope they will represent our university as we all had such a great time participating.

Josh and Matthew were able to attend the quiz and botanical festival hosted at Oxford University. This was a really enjoyable experience. It was great to meet other people at slightly later stages in their careers to get advice from, as well as peers interested in similar fields. Even as entomologists we were made to feel really welcome, and it was fascinating to hear other perspectives on ecology and conservation.

Overall, we would definitely recommend getting involved with BUC, even if only peripherally interested in botany, as everyone's passion and knowledge was contagious.



The Harper Hemlocks. Left to right – Matthew England, Lucy Costick, Tilly Reynolds, Josh Boe, Alan Maude. Image credit Andy Cherrill.

BUC, a botanical bonanza for plant people!

By Becky Keeling, Eden Project University Centre

I am fortunate enough to have attended both BUC Student Botany Festivals in 2023 and 2024 in Nottingham and Oxford respectively. As a last-minute team member replacement for the Eden Project University Centre team last year, I was slightly daunted as we had reached the live semi-finals with our brilliant team (nothing to do with me!). We lost out to the eventual champions, Oxford but the experience was fantastic.



The semi-finalists in BUC 2023

This year our (mostly) young team reached the 2nd round and it was a different experience altogether not having to compete live at Oxford. The quiz itself is challenging and the questions get harder every year but seeing the breadth and depth of plant knowledge teams have is always inspiring. Do not let this put you off entering BUC 2025, you will be amazed at what you do know and it's a great opportunity for learning.

I would urge all students in plant science and related fields to put together a team and get involved in this fun competition as it provides the unique opportunity of attending the Student Botany Festival hosted by the BUC team. In its second year, this event provided so much information and inspiration for those going onto further study and future job roles in the sector. It was also a gentle and friendly entry into the world of networking and conferences. Each and every speaker and attendee were approachable and helpful. Personally, the festival helped me to break out of my university bubble and realise that my broad plant science undergraduate degree can lead to any number of interesting careers and specialisms and even PhDs! The experience helped me decide to pursue a career in ecology and I have just started a master's degree apprenticeship in land and ecological restoration at Eden Project, working for the National Wildflower Centre.

Oxford 2024 was honestly one of the highlights of my year. An unbelievable setting at Queen's College, a formal dinner, a drinks reception at Oxford Botanic Gardens, some brilliant speakers and a choice of tours on the third day. If I could, I would attend every year but I suppose I should let others have the opportunity next year! I will continue to follow as BUC evolves and would like to thank all of those involved for such a hugely successful endeavour.



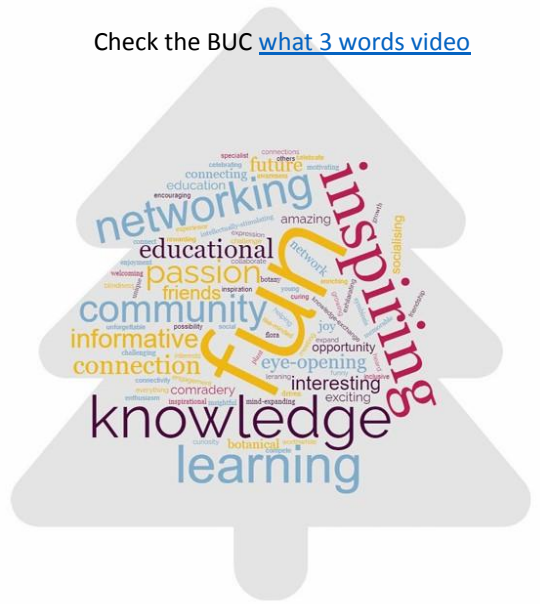
Eden Project University Centre Team BUC 2024 from Left to right: Alfred, Kate, Alice, Becky and Alisa.



4



Check the BUC [what 3 words video](#)



A word cloud of student appreciation created from the feedback

Watch the [BUC 2024 summary video](#)

A whistle stop tour of the BUC festival!

By Vikki Rose, University of Reading

The Queen College Oxford was the very glamorous venue for the 2nd Student Botany Festival which ran between 28 - 30 August 2024. Previous rounds of Botanical University Challenge had been hosted online in February with 28 teams entering to answer questions testing every inch of their botanical knowledge. Cambridge, Kew, Reading and York were successful in getting through to the semifinals and every team that took part was invited to the festival with guests welcomed to the facilities and accommodation within the college.

The live semi finals opened the festival with Cambridge taking on Kew while York were pitted against Reading. After some nail-bitingly close rounds (including the new, and terrifying, wall round a la Only Connect) Cambridge emerged victorious to receive the very gorgeous multispecies wooden trophy from last year's winners Oxford, while all semi-finalist teams received ID resources and BSBI membership. Winners for the photo and art competition were also announced and the afternoon finished with students giving flash presentations about themselves and their research interests before the formal dinner provided students with a chance to chat and get to know one another.

