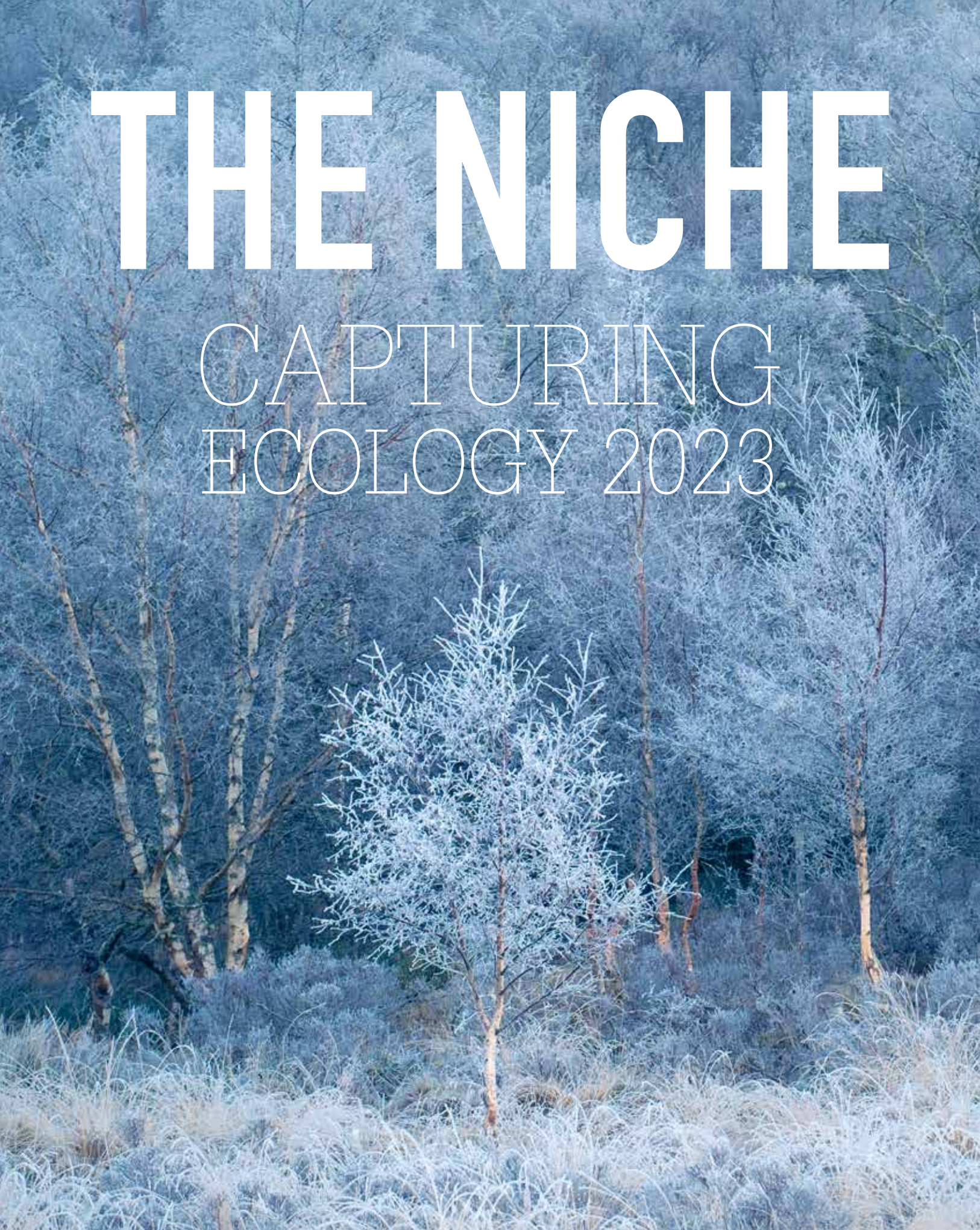

THE NICHE

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AN IDYLLIC SCENE?

ZEESHAN ALI

This tiger is navigating through habitat densely invaded by water hyacinth *(Pontederia crassipes)*. Around 66% of India's natural systems are threatened by invasive plant species.

Journal of Applied Ecology
doi.org/k3p4

Submit your amazing photos to:
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THE NICHE

WINTER 2023

Want to contribute to The Niche?
We welcome all ideas.
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British Ecological Society
42 Wharf Road
London N1 7GS
Tel: +44 (0)20 3994 8282
hello@britishecologicalsociety.org
www.britishecologicalsociety.org

EDITOR
Kate Harrison
kate@britishecologicalsociety.org

ADVERTISING
For advertising information contact
theniche@britishecologicalsociety.org

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Cover: © Sandra Angers Blondin. Tiny ice crystals cover the frozen edge of a birch woodland in the Scottish highlands. The feathery 'hoar frost' is formed when the moist air meets the freezing fauna and forest floor below. Capturing Ecology 2023.

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BRITISH ECOLOGICAL SOCIETY

NEWS & VIEWS

FEATURES

© SAMANTHA SUTER

YOUR SOCIETY

COMMUNITY

WELCOME

Let's pretend we're back in summer for a second. At our trees symposium in June, Fritha West spoke about ash dieback from the perspective of her forestry family. She tells her story on p20, examining the invisible cost of trees species lost.

Capturing Ecology is here (p24), and every year the photos we see portray nature under increasing threat. But there's also resilience too, and as Helen Roy (p8) and Fritha both say, we have the knowledge and tools to save biodiversity, it's just getting the right people to listen.

This issue marks Yadvinder's final editorial as BES President (p6). One message Yadvinder has always championed is that of international equity in science, and the BES will continue working on this in the years to come. Yolanda Mutinhima and colleagues share some guidance on where the scientific community can make a start (p32).

The weird thing about working at the BES is, when everyone else is winding down for the year, we're all gearing up for the Annual Meeting. This year it's in Belfast and I'll be making the trip there by ferry, so I might be a bit green in the face but if you're coming to Belfast too, do come and say hello at the BES stand!

To everyone else, happy reading and see you in the New Year!

Kate

Kate Harrison, Editor
theniche@britishecologicalsociety.org

NEWS & VIEWS

ECOLOGY IS AN ATTITUDE

This is my final editorial for *The Niche* – how time flies!

As I hand over the reins to Professor Bridget Emmett, Science Area Head at UKCEH, I would like to reflect on my time as President and on the BES achievements over the last few years.

First, I want to say that it has been an utter joy to work with the BES. I have been deeply impressed by the people and communities who form the organisation and it has been both a privilege and an education to witness the professionalism of the BES from the inside. I have learned many management insights and tips along the way that academia could do with! Moreover, the staff and volunteers are passionate, inspiring people and good company. If any of you are contemplating volunteering for BES activities or groups I strongly encourage you to, it is worth it and truly rewarding.

I am proud to say that there have been a number of notable BES milestones over the last few years. First was the development and launch of our new Strategic Plan 2023–25. Though building on much of what the BES already does well, it puts a new emphasis on global equity in ecology (more on that later), putting ecology at the heart of decision making, and on turning the BES into a leader and mentor of in the implementation of net zero and nature positive.

A second major milestone was our work on identifying the priorities for ecological research in the UK. Setting out the research agenda for the next 25 years, we structured these priorities around five themes: novel futures, living laboratories, dynamic ecological systems, wholescapes and frontiers of discovery. These themes recognise the need to advance both fundamental ecological understand and apply ecology to inform and address the challenges facing the UK's natural world. There is an opportunity to advance both ecology theory and practice by applying and advancing ecological insight in the context of real-world applied challenges and interventions. It's been pleasing to see the reception this report has received from some major funders, thus playing its part in shaping the ecological research landscape over the coming decades as we hoped.

In parallel, the BES has made substantial contributions to UK policy debates. Our timely reports on key issues such as nature-based solutions in the UK (which highlighted a broad range of options beyond the usual focus on trees) and protected areas in the UK (which highlighted the poor ecological condition of nominally protected areas) were well received. I'm really looking forward to the forthcoming and extremely topical report on regenerative agriculture, which will be out in 2024.

EDITORIAL

THE BES THRIVES BECAUSE OF THE RELATIONSHIPS BETWEEN ALL WHO WORK FOR AND ENGAGE WITH IT

My last flurry of activity has been around supporting and exploring efforts to make the international practice of ecology more equitable. As someone who has spent much of their research career working in the tropics, this is an issue of deep personal importance to me. So many of the frontiers of ecological research and practice are in the tropics, yet so much more funding is available in the Global North. How can we level the playing field, recognising the challenges that researchers in the Global South face, and develop and promote models for more equitable and fair international research? I am hopeful that the BES will demonstrate significant leadership in this arena over the coming years.

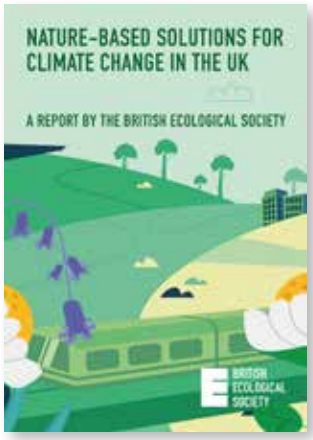
There are other challenges that the BES continues to wrestle with. One is about where we positions ourselves in terms of advocacy and activism around ecological and wider environmental policy questions. As a learned society, where can the BES maximise its influence with a voice that is perhaps different from that of environmental NGOs? The last 12 months have seen a remarkable increase in public debate on issues as diverse as UK nature policy, river water quality and net zero goals. What should the BES voice be in these issues and how are we most effective?

In a continuously shifting financial and cultural landscape and a changing planet, the BES will continue to face challenges. But I have every confidence it will continue to thrive and be an important and influential voice for ecology.

