

The Official Newsletter of

Botanical University Challenge

STOP PRESS: BOTANICAL UNIVERSITY CHALLENGE 15 & 22 FEBRUARY AND 5 JULY 2023!

REGISTRATION DEADLINE EXTENDED!



With BUC

The botanical excitement builds as the number of British and Irish institutions registering for BUC 2023 grows! We can also confirm that the team registration deadline has now been extended and is now Monday 23rd January. A Zoom briefing about BUC2023 for teams was held on January 11th and a recording can be found [here](#).

Free audience tickets!

BUC 2023 will be live-streamed, grab your free Eventbrite audience tickets [here](#), or use the QR code.



- 23rd January:** NEW 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:** The First Student Botany Festival!

Read more about BUC on our website

www.botanicaluniversitychallenge.co.uk

For further information email BUC at

botanicaluniversitychallenge@gmail.com

STUDENT BOTANY FESTIVAL

With BUC



Brand new for BUC 2023 is the BUC Student Botany Festival held alongside the BUC 2023 Finals at the University of Nottingham. **ALL BUC 2023 competitors are welcome to attend**, bringing botany students together from the UK and Ireland for 2-days celebrating plants and botany! Funding for accommodation at the University of Nottingham Central Campus and a contribution to travel costs is available for all and details will be on the BUC website in due course. Highlights of the Student Botany Festival include:

Wednesday 5th July

- 17:30:** Welcome to the first Student Botany Festival!
- 18:00-late:** Buffet meal, bar and networking. Poster session; Plant and seed exchange; Exhibits and open chat with plant people from botanical and plant science organisations in the UK.

Thursday 6th July

- 9:00:** Breakfast then travel to Sutton Bonington Campus and Tropical glasshouses, Roots Research, Arboretum, Lightsheet and Confocal Microscopy demos, Plant ID challenge.
- 12:00:** Return and lunch at the Central Campus.
- 13:30:** Workshop: Careers in Botany with a panel from plant-related careers organisations and group chat with speakers.
- 15:00:** Keynote Lecture by Malcolm Bennett FRS, Professor of Plant Sciences at Nottingham.
- 16:00:** Festival End: More info on page 5.



MEET THE BUC 2023 CHAIRS

TALES FROM A BUC TEAM

With Harrison O'Rourke

We are delighted that four expert botanists have accepted our invitation to quiz the BUC 2023 teams.

On 15th February [Dr Henry Ford](#) and [Dr Leif Bersweden](#) will be asking the questions. Henry worked on the population biology of dandelions and red algae at Bangor and Newcastle Universities before modelling plant growth patterns and developing biological databases for Bath University, managing the Ecological Flora of the British Isles since 1988. He has worked as an ecological surveyor in India, Oman, Djibouti, and the UK. Leif is a writer, botanist and nature communicator with a face-down, bottom-up approach to watching wildlife. He grew up in rural Wiltshire where he taught himself to identify the local flora and has championed our wild plants and the joy they bring ever since. Leif is the author of *The Orchid Hunter* and *Where the Wildflowers Grow*.



On 22nd February, in the quarter-finals will be [Dr Caroline Lehman](#), Senior Lecturer and Head of Tropical Diversity at The Royal Botanic Garden, Edinburgh. Her research group, FunkyBio, investigates the dynamics of grassy biomes, especially in Madagascar, southern Africa and south-east Asia. She will be joined by [Paul Ashton](#), Professor of Botany and Head of Biology at Edge Hill University. His research includes restoration ecology, plant identification and ecology of upland calcareous grasslands, and bryophyte and sedge diversity and plant communities.

The chairs for the finals will be announced in the next issue of *The Thymes*.



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Last year at Botanical University Challenge 2022 we at the University of Galway became the first-ever team from Ireland to participate in BUC! Thus the 'Galway Ginkgos' were born and we entered into an intense training bootcamp to prepare for the competition. To train for a botanical quiz there is of course only one place to start, and so all the episodes of David Attenborough's *Green Planet* were downloaded and pizzas were ordered! Once this first task was completed our attention then turned to the slightly less enjoyable job of wading through lecture notes from previous years and dusting off that long forgotten textbook on plant physiology. Every slight advantage was sought and every flower of *Anemone* was studied and re-studied as the Galway Ginkgos were determined to win BUC 2022.