Thursday focussed on careers both within and outside academia with a Keynote speech from Alex Antonelli, and a multi member panel plant science research showcase as well as displays from BSBI, RSK and the New Phytologist in the college gardens. A drinks reception at the Oxford botanic gardens gave participants the chance to explore before returning to Queens for a buffet dinner. An additional board games session was also held later that evening for anyone with energy left over!

Friday, the final day, came all too quickly. Participants had the chance to pick workshops and tours based on their own interests with BSBI hosting an additional mini-FISC plant ID activity in the botanic gardens. Skills sessions covered the topics of academic writing, floral dissection, botanical illustration and conifer Identification. While guided tours were given by curators and ethnobotanists.



(Above) Dr Chris Thorogood leading the botanical illustration workshop - image credit Vikki Rose, (Below) Drinks reception at the Oxford Botanic Garden - image credit Laura Bennetto



Having been lucky enough to be a participant I can say with certainty it was a magical few days getting to know fellow botanists, learning new skills through the workshops and being inspired by both fellow students as well as the speakers and organisations that took part. Massive thanks go to Oxford (and particularly Lauren Baker) for organising and hosting, everyone who came to present or run a workshop, fellow participants and the BUC planning team who all worked so hard to pull this together. I'm looking forward to next year already!

The BUC Art and Photography competition

By Meriel Jones, The BUC Team

The judges were Chris Thorogood (Oxford Botanic Garden and Arboretum), Susan Medcalf (Natural England) and members of the BUC 2023 Oxford team, especially Ellen Baker, Mayur Prag and Lucy Morley. They selected a short-list of 15 entries and then a winner and runner-up in each category.

In the categories for Photography:



1) Survivor (for DSLR/professional cameras)

The winner was *Glacial Pioneer – tufted saxifrage, Saxifraga cespitosa* by Calum McLennan, Lancaster University with the runner-up *New Life out of Old* by Emmeline Smith, University of Reading

2) Overlooked (for smartphones)

The winner was *Monotropa hypopitys* by Marco Dobson, Edge Hill University with the runner-up *Bryophyte Boulder* by James Ashford, Prifysgol Aberystwyth University.

The photography winners were awarded vouchers to enter the Young Wildlife Photographer of the Year competition.

For Fine Art, there were two categories, **Realism and Abstract**. One winner and runner-up were selected across the two categories. The winner was *Under the Radar – Jamie Hewetson, Durham University* and the runner-up was *Oxford ragwort embroidered t-shirt* by Sarah Clark from Oxford Brookes University. They were awarded tokens for materials most relevant to their media.

All the shortlisted photographers and artists also received high-quality prints of their work.

A [video of all the shortlisted entries](#) can be seen on our YouTube channel.



Students admiring the competition entries - image credit the BUC team

Keeping in touch with BUC:

The Botanical University Challenge LinkedIn

By Alastair Culham, BUC Planning Team and LinkedIn Group Owner

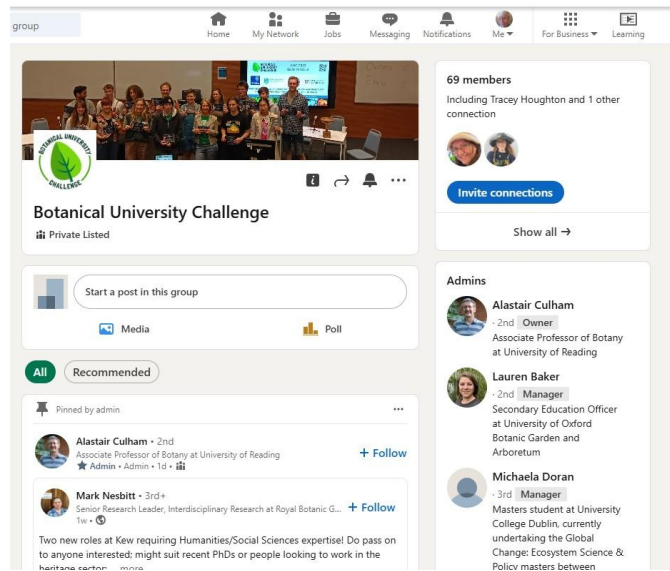
What is the Botanical University Challenge LinkedIn group for and why join?