In his inspiring recent book, *Ways of Being*, James Bridle describes ecology as an attitude as much as it is a science – it is a decision to focus on relationships between entities, "an understanding is that what matters resides in relationships rather than things – between us, rather than within us." The BES is much more than its staff or its Board or even its volunteers. It is you, it's the ecological community and connectivity you bring. The BES thrives because of the relationships between all who work for and engage with it. Having seen how vibrant and dynamic those relationships are, I am confident that the BES will continue to have much to contribute to understanding and protecting the sheer marvel of our ecological planet.

Thank you.

Yadvinder Malhi
President of the British Ecological Society



WILL CULLING DEER SAVE SCOTLAND'S WOODLANDS?

Despite livestock numbers being reduced in many areas, Scotland's woodlands are battling an increasing number of deer. Both red and roe deer are a natural and important part of Scotland's landscape. However, historic land use and an absence of predators means their numbers are unsustainably high over large areas. Ultimately, this results in little chance for trees to re-establish in areas where woodland has been lost.

To determine the rate of restoration of native woodlands over the years, Dr Pip Gullet, a scientist for the Cairngorms Connect Partnership, conducted a study in partnership with Forestry and Land Scotland, the RSPB, NatureScot and WildLand Limited, collecting data from as far back as the 1970s.

Encouragingly, results indicate that each plot of land managed by the partnership has experienced considerable regeneration since the late 1990s when deer fences were removed and culling widely increased. In fact, many parts of the Cairngorms area are now believed to have less than the four deer per km^2 threshold at which natural regeneration tends to increase.

Pip explains further, "Our findings show that woodlands do regenerate and expand successfully in the presence of deer. But that depends on their numbers being kept relatively low for long periods."

Duncan Orr-Ewing, RSPB Head of Species and Land Management added, "Our activities over centuries have created an absence of natural predators in Scotland and the rest of the UK, so now deer populations must be managed by humans to reduce damage to sensitive habitats." (*Journal of Applied Ecology* doi.org/k227)

© MARTIN BENNIE / UNSPLASH

THE IPBES INVASIVE SPECIES REPORT WITH AUTHOR HELEN ROY

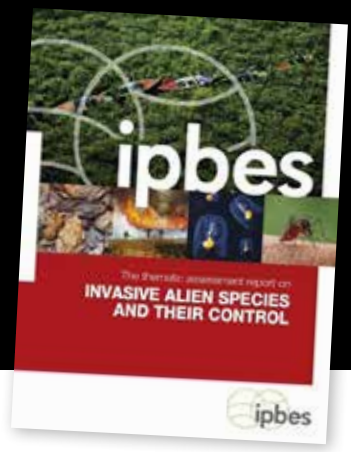
The *Assessment Report on Invasive Alien Species and their Control* highlights the knowledge and research of ecologists in providing an evidence base "that can underpin the ambitions of countries around the world wanting to reach targets not only related to invasive species, but other environmental targets too," says lead report author Helen Roy. Taking four years and nearly 90 international experts to write, the report builds on previous IPBES report findings and clearly evidences invasive species as one of the major direct drivers of global biodiversity loss.

"There's a feeling that invasive species' contribution to biodiversity loss is being vastly underestimated. This is an opportunity to really highlight the huge threat that invasive species pose to nature and to people," explains Helen.

Key headlines from the report include:

- Invasive species are a major threat to nature and people.
- They are also a growing threat.
- More invasive alien species are anticipated within the next 20–50 years.
- Human activities are at the core of this problem.

But Helen is clear that this deeply important study is also an assessment of hope. Yes, humans have created this problem, but we have all the knowledge and tools to solve it.



BIG IMPACTS FOR BIODIVERSITY IN SMALL URBAN SPACES

How do you get seven times the amount of insects in a small garden in just three years? One spring, researchers began transforming an urban space in Melbourne, Australia. Starting with a grass lawn and two trees, the team used fertilisers, organic mulching, new topsoil and soil decompaction to create habitat that attracted 12 different native plant species and 94 insect species.

Dr Luis Mata, explains "the indigenous insects we documented spanned a diverse array. Detritivores that recycle nutrients, herbivores that provide food for reptiles and birds; predators and parasitoids that keep pests in check."

The hope is that, by quantifying the results of urban greening projects like this one, city planners and developers will understand how easy it is to bring nature into our urban spaces. (*Ecological Solutions and Evidence* doi.org/ks34)

STRAY, FERAL OR WILDCAT?

Sometimes it can be hard to tell. The difficulty in identifying cats is threatening conservation efforts to save the wildcat *(Felis sivestris)*. Wildcats are protected under British law. Feral cats are not. But their physical similarities can make it hard for conservationists to distinguish between the two. Attitudes to culling can also hamper efforts.

Researchers Drs Alexandra Palmer and Virginia Thomas interviewed wildcat stakeholders in both the UK and New Zealand, and discovered that – perhaps unsurprisingly – the British public is largely against culling feral cats, even in the interest of protecting wildcats. By contrast, organisations in New Zealand tend to accept the culling of feral cats to protect native species.

In line with this sentiment, British conservationists use 'trap, neuter, vaccinate, release' programmes to manage feral cats without culling them – ensuring that no wildcats are accidentally culled if mistaken as feral. Dr Thomas explains, "In theory, there are distinguished boundaries between pets, wildcats, unprotected feral cats, strays and hybrids. However, people draw boundaries between cat categories differently – meaning laws outlining protection of specific categories can have limited effect.

"Without a quick, easy and reliable method of differentiating species, it's unlikely that legal protection of wildcats will be very effective," continued Dr Thomas. "Reducing gaps between law and practice would require agreement from cat management services to stick to the exact laws, despite potential practical implications." (*People and Nature* doi.org/k228)

COP28 UAE

A ROUGH GUIDE

After the hottest summer on record, COP28 began at the end of November, aiming to get the world on track with tackling climate change. Keep an eye on our social media channels for news on discussions and agreements reached.

Keeping 1.5 alive
The main challenge is keeping global warming under 1.5°C, as agreed in Paris in 2015. The latest IPCC Report highlights that we are hurtling towards exceeding this target, and major changes are needed to keep it within reach. More ambitious reduction targets for 2030 are a top priority.

A controversial presidency
President Sultan Al-Jaber is a controversial choice due to his role heading the UAE's national oil company.

Phasing down vs phasing out
The Alliance of Small Island States is advocating for a full phase out of fossil fuels, while the EU has agreed on supporting a phase out of *unabated* fossil fuels. 'Unabated' leaves room for countries to keep burning coal, gas and oil if they use technology to capture the resulting emissions. COP President Al-Jaber seeks a less ambitious phase *down* of unabated fossil fuels.

Fossil fuel subsidies
The Alliance of Small Island States is asking for an end to the $7 trillion in fossil fuel subsidies, and the EU are calling for them to be phased out by 2030.

Loss and damage
Countries need to make new funding pledges to address loss and damage caused by extreme weather, especially for hard-hit developing nations. There is no agreement yet on how the finance should be provided.

Including nature
On the President's agenda is putting nature, people, lives and livelihoods at the heart of climate action.

© LUCAS ANTONIO MORAES

ECOLOGISTS TEST A NEW LOW-COST APPROACH TO MONITORING MARINE BYCATCH TO HELP TACKLE THIS GLOBAL ISSUE

Between 2016 and 2019 in the South Brazil Shelf alone, 55,000 marine tetrapods (animals secondarily adapted to marine life such as dolphins and sea turtles) were found stranded, many of them coming from bycatch.

Fisheries bycatch – where marine animals are caught but discarded by fisherman – is a global issue but monitoring the impact is complex. Although strandings resulting from bycatch are common, it can be difficult to track where the animals were originally caught and released.

To create a low-cost method to investigate this issue, researchers from Brazil fitted trackers to sea turtle and franciscana dolphin carcasses and set them adrift along with identifiable non-biological objects like bottles. By recording where they ended up, they could observe how real bycatch might travel along the ocean currents.

To make the method as affordable as possible, the researchers used a combination of GPS trackers that could be reused and citizen science to spot strandings of tagged carcasses and bottles. Through this they recovered 71% of non-biological drifters and 27% of carcasses they released.

The researchers hope that their new low-cost and accessible method will improve understanding of how to manage fisheries for conservation, even in low-budget areas. (*Methods in Ecology and Evolution* doi.org/k229)

HOW DO YOU IDENTIFY A BIRD BY ITS SONG IF YOU'VE NEVER HEARD IT BEFORE?

This is the problem facing ecologists and conservations attempting to monitor some of the rarest birds in the world. Researchers have developed a first-of-its-kind deep learning tool, ECOGEN, that can generate lifelike bird sounds to enhance the samples of underrepresented species. These can be used to train audio identification tools which are used in ecological monitoring – tests so far show it can improve identification accuracy by 12%.

Dr Nicolas Lecomte, one of the lead researchers, said, "Due to significant global changes in animal populations, there is an urgent need for automated tools, such acoustic monitoring, to track shifts in biodiversity. However, the AI models currently used to identify species in acoustic monitoring lack comprehensive reference libraries.

"With ECOGEN, you can address this gap by creating new instances of bird sounds to support AI models. Essentially, for species with limited wild recordings, such as those that are rare, elusive, or sensitive, you can expand your sound library without further disrupting the animals or conducting additional fieldwork."

ECOGEN works by converting real recordings of bird songs into spectrograms (visual representations of sounds) and then generating new AI images from these to increase the dataset for rare species with few recordings. These spectrograms are then converted back into audio to train bird sound identifiers. In this study the researchers used data from 23,784 wild bird recordings from around the world, covering 264 species. (*Methods in Ecology and Evolution* doi.org/k5cc).