We felt that this was an important moment for the entire botanical community here in Ireland as it allowed us to connect and integrate with a much wider botanical student community. It is a fact that the student botanical community is very limited in size with little opportunity for students from different institutions to interact, particularly for us students located in the west of Ireland. This makes it difficult for us to grow our network, which can lead to a sense of loss when we look to progress to the next stages of our careers. However, BUC gave us the opportunity to meet, not just fellow like-minded plant-loving students, but also established researchers such as Dr Chris Thorogood, and Dr Raj Whitlock.

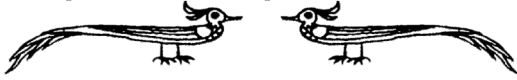


The Galway Ginkgos BUC 2022 team slide



Tales From A BUC
Team continued
overleaf...

The entire Galway Ginkgos team enjoyed competing in BUC 2022 immensely and team members remarked that they felt BUC filled a gap that was missing in terms of student collaboration between Ireland and the UK. For example, at the level above students there are several good collaborative initiatives for botanists both within Ireland and between Ireland and the UK. These particularly include the 'Botanical Society of Britain and Ireland' and the 'Irish Ecological Association' which is an offshoot of the 'British Ecological Society'. Competing at BUC 2022 helped fill the void in this student sphere and hopefully might lead to a closer working relationship between Irish and UK botany students in the future [Point Noted: Ed.].



WHAT'S IN A BUC TEAM NAME?

With The Thymes Team

Previous BUC teams have used inventive team names with botanical fun and imagination! For BUC 2023 there will be a prize for the best team name, so there is an incentive to put your mossy thinking caps on! To help inspire you, below are the top two BUC 2022 team names from the online audience vote last year. These teams might be wondering where **their** prize is, and we plan to present these prizes retrospectively at the Finals in Nottingham in July 2023, so Warwick and Durham be sure you enter a team for BUC 2023!

Pistils at dawn

 Annabelle de Vries, PhD-student Plant Evolution @Annabelle_dVr	 Jamie Pike, PhD-student Plant Pathology @jamielpike56	 Stefania Luca, Undergraduate Biological Sciences	 Andy Gladman, PhD-candidate Plant Heritage Warwickshire @GladmanAndy	 Andris Gyori, Undergraduate Biological Sciences
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 Kian Hayles-Cotton 3 rd Year MBiol Biosciences "The Or-kid"	 Finn Harrigan 3 rd Year BSc Biosciences "The Fun-guy"	 Katy Mather 3 rd Year BSc Biosciences "Moss Mathers"	 Thomas Wilkening MSc Biosciences "The elder- flower"	 Rachel Goodband (Reserve) PhD – Soft Matter and Biophysics "The plant doctor[ate]"	 Deirdre the Dark-red Helleborine Mascot "Flower power"
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BUC TASTER QUESTIONS



With The Thymes Team

1. What is indicated by the yellow circle in Picture A?
2. What is the name for the class of compounds that give colour to petals in this family (Picture B)?
3. Cucurbitaceae typically have three organs arising from the leaf axil. What are they?
4. What is 'Fynbos'?
 - a. Scandinavian forest
 - b. East Asian tropical forest
 - c. South African heathland
 - d. Desert grassland
 - e. Arctic permafrost
5. What is the plant in Picture C?
 - a. Corsican primrose
 - b. Mayapple
 - c. African violet
 - d. Mandrake
 - e. European bluebell



A

B

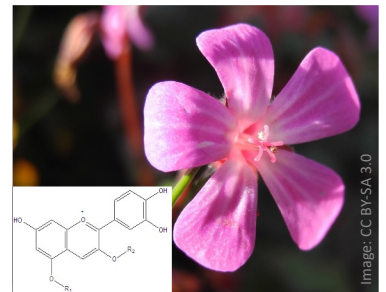


Image: CC BY-SA 3.0

C



Image: H. Zell, CC BY-SA 3.0





THE THYMES INTERVIEW: A LIFE IN PLANTS



WITH DR SANDY KNAPP FLS FRS OBE

As told to Dr M (Jonathan Mitchley)

Congratulations on your Fellowship of the Royal Society, what does this mean to you?