Using LinkedIn effectively can significantly boost your professional presence and opportunities in the field of botany. The launch of the Botanical University Challenge LinkedIn group aims to help our growing body of BUC botanists in several ways:

1. **Networking:** Connect with other botanists, researchers, and professionals in related fields. This can lead to collaborations, job opportunities, and knowledge sharing.
2. **Showcasing Expertise:** Having your own LinkedIn profile highlights your education, research, publications, and projects. This helps establish your credibility and visibility in the field. This group is one place where relevant people can find it.
3. **Job Opportunities:** Many organizations post job openings on LinkedIn. You can follow companies and institutions you're interested in and apply directly through the platform. We hope that those of you who spot jobs through one of your contacts will repost in the BUC group.
4. **Staying Updated:** Follow relevant groups, organizations, and individuals to stay informed about the latest in botany. If you've seen a good paper, vlog, blog etc, please share it.
5. **Sharing Research:** Publish updates, and findings to share your work with the targeted botanical audience on BUC LinkedIn.
6. **Sharing opinions and ideas:** you can comment on other posts and help everyone develop ideas within the botanical community.

To join, search for Botanical University Challenge on the LinkedIn website after you have made your own profile.

We welcome ideas of who you would like to add to this group, such as other botanists, botany linked companies including consultancies or learned societies.



Botanical University Challenge LinkedIn Group

New Botanical University Challenge iNaturalist Project

By Kian Hayles-Cotton, University of York

A new project has been launched to encourage species recording and the development of identification skills following on from BUC 2024 amongst BUC competitors and alumni. The project (Botanical University Challenge iNaturalist Network) which captures plant, fungi and algal records on the popular citizen science recording platform, iNaturalist, is building a network of student recorders and is already showing the considerable contribution that BUC alumni are making to conservation science. So far students have made 29,392 records of 3364 species in 22 countries spread across 5 continents, including some rare species such as: Wrinkled Peach, York Groundsel and Tufted Saxifrage.



Calum McLennan (Lichen Agaric, Bladder Wrack), Louisa Mammalis (Bloodlily), Kian Hayles-Cotton (Prickly Pear, Gray Witch's Hair, Capillary Thread-moss), Finn Harrigan (Scruffy Scalycap), Jake Dalzell (*Peronospora fulva*) and Jess Duffy (Pacaya Palm).



Calum McLennan (just graduated from Lancaster University), the top recorder in the project said that: *"I joined iNaturalist in 2019 on recommendation of the Field Studies Council Young Darwin Scholarship... I found that people were willing to help identify bryophytes"* a group he was fascinated by but had little help in learning them. iNaturalist helped him develop his bryology skills, mentored by George Greiff (currently a PhD student at University of Bristol but keen on bryophytes for almost 10 years, check out <https://bryophilous.co.uk/>). Calum went on to help identify bryological records across Europe. Calum uses the site now to make records of all kinds of taxa, as well as to store and organise an impressive and growing library of wildlife photos. The site's breadth has encouraged him to branch out as well and delve into *"lichens, freshwater red algae, springtails and galls"* amongst many others and find new adventures to go and see species recorded by other users.

If you'd like to get involved in iNaturalist you'll need an iNaturalist account, a camera/mobile phone and a desire to look for wild plants/fungi/algae! Any pictures you take of a species you've seen can be uploaded with a location and date and you can suggest an ID if you think you know what it is. Even if you're not sure you can identify species to low taxonomic levels - even just a plant. Other users will then be able to see your observation and help you identify it and if enough people agree it will make the gold-standard *"Research Grade Observation"*. These records then find their way into databases used by scientists such as GBIF or NBN Atlas.

To be added to the Botanical University Challenge iNaturalist Network project contact Kian Hayles-Cotton by email (kian.hayles-cotton@york.ac.uk) or by iNaturalist (kh-c).

BUC Alumnus Interview - Finn Harrigan

I am an avid naturalist with an ever growing love and appreciation for biodiversity and the natural world, and now am employed as a Curator Mycologist in Kew's Fungarium. Following my obsession to understand the rich diversity of forms and life histories across taxonomic groups has given me the opportunity to connect with and appreciate the natural world through many means.

Taking part in local wildlife walks with different groups has developed my field identification skills for several taxonomic groups over the years, allowing me to record wildlife as a citizen scientist wherever I go. I record wildlife in threatened habitats local to Hertfordshire where I grew up. Recording rare and threatened species in my local species-rich calcareous grassland has helped fight for its conservation and put the site on the map for development plans to be mindful of. I am hopeful it will eventually receive wildlife site status.



As a Riverfly Monitor I have supported local chalk stream restoration efforts. I love public engagement and citizen science. During my undergrad Biological Sciences degree, I co-founded the Durham University Natural History Society to engage more students with pressing environmental issues and wildlife by leading wildlife walks and workshops. My Masters degree in London allowed me to complete fieldwork collecting fungi and plant specimens in Madagascar for Kew's Fungarium and Herbarium. I feel incredibly privileged to have been taken on as a Curator Mycologist in Kew's Fungarium after finishing my MSc degree.

What excites you about your current post?

Being able to develop my curation skills while improving my knowledge and grasp of mycology and taxonomy is so exciting! I will be joining the British Mycological Society for field work in the Forest of Dean with a few other Kew Mycologists at the end of October. I can't wait to learn from these knowledgeable field mycologists and make my own collections to incorporate into the Fungarium. Additionally, I have Fridays every week to use for my own research where I hope to spend more time looking at Madagascan fungi collected during our MSc fieldwork.



Finn Harrigan in the Kew Fungarium. Image credit: Kew/Finn Harrigan



How does Kew Fungarium engage with current issues?

Kew's Fungarium is the largest, and oldest (and best!) of its kind in the world. Acting as a repository for collected fungi, Kew's Fungarium is a critical resource for mycological studies as well as taxonomy, holding an estimated 1.3 million specimens representing 60% of the world's genera, including many type specimens. The Fungal Kingdom of life is incredibly diverse (the second most diverse group of organisms, after insects) with around 150,000 species described, although estimates suggest at most 10% of global species have been identified. With increasingly accessible molecular methods used on Fungarium specimens, DNA work is crucial to the discovery and description of fungal diversity. A greater understanding of fungal diversity will help us understand anthropogenic impacts and conservation of fungi, with important implications for applied uses such as medicines and producing sustainable materials.



Specimens in the Fungarium. Image credit: Kew/Finn Harrigan



What's your favourite part of it?

My favourite is the freedom to explore areas of fungal diversity that I find most interesting through a range of means. I can't wait to build and practice my own tour for visitors and share insights into the vast range of interactions fungi have with other organisms and their implications at the ecosystem level. I am also excited to help with the next exhibition at the Marianne North Gallery in Kew Botanic Gardens about Woodland Ecosystems where items from the Fungarium, Herbarium and Economic Botany Collections will be showcased together.

What disciplines does it involve?

Beyond mycology, the job includes a range of disciplines. I think it is very advantageous in mycology to have broader natural history skills and knowledge since fungi interact with countless other organisms with important implications for ecosystem functioning. Other disciplines are related to collection curation and management, which involves organisational skills and vigilant data management and attention to detail.

What surprises/ challenges have you found?

I was most surprised to find out how much of a recurring challenge deciphering difficult handwriting on collection labels would be! Note to specimen collectors - be legible!!!

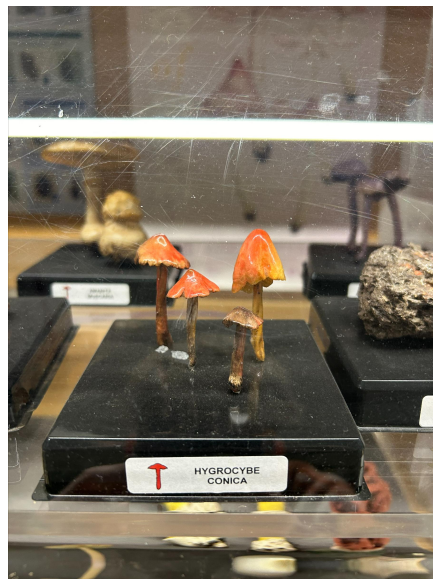
What's your favourite fungus?

My favourites are the waxcaps (*Hygrocybe*). Many are indicator species for unimproved grasslands which are biodiverse threatened habitats that I love spending time species recording in!



(Above) Fresh scarlet waxcaps (Hygrocybe coccinea) from the Peak District. Image credit: Ben Deed, iNaturalist

(Below) Preserved specimens of Hygrocybe conica in the Fungarium. Image credit: Kew/Finn Harrigan



Adventures with the Flora of Iceland

By Marco Dobson, Edge Hill University

Arctic-Alpine ecosystems deserve our attention. They are home to highly unique and extremely rare floral communities and plant species, but their importance goes beyond measurable science. The beauty of arctic alpine-plants growing in their untamed and harsh environments is unparalleled, and their sheer ability to persist in the conditions we humans deem so inhospitable, calls for great respect.

In the Summer 2024, I had the privilege of spending a packed few weeks living and working in the arctic-alpine environment of Thórsmörk and Godaland, in Southwest Iceland, where sharp-peaked mountains, volcanoes and glaciers dominated the landscape.

Adventures in Dendrochronology

By Billy Fullwood, University of Plymouth

Here, the arctic-alpine floral jewels spread right across valley floors extending to the mountain peaks - an interesting conjecture when we think of the British and Irish arctic-alpine flora, which is commonly restricted to mountain tops, cliff faces and high-altitude plateaus. Though of course, the latitudinal position of Iceland, being positioned within the Arctic Circle, results in the wider spread and distribution of commonly labelled "Mountain Plants".

Thus, in Thórsmörk, *Silene acaulis* (Moss Champion), a low-growing cushion forming member of Caryophyllaceae mainly restricted to the mountains in Britain and Ireland, was widespread from sea level through mountain slopes to high plateaus, filling the whole region with exquisite pink tones and lime-green carpets. This species demands respect! Estimates by some scientists suggest that individuals of *S. acaulis*, are more than 330 years old, and likely survive longer. People often wonder what old trees have 'seen' and experienced during their long lives, but maybe we should also ponder: "What have the Moss Champions 'seen', and what too could they tell us?"



Moss champion (*Silene acaulis*) in Iceland. Image credit: Marco Dobson

It was not only *S. acaulis* that was intriguingly widespread in this corner of Iceland. *Botrychium lunaria* (Common Moonwort) appeared throughout the short turf, and *Salix lapponum* (Woolly or Downy Willow) filled the valleys and mountain sides with soft silvery tones, dominating the rich and vibrant montane scrub habitats that cloaked the region. In Britain and Ireland, we are just about clinging on to our last mountain woodlands containing *S. lapponum*, so to see it in such abundance in Iceland was remarkable. It is so important to experience healthy mountain ecosystems, because it gives us hope for the future of the mountains in Britain and Ireland, and how our remaining patches of arctic-alpine flora should look, if treated and managed sensitively.

During the summer I undertook a six-week long research placement at the University of Plymouth, which was funded by the ARIES Doctoral Training Partnership and overseen by Dr Scott J. Davidson of the Wetland Resilience Research Group. As part of the research placement, I examined if dendrochronology could tell us about how climate change and land management were affecting the growth of wet Willow (*Salix* sp.) woodland at Goss Moor National Nature Reserve, Cornwall, UK.

I had never considered dendrochronological research before this experience. Instead, my botany experience had been largely field and identification based, so I was keen to begin! Like so many I had thought that it would involve cutting down whole trees and extracting a cross section of trunk (called "cookies" by those in the industry), and manually counting the annual tree rings. While this is a valid method of conducting dendrochronological research, my method called for a slightly less intrusive sampling technique - coring with an increment borer!

Increment borers made their debut in 1889, and soon became an important tool in forestry research worldwide, as they allowed foresters to extract a cylindrical core of wood from a live tree to observe rates of growth or spread of disease. An increment borer is used by steadying the drill bit against a tree trunk (or any other wood sample) with one hand, and rotating the handle clockwise - this initial step requires a good deal of force to get the drill bit to grip! Once the drill bit is in the trunk, the coring process becomes far easier; the handles are continually rotated clockwise until you reach 55% of the way through the tree. A thin metal extractor (called "spoons" by avid dendrochronologists) is inserted down the length of the drill shaft, which grips onto the tree core and allows for extraction. Extracted cores are carefully placed into temporary mounts (many dendrochronologists, including myself, use paper straws) until they can be dried and mounted permanently for further processing.



Typical wet woodland habitat at Goss Moor NNR. The tree architecture made it tricky to sample! (Top right - A freshly extracted Willow core) Image credit: Billy Fullwood



THE THYMES INTERVIEW: SOPHIE COWLING



Watch the [whole interview](#)

Sophie Cowling is now a senior scientist at the Freshwater Biological Association. She previously worked for Earthwatch on their Tiny Forest project and as a scientific advisor for Plantlife International and advisor on environmental data analysis for Natural Resources Wales (NRW).



Sophie Cowling. Image credit Sophie Cowling

The Thymes: You've done a number of different things in your career so far, but how did you get into plants?

SC: It's a weird and wonderful story, and mostly down to fantastic university lecturers. I've always had an interest in the natural world. My mum loved gardening, and I found it slightly embarrassing that she'd speak to her plants. Now, as a gardener myself, I completely get it, and I wish I'd appreciated it more at the time. I think that sowed a seed in my mind.

I went started biological sciences degree at the University of Leicester when I was 27 after a previous career. We had an amazing lecturer called Sinéad Drea who worked on transcriptomics in plants. She was so enthusiastic about plants, the amazing things they did as genetic model organisms and also in ecosystem function. I moved from a zoological interest and within the first year of my undergraduate degree came to focus on plants. From there onwards it was always about plants. I attended the Gatsby Summer School which really cemented my interest. I realized the place of plants within science research and as the foundation of ecosystems.

The Thymes: You said you were first in your family to go to university, how was that for you?

SC: It was quite hard, coming from a less academically supported background. I wish I knew when I was a teenager, and when I started my degree what I know now. I was brought up in a rough Council estate with a very socially, economically deprived background. Indeed, I have lived by myself since I was 16, I went to one of the worst schools in Leicester, and did not understand the opportunities for careers within academia or scientific research or the environmental sector. I had always been interested in nature books and documentaries, and that was my biological sciences. Also, when I was younger I wanted to be a vet. So that's what I did as my degree because that was the only way I could put the two together.

I definitely suffered from Imposter Syndrome and that's taken quite a while to shift because you can see the advantage that some people have from an academic family and the support they get. But also you learn a lot about yourself, and I think the best advice I can give to somebody that comes from a background without knowing opportunities is just follow that passion. Go and knock on doors, ask questions, seek opportunities, don't try to be too sensible!

The Thymes: You've worked for several environmental organizations like Earthwatch and now the Freshwater Biological Association. What's it like working for that sort of organization?

SC: It's genuinely wonderful. There's always a compromise to working within the environmental sector. Despite having succeeded at a really interesting PhD and being offered postdocs, I recognized that I wanted my career to be working on something more directly applicable to environmental restoration and protection of the natural world. So I chose to step away from academia and into the environmental sector. It was also for work – life balance. I wanted to be able to live where I wanted to live, and I also wanted to have more normal working hours. You will get paid a little bit less in the environmental sector, but also the benefits that come with it are not just for work - life balance, but also colleagues who are the most wonderful people I've ever worked with. People in the environmental sector are almost ubiquitously warm, friendly, kind, empowered and psyched about preserving the natural world. It gives you great hope that the world is not completely screwed. These people really care. And we're doing everything we can to help.

The Thymes: That's nice to hear. One of your specialities is data analysis. It's one of your strengths. And it's something that a lot of biological scientists shy away from. Can you give us an idea why engaging with data is so important?

SC: Yes, because I was a victim of this myself. I decided not to take an ecology PhD because I was so aware of how much data analysis and modelling is used in ecology. You do some work, and then spend the rest of the year doing a lot of data crunching and I didn't want that. I didn't think I was good at stats. We had very horrific lectures on Base R which I think scared me away. So I selected a PhD in crop sustainability and then spent most of it doing genomic modelling and R. It was hard because I was the only person in my research group that knew how to use R. There is other software but if you can force yourself to get over that initial hurdle, you realize R is an incredible tool, although not always easy to work with. There's a lot of help out there, though.

However, it was the best thing I could have done because it has supported every single job that I've been in. In NRW, I was working with R as a data specialist for my skills acquired during the PhD. I've done consultancy on data analysis because people knew about my skills. For example, I worked with the Woodland Trust on their rapid rainforest assessment data. It's not just about being able to do data analysis, it's understanding what you can get out of your data because there is so much more than summary statistics. You can make much bigger things out of your data set and understand more about what's happening. It's tough. It's a bit scary. But please push yourself to understand good statistical analysis. And if you can put yourself through learning R and Python, ChatGPT is now an amazing tool that makes your life a lot easier. In my current job I'm about to do analyses on water chemistry data. So it really does underpin every job I've done, and it's also part of the reason I have got some of those jobs.

The Thymes: It's good to hear that it's really worth getting to grips with data analysis.

SC: It really does pay off. And you just feel very empowered. Honestly, as a scientist, it's more fun because you can look at a data set and really get into it to understand what's going on in the system. You can also feel whether what you're doing is robust or not, and know whether you need to do more work on your experimental design, or something else. Understanding your data better gives you a lot both professionally and experimentally.

The Thymes: So as we come to the end of this interview, tell us, what's your favourite plant?!

SC: Oh, there's too many to choose from, but I think it's the sundew group (*Drosera* species). For those that don't know, these are carnivorous wetland plants that are a beautiful hue of red with tantalizing droplets on the ends of their tendrils. And that's because I'm a mountain freak. I spend a lot of my time hiking and climbing and I really respect these little plants. You can only find them in wet, very natural areas that are undisturbed, often uplands. They're really hard to cultivate, so I appreciate them for being wild and out there and self-sufficient.

The Thymes: Sophie Cowling, thank you very much for sharing your life as a botanist with us.



Round-leaved Sundew, *Drosera rotundifolia*. Image credit Noah Elhardt, Wikimedia Commons, CC BY-SA 2.5

Friend or Foe? The Elder Tree in Folklore



By Jamie Hewetson, Durham University

Trees have been central to British folklore for hundreds of years, but few have been so consistently linked with witchcraft and spirituality as the Elder (*Sambucus nigra*). Therefore, to celebrate the recent passing of Halloween, I will dive into this tree's rich but contradictory reputation as an omen and protector.

Elder gets its name from the Anglo-Saxon word 'aeld,' meaning 'fire,' due to the use of hollowed branches as blowpipes to stoke fires. However, burning elder was said to summon the devil and incur the wrath of evil spirits on the household. This belief was not as unfounded as it may seem, as the burning of elder is thought to trigger the conversion of the defensive compound amygdalin into hydrogen cyanide. If burnt in a poorly ventilated home, this likely caused illness and even death.

This wariness was so pivotal throughout Britain that more nuanced local superstitions soon arose. On the Isle of Man, elder is known as 'tramman' and thought to protect from witchcraft, leading to the habit of islanders carrying elder leaves and planting it around wells.

Similarly, the belief that witches dislike the tree led to the tradition in Hertfordshire, where the pith was fed to those suspected of being bewitched, and in Scotland, where elder was hung above the door to guard against evil spirits and sometimes burnt during St John's Eve (23rd June) to reveal witches.

Similarly, the belief that witches dislike the tree led to the tradition in Hertfordshire, where the pith was fed to those suspected of being bewitched, and in Scotland, where elder was hung above the door to guard against evil spirits and sometimes burnt during St John's Eve (23rd June) to reveal witches.

However, the association of elder with witches is contradictory. In Celtic tradition, elder was thought to be embodied by the 'Elder Mother,' a witch watching over the tree, such that those wishing to fell the tree must ask permission or suffer misfortune. A similar belief of an elder witch exists in Oxfordshire, owing to the legend that a Danish king intending to battle called upon the witch to predict his fate. To prevent the battle, her response was to turn the king and his army to stone, forming a circle known as the 'Rollright Stones.' Even today, the circle is surrounded by elder, and it is tradition for people to gather around the King Stone on Midsummer Eve to cut the elder flowers, or 'bleed the elder.' Overall, whilst it may not be evil, take caution when you next pass an elder tree - you never know which spirits may be lurking!



To read more, see [The Wild Foodie blog](#). There is a UK national collection of elder: [Plant Heritage](#).



Elder tree with berries. Image credit Jamie Hewetson

Exploring the Secret Life of Lichens: A Journey into Nature's Resilient Wonders

By Daisy Baggs, Royal Botanic Gardens Kew



In September, Daisy attended a four-day Field Studies Council (FSC) course on lichen identification at FSC Rhyd-y-Creiau, generously funded by the British Lichen Society. Here is her account of the experience:



Inspecting lichen on rocky outcrops. Image credit Daisy Baggs

Once I started seeing lichen, I couldn't stop noticing them. Their tantalizing defiance of biological norms inspired both reverence and frustration. My journey into lichenology began with the British Lichen Society's introductory course, *Lichens for Absolute Beginners* - an excellent and free resource offered by BLS volunteers. After this, it was time to advance my knowledge, so I booked an FSC course in North Wales.

These FSC courses are renowned for their quality, with skilled tutors who are passionate communicators. This course, led by April Windle, was no exception. April's boundless enthusiasm and patient guidance made for an enriching experience.

The itinerary combined hands-on learning in the classroom with invigorating fieldwork. We began with compound microscopy and chemical testing, crucial for identifying lichens accurately. Despite initial hesitation, field-chemistry proved thrilling, and observing lichens under a microscope revealed an intricate beauty. Slicing apothecia to expose spore-filled asci was particularly rewarding.

Outdoors, the Eryri National Park provided a stunning backdrop for field excursions. Cream, silver, and peppermint patches adorned coppiced hazel stems, revealing star-shaped apothecia of *Arthonia radiata* and the crystal-laden jam-tarts of *Lecanora chlorotera*, mingling with bulbous-fruited *Thelotrema lepadinum*.

The temperate rainforest featured oak trunks draped in corticolous lichens, where fluffy *Usnea florida* nestled among grey-blue *Parmelia* species and the ruffled frills of *Platismatia glauca*. These outings highlighted the resilience of lichens, fostering a sense of wonder and camaraderie among our group.





Lichen in temperate rainforest. Image credit Daisy Baggs

It's rare to find others eager to engage in conversations about such minute biological intricacies, so encountering like-minded enthusiasts was delightful.

Launch of the 2025 Botany Calendar: A Year of Nature's Beauty

The BUC 2025 Calendar!



Designed and beautifully illustrated by The Thymes very own graphic designer Yi Zhao, this unique calendar is a year-round tribute to botanical beauty. To get your free copy email j.mitchley@reading.ac.uk

Botanical Book Reviews

By Catherine Martinez, University of Reading

The Botanical University Challenge 2024 not only featured questions involving Suzanne Simard's *Finding the Mother Tree*, but the student botany festival that followed



Image credit Catherine Martinez

sparked many conversations around participants' favorite botanical books.

If you read any of the recommendations from the previous issue or have already read some of the books in this issue, get in contact and let us know what you thought!

Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants – Robin Wall Kimmerer

Do you thank the plants you pick? *Braiding Sweetgrass* is a beautiful and insightful exploration of botany and Indigenous wisdom and practices. This book weaves together Indigenous folklore and its application to botany and scientific principles with a flowing writing style that makes the reading experience feel more like a conversation. Kimmerer discusses the merits of modern Western scientific methods alongside her Native American heritage, never dismissing either, but rather encouraging listening and blending these different ways of knowing. For anyone studying botany or who loves the Earth and wants to know how the Earth expresses love through its gifts, this book is a beautiful exploration and well worth the read.

Gathering Moss – Robin Wall Kimmerer

Gathering Moss is a concise yet wonderfully readable and informative introduction to mosses. Through a series of interconnected essays, Kimmerer explores these often-overlooked plants through both a scientific and philosophical lens. Using mosses as a guide, Kimmerer examines how we interact with the natural world and with each other. If you are curious about moss, this book is an excellent quick-read introduction.

MSc Biological Recording re-launched by Harper Adams University and Field Studies Council

Dr Andy Cherrill, Harper Adams University

From Autumn 2024, Harper Adams University has a new postgraduate suite of programmes in Biological Recording offered in partnership with the Field Studies Council. This is a new incarnation of the well-known and respected programme offered by the FSC and Manchester Metropolitan University. Students can enrol for the PgC Biological Recording and Surveying, PgD Biological Recording and Monitoring, or MSc Biological Recording and Analysis. Further information is available via these links:

Course information:

<https://www.harper-adams.ac.uk/courses/postgraduate/201243/biological-recording>.

Press release:

<https://www.harper-adams.ac.uk/news/211172/specialist-ecological-recording-programme-launched-to-meet-national-green-skills-gap>.

JOKE THYME!



Why is Gregor Mendel's handwriting so difficult to read?

He kept crossing his p's!



Illustration by Yi Zhao

Got a botanical joke or pun? Send it to us!

ABOUT *The Thymes* TEAM

Layout and Design: Helena Brown (RBGE) & Rabinoor Khurana (Dundee University)

Graphics: Yi Zhao (University of Cambridge).

Editors: Meriel Jones (University of Liverpool, retired), John Warren (Associate Tutor FSC), Jonathan Mitchley (University of Reading).

Very Special Thanks to Dr Hattie Roberts, Lancaster University, responsible for design and layout since the start of *The Thymes* in 2022. Now moving on in her career.

Contribute to *The Thymes*

Got a botanical story or other content to contribute? Are you interested in editing or design? We need your skills and enthusiasm! Contact us:

botanicaluniversitychallenge@gmail.com

OUR BUC 2024 SPONSORS

BOTANICAL UNIVERSITY CHALLENGE IS SPONSORED BY

GOLD LEVEL SPONSOR

GATSBY

SILVER LEVEL SPONSORS

New Phytologist Foundation
UNIVERSITY OF OXFORD

BRONZE LEVEL SPONSORS

UNIVERSITY OF READING
FIELD STUDIES COUNCIL
BSBI
FRIENDS OF OXFORD BOTANIC GARDEN
BOTANICAL SOCIETY OF SCOTLAND
ANNALS OF BOTANY COMPANY
SOCIETY OF EXPERIMENTAL BIOLOGY
RSK BIOCEANSUS
THE WILDFLOWER SOCIETY
THE BOTANIST FOUNDATION
ECOLOGY BY DESIGN
GARDEN CENTRE ASSOCIATION
UNIVERSITY OF BRISTOL
UNIVERSITY OF PLYMOUTH
UNIVERSITY OF CAMBRIDGE
UNIVERSITY OF YORK
ROYAL BOTANIC GARDENS, KEW

TRINITY COLLEGE DUBLIN
EDGE HILL UNIVERSITY
EDEN PROJECT UNIVERSITY CENTRE
CORNWALL COLLEGE
FPCR
BOTANIC GARDENS CONSERVATION
INTERNATIONAL
DURHAM UNIVERSITY
LANCASTER UNIVERSITY
ANGLIA RUSKIN UNIVERSITY
ST JOHN'S COLLEGE, OXFORD
THE UNIVERSITY OF EDINBURGH
UNIVERSITY COLLEGE DUBLIN
UNIVERSITY OF PORTSMOUTH
ABERYSTWYTH UNIVERSITY
AND PRIVATE DONORS

Date of Next Issue: January 2025

Answers to the Botanical Brain Teasers:

(NB All have featured in previous BUC contests)

1. *Carex echinata*
2. Devil's Thorn
3. Bromeliaceae
4. Citrus