© MADE NOISE

MONITORING BATS IN GHANA

Evans Nkrumah was awarded a BES Ecologists in Africa grant to investigate the response of tropical bats to anthropogenic habitat modification in Ghana.

Introducing students to EchoMeter Touch 2 Pro

Nearly half of the world's bat species are under threat from habitat modification, roost loss or disturbance, persecution, overexploitation for food, emerging diseases and climate change. Habitat modification is currently the leading cause of global species extinction, and West Africa has been identified as an anthropogenic habitat destruction hotspot. In Ghana, habitat modification occurs mainly through deforestation for logging and agriculture. The Upper Guinean forests in Ghana are disappearing at an alarming rate making modified habitats the only available options for most wildlife.

For bats, despite the staggering 86 species occurring in Ghana making it a key area for Africa's bat diversity, there is a general lack of knowledge around their ecology, especially how they are responding to ongoing changes in the Ghanaian forest ecosystem.

Nkrumah investigated how the bats in Ghana have been responding to habitat modification. The study used mist netting and AudioMoth bat detectors to capture 183 bats from four modified habitats: farms, 10-year logged areas, 50-year logged areas and primary forest within the Bobiri Forest Reserve in Ghana. Results suggest modified habitats have significant impact on bat species composition as primary forest had the highest richness and diversity.

This study trained 20 students in bat monitoring, and five of them are still studying bats today. Nkrumah will continue to use the equipment purchased from the BES funding to train future students and monitor bat populations in the area.

Currently, very few studies talk about human impacts on bat habitats in Ghana. Nkrumah's research will be made available to governmental departments and NGOs, hopefully influencing national-level decisions on biodiversity conservation.

Recently released *Epomops buettikoferi*

NEW GRANTS PORTFOLIO 2024

We are very excited to launch a brand new portfolio of grants in 2024. The portfolio builds on many of our existing grants and introduces new funding schemes in areas of ecology where it is often difficult to find support.

Mark Emmerson, Chair of the BES Grants Committee who was involved in creating the new portfolio said "this is the result of a comprehensive exercise to review our current grant portfolio and assess opportunities for providing funding where it can make the most difference. It's about supporting people in their careers and in their science."

Our new set of grants will fund research and education projects, career development and outreach opportunities. There will be two funding rounds in January and July.

RESEARCH GRANTS

Synthesis grants

Fast-tracking innovative and impactful research by contributing £30,000 towards the formation of new two-year synthesis groups.

Long-term research grants

This grant provides funding over ten years for long-term ecological studies taking place anywhere in the world.

Pedagogical research and development grants

Improving the education of future generations of ecologists by providing up to £5,000 towards evidence-based learning.

Small research grants

Our small research grants provide up to £5,000 for new and innovative ecological research or pump-priming projects. Our recent review identified this as an essential funding option so we have increased the budget for small research grants.

CONNECTING ECOLOGISTS WITH OTHER DISCIPLINES GRANTS

Promoting interdisciplinary skills by funding up to £20,000 towards placements in different disciplines and sectors.

OUTREACH AND ENGAGEMENT GRANTS

Providing funding of up to £2,000 for projects that excite the public about ecology.

TRAINING AND TRAVEL GRANTS

We will continue to offer our training and travel grants. These help PhD students and postgraduates meet the costs of specialist field training courses, or the travel costs associated with presenting their work at workshops and conferences.

SUPPORTING ECOLOGISTS IN THE GLOBAL SOUTH

We recognise the challenges ecologists across the Global South face in their science and research. Previously, our Ecologists in Africa grant has been incredibly successful in supporting excellent scientists from low- and lower-middle income countries in Africa.

We have broadened this dedicated support by ring-fencing funding across all of our grant schemes to support researchers across the Global South and will allocate at least 51% of our funding to Global South ecologists.

Awards will be made to successful applications across all of our grant schemes rather than having a separate grant scheme.

JOIN OUR REVIEW COLLEGE

Alongside our new grants, we are looking to expand our review college to help review the new portfolio.

Peer review of grant applications is an extremely important process. It not only influences the projects and individuals that receive funding, but it also impacts on an individual's career and the ecological community as a whole.

Our review college reads, comments and scores applications according to their expertise.

We would not be able to continue funding ecological research projects and outreach activities without our members who contribute their time to review up to five grant applications per grant round.

Germán Orizaola, who has been on the review college since 2013 said, "I really value being part of a Society that supports ecological science. The evaluation process does not really take much time and it is a great way to contribute to the advancement of ecological studies."

Being a member provides you with experience of reviewing grant applications which can boost your CV and help with writing your own grant applications.

We ask that all members of the review college are currently undertaking or have completed a PhD with an ecological focus and are the lead author of at least one published paper.

Being a review college member is a voluntary role and you do not need to be a BES member to apply. We accept applications to join all year round.

TEN YEARS OF BES GRANTS

£4,099,249.73

Money awarded

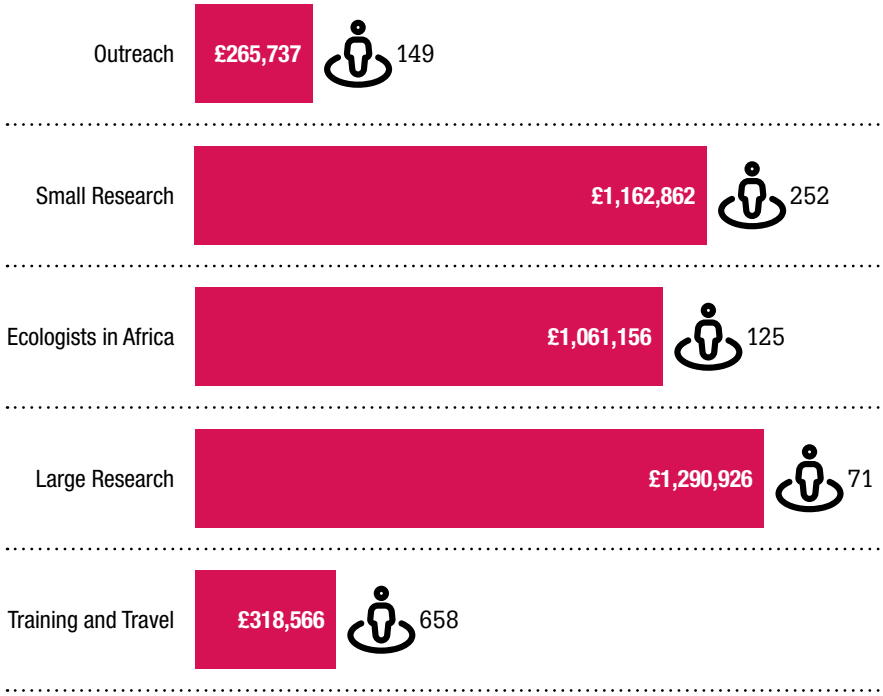
1,225

Students and researchers supported

54

Countries funding has been provided to

GRANT AMOUNTS AWARDED BETWEEN 2013–2023 AND NUMBER OF PEOPLE SUPPORTED



NATURE IS GOOD FOR US, HOW DO WE RETURN THE FAVOUR?

India Stephenson
Policy Officer

In the last issue, we looked at how enjoying contact with nature benefits us both individually and as a society. But the compelling evidence is that we need to lessen our footprint when doing so.

In England, only 8% of land and 3% of waterways are open to the public, and Britain has the most nature-disconnected society in Europe. But the Right to Roam movement is building momentum, calling for new legislation akin to the Land Reform Act in Scotland. This gives the public right of access over land and inland water, subject to certain exceptions.

Currently, it is many of our most important sites for biodiversity that allow public access, and these are experiencing the pressure of a growing numbers of people seeking the benefits that they have to offer. Our presence in wild places can disturb wildlife and damage habitat, and some sites are still reeling from the boom of visitors created by the COVID-19 pandemic. Expanding nature access in England could have a dilution effect, spreading out nature seekers across the country. But expanding access requires a cautious approach to minimise disturbance.

Disturbance means the impacts on species resulting from the presence of vehicles, people and their pets in nature. Visiting humans can unintentionally kill wildlife, for example by trampling on habitats or their dogs eating eggs. But there are also indirect effects; human presence can create stress and sometimes scare off wildlife, going as far as causing birds to abandon their nests.

Dr Durwyn Liley is one of few scientists analysing the impacts of human access on nature in the UK. His modelling of beach-nesting ringed plovers in a popular beach area in Norfolk found that found that if nest loss by accidental trampling could be prevented (via fencing), the plover population would increase by 8%, and if access was prevented, the population would increase of 85%.

A range of studies on birds find signs of physiological stress in areas of high disturbance, from higher levels of the stress hormone corticosterone in the blood, to raised heartbeat. For example, a study of wandering albatross on the Crozet Islands found their heart beats remained higher than normal for two to three hours after a human has walked by their nest. The birds may appear unruffled, but stress can cause birds to have fewer offspring.

Footfall can also damage habitat by vegetation wear, soil compaction and erosion, plastic pollution, and spreading non-native species.

The abundance and richness of non-native plants and animals is higher in areas with tourism and recreation, and evidence suggests that horse riding is a particularly strong vector. Dog fouling is also a key source of contamination, and dogs in water result in increased turbidity and contaminate the water with flea powder and tick treatments.

Visitor surveys by Liley's consultancy, Footprint Ecology, at a range of countryside sites found that dog walkers usually account for 60–80% of visitors. Typically, these people have chosen the site because it is close to home – not for the wildlife. Liley suggests that the most important nature sites should not be the de facto locations for people to visit for convenient daily dog walks. He advocates for a greater separation of public access and nature conservation.