Thank you, it was a bit of a shock, to be honest. I knew someone had nominated me, but I just thought, nah, this is never going to happen. I was the only plant person in all the people admitted this year, so for me the Royal Society is a platform from which we can talk about the importance of plants in the environment, the importance of plants generally, the importance of taxonomy and the importance of that basic understanding of life on earth, it's another platform to talk about what we think is important.

You were one of the chairs for BUC 2022. What was your highlight?

That's a really hard one. I think I was just gobsmacked by the number of different things people knew and the kind of the ways in which they express themselves about plants. What struck me most of all was the way some of the teams shared their knowledge with each other and came up with those answers together and for me that's a really important thing about science - we don't do it on our own, it's collaborative team-work..

You work at the Natural History Museum, can you describe an average day?

My best day often starts after everyone else has gone home, when I can get into the herbarium and get into my specimens and really start to figure out the next group of Solanaceae that I'm working on. I just look at specimens and I measure things and I think "Is this ...? What do I think about this? Ohh, this might be this," and I love comparative biology. And I love looking at specimens. Not only for the plants that are pressed on them, but also for the stories that are in the labels

You work on Solanaceae tell us about them and why they're important.

It is the total best of all plant families: they are used for food, for medicine, for drugs, and for horticulture. So, they're incredibly useful to us as people. So one of the great things about working with Solanaceae is it usually has to do with people, especially the local people who use these plants and have very close relationships with them. One of the great joys of fieldwork is talking not just to other botanists, but to all kinds of people.

Plants are so vital to our world, how do we encourage the next generation of botanists?

Through things like Botanical University Challenge, and the work the Linnean Society is doing with the explorers, and the museum is doing with the Explorer's conference and looking at underrepresented groups and just thinking about ensuring that plants are part of the curriculum further down into education. We need to keep botany as that broad church of people who study everything from checklists of nature reserves, to plants and pollination, to phylogenetics, to mechanisms of how cells work, to mechanisms of how gene works, to mechanisms of micro-RNA because that's all botany and it's all part of how plants make their livings in a world that contains lots and lots of other organisms.

So, I think by emphasising the integral nature of plants and also including them as examples in the primary and secondary school curriculum, I think it would help us to ensure that plants stay there at the centre of the study of our world because they are very important. And we need to be sure that the new Natural History GCSE contains plants. The museum and the Linnean Society were both very involved in thinking about the curriculum for that, but we need to keep our eye on it and make sure that plants are definitely part of that, because plants are of course a total part of Natural History. I mean, what is Natural History without plants? It's nothing!

The final question is, if Botanical University Challenge was a plant, what would it be?

Well, no hesitation, it would be *Solanum americanum* - the world's weediest plant, the one that goes everywhere and with everyone.

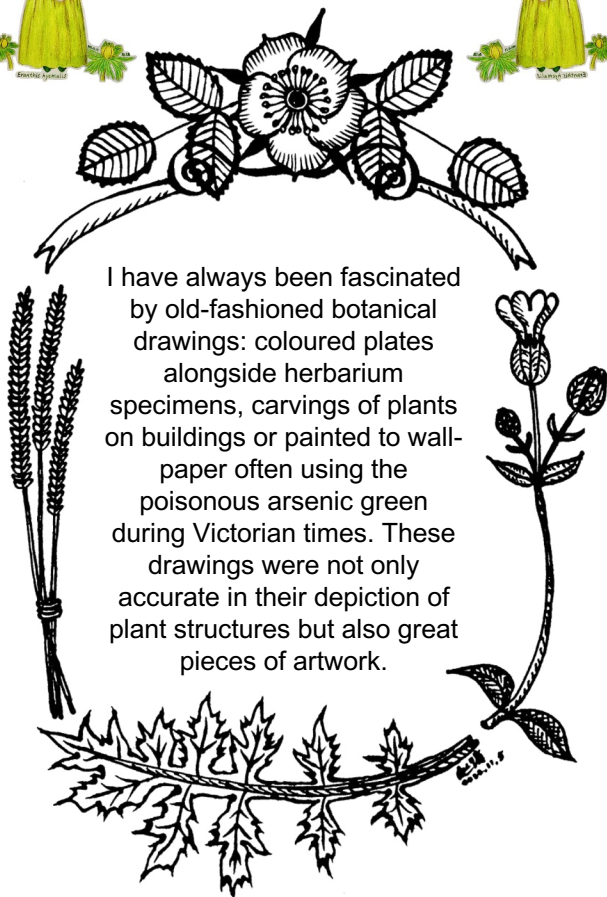
Thank you so much Sandy, it's been inspirational talking to you.

A video of Sandy's full 30 minute interview (pure botanical gold!) can be found on the BUC YouTube channel [here](#).



BEHIND THE GRAPHICS: ILLUSTRATIONS IN *The Thymes*

With Yi Zhao



I have always been fascinated by old-fashioned botanical drawings: coloured plates alongside herbarium specimens, carvings of plants on buildings or painted to wall-paper often using the poisonous arsenic green during Victorian times. These drawings were not only accurate in their depiction of plant structures but also great pieces of artwork.

When designing the graphics for *The Thymes*, I thought 'Why not use *The Thymes* to go back in time?' So, all my graphics, from plant or animal-themed 'divider elements' scattered throughout the newsletter as well as the title, follow styles of line drawings or coloured plates in old books or carvings on historic buildings.

My inspiration for '*The Thymes*' title graphics were imaginary creatures - the water nymph and the gargoyle - also the plants repeatedly mentioned in the famous folk song '*Scarborough Fair*', Can you identify '*parsley, sage, rosemary and thyme*' from the title? Do you know their families and their scientific names? And, since issue #2 is released in winter, can you find the winter aconite and do you know its plant family and scientific name?

If you check page 1 of this Issue you will see the title includes very fancy tails; however, these are so fancy that the title occupies almost half the A4 page! This is too fancy for general use, so the editors got me to cut these off for issue #1 to free space for the text. But never fear, these lovely fancy tails can be seen on the BUC website [here](#) for all time, or do I mean *Thyme*?!

STUDENT BOTANY FESTIVAL 5-6 JULY 2023

With Susie Lydon,

Assistant Professor in Plant Science, School of
Biosciences & Director BSc & MSci Plant Science,
University of Nottingham

We are delighted to be hosting the BUC 2023 finals and the first Student Botany Festival here at the University Park campus of the University of Nottingham, the home of our BSc Plant Science course in July 2023.



Trent building and lake

Nottingham is home to one of the biggest [plant and crop science research departments](#) in the UK and we are also looking forward to welcoming all BUC contestants to our research facilities at Sutton Bonington campus on day 2 of the Festival - 6 July 2023.



Glasshouse facility

This will include the [Hounsfield Facility](#): a multidisciplinary centre for root and soil research complete with robots, lasers and X-rays.



The Hounsfield Facility

BUC ALUMNI INTERVIEW: RORY QUERIPEL, EDEN LEARNING

As told to Hattie Roberts

Tell me a bit about yourself

I'm a second-year undergraduate at [Eden Project Learning](#), studying on the Foundation Degree in Horticulture, although I originally studied music and ethnomusicology. I discovered gardening in the spring after I left my MA course, and from there, it was a very short hop to end up interested in plant science. I'm particularly interested in plant taxonomy, mosses, and soil microbes, but I also love ethnobotany and plant histories, which I write about occasionally on my blog [Historical Plant](#). I also love exploring plants and ecology in fantasy literature and presented my first ever research paper on the origins of tobacco in Middle-earth this year. I captained the Eden BUC team last year and I'm excited to take part again!

What excites you about your current course?

I think one of the most obvious attractions is that we study at the Eden Project itself, which is just amazing. We're just up the hill from these incredible collections, and we use them plenty in our classes. I've loved Eden since I first visited in 2001, and I still get that same thrill now walking into the biomes.

How does it engage with current issues?

Everything we do relates back to current and future practices, and how we can best use what we're learning to go out and make things better in the world, whether that's understanding how botanical history influences the power structures that operate today, or how climate change is impacting pest and disease management. That practical approach is one of the really awesome things about Eden and studying there makes me think the future of the planet might not be all doom and gloom.

What's your favourite aspect of it?

The people! Our lecturers are passionate and brilliant and we're so lucky to be taught by them. It's also amazing to have so many students from so many different academic and practical paths, it's a great mix of people and approaches and I'm learning at least as much from my classmates as in my lectures. The community is so warm, friendly, and accepting, and it's a wonderful place to learn, try things, ask questions, and sometimes just shoot the breeze with lecturers after class.

What disciplines does it involve?'

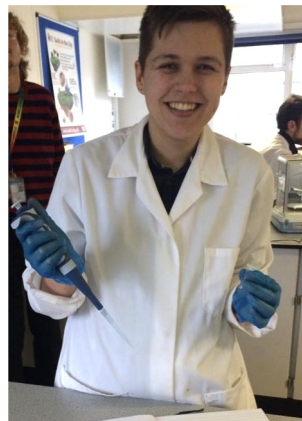
It's easy to think a horticulture degree is just gardening, but while we do plenty of that, there's so much else! I really love the lab-based work we do – soil science, taxonomy, botany, pathology – but we also study ethnobotany in the second year, which is so much fun. Everything links to everything else as well, so we end up talking about land management practices in ethnobotany and ecology, taxonomy in pathology classes, and we're encouraged to find those links all the time.

What surprises or challenges have you found?

Being a disabled student studying horticulture was always going to be a challenge, especially on the practical side of things. I've been really amazed by the way that Eden have helped me make it work, and I discovered an unexpected passion for the inclusion of disabled students in horticulture higher education. Currently, there's no research whatsoever out there on experiences like mine, which can feel really isolating and a bit scary, especially thinking about the future, but I'm really hoping to help change that!

What's your favourite plant?

It changes all the time, but currently it has to be *Syntrichia ruralis*, Star moss, which grows on the dunes at my favourite beach. I love the quiet resilience of mosses, they're massively underrated and extraordinarily beautiful in an understated way.



You can find Rory on Twitter chronicling their Eden Project Learning life.



FINDING THE KILLARNEY FILMY FERN



With Calum McLennan



Calum McLennan is a 2nd year Biology student at Lancaster University and a BUC alumnus. Calum aims to promote botany as a form of adventure or journey: *“an exploration to find a species, or a beautiful place where there are unique things to find. It works better as a journey in the wild, as there's an entire ecosystem interconnected, in a physical landscape of geological processes, with remnants of history tucked away, reclaimed by nature.”* Calum recounts a recent adventure...

Term had started, lectures and all, but on Monday 10th October, I took a day off and headed for Bingley, West Yorkshire. A few days later, I was searching through an online scanned copy of John Ray's *Synopsis methodica stirpium Britannicarum* 1724, for any mention of one Dr Richardson.

“How could these things be linked, and where's the botany I came here to read about?” you may be thinking. Well...

Ray's book describes (translated): *‘A low creeping fern, with transparent and shining leaves’*. This fern was *‘found by Dr Richardson at Belbank, scarce half a Mile from Bingley, at the Head of a remarkable Spring, and nowhere else that he knows of.’*

This marks the first known record of Killarney fern in the British Isles, in a fern family known as filmy ferns, Hymenophyllaceae, which I find endlessly beautiful and curious. In many of these ferns, everything except the vascular tissue in the fronds is one cell thick, with no stomata required for gas exchange, and they have a greatly reduced or absent protective cuticle. This makes the ferns appear very beautiful, with translucent, shiny, gem-like green fronds. However, it also makes them very susceptible to damage, by desiccation (drying out) or frost. As such, the majority of filmy ferns are found in tropical and subtropical rainforests.

That doesn't exactly look hopeful for the presence of filmy ferns in Europe!

However, the wet and mild oceanic climate we receive from the Atlantic, plus the added humidity from splashing waterfalls and steep streams means that temperate rainforests are home to three filmy ferns in oceanic Europe (excluding allopolyploid hybrids): Wilson's filmy fern, Tunbridge filmy fern, and Killarney fern.

Of the European filmy ferns, Killarney fern is the largest and rarest, first described from the Canary Islands, and later found to have relatively large populations around Killarney in Ireland, from where it gets its common name.

So... I went to Bingley to visit a rare species where it was first discovered in the UK. A sort of plant pilgrimage? Yes, but, Killarney ferns here have a bit more to their story than that.

As we might expect from 18-19th century interactions with the natural world, things didn't go well for Killarney ferns in the UK. Fifty years after they were first discovered, the original site was destroyed by collectors, and it was presumed extinct in the UK. Then, in the early 1780s, it was re-found in the same place, but promptly brought into cultivation by collecting the few remaining wild specimens, again it was presumed extinct in the UK. Killarney fern, with its delicate emerald fronds, was an excellent candidate for growing in new fancy Edwardian cases, and so wild populations suffered.

Wherever it has been discovered since then, the Killarney fern has been in danger. This leads to today, where surviving UK Killarney fern colonies are protected and often kept secret. This fern's status is almost mythological, with Ratcliffe *et al.* writing in 1993 that it is *‘one of the rarest and most celebrated species in the British flora’*.

It was re-discovered here in 2011, after having been presumed locally extinct for over 100 years and exploring the stream below the *‘remarkable Spring’* at its original site, I was able to find and photograph four little colonies of Killarney fern sporophytes.

Despite all the hardship, the Killarney fern always seems to bounce back (perhaps a secret hidden in its hardy gametophyte?) and I think we should admire it for that too.

Calum is on [Instagram](#) recounting his British botanical adventures with beautiful photos.





BOTANICAL CAREERS & COURSES

With Hattie Roberts

With the Easter term approaching, many final year undergraduates and early career researchers are updating CVs. A few top tips from *The Thymes*:

Be concise. A standard CV will be 2 pages maximum. Academic CVs may be longer, but [quality over quantity](#) is becoming mainstream.

Be creative. Including specific evidence of a relevant skill learned in a different field demonstrates lateral thinking and adaptability. Avoid clichés and idioms.

Be accessible. Use a logical structure. Include headings/details that job advertisements request, and tailor your CV to specific roles.

For those applying for academic roles, check [Elsevier](#). For industry CVs, [EnvironmentJob](#). Don't forget, [BSBI](#), [FindAPhD](#), [LinkedIn](#) are all useful job-hunting platforms!



OUR BUC 2023 SPONSORS

We are grateful for support from The New Phytologist Foundation, The Gatsby Charitable Foundation, and the British Ecological Society. 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



ABOUT *The Thymes* TEAM



Layout and Design: Hattie Roberts (Lancaster University), Thomas McBride (University of Nottingham).

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Special Thanks to Dr Henry Ford, Dr Leif Bersweden, Dr Caroline Lehman, Prof. Paul Ashton, Prof. Sandra Knapp, Calum McLennan, Rory Queripel.



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

Joke Thyme: I used to have a phobia of Horse Chestnut (*Aesculus hippocastanum*), but I think I've conkered it (Boom boom!)

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

Enjoying *The Thymes*?

The *Thymes* Team are always pleased to get feedback from our readers, please complete our short readers' survey [here](#), or use the QR code.



Date of Next Issue: April 2023

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

1. A Knopper gall on oak.
2. Anthocyanins.
3. Tendril, vegetative bud, and flower (the leaf does not arise from the leaf axil).
4. C - South African heathland.
5. D - Mandrake.