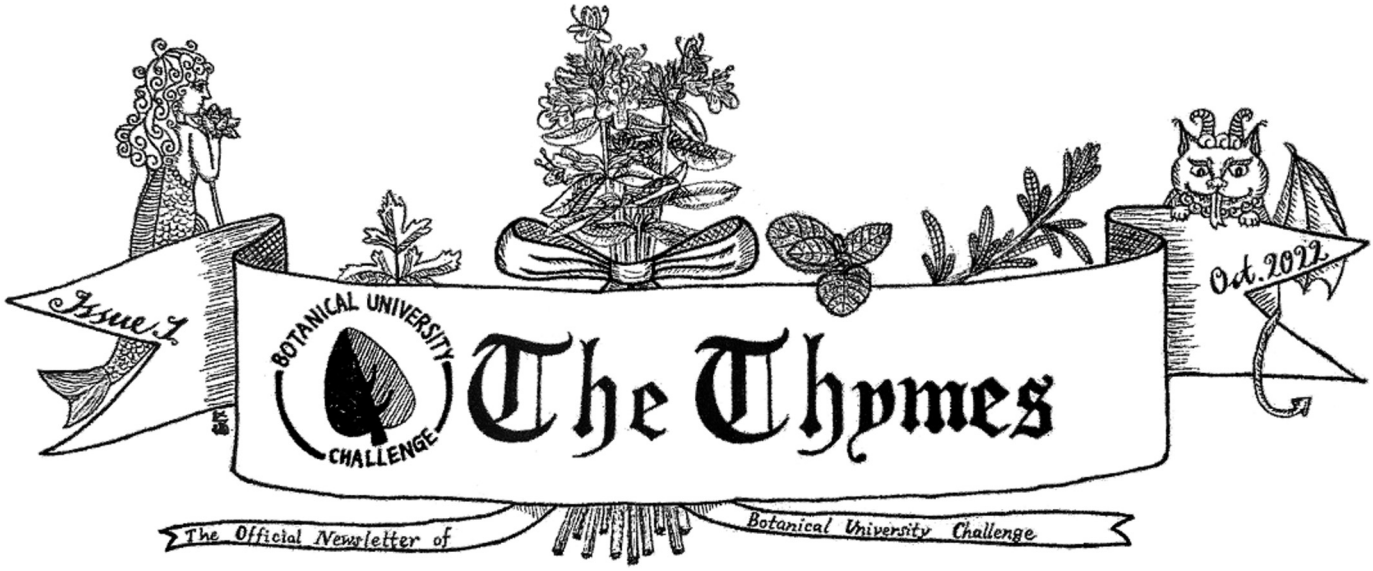

INTRODUCING BOTANICAL UNIVERSITY CHALLENGE 2023!

Welcome to the first issue of the official newsletter of Botanical University Challenge (BUC) 'The Thymes' - did you see what we did there?! BUC is an annual competition between teams of university students, undergraduates & postgraduates. It embraces many aspects of botany: plant identification, plant science, plants in culture & history, amongst other themes.

It all started back in 2016 with 5 teams competing at Royal Botanic Gardens, Kew. The competition went online with almost 20 teams in both 2021 and 2022 and a growing UK and global audience.
BUC 2023 will feature online rounds in February, followed by a live final at University of Nottingham in July, all streamed on YouTube - why not join in?

Call for BUC2023 teams!

11 January: Online briefing for teams
16 January: Team registration deadline
15 February: Knockout Rounds, online start 14:00
22 February: Quarter Finals, online start 14:00
5 July: Semi Finals and Final, live and streamed, Starts 14:00, University of Nottingham
5 & 6 July: Student Botany Festival open to all BUC 2023 contestants at University of Nottingham

Read more about BUC on our website
www.botanicaluniversitychallenge.co.uk
For further information and to enter, email BUC at
botanicaluniversitychallenge@gmail.com
deadline for registration is 16 January 2023.

BUC TALES FROM A WINNING TEAM

With Thomas McBride

Last year the team from Sutton Bonington Campus of the University of Nottingham won the BUC. It was their 2nd time entering the competition and their win was somewhat unexpected, captain Thomas McBride says. "We entered the competition with high hopes having lost to the eventual winners the previous year, but we never seriously thought we would win. Having said that, I genuinely believe we'd have enjoyed the competition every bit as much if we hadn't; the atmosphere and engagement between all the competitors, the chairs and the organisers was electric. It's certainly an event we will never forget and something that we learnt a lot from."

"the atmosphere and engagement between all the competitors, the chairs and the organisers was electric"

I have high hopes that SB will enter a team again next year, though most of the BUC 2022 team have moved on to pastures new – we hope the diversity of our next steps and how BUC helped us get enthused about botany will be infectious and inspire you all to join as teams or audience for BUC 2023!

Continued overleaf

Team member Rachel studied agriculture w/ industrial year BSc and was the team's agricultural expert. She thoroughly endorses careers in British agriculture and has recently taken a new role with Bayer Crop Science as a Commercial Technical Advisor. She has just started BASIS training so she can talk to farmers and those in the agricultural industry about efficient pesticide usage. She says practicing her ID skills in preparation for the BUC is proving surprisingly helpful in her new role, particularly the ID of plant pests and diseases.

"practicing ID skills in preparation for the BUC is proving surprisingly helpful in her new role"

Team member Sarah studied plant science with an industrial year BSc and was the team's expert on all things genetics. Sarah has just started a PhD at the John Innes Centre in Norfolk, studying the potential of silencing rust-susceptibility genes in cereal crops to make them more resistant to rust fungi. Sarah loved being part of the BUC team, particularly learning more about whole plant botany, from team members and by watching the competition.

Team member Georgina has remained at Nottingham, moving onto the fourth year of her integrated master's in plant science. She has taken over the president role of the Botanical Society at Sutton Bonnington, and is a big fan of horticultural botany, particularly houseplants. She, therefore, was our expert in tropical plants and some of the weirder plant species out there, particularly carnivorous plants! Georgina was president last year of the Allotment Society at Sutton Bonington and champions home growing. Georgina is excited to be part of next year's team and enjoyed taking part in the BUC as it was "a good use for all the excess plant-y information in {her} head!"

"Jakob comes from Austria- one of Europe's most snowy countries- so, of course, his interest is… Cacti!"

Jakob was our reserve, joining us for the earlier part of the competition. He is the only one of us not at undergraduate level, having completed his Crop Science BSc at Nottingham the previous year, he is now undertaking a PhD, and is at the start of his 2nd year studying at the Sutton Bonington campus. Jakob comes from Austria – one of Europe's most snowy countries – so, of course, his interest is… Cacti! So Jakob was our cacti expert, and said it was a great privilege to be part such an interesting event. He is also very enterprising, bringing a garden plot in the village back to life and growing some tasty fruit and veg.

Captain, Thomas, studied plant science w/ industrial year BSc and was the team's plant nomenclature and taxonomy expert. His year in industry was with the National Botanic Garden of Wales in plant and insect conservation where he enjoyed taking part in conservation work and had the opportunity to teach children about nature. Thomas was the president of Nottingham's Botanical Society and enjoys teaching people about nature and botany – particularly when there's tea or tropical fruit involved! He aims to help bridge the gap between the media and science through teaching the public about plants and nature in the science education sector. Thomas is now helping behind the scenes at BUC and recommends that anyone interested in outreach also gets involved. "It's great to be a part of the BUC family", he says, "and I am thrilled that this year's competitors will get to experience our lovely village of Sutton Bonington and our great countryside campus. I might be biased but SB has been a fantastic place to be a student".

BUC TASTER QUESTION

From Professor John Warren

What are the green leaf-like structures that surround the capitulum of members of the Asteraceae called?

Illustration by John Warren

For a bonus point, what's the species?
Answers bottom right of page 6.

This illustration is from Prof. John Warren's new book *Frustrating Flowers and Puzzling Plants* Pelagic Press and available to preorder here: Frustrating Flowers and Puzzling Plants - John Warren - Pelagic Publishing - 9781784273316

A LIFE IN PLANTS

INTO THE WILDERNESS WITH CHRIS THOROGOOD

As told to Seb Stroud

Dr Chris Thorogood is Deputy Director and Head of Science at the Oxford Botanic Garden and Arboretum. His research interests are the evolution of parasitic and carnivorous plants, plant diversity in floristic hotspots and biomimetics inspired by plants. He's also a very talented artist. In February 2022 he was one of the chairs asking the questions in the first round of Botanical University Challenge.

"Hi Chris, great to hear from you again. What have you been up to since BUC 2022?"

2022 turned out to be a successful year, Seb. Shortly after the BUC, I joined local botanists in the Philippines, Pat Malabrigo and Adriane Tobias, to document rare species in poorly known tracts of rainforest in northern Luzon, which was very exciting. Then in June I had the pleasure of joining Mark Carine from the London's Natural History Museum to survey the Canary Island's forests alongside fellow botanist Jorge Alfredo Reyes-Betancort (Director of Jardín de Aclimatación de La Orotava). We're working together on a vegetative key to the flora of the laurel forests.

After a dearth of fieldwork for a couple of years due to the pandemic, it was wonderful to spend time with local botanists looking at plants in their natural environments again.

"You work on parasitic plants and you've travelled the globe to see them. Can you tell us more about these strange plants and why they're important, Chris?"

I have always been captivated by parasitic plants. To me their leafless, often luminous flowers seem to possess an ethereal beauty akin to mysterious deep sea creatures – anemones and corals, that sort of thing. And they're pretty elusive, which makes the thrill of finding one even better!

One of my projects on parasitic plants focuses on so-called desert hyacinths (*Cistanche*) which grow in the Old World deserts. I work with colleagues at the University of Reading, and around the world, and I've spent some time trekking through the Israeli deserts and Palestinian territories in pursuit of them. Desert hyacinths sprout from the bare earth and sand. Leafless, and devoid of chlorophyll, these 'plant pilferers' extract their nutrients from the roots of desert shrubs.

Desert hyacinth (*Cistanche phelypaea*), Cape Verde. Cayambe CC-BY_SA-3.0

There's nothing quite like stumbling across a desert hyacinth erupting out of the barren, seemingly lifeless desert. It's like an explosion of colour.

Some desert hyacinths are traded around the world for herbal medicine, or have historical importance as food plants. They have all sorts of perceived 'trophy' attributes (properties reputed to bestow longevity, stamina and even sexual vigour). They've long been used in traditional medicine. But despite the importance of these curious plants, little or nothing is known about the biology of most species and they are difficult to identify correctly, or cultivate. Our research at Oxford Botanic Garden seeks to unravel complexity in this overlooked but important group of plants. Our work seeks to understand their species relationships: because if we don't understand the diversity of species that exists, how can we adequately use or protect them?

Just yesterday we found that some of the desert hyacinth seeds we've planted are germinating on their potted hosts for the first time. Perhaps next year they will flower – it will be tremendously exciting if they do.

"Heading to remote places to go plant hunting isn't something everyone gets to experience, what is going on a botanical expedition like? These experiences feature in your new book* Chasing Plants *– tell us why you wrote this."

When I was a kid I would daydream about spending time with extraordinary plants in beautiful places. I would imagine a shady corner of the back garden was a rainforest, and recreated a miniature cloud forest in a terrarium on my bedroom windowsill. Now I am a botanist, and I do this 'for real'. I am very lucky.

Continued overleaf

My work takes me to the world's remote places – I've learnt that plants tend to thrive where people don't: tropical wildernesses hundreds of miles from the nearest Wi-Fi connection, or hair-raising pinnacles that soar higher than the tallest buildings, bathing in the mist. It helps to have a good head for heights in our profession! But I have to say that it can be just as rewarding to find rare or unusual plants in mundane places too; I've spent plenty of afternoons poking around disused railway sidings, roadsides and docklands in pursuit of plants. The thrill can be just as good.

Setting out to find a plant and then encountering it is electrifying. I wanted to impart some of the experiences I've been fortunate to have as a botanist so that others can partake in the adventures – and show people that chasing plants is every bit as thrilling as working with animals. Perhaps it will encourage people into what I consider to be about the most rewarding career imaginable.

GET CREATIVE WITH PLANTS!

With Thomas McBride

With the BUC events still months away, and the new academic year not long begun, it is the perfect time to find new ways to inspire our learning and to share our experiences. Taking inspiration from Dr. Chris Thorogood and Prof. John Warren, this month we are launching BUC's very own Get Creative competition! We know many of you enjoy the creative side of botany, budding with artistic talents in fine art, photography and a broad range of other creative media, so we hope you will get involved!

Competition Details - How can I get creative?

If a creative challenge excites you, we are offering any students over 18 the chance to enter our Get Creative with Plants competition. To enter, you must submit a piece of artwork in one (or more) of the following three categories, with artwork relating to our three broad botany-based prompts:

Fine Art – In this category, those of you talented with a paintbrush or pencil can create a piece of artwork, inspired by the prompt "Biodiversity." The artwork can use any medium, but must be two-dimensional, and include botanical references. For ease of submission, we are accepting photographs of the work. You will not be judged by the quality of the photograph itself but please make sure it is not digitally altered in any way and shows the full quality and extent of your artwork.

Photography – In this category, we would love to see a photograph you have taken, inspired by the prompt "Pigments." The photograph must feature a plant or plants as part of or the whole subject matter and may be digitally enhanced but must retain clear elements of your raw photography.

Multimedia – In this category, you can really go wild! We will accept all creative entries from sculptures to musical compositions to interpretive dances. Anything inspired by the prompt "Pioneering Botanists." Entries for this category should be submitted as a video or audio file showing either a 360 view of your sculpture, a recording of your dance, or your piece of music, or anything else recordable that fulfils the brief.

The deadline for entries is **Friday 21st April 2023**. To enter, email your entry plus entry form to **botanicaluniversitychallenge@gmail.com** with "Get Creative" as the subject, making sure you clearly indicate the relevant category in the email body. Entries will be displayed at the Student Botany Festival in July and may appear in BUC promotional content including *The Thymes* newsletter. There will be fabulous prizes (!) for those entries that are judged the most plant-astic; further details to be announced later. See our website for entry forms and the terms & conditions of the competition.

If the inspiration doesn't arise, don't worry! There will be lots more ways to get involved in the future.

BUC ALUMNI INTERVIEW: VASCULAR PLANT SPECIALIST ALEX MILLS

As told to Susan Medcalf

Alex Mills was a student and researcher of English literature before he was lucky enough to be selected for the Natural History Museum, London 'Identification Trainers for the Future' programme where he caught the Botany Bug. This led him to the MSc Plant Diversity at the University of Reading, where one of his many achievements was being in the Reading BUC2019 team, famously winning in a tiebreaker against Liverpool in the nail-biting final! His career path has included a short-term roles with UK Centre for Ecology and Hydrology and the Lulworth Rangers, before joining Natural England as a Field Ecologist. He is now a one of their only three Plant Specialists – a slightly circuitous career path! Here Alex answers some questions for *The Thymes*:

"What excites you about your current job?"
Firstly, the name: Vascular Plant Specialist, Natural England. Who wouldn't want to be that? Although I feel nervous about appropriating the title of 'Specialist' and sorry for a perceived slight towards non-vascular plants (I still love you, bryophytes). The actual job isn't too bad either…

"How does it engage with current issues?"
The job is focussed on ensuring plants are fundamental in our efforts towards nature recovery. In the face of the interlinked climate, ecological, biodiversity, and economic crises, and during this UN Decade on Ecosystem Restoration, I feel I couldn't be doing anything better.

"***What's your favourite part of it?"***
Working with and learning from amazing plants and botanists (Lovie Botanist Alert). It's all got plants at its heart. My colleagues – particularly the two Senior Specialists Mags Cousins and Alex Prendergast – include incredible botanists and it's a privilege to collaborate with folks from other botanical/ conservation organisations. I would list them but I'd probably miss some.

"What disciplines does it involve?"
It's fantastically varied – rare plant projects, protected plants, protected sites, training, etc. – and requires skills in ecology, plant ID, research, GIS and stats, communication, and so forth. My training at the NHM and Reading has been key and I'm always learning.

"What's your favourite plant?"
Impossible question and naughty! But I usually go for Tunbridge Filmy-fern (*Hymenophyllum tunbrigense*). Stunning little fern, fascinating disjunct distribution, and characteristic of our bryophyte-rich western woodlands which Derek Radcliffe wrote about in the 1960s and which have been the subject of research into temperate rainforest during recent decades. Also, an excuse to use words such as 'diaphanous' and 'poikilohydric'.

"If you were a plant what would it be?"
What would I want to be or what do I most resemble? A parasitic brute of an Orobanche? Dull as anything *Lolium perenne*? Morally degenerate, hybridising *Crataegus*? I'd probably want to be something which photosynthesises – eating sunshine would be awesome. Maybe Bog Myrtle (*Myrica gale*)? I'd give anything to smell that good. Again, too tricky.

Tunbridge Filmy-fern (*Hymenophyllum tunbrigense*)

INSPIRING COURSES AND CAREERS IN BOTANY

It is *challenging* to find jobs relating to Botany: when I first made tentative searches on popular job-seeking sites, the most search results were for the restaurant/bar "The Botanist" or factory plant roles! Moreover, the sheer scope of the botanical sciences is extensive, from food production, to chemical engineering, to landscape architecture, meaning that society is in desperate need of plant power expertise!

Seeking advice from plantspeople!

Currently there isn't a universal platform for botanical jobs or post-degree opportunities in the UK. This means the current network for prospective botanical scientists is shrouded in mystery, with many relying on personal contacts or algorithms to land a botanical role. To remedy this, I am seeking advice from plantspeople from all walks of life to help bring our readers one step closer to their dream botany job, experience, or course. I am also developing a database of institutions, charities, consultancies, and businesses with the aim of facilitating a UK-wide botanical careers network.

To get started

For prospective undergraduates, only ten UK universities offer 'plant science' or 'botany' bachelor's degrees. But do not be fooled: biology degrees can be tailored to focus on plants when choosing from available modules. During open days, ask about the facilities and module choices. For prospective postgraduates, FindAPhD is THE platform for postgraduate degree opportunities in the UK and beyond. Environment Job and CIEEM advertise industry relevant jobs, while BSBI and Field Studies Council advertise qualifications such as Field Identification Skills Certificate courses. The University of Reading and Mr. Plant Geek also provides a further set of resources and ideas!

Students studying plant ID at FSC Preston Montfort (photo by John Warren)

If you would like to contribute to the botanical careers database or offer botanical careers advice please contact Hattie Roberts (h.roberts7@lancaster.ac.uk)

ABOUT *The Thymes* TEAM

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Special Thanks to Chris Thorogood & Alex Mills.

Want to join *The Thymes*?

Do you have an exciting botanical story, or content to contribute? Are you interested in getting experience in editing or design? We need you!

To submit a feature or join our team contact **botanicaluniversitychallenge@gmail.com**

Enjoying *The Thymes*?

As this is our first issue, the *Thymes* Team are keen to hear any feedback and suggestions you may have. Please complete this short readers' survey here, or use the QR code.

Date of Next Issue: January 2023

Answers to the BUC taster question:
What are the green leaf-like structures that surround the capitulum of members of the Asteraceae called?
Answer: Phyllaries (also known as involucral bracts)
For a bonus point what's the species?
Answer: Common Cat's Ear , *Hypochaeris radicata*