> HOWEVER, WE NEED TO REMEMBER THAT NATURE LOSS IS NOT PRIMARILY DRIVEN BY PUBLIC ACCESS, AND ACCESS COULD BE EXPANDED RESPONSIBLY IF SITES ARE MANAGED WELL.

Rob Rhodes has managed estates for the National Trust (NT) for over 25 years and is passionate about championing access and nature connection at their sites. He thinks some areas require more extreme protections and areas need to be cut off to the public at certain times of year. At some sites, the only areas where wildlife still inhabit are those with fences keeping people out.

Their Farne Islands site has staff on site 24/7 when the seal and bird populations are vulnerable during breeding seasons. This is resource heavy and not possible everywhere, but signs and fencing can also be effective in preventing damage. The NT Mutton Cove site in Cornwall is an important breeding ground for grey seals, and the managers have had to employ fences and strict signage to deter people from going off the trails and approaching the seals for selfies. "There's nothing more effective than a sign that says 'ADDERS'," he jokes.

THE NEED FOR CLEVER MANAGEMENT OF GREEN SPACES TO GIVE MORE PUBLIC ACCESS WHILE RESPECTING AND PROTECTING NATURE IS, ENCOURAGINGLY, LEADING TO INNOVATIVE THINKING.

New approaches include the zoning of the habitats that provide homes for vulnerable species. This involves dividing up areas with different levels of access or limiting access at certain times of year. Zoning has been used effectively along The Wash and North Norfolk Coast, where the main issues of concern include disturbance to beach-nesting birds, waterbirds and seals, and habitat damage due to trampling.

Working in partnership, the NT has identified six zone types that reflect how different parts of the coast can be managed and experienced by visitors – ranging from wilder areas with little or no access, to more urban areas with hard sea defences and infrastructure.

There is still a lack of evidence on the impacts of public access on wildlife, which is very context and species dependent. There is also room for more social science studies on what type of infrastructure works best to encourage behaviour change and responsible use of the countryside. If access is expanded, we need careful messaging about treating nature with respect, and the Countryside Code will need updating and promoting more widely.

The BES English Policy Group is seeking opinions from the public, conservationists, farmers and land managers on if and how nature access should be expanded in England. Please help us gather as many responses as possible by completing our survey and sharing with friends, family and relevant contacts. You can find the survey at britishecologicalsociety.org/english-policy-group.

Dr Durwyn Liley and **Rob Rhodes** were speakers at the English Policy Group's People, Policy & Planet event, Accessing and Maximising Nature in England. These events aim to bring together academics, practitioners & policymakers to discuss important topics in environmental policy. For information about future events, join the EPG's mailing list via the policy pages on the BES website.

DID YOU KNOW?

Five Eurasian beavers have been released in west London as part of the Mayor of London's Rewild London Fund. Beavers, which have been extinct in the UK for about 400 years, could play a vital role in the city's urban wildlife and help prevent flash floods in the area.

Autumn lady's tresses, a species of orchid, have been spotted in Northern Ireland for the first time by ecology student Jake Dalzell. Finding a new native species is already unusual, but finding a new native orchid is astounding. Dalzell suggested that the orchid was able to establish itself thanks to the excellent management of the nature reserve where he found it.

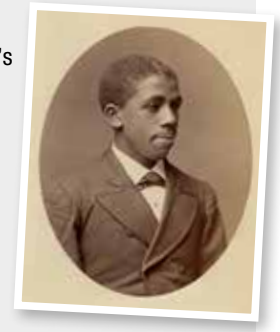
Cambridge University Botanic Garden is set to gain a new piece of artwork created by artist Nabil Ali. What's special about this piece? It will be made from ink extracted from the bark of the garden's iconic apple tree which was sadly felled during a storm. The tree, which was a descendant of the iconic tree which inspired Sir Isaac Newton, has produced a dark yellow colour, which will be named Newton's Gold.

Camera trap footage from an Oxford University expedition to Indonesia has confirmed that the Attenborough long-beaked echidna is not extinct, despite fears that the egg-laying mammal had died out decades ago.

INSPIRED BY...

EDWARD BOUCHET (1852–1918)

A man of many firsts



In the wake of President Lincoln's Emancipation Proclamation for the freedom of slaves, a new generation of young black people were suddenly free to pursue academic pursuits. That's where Edward Bouchet comes in. After attending one of three local schools willing to accept black students in New Haven, Connecticut, Bouchet went on to be named valedictorian after his passions for maths and science were recognised by the school's only teacher, Sarah Wilson.

Word of Bouchet's talent reached across the US, eventually gaining the attention of Alfred Cope, a religious philanthropist who offered to fund Bouchet's PhD at Yale University, on condition that Bouchet would teach at the Institute for Colored Youth upon finishing his studies.

As a result, Edward Bouchet became the first African American to earn a PhD from any US university. He ultimately completed his dissertation in physics, with a thesis centred on measuring the refractive indices of various glasses. He was also among the first few African Americans admitted to Phi Betta Kappa Society after graduating – the most prestigious honour society in the US with 14 US presidents, 40 Supreme Court justices and 136 Nobel Prize winners admitted over the years.

Bouchet resigned from the Institute for Colored Youth after 26 years. He then spent 14 years working a variety of academic jobs across the country before eventually retiring in 1913. After his death, the American Physical Society set up an award in his legacy.

THE BIGGEST EVENT OF THE YEAR

Europe's largest ecology conference is happening in Belfast, 12–15 December 2023. The BES Annual Meeting brings over 1,000 experts together, within and beyond their fields, to set the global agenda in ecology.

The programme is headlined by four plenary speakers:

Jane Stout, Professor of Botany at Trinity College Dublin

Isabella Tree, award-winning journalist and author

Stuart Davies, Director of the Forest Global Earth Observatory at the Smithsonian Institution

Yadvinder Malhi, BES President

This year key themes include regenerative agriculture, fire ecology, the emergence of three-dimensional data collection and equity in international research. Workshops will explore practical tools such as inclusivity in teaching ecology, safety in fieldwork and environmental activism as a scientist.

But at heart of the event are over 1,000 ecologists sharing their work as talks and poster presentations in person and online.

The Annual Meeting is a place where everyone can find their home within the BES community.

COULDN'T MAKE IT THIS YEAR? SEE YOU IN LIVERPOOL 2024!

HOW DOES LEARNING ABOUT THE FUTURE OF THE OCEAN IMPACT CHILDREN'S EMOTIONAL WELLBEING?

We know that childhood connection to nature benefits a person's wellbeing, but so far, studies looking into this have not taken our planetary crises into account. Does connection to nature improve your wellbeing when we are facing climate change and biodiversity loss? Linda Murray and team suggest re-imagining nature education as a collective experience that promotes joy and wonder, and recommend intergenerational experiences where young people can take action with adults who work in solidarity with them. (*People and Nature* doi.org/kz55)

Who was involved in this project?

Our project team consisted of three marine/environmental scientists, two psychologists, and three public health scholars interested in health equity, hauora Māori and social epidemiology.

How did you find working with a group from different disciplines?

Public health is necessarily transdisciplinary, and the senior scholars we admire collaborate widely. Building effective teams across disciplines is time-consuming. It may not lead to seamless project plans and immediate publication, but it is extremely rewarding. And it is absolutely necessary if we are to address some of our greatest public health challenges. The pandemic added another dimension of difficulty: the most successful projects we've been a part of required generous time to physically meet and talk together, often over meals. In 2020, that simply couldn't happen.

What are some useful tips for a team incorporating Indigenous and non-Indigenous perspectives in Aotearoa New Zealand?

This requires a respective and collaborative approach deeply rooted in the provisions and principles of Te Tiriti o Waitangi, which applies to all researchers in Aotearoa New Zealand. To navigate this, we expect that Māori researchers are on the team to lead work related to Māori. We must build relationships with Māori early to build trust and mutual understanding.

What have you learnt from other disciplines that you would apply to your own work?

Common ground appears in unexpected places. During the pandemic, the epidemiology community experienced what it was like to generate knowledge that must be urgently shared, only to be ignored or misrepresented. Climate scientists and ecologists have dealt with this for years. We feel for you.

Were there any awkward moments?

There was one memorable interview where the participant answered the question about 'wellbeing' by providing all the occupational health and safety regulations required for taking people on a boat. This wasn't what we thought we were talking about at all. This demonstrates how often we assume we have shared language and understanding when we don't.

Were there any surprising discoveries from this research?

The "discovery", which surprised almost no one, is that getting out with a group to help restore an ecosystem supports wellbeing. The novel finding we documented was that people still said this even if degradation or pollution were evident. It's about the collective experience. Also, more than one of our participants dealt with work stress by hanging out with penguins – if only we could all deal with work stress by hanging out with penguins!

What advice would you give to anybody embarking on an interdisciplinary project?

Kelly *et al*. (doi.org/gf5hv6) have excellent thoughts on this. If it's a scientific collaboration, remember you will be working with a group of humans who have spent an unreasonable amount of their adult lives being trained to form and defend arguments about their topic. If you walk in ready to convince others of your expertise, things will quickly break down. However, scientists are also very good observers, imaginative, and curious. Tap into these qualities.

What non ecology paper would you suggest our members read and why?

Childhood nature connection and constructive hope: A review of research on connecting with nature and coping with environmental loss by Louise Chawla (doi.org/fd2g) is one of the first reviews to reveal that most research exploring connection to nature and human health does not acknowledge the realities of biodiversity loss. ✺

Linda Murray is a senior lecturer in Public Health at Massey University and a member of the Centre for Marine Socioecology, Tasmania. Kirsty Nash is a researcher and marine consultant from Hobart, Australia. She is affiliated with the Centre for Marine Socioecology. Mary Breheny is an Associate Professor in Health Psychology at Victoria University of Wellington. Chrissy Severinsen is an Associate Professor in public health at Massey University. Bevan Erueti is a Senior Lecturer in health promotion at Massey University.

