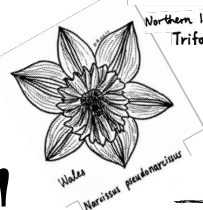




The Official Newsletter of Botanical University Challenge

IN THIS ISSUE: BUC FINALS- FIRST EVER BUC STUDENT FESTIVAL - GET CREATIVE COMPETITION WINNERS - CAREERS - BUC TASTER QUESTIONS



REED ALL ABOUT BUC 2023 IN HERE!

With BUC Planning Team

Since 2021 (the COVID years!), Botanical University Challenge has been held entirely online, and so 2023 was our first chance to experience the tension and excitement of a live event at the BUC2023 semi-finals and finals in July 2023. BUC has gained a large UK, Irish and international following for the online events so we endeavoured also to stream these live contests. The University of Nottingham, winners of BUC2022, were hosts led by the local organiser Dr Susie Lydon. The semi-finalists were from the Universities of Cambridge, Manchester Metropolitan and Oxford along with Eden Project Learning. However, the Manchester Metropolitan University team withdrew after several team members became unavailable because of exciting fieldwork on a remote island and job offers. Thus the Trinity College Dublin Team gained their place in the semi-finals, although with only three members available.

The two semi-final scores were very close but the Cambridge and Oxford teams just pulled ahead to be the finalists, with Oxford winning overall. All the teams demonstrated an incredible breadth and depth of knowledge about plants. Certificates, on-line membership of the Botanical Society of Britain and Ireland as well as publications from the Field Studies Council were presented to all team members as well as gift tokens. As the winners, the team from University of Oxford were presented with the Sid Thomas Memorial Trophy. It was inscribed with the team name and officially presented to them at Oxford in August for safekeeping until they will hand it on to the 2024 winners. Check out the trophy and presentation on page 4 of this issue and in *The Thymes* issue 3.

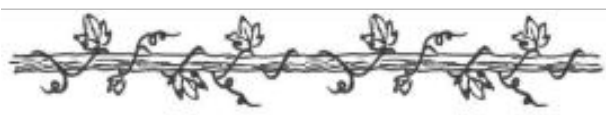
Recordings of the semifinal and final are here on our YouTube channel!



Botanical University Challenge 2024!

We all look forward to the next challenge in 2024! We are planning to hold two afternoons of online multiple choice questions with the top eight teams going on to the quarter-finals. The semi-finals and finals will be live and hosted by the BUC2023 winners, University of Oxford. All dates tbc soon!

Read more about BUC on our website www.botanicaluniversitychallenge.co.uk
For further information email BUC at botanicaluniversitychallenge@gmail.com



More BUC Festivities overleaf...



BUC STUDENT BOTANY FESTIVAL: A BOTANICAL BLAST



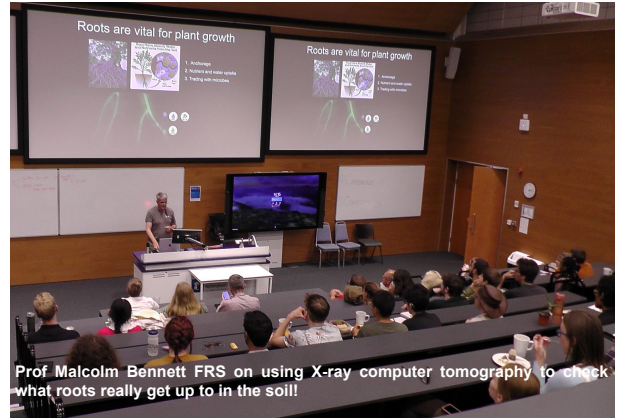
As this was the very first Student Botany Festival held after the finals of BUC 2023 we asked some of our students if they could write down a summary their experiences and highlights. Here is a selection together with some images from the festival:

“The BUC Student Botany Festival was a wonderful initiative to be a part of. It truly felt like the beginning of a big student botany movement that has the potential to connect botany students across the UK and Ireland in a way not seen before. Travelling over to Nottingham along with my ‘Galway Ginkgo’ teammates I felt there was a real air of anticipation to see what would unfold across the two days of the BUC Student Botany Festival. Reflecting on those two days I can safely say that the festival did not disappoint in the slightest. It was packed with a range of great activities that varied from educational to hilariously funny. What made the festival such a success were the people involved; the enthusiasm from organisers to participants was infectious. The botanical experts were so eager to share their botanical knowledge and they were unfailingly patient with those of us struggling to separate Common Bent from Creeping Bent. My highlight of the festival was undoubtedly the Botanical Rhapsody video. As we all entered the lecture theatre I was unprepared for the glorious spectacle that was to follow. I would be doing this incredible video an injustice to describe it in mere words. I’d encourage everyone to check this video out for themselves. All I’ll say is that Freddie Mercury himself would have loved it and whenever I watch it I’m reminded of a brilliant BUC Student Botany Festival.” ~Harrison O’Rourke (Galway).



[Watch the Botanical Rhapsody video here!!](#)

With BUC Team and team mates



Prof Malcolm Bennett FRS on using X-ray computer tomography to check what roots really get up to in the soil!

“Attending the Botanical University Challenge (BUC) was a great experience to meet students from other Universities and learn more about plants. I really enjoyed the talks by members of the BUC committee; listening about their careers and life journeys was inspirational. It was also wonderful to attend the talk by Professor Malcolm Bennett on his work with compacted soils and root hormones. He also gave us some valuable career advice. On the second day of the event, I went to the tour around the Hounsfield Facility to see how 3D X-ray imaging is used for plant and soil research; seeing a greenhouse operated by robots was fascinating! Overall, BUC was a lovely event with many activities and great speakers. I’m so happy I attended.” ~Karla Cardenas Gomez (York).



Student Botany Festival Plant Swap with BUC Planning Team members Sven Batke, Seb Stroud and Alastair Culham.





Night-time botanising with Alastair Culham and Dr M!



Right: Skullcap flower, Wikimedia Commons, Fornax, CC-BY-SA 3.0

“A much-awaited event which promised so much - book swapping, plant swapping and like-minded young botanists. To me, this could only spell a recipe for a couple of days well spent at the University of Nottingham. In my eyes, the highlight of the exciting lineup of events, carefully curated by the dedicated organising team, would be the botanical walk at Beeston Sidings Nature Reserve. The opportunity to attend something like a botanical walk with a group of this calibre should never be passed up and it certainly did not disappoint. The rough plan was to divide into teams and see who could record the greatest number of species in 40 mins. Armed with a list of previously recorded species and with Dr M at the helm of our recording team, the atmosphere was electric. Present were faces from Oxford, Cambridge and Eden as well as most of my home Galway team. We may have taken it as more of a challenge than some of the other teams who dissolved into looking at frogs (a herpetological horror) and we recorded 108 species in our allotted time window. It could certainly not be described as a leisurely stroll, and I found myself frequently too slow with scientific names such was the speed of my peers and their obvious infatuation with and mastery of field botany. I was delighted to see *Scutellaria galericulata* (Skullcap) which I haven't yet managed to find at home and investigate the hairy knees of *Holcus mollis* (Creeping Soft Grass), currently ranking as my favourite Poaceae. In all, I very much look forward to doing it all again and this time with a hand lens in tow, even a very dirty one!” Aoife Embleton (Galway).

“For a budding botanist like me, the BUC Student Festival could easily have been the most magical experience I have been honoured to attend. From the excitement of watching Cambridge go head-to-head with Oxford (which is quite ironic, given the rivalry that is often said to be held between those two!), to many awe-inspiring talks and events. The book table was a very nice touch, which led to the discovery of Susan Medcalf's long lost Hubbard! My favourite event of the festival was easily the botanical walk to the Beeston Sidings Nature Reserve. The minute we split into groups, the keenest of young botanists swarmed to claim Dr. M as the group leader, which resulted in possibly the largest species list for the trip. What a sight it was to behold of a swarm of botanists looking for the hairy knees of *Holcus mollis*, downy leaves of *Viola odorata* or the nitty gritty of sedge identification. After having limited opportunities to attend events with fellow, like-minded students in the company of expert botanists, this experience was truly magical.

As with many events, some of the most enjoyable parts, are encounters that are not expected. One of these moments was the extreme late night Poaceae, with Dr M, as can now be seen on YouTube [here!](#) After some expletives, Dr M's dirty hand lens, and phone torches, some common grass species were identified in darkness, followed by a photo of a torch lit botanist in his natural habitat! All jokes aside, the opportunity to share one of the nerdiest Poaceae moments!” Ollie Lynch-Milner (Galway)



The Botany Book Table at the festival



Crop science research at The University of Nottingham



Botany Festival attendees on the BSBI walkabout at Beeston Sidings Nature Reserve

More students write about BUC 2023 and Student Botany Festival in the next issue!!



UNIVERSITY OF OXFORD: BUC2023 CHAMPIONS!

With BUC Team and teammates

The BUC Planning Team caught up with the Oxford Team, winners of BUC2023 and the hosts for next year's BUC 2024!

"If the earlier rounds of Botanical University Challenge had taught us anything about the impending semi-final, it was that there would be no way to adequately prepare ourselves. I'm not sure any of us had expected to be asked questions about Lady Gaga, but hey, that's BUC baby! ...As preparation for the final we started with identifying a selection of weeds from my garden spread over the department seminar table. After reassuring ourselves that we could identify these relatively common plants our intrepid captain then led us down a Wikipedia rabbit hole of fruits, drupes, berries and pomes. The bottom of said rabbit hole was reaching the eBay page for botanically-themed coins and trying to identify the species on them... Driving to Nottingham, our mindset was on having fun. We didn't expect to win and were already chuffed to be in the semi-finals. This was going to be two days of meeting other botanists, nerding out about plants and free food. Suffice to say it was all this and more. For any future teams thinking of entering, if the idea of a pub quiz run by your most obsessive botanical friend sounds good then this is the place for you." ~Ellen Baker, University of Oxford.



Above: Winners of BUC 2023 with BUC organisers and The Sid Thomas Trophy at Oxford Botanic Garden. The *Bad Birches* team from University of Oxford were: Ollie Spacey, Mayur Prag, Ellen Baker, Lucy Morley (Reuben Nebbett-Blades *in absentia*), with John Warren (BUC Team), Jonathan Mitchley (Dr M, BUC Team) and Chris Thorogood (Deputy Director and Head of Science, Oxford Botanic Garden and Arboretum). (Photo by Lauren Baker also from OBGA).



Above: Winners and runners up BUC 2023. From left: The University of Oxford's *Bad Birches*; Trinity College Dublin's *Pteridophytes*; Eden Project Learning's *Malus Intent*; University of Cambridge's *Darwin's Diabolical Deuterostomes*

Did you know...?

The University of Oxford's Botanic Garden, founded in 1621, is the oldest botanic garden in Britain and the origin of plant study and research at the university. Although names have changed, with botany now being within the Department of Biology, researchers and scholars have made important contributions to plant taxonomy, physiology, agronomy, forestry, medicinal chemistry, development, evolution and ecology over the centuries. In 2024, Botanical University Challenge will be held at the university to add something novel to its long and illustrious history!

UNIVERSITY OF CAMBRIDGE: BUC RUNNERS UP!



"Although we came second in BUC 2023, we did much better compared to last year, as we were kicked out before the semi-final in 2022. The in-person competition felt so different from the online ones. It was great fun to compete in 3D, especially seeing live plants brought out of black rubbish bags (yet I personally wished the plants were less smelly... our Polygonaceae plant in the semi-final was very stinky!) The questions were certainly more difficult than in the knock-out rounds and quarter-finals. I was happy that our group members specialised in different parts of botany, therefore the group as a whole covered a decent range of knowledge - George and Jake know well the British and Irish flora, Ben knows strange plant facts, from Latin to pop culture, while I know flower and inflorescence morphology - I felt so blessed that our group was given the ID the inflorescence question in the final!" ~Yi Zhao, University of Cambridge.





THE THYMES INTERVIEW: A LIFE IN PLANTS WITH DR SUSIE LYDON



As told to Dr M (Jonathan Mitchley)

Susie Lydon is Assistant Professor of Plant Science at the University of Nottingham and runs the undergraduate courses in plant biology.

JM Thanks for being the local organiser for BUC 2023. What was your highlight?

SL: It was absolute fun and I loved being involved. My highlight was seeing lots of young botanists being able to interact with people from different institutions and just seeing their joy at finding like-minded plant geeks!

JM You work on fossil plants, can you tell us why this area of research is important?

SL: When you're in a room full of people working on genes to improve wheat breeding and all the wonderful things my colleagues do to work out how to feed more people on the planet, it's difficult to explain the value of spending my time thinking and teaching about fossil plants. But when I talk to colleagues working on climate change where we need to understand what happens on our planet over deep time, we need to have knowledge of what the plants are in those environments and how they were interacting in the ecosystem. So yes, we can build climate models and CO₂ models and all that, but we do need that underlying taxonomy and information about what those plants were in order to make meaningful projections. But it's also intrinsically, really, really interesting!

JM: You are Nottingham School of Biosciences lead for outreach. How important is outreach and working with the media?

SL: It's really, really important. If we don't make the stories, the media will, because that's what they're designed to do. Likewise if we want botany to thrive, we need to explain to young people and children why it's interesting. Why they should want to get interested and excited in our science is vital.



Watch the full video HERE, on our BUC YouTube channel

JM: What advice would you give to a young person looking to include plants in their career journey?

SL: My advice to students is always study something that you're really interested in, because that way you're gonna stay motivated and enjoy it. But also be open to lots of different experiences, things like getting work experience even if it's not directly related to your absolute passion. Doing things that are a sideways move from your main enthusiasm means you've got more strings to your bow. You might find that you work in something, and then actually when you're applying for the next botanically or ecologically related job, you've got some web content or project management experience. All of those things that you might not think relevant, they might actually be directly relevant for the next plant-focused job that you apply for because you've done other things.

JM: A final question, if Botanical University Challenge was a plant, what might it be?

SL: OK, what I've got here is a lump of a 400 million years old Rhynie Chert. This is a preservation of one of the earliest land ecosystems and it's got some of the earliest land plants in it, lots of different species of these different plants that are gonna blossom into all of the different plant groups that ends in the diversity that we see today. So that's what I think Botanical University Challenge represents, this ecosystem of young botanists interacting and building a big network.

JM: What a wonderful answer and a great end to our interview, it's been lovely talking to you.

SL: Oh, it's been a pleasure.



GET CREATIVE COMPETITION WINNERS

by Susan Gritton Medcalf



It was great to see the **BUC 2023 Get Creative competition** entries displayed at the Student Botany Festival. The three categories were photography, fine art and multi-media, inspired by pigments, biodiversity, and pioneering botanists respectively - with the proviso that plants should feature in some way. They certainly did in the 26 diverse entries. Special mention should go to the creative bunch at University of York who submitted almost half the entries as well as to all other the wonderful contributors from across the country.

Visual and performance art in a scientific setting can be relegated as background, descriptive or about 'feelings' yet it has through the ages been the medium to portray new ideas and concepts tracking the intersection and tensions between scientific thought and culture. But it's also about creativity and fun, as well as the great observational skills on display here that made life difficult for the judges: the competition's originator Thomas McBride from the BUC 2022 winning Nottingham team, Dr Chris Thorogood (renowned botanist & artist) and Susan Gritton Medcalf (professional singer & botanist).

The winners were **Gemma Brain (York) Pink Plumeria Pigments**, **Emily Skinner (Reading) Flowers from Home & Conor Haynes-Mannering (Nottingham) Late Carboniferous Biodiversity** joint winners of the fine art category, and **Ellen Baker (Oxford)** for her multimedia *Inspiring Sources*. Ellen told us that her tribute to botanical illustrator Marjorie Blamey was crafted from scrap fabric stitched onto fabric dyed with red onion skins and vinegar. Well, maybe next year, what about botanically inspired textiles as a category? What do you think? Email us!

[Video of all the entries on our YouTube channel](#)





BUC CAREERS: BOTANY ON PLACEMENT



As part of my Masters course I have had the pleasure of doing a 6 month placement in ecological consultancy. Most of my days involve doing habitat or protected species surveys for animals and plants. Recent work includes reptile translocations, bat emergence surveys, badger sett exclusions and ancient woodland assessments. Even if lots of my work focuses on animal species, botany makes up a big part of being an ecologist.

When surveying a site, whether a small site for a house extension or a large site for a railway installation, your first in-person survey is a PEA (Preliminary Ecological Appraisal). This is to get a general overview of the habitats present and whether they are potentially suitable for protected species. So, a good botanical knowledge is very important for determining the habitats present, especially when it comes to working out if the habitat or any of the plant species present are protected since a lot of protected species can look very similar to related unprotected species.

The most commonly used ways of classifying habitats are the Phase 1 habitat survey methodology or the UKHab classification system. I'm personally more familiar with the UKHab system where you look at which species are present and then work your way through a hierarchy of habitat types until you get to the closest fit. UKHab, along with a condition assessment of a habitat, is used when determining biodiversity net gain (BNG). BNG is a technique used to make sure that you leave a site in a better ecological condition than when you started; this stops developers removing a lovely area of biodiverse ancient woodland and replacing it with a modified grassland that just has one dominant species, think something like a sports pitch.



by *Emily Skinner*

I've had the chance to go and assess a woodland to decide if it might be an ancient woodland or not. Ancient woodlands themselves are not automatically protected in any legislation, but they are one of the so-called priority habitats and do have a level of legal protection in the planning system.

Some specific plant species are also legally protected from disturbance under the Wildlife and Countryside Act. Ancient trees also potentially provide a home to protected species such as bats and so gain protection that way. So, when I was out on a site, I was looking for any of these protected species or indicator species that would point to a protected habitat type.

Although there are specific botany related surveys like those I've mentioned, botany comes into so many other areas. For example, when looking for potential bat roost features in trees, removing invasive plant species, or looking for nuts that show signs of hazel dormouse chewing marks! Botany forms a lot of the foundations required for working in ecological consultancy and I look forward to learning more while working here.



BOTANY FESTIVAL CAREERS WORKSHOP

Led by Seb Stroud, story by Meriel Jones

A lack of young people knowledgeable and enthusiastic about plants is recognized internationally as something important that needs to change. Fortunately, working with plants is an ambition for many at the first Student Botany Festival! The careers session aimed to pass on ideas and information to make this happen with input from a panel of working botanists. Some of the key questions were about salaries, training, career progression and qualifications – and how to find jobs and opportunities. The panel had very diverse routes to their current roles, some from science degrees while others had started their careers in music or modern languages and then re-trained. A flexible approach to career pathways can certainly work! Information is clearly essential. How to acquire it? Here are some ideas from the student discussion and botanist panel:

Talk with people! Easily said, not always so easy to do. How to find relevant people? Firstly, academic, technical and post-doctoral staff at your university or other

institution can tell you about their careers, and often can suggest others to speak with. [Green Jobs for Nature](#) is the new campaign from the professional organisation **CIEEM** (Chartered Institute of Ecology and Environmental Management) about jobs that manage, protect or restore the natural world. Many, of course, involve plants. It is a great place to look for information about jobs in this area, from hands-on field work, through working in the media to behind the scenes data analysis. It has information about the types of employers and salaries as well as accounts from those actually working.

One way to improve plant ID skills is to **join the many field visits** arranged in spring and summer by the [Botanical Society of the British Isles](#) and other botanical organisations. These are very welcoming groups of plant enthusiasts, both old and young, with the visit led by a local expert. The people also have interesting insights into botanical careers. The field location can be chosen to be accessible by public transport or to share lifts. Some of the best visits for exotic plants are to streets of cities!

More plant ID can come from [Wildflower Hour](#) on Twitter/X, Instagram and Facebook. This is an excellent way to see which plants are currently flowering.



BUC TASTER QUESTIONS



Contribute to *The Thymes*



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

botanicaluniversitychallenge@gmail.com

BUC 2023 SPONSORS

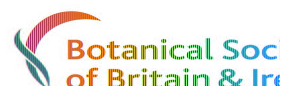
We are grateful for support from The New Phytologist Foundation, The Gatsby Charitable Foundation, the British Ecological Society and Edgehill University. In addition, the Field Studies Council and Botanical Society of Britain and Ireland have donated publications and on-line memberships as prizes. The [New Phytologist Foundation](#) is an independent not-for-profit organisation dedicated to promoting plant science. The [Gatsby Charitable Foundation](#) aims to advance knowledge in fundamental plant biology and nurture talent among young scientists. The [British Ecological Society](#) is the largest society for ecologists in Europe and has a vision for nature and people to thrive in a world inspired by ecology. The [Field Studies Council](#) helps people learn about the environment so they feel connected to it and can make informed choices about how best to protect it. The [Botanical Society of Britain and Ireland](#) promotes the study, understanding and enjoyment of British and Irish botany.



New Phytologist



GATSBY



Credit: Wikimedia Commons, Adrian Pingston Public Domain; Codiferous CC BY-SA 3.0

1. Sometimes used for pesto, what is the name of this common woodland plant? (Picture 1)

- A: *Allium oleraceum*
- B: *Allium ursinum*
- C: *Allium triquetrum*
- D: *Allium vineale*
- E: *Allium roseum*

2. In which one of the following structures of the chloroplast do the light reactions occur?

- A: Stroma;
- B: Starch granules;
- C: Inter-membrane space;
- D: Ribosome;
- E: Thylakoid membrane

3. Which exclusively coastal tree genus is this tree from (Picture 2)?

4. In which country is the International Cassava Gene Bank located?

5. Which species of plant is in Picture 3?



Credit: iNaturalist, Steve Cross, Public Domain



ABOUT *The Thymes* TEAM

Layout and Design: Hattie Roberts (Lancaster University).

Graphics: Yi Zhao (University of Cambridge).

Editors: Hattie Roberts, Yi Zhao, Meriel Jones (University of Liverpool, retired), John Warren (Associate Tutor FSC), Jonathan Mitchley (Dr M - University of Reading).

Special Thanks to Dr. Susie Lydon, Emily Skinner, Harrison O'Rourke, Ellen Baker, Karla Cardenas Gomez, Aoife Embleton, Ollie Lynch-Milner, Yi Zhao, and BUC Team members who contributed to this issue!

Joke Thyme: Why are arboriculturists so good at networking? Because they're always branching out!

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

Date of Next Issue: November 2023

Answers to the BUC taster questions (NB All have featured in previous BUC contests):

1. B - *Allium ursinum*;
2. E - Thylakoid membrane
3. *Avicennia White Mangrove*]
4. Colombia
5. *Rhinanthus minor*, Yellow Rattle