CO-DESIGNING CONSERVATION WITH HERDERS IN THE HIMALAYAS

Munib Khanyari takes us through his team's journey of co-designing conservation interventions with the communities who live alongside wildlife in the Himalayas (*Ecological Solutions and Evidence* doi.org/k2wg)

Changthang in the High Ladakhi Himalaya of northern India has nearly 50 villages and hamlets, inhabited by fewer than 10,000 settled and nomadic pastoralist populations. Changthang is also home to unique wildlife such as the enigmatic snow leopard and their rare and uniquely adapted prey species, the Tibetan argali.

The local community and wildlife live alongside but in conflict with each other, and negative interactions often result in the Changpa people losing their livestock. The situation is exacerbated by the negative impacts of climate change in the region. Amidst this backdrop, local communities have felt alienated by the government for over two decades over the creation of the Changthang Wildlife Sanctuary – a conservation area in the region. They fear the protected area will limit their access to services like electricity and, at worst, lead to eviction.

The Changpa people have been a target of various community-based conservation initiatives that seek to meet both the community's needs and conservation targets but they have voiced criticism of these approaches, saying they are top-down and lack input and consultation from the very people they are aimed at. We worked with two communities in Changthang to co-design context-specific conservation interventions using participatory action research.

Summer corrals in Rupsho

After several focus group discussions with the herders of Rupsho, it became apparent they were facing more depredation (wildlife killing their livestock) events in the summer:

In Rupsho, livestock (primarily sheep and goat) are usually left grazing out in the flat, open plateau at night near the owners' rebos (traditional tent). However with changing climates, there's been increased rainfall in the summer, especially during the night, and livestock have been observed to run from the exposed plateau into the neighbouring cliffs to take shelter. In doing so, they expose themselves to predators like snow leopards and wolves which inhabit these areas.

In the minds of the Rupsho Changpas, the solution was evident – build a rectangular corral that would prevent the livestock from scattering. So, we co-designed these corrals with the Rupsho herders and trialled them with seven households.

The corrals were built with a concrete one-foot rectangular base on which six-feet steel poles provide a frame for the steel wiring to run along the perimeter. They also have a rectangular door that the herder can lock. Upon several discussions, the Rupsho Changpas reassured us that the goal of the rectangular summer corrals is not solely to prevent livestock depredation, as with most other reinforced corrals in snow leopard landscapes, but to not let their livestock scatter.

Through this experience we used the PARTNERS (Presence, Aptness, Respect, Transparency, Negotiation, Empathy, Responsiveness, Strategic Support) principles (doi.org/k2wh) of working with local communities. We also integrated Senecah's Trinity of Voice (TOV) to ensure meaningful participation when working with local communities.

A participatory approach to research is a highly collaborative process where professional researchers must relinquish their authority as principal investigators and share the conceptualisation and execution of research with local participants. TOV combines access, standing and influence, helping build and maintain trust between professional researchers and participants.

While such endeavours aren't devoid of challenges, ultimately, such projects are needed to ensure ethical knowledge generation and conservation, which aims to be decolonial and inclusive. ✺

THE SWING TREE

THE INVISIBLE COST OF TREE SPECIES LOSS

ASH

Fritha West explores the social and cultural implications of tree species loss, looking back at her childhood in her forestry family.

When I was a child, we had a rope swing, hung from a huge ash tree to the side of a woodland track. The tree was a uniform maiden stem until about 12 metres high, and after that the limbs sprawled outwards, forking at the perfect angle to attach a rope. We built a makeshift platform on the opposite side of the track, and if you were to climb up with the swing in hand – and find the nerve to jump straight out in front of you – you would swing directly at the trunk. I remember the feeling of sailing through the air towards this solid wooden wall, suddenly questioning the motivation behind my older brother's encouragement… but fortunately collision was not inevitable. So long as you held steady and shifted your bodyweight at just the right moment, you could pivot around the tree in an elegant arc, bounce lightly off the trunk and back the other way. It was an art; one that we perfected over many weeks, and then years, and for which we suffered many bruises.

The swing was my favourite thing about the woodland we grew up in. Whitelands Wood provided us with many things, not least of all an income – but this arboreal playground was the best. My dad was a forester, and he ran a business based on restoring our little Planted Ancient Woodland Site (PAWS). He began stripping out the conifer and encouraging regeneration of native broadleaf trees just over 20 years ago. This produced timber and firewood, providing a space for wildlife and people as he did so. It was a gradual process, but looking back, the changes seem almost immediate; light flooding in and the undergrowth springing up to meet it. Birds and insects exploring the edges of each new woodland clearing. New paths created, fresh corners to be explored, my playground growing a little more each year.

The conifer timber he produced was useful for no end of things. Western red cedar is a beautiful wood. Lightweight but durable, and naturally rot resistant, it's handy for construction purposes (and smells incredible). It is not so useful ecologically. As a non-native, fewer species can use it, especially when it is planted as densely as was normal in the 1950s, when the plantation was established. It is also hard to make dense conifer plantations on steep chalk downland sustainable; and so the future, I knew from a young age, was broadleaf – the future was ash. In our part of the South Downs, ash trees were so common they were known as the "Hampshire weed", springing up everywhere they could. Ash was one of the first trees to reclaim the hillside once the conifers were taken out, and it provided fuel, tool handles, furniture, cutlery – and sometimes even food. Pickled ash keys are an acquired taste (I believe the idea is far more appealing than the reality).

Ash grows up to 35m tall, up to 1m wide, and not only did they make the best swing trees, but they also support over 900 species. Their gentle canopies let in enough light to support a complex understory. It makes perfect sense that the great ash, Yggdrasill, held the universe together in Norse mythology – it is a tree of life.

Until, of course, ash dieback set in.

In 2017 we had to face up to the reality we ignored for too long. The signs had been there; the curling of the leaf tips, the blackening across the vein. The cracks in the canopy were widening. Many of the people reading this will know the symptoms and may have had similar feelings of dread. The first trees to be felled were the ones that posed the highest risks, near workshops and tracksides. The swing tree was taken down before the infection became too well established – before it became dangerous. It is hard to describe the mix of emotions this brought on.

I was old enough, by then, to know there was more to this than rope swings. I knew we faced bigger problems. But the ability to hold a swing is a useful proxy for evaluating a mature timber tree. It must be straight, but with a full canopy to provide the appropriate forked branches from which to hang a rope; sturdy enough to hold a person's body weight; reliable enough not to suffer from sudden limb drop in dry summer months, and thus display some kind of drought tolerance. As a PAWS site, the woodland was stripped of most of its older trees before the conifer was planted. Besides the ash there were few trees we could consider swing worthy. It's also a Site of Special Scientific Interest (SSSI), meaning any new planting had to be native. The chalk soil and steep aspect of the woodland limit the type of trees that can be grown in this area. Hazel, beech, elder, whitebeam and yew all thrive here, but none of them can support a business. Without ash, our sustainable forestry model was in trouble.

Sadly, that was not the only challenge we faced, as a woodland business or as a family. My father died in 2018, and we were left to manage a forest with an uncertain future. I remember looking out across the landscape as I grieved for my dad, and also grieving for what the woodland used to be. I saw nothing but a hillside of dead and dying trees, and it was hard not to feel as though the world was ending.

A little while later, I was helping on a woodland survey with a veteran forester friend of mine. We came to a small clearing, and he pointed out a tree I couldn't name. It was tall, and broad, with grey grooved bark and jagged leaves: an elm tree. He explained that this was once a common sight across the south of England, but these once familiar trees had been worse than decimated by Dutch Elm disease (DED) in the 1960s and 70s, meaning that large mature elms were now a rarity in many parts of the country. Field elm suffered the worst, but wych elm is also affected, perhaps more so now as the climate warms and the disease spreads further north. As he spoke it became clear that the "end of the world" scenario I was seeing with ash had happened before, with elm.

FEATURE

ELM

In many ways it is unsurprising that I did not recognise this tree. Before I was born – a few decades before I was born – they would have been scattered across farms and villages, the common way-marker trees of southern England. When my grandfather was my age there would have been plantations of elm, their produce destined for shipyards, furniture makers, and firewood producers across the UK and abroad. But today elm timber is almost unrecognizable, rarely found in all but the most esoteric of woodworking circles.

As a young forester trying to make a small southern woodland financially viable, there was simply no reason for me to know anything about this tree.

This is how a species slips into memory. My research into "lost" tree species tells me elm was once used for many things, including boat building, because it is especially resilient in water. Archaeologists even discovered Roman water pipes made from elm under the city of London. But the elm trees you'll most often find today barely reach above 15m tall, far too small for any sawmill to take interest in, and too small to have any major functional importance. The trees die after 15 to 20 years once they grow large enough for bark beetle attack, which transfers the spores of DED. They are left as standing deadwood – often well-seasoned by the time they are felled, and fortunately often the perfect diameter for the log splitter. Firewood, then, is the likely fate of this once majestic tree that humans planted, cultivated, and worked with for over 5000 years.

I talk a lot about tree disease and species loss. It is interesting how flippant many people can be about the threats they pose, even now as the devastation of ash dieback plays out around us.

"They'll survive," these people say. "Just as elm has. Ash might become smaller, shrubbier, less impressive, but the species will survive. It's not going extinct. Resistance will evolve eventually… just maybe not in our lifetimes." Statements like this are generally meant to allay our fears, but for me they are unsuccessful. There may be some truth to these comments, but they miss out important things. The presence of young, shrubby elms is not enough to fulfil the ecological, or cultural, functions of the species. It is dangerous to treat extinction as a simple tick box exercise; here or not here. Lost or found. In reality, landscapes change and species distributions, relationships, industries, all evolve. Trees may work on different timescales to us, but our relationship to those trees – built on their functional properties and our use for them – matter in real time. Our priorities, our decisions, shape the landscape, and shape how future generations may engage with their natural environment.

The trees we plant provide a genetic resource for the future. But who plants elm anymore? Not me. What would be the point of planting trees that die before they reach 20 years in age? And as our treescapes grow devoid of mature elm – and soon ash, for similar reasons – how will disease tolerant genes make their way out across fragmented populations?

This problem is not unique. Many tree species are threatened by pests and diseases, with more emerging every year and changing climates making trees increasingly vulnerable. Ash and elm will not be the last species we face losing.

But there is hope. Genetic research and tree breeding mean DED resistant elm saplings are now available, and research on ash is developing quickly. We have the ability, but the roadmap to restoration is far from ready. Having the technology is one thing – applying it is quite another.

Our woodland may soon be left without a viable timber resource. Due to our SSSI status we must focus on native species, but how far does this go? What about native trees selectively bred for resistance, or hybrid species? Should we consider genetically modified trees? How would these decisions impact those who use the site, or our neighbouring landowners, who may see the situation entirely differently to us? No woodland is an island after all.

These are questions we are not yet prepared for. But we must be, because the problem is not going away.

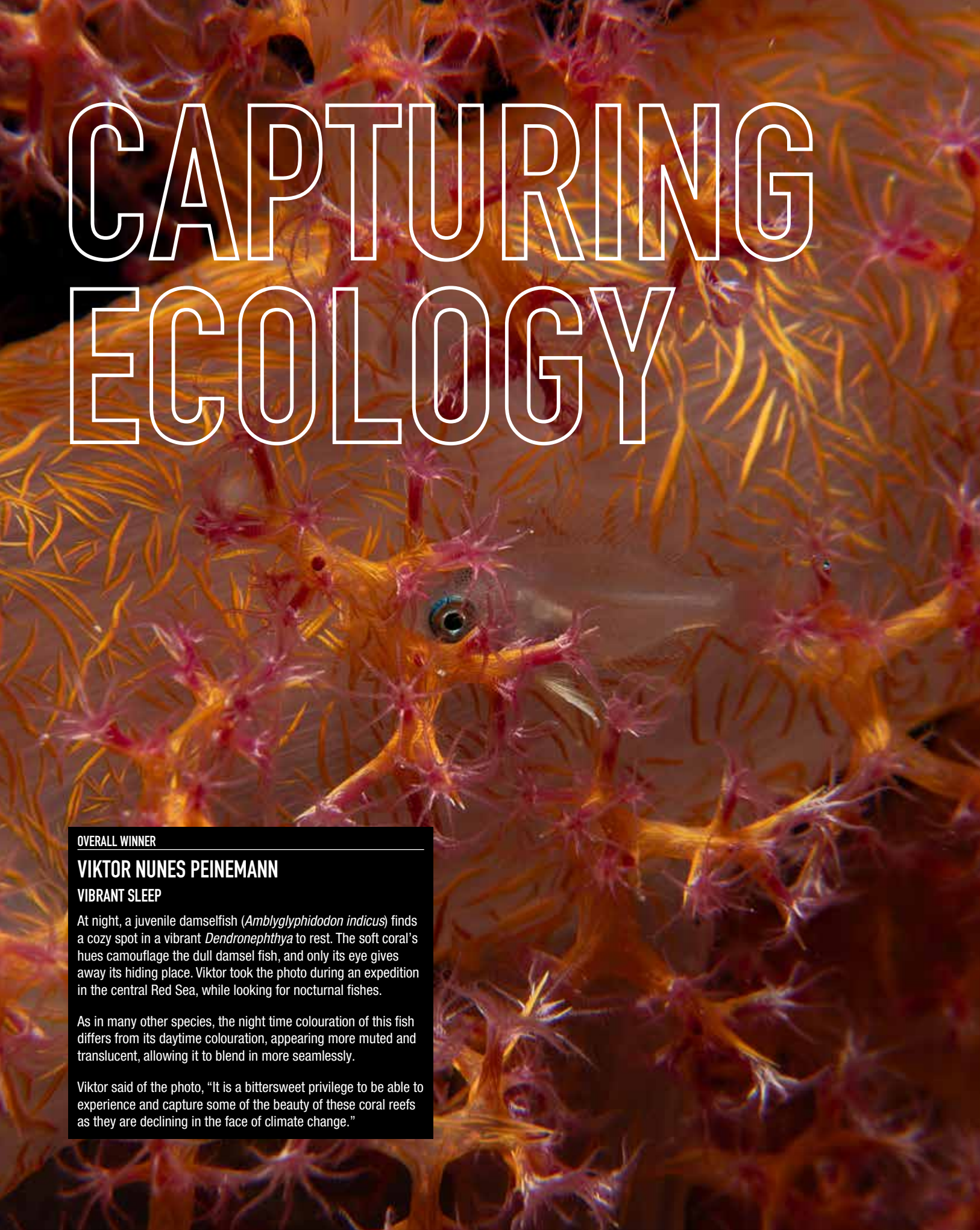
Perspectives and priorities vary – trees are complicated, and so are people. For planting at Whitelands I must consider ecology, sourcing and origin and breeding stock, adaptability in the face of climate change, heat and drought tolerance, tree health, timber markets and extraction, safety and viability. But 20 years ago, only one thing mattered, and my mental image of that towering Yggdrasil has never wavered.

I am not sure if the next generation will have the chance to experience the same thing, but for them, I will always remember to ask the most important question of all: will it hold a swing? ✺

Fritha West is a PhD student with the Centre for Forest Protection. The Centre for Forest Protection is a collaboration focused on the future of forest and tree health.

For more information see www.forestprotection.uk

CAPTURING ECOLOGY



OVERALL WINNER

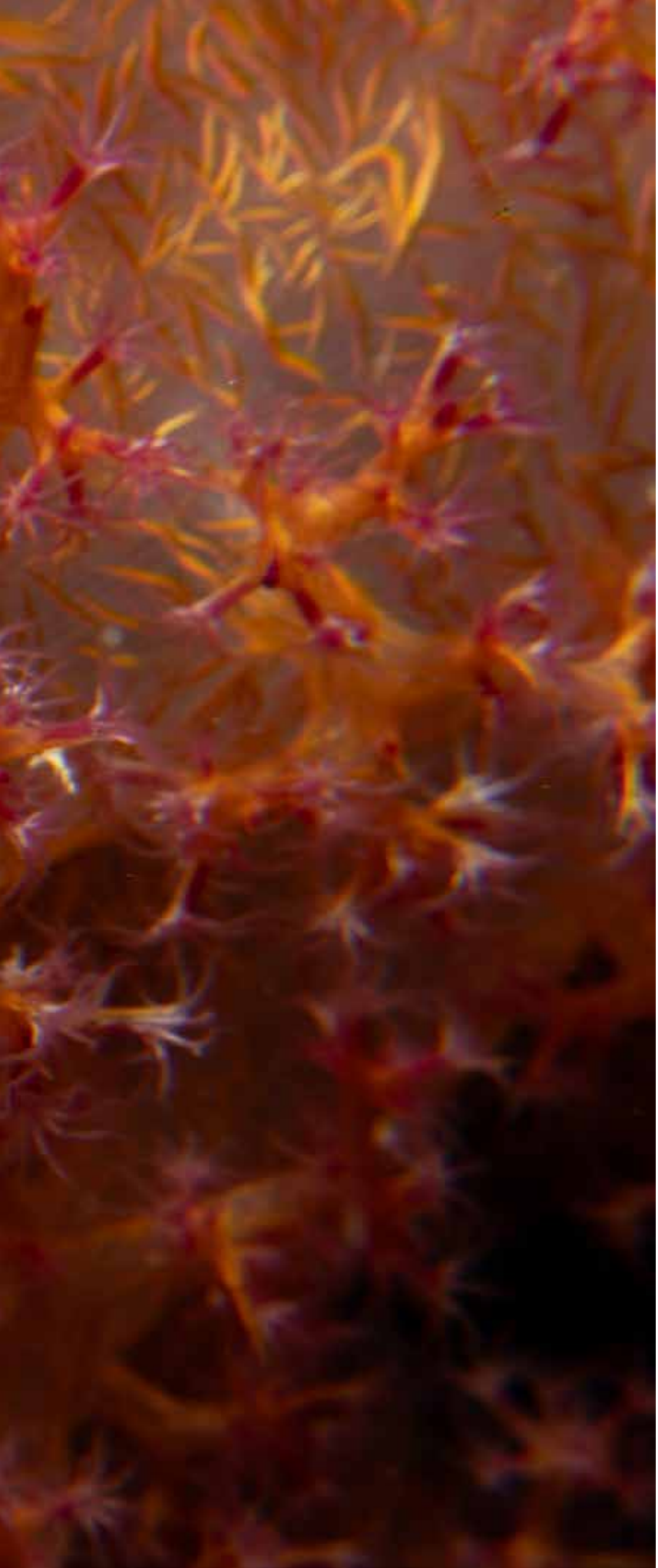
VIKTOR NUNES PEINEMANN

VIBRANT SLEEP

At night, a juvenile damselfish (*Amblyglyphidodon indicus*) finds a cozy spot in a vibrant *Dendronephthya* to rest. The soft coral's hues camouflage the dull damsel fish, and only its eye gives away its hiding place. Viktor took the photo during an expedition in the central Red Sea, while looking for nocturnal fishes.

As in many other species, the night time colouration of this fish differs from its daytime colouration, appearing more muted and translucent, allowing it to blend in more seamlessly.

Viktor said of the photo, "It is a bittersweet privilege to be able to experience and capture some of the beauty of these coral reefs as they are declining in the face of climate change."



The tell-tale eye of a damsel fish hidden amongst a coral reef; a lone tree dominating an empty landscape where a forest once stood, and a Guillemot chick taking its first daring leap of faith are among the winners of our annual photography competition, Capturing Ecology.

Capturing a damsel fish among coral is a rare sight which may soon become rarer – as winning photographer, PhD student Viktor Nunes Peinemann, acknowledges. Coral reefs are under severe threat from climate change. As are many other ecosystems captured throughout the competition. With every passing year of Capturing Ecology, nature under-threat is becoming an all-too-common tale.

But resilience is the key. As the BES's *Future of Ecological Research* report highlights, developing a better understanding of the ecology of Earth's ecosystems is a key priority if we are to help develop resilience to climate change.

Capturing Ecology is a celebration of our planet's vast tapestry of life, not its memorial.

Next year's competition will open in February 2024 and stay open throughout fieldwork season. We can't wait to see your submissions.

SPONSORS

DRYAD

Capturing Ecology is generously sponsored by Dryad. Dryad is a non-profit, community-designed and online service running since 2008. They aim to help you make the most of your research data and meet emerging publisher and funder policies, worry-free. Learn more at datadryad.org

lomography

We would also like to thank Lomogrpahy who sponsered this years winning prize. The Lomographic Society International is a globally-active organization dedicated to analogue, experimental, and creative photography.

OVERALL RUNNER-UP

DORON TALMI

CRANES DESCENDING

The Agamon Hula Nature and Ornithology Park in northern Israel's Hula Valley, at one of the world's most important bird migration routes. Every migration season, over half a billion migratory birds fly over this area, mostly common cranes (*Grus grus*).

In order to prevent the cranes from ruining crops in the surrounding agricultural areas, the park regularly feeds the flocks. This image was captured on an early winter morning from one of the feeding carts.

OVERALL STUDENT RUNNER-UP

FAYZ KHAN

SEEMINGLY BEAUTIFUL BUT ACTUALLY HOSTILE

Flamingos over the Kenyan Rift Valley lakes. Once freshwater, these lakes are now toxic to most animal and plant life. The surreal colours are from the surface algae. The light orange seems to signal hope, the darker colours danger. Fittingly, the flamingos fly from the lighter to the darker side.

INDIVIDUALS AND POPULATIONS: ANIMALS WINNER

REBECCA NASON

RESILIENCE AND RECOVERY

Avian flu had a catastrophic impact on northern gannets on Shetland last year. Although numbers are down, there has been no obvious virus within the colony this year but there are birds with rather haunting full black eyes. Evidence suggests that these black eyes are a sign that the bird has survived avian flu. This striking feature has gone from visually representing death and destruction, to a more positive sign of strength, resilience and survival for our seabirds.

INDIVIDUALS AND POPULATIONS: ANIMALS STUDENT WINNER

BRANDON GÜELL

CUSP OF CHAOS

A pair of gliding treefrogs, (*Agalychnis spurrelli),* search for a bare leaf on which to lay their clutch amidst countless recently laid eggs and thousands of reproducing individuals during a massive breeding event on Costa Rica's Osa Peninsula.

NETWORKS IN NATURE WINNER

DR SS SURESH

JACKFRUIT THIEF

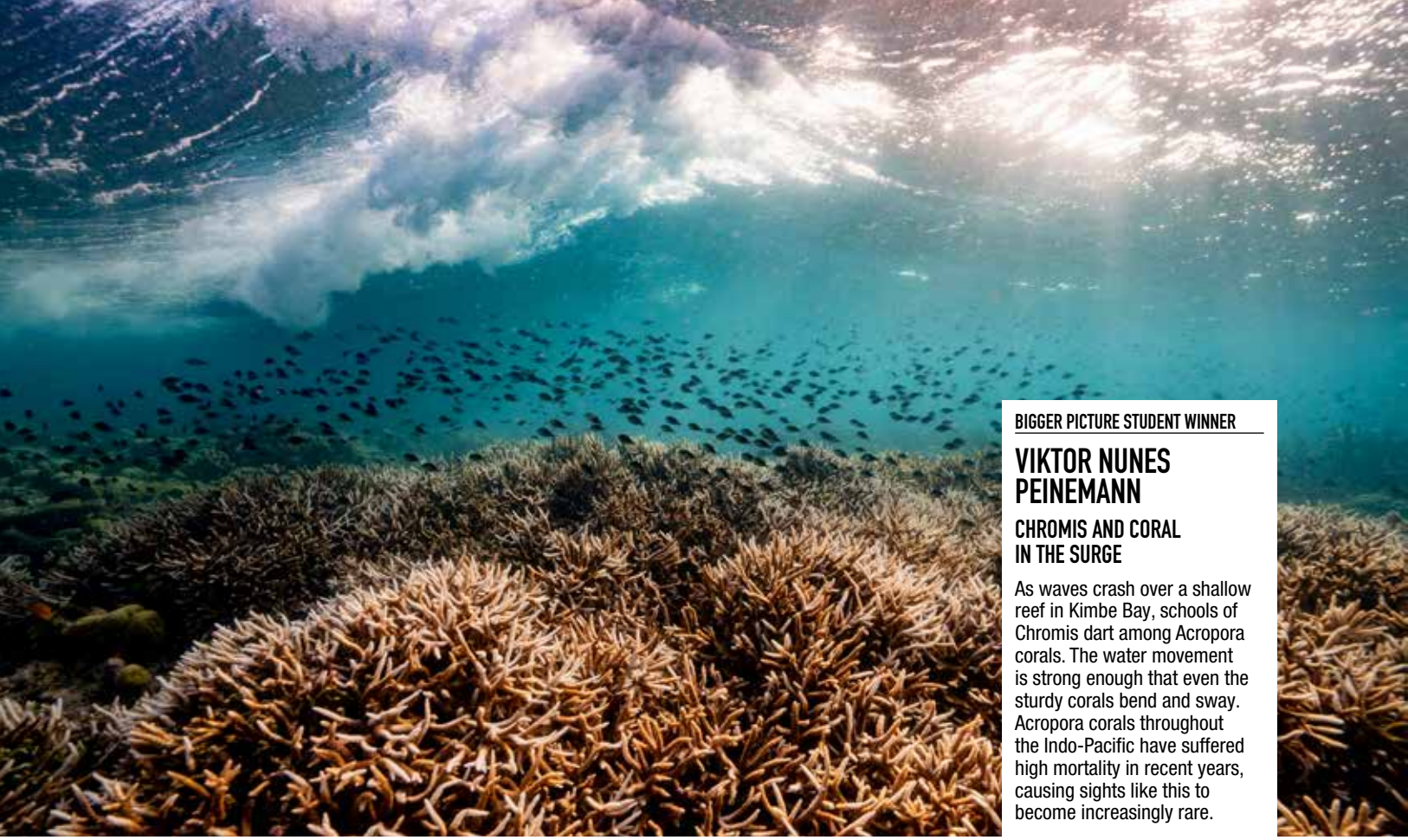
A Malabar giant squirrel devouring a jack fruit.

INDIVIDUALS AND POPULATIONS: PLANTS AND FUNGI WINNER

HELEN BURTON

QUIVER TREE FOREST

Although this landscape seems dominated by singular quiver trees, the reality is obscured by a shifting baseline. The broken remains of dozens of trees indicate this used to be a forest. Years of drought means seedlings struggle to establish themselves, leading to decreasing numbers of this iconic Namibian tree.



BIGGER PICTURE STUDENT WINNER

VIKTOR NUNES PEINEMANN

CHROMIS AND CORAL IN THE SURGE

As waves crash over a shallow reef in Kimbe Bay, schools of Chromis dart among Acropora corals. The water movement is strong enough that even the sturdy corals bend and sway. Acropora corals throughout the Indo-Pacific have suffered high mortality in recent years, causing sights like this to become increasingly rare.

HIGHLY COMMENDED

SAMUEL LANGLOIS-LOPEZ

GUILLEMOT JUMPLING

That irreversible, world-changing split second in a guillemot's life when a gang of genes, its own and its pestering parents', tell it to jump, swapping solid rock for empty air, wing stubs whirring against the weightlessness, to be met, with luck, by a welcoming splash from a brand new element that will be its own for evermore: water.

ECOLOGISTS IN ACTION WINNER

HANS DE KROON

OUT FOR A GOOD CATCH

Aquatic ecologist Wilco Verberk, together with two brave students, is about to enter the North Sea to sample the creatures at home on the seabed.

TAKING PARTNERSHIPS WITH LOCAL COMMUNITIES SERIOUSLY

THE MOVE FROM PARASITIC TO MUTUALISTIC IN INTERNATIONAL SCIENCE

Growing awareness of parachute science challenges us as a community to consider what a collaborative model that celebrates and supports local expertise could look like.

Parasite, parachute, helicopter and neocolonial science all describe the same thing, when external researchers – typically but not always from high income countries in the Global North – carry out research in the Global South. With little long-term investment in partnership or capacity-strengthening, this type of research is often characterised by extracting valuable information, publishing it and giving little or no credit to their local collaborators.

In such research projects, the objectives are established well in advance and primarily reflect the values and preferences of external researchers and project funders. So how do we replace this with collaborative models that celebrate local expertise, build capacity, and generate genuine benefits to local people, so transforming the quality of research and building stronger, more equitable, and trusting relationships between external researchers and local communities.

The past few years have seen excellent progress towards achieving equity, diversity, inclusivity and representation in ecology but much more is needed to truly ensure research is of the highest quality and integrity.

There are different forms of parachute science and it's important to recognise them, for example:

- One type is when researchers extract data without appropriately acknowledging or including local people, culture, expertise, and infrastructure. This can also include researchers from universities in the Global South (GS) working elsewhere in the GS (including in poorer regions of their own country) and collecting information but providing little or no benefits such as skills transfer, capacity building, acknowledgment, or advancement to people in the communities where the research takes place. Acknowledging this South-South form of parasitic science recognises power differentials that exist within the GS, as well as between the Global North (GN) and GS.
- Another form is between researchers wherever they are based and local communities where they conduct their research. Researchers often fail to establish long-term, equitable relationships with local partners and thereby create mistrust among local people. Mistrust can lead to passive participation by local people. In well-studied areas, passive participation coupled with research fatigue can severely impede the quality and integrity of research.

Progress will require both institutional and individual change across the fields of ecology and conservation science, including project funding, research governance, and research ethics approval. Here are our thoughts on how this can be achieved:

- Research project leaders should establish long-term partnerships, for example between students or early career researchers from the GS and GN. This would enable multi-directional exchange of skills, expertise and experiences.
- Funding organisations should make meaningful collaborations between GN and GS researchers a condition of research grants. This could help build capacity in GS universities and increase pathways to success for students from the GS without needing to relocate to the GN. It could also hasten a future in which more research funding flows through GS universities.
- Funding organisations, agencies that issue research permits, and university research ethics committees should require letters of support from local collaborators, including community leaders, which include details of what they would expect to contribute and receive from a given research project. This could prevent purely extractive research projects from the outset and ensure that research projects (especially those touching upon sensitive topics) are culturally appropriate and comply with local and national regulations. Funders could also remove restrictions on having international partners as co-investigators on grants.
- Research grants should include funding for scoping activities in which external and local collaborators co-design research projects and agree project outputs, as well as dissemination activities in which collaborators report findings to communities in accessible ways. This could improve trust between communities and researchers.
- Local collaborators should receive greater recognition through co-authorship, and learn useful research, project management, and dissemination skills. This would help ensure that local collaborators can direct future research projects and drive changes in conservation policy and practice.
- Clear guidelines and resource material should be established for ethical collaborations. The BES could play a pivotal role in establishing and promoting these guidelines.
- Existing and planned publication models need to be challenged when they put unsustainable financial pressure on researchers from low- or middle-income counties, effectively excluding them from publications in some journals.

By taking partnerships with rural communities seriously, researchers can benefit from the diversity that local collaborators and communities offer, and simultaneously move from inequity to equity in terms of dynamics, control, recognition, and input. In doing so, research projects can incorporate local needs, interests, and concerns into project objectives, making sure that the project is not purely extractive. This would be a welcome step from parasitic science to mutualistic science.

AUTHORS

Yolanda Mutinhima
Chinhoyi University of Technology, Zimbabwe

Betty Rono
Rhodes University, South Africa

Lovemore Sibanda
Cheetah Conservation Project, Zimbabwe

Salum Kulunge
Sokoine University of Agriculture, Tanzania

David Kimaili
South Eastern Kenya University, Kenya

Lessah Mandoloma
Oxford University, United Kingdom

Yadvinder Malhi
Oxford University, United Kingdom

Darragh Hare
Oxford University, United Kingdom

Part of the Morally Contested Conservation project, an international research collaboration measuring and comparing perspectives on controversial issues in wildlife conservation in sub-Saharan Africa (https://tinyurl.com/projectmcc).

YOUR SOCIETY

WHAT'S COMING UP IN 2024?

GRANT ROUNDS

First round opens 11 January, second round opens 11 July. Both rounds are open for eight weeks. Read about the new grants on p12.

CAPTURING ECOLOGY

Our photo comp will open for the longest time yet – from February until September – so plenty of time to snap your winning picture.

© ALWIN HARDENBOL

REGENERATIVE AGRICULTURE REPORT

Our next big policy report publishes in the spring. We look at the science behind regenerative agriculture and make policy recommendations for a transition to nature-friendly farming.

LAND USE SUMMIT

In March, in partnership with ZSL, we will be bringing together people from government, business and ecology to look at the future of land use in the UK – can we balance everyone's interests whilst protecting and restoring nature?

MENTORING AND CAREERS TRAINING

With the launch of our mentoring platform (p47) we will be running training sessions throughout the year on topics identified by those registered to the scheme. Training will be targeted at mid-career ecologists and will include things like leadership, work-life balance and how to be a good mentor.

SUMMER SCHOOL

It has been 10 years of our undergraduate summer school! Applications open in spring and the school will run over a long weekend in July.

AER LIVE

Our free online workshops for practitioners will start again in April. Past AER Lives have looked at restoration through fire, camera trap ethics, island invasive species, and nature positive economies.

POLICY FELLOWSHIPS

Every year PhD students and postdocs can apply for a paid placement in government. Applications open early summer and the placement will take place between late summer and the following spring. It's an amazing opportunity to work at the science–policy interface.

ECOLOGY FEST

In September we're hosting a huge new festival celebrating all things ecology. Three days of activities and events across the globe, in person and online. Keep an eye out for all the ways you can get involved.

CO-DESIGN GUIDE

Coming from the AER team in the autumn, a new guide on building projects collaboratively with academics and practitioners. Part of our free *Guides to Better Science* series.

BES ANNUAL MEETING

♦ **10–13 DECEMBER**

LIVERPOOL

Call for thematics open in spring. Abstract submission and tickets open early summer. Earlybird tickets sales close in October.

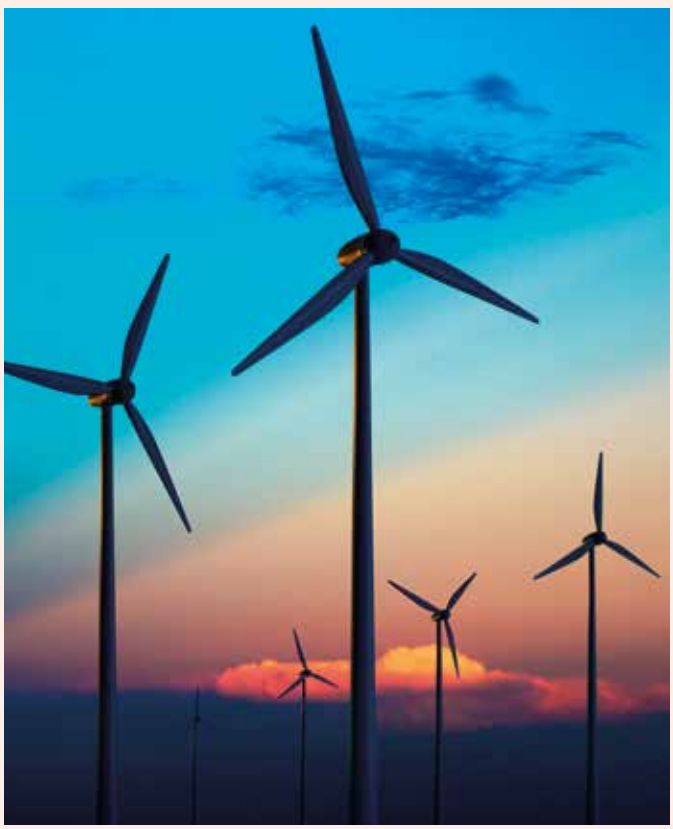
CLIMATE CHANGE GROUP

WHAT SORT OF NET ZERO?

IMPLICATIONS FOR CLIMATE CHANGE, BIODIVERSITY AND HUMAN WELLBEING

Against the background of the recent controversy about the UK's net zero climate target and concerns about the potential weakening of environmental protection, ecologists must take an interdisciplinary, holistic, global and inclusive approach to inform an effective and coordinated response to the climate and biodiversity crises.

Net zero is a key policy target adopted by governments to stop the rapid rise in greenhouse gas concentrations in the atmosphere and limit the risks associated with climate change. Deep and rapid reductions in greenhouse gas emissions are needed globally over each of the next three decades to limit global warming to 2°C and prevent massive biodiversity loss. Such reductions can be achieved through different emission pathways, differing in energy demands, the rate of reduction in fossil fuels and extent of reliance on carbon dioxide removal technologies, which in turn will affect land use changes and the extent of additional impacts on biodiversity. Hence, the emissions pathways taken globally and nationally to achieve net zero can either contribute to or undermine parallel efforts to tackle the biodiversity crisis.



The UK Prime Minister's decision to delay the ban on the sale of petrol and diesel cars and his earlier decision to approve new oil and gas exploration are claimed to be consistent with the UK's goal to achieve net zero by 2050. These decisions, coupled with earlier decisions affecting the carbon price in the UK, imply that the achievement of net zero by 2050 will depend on the large-scale deployment of unproven carbon dioxide removal technologies, with increased risks for climate outcomes, biodiversity and human wellbeing.

THE ROLE OF ECOLOGISTS

There are still key gaps in our understanding of how to achieve both net zero and biodiversity targets. We need to understand the impacts of different pathways to achieving net zero on global and domestic biodiversity conservation and recovery targets. We need to assess the impacts of scaling up renewable energy installations on biodiversity and ecosystems, and integrate ecological considerations into mainstream tools for effective landscape planning to guide the installation of solar, wind, hydro and biomass energy technologies to deliver net gain for biodiversity and a wide range of ecosystem services. We also need to better quantify and model emissions from land- and sea-use and change, including carbon uptakes, long-term viability of carbon stores in peatland, woodland, grassland, saltmarshes and seagrass under different climate change or management scenarios, and outcomes of restoration efforts and peatland and woodland creation targets. Finally, we need to identify further synergies and trade-offs between climate change mitigation, adaptation and wider wellbeing policies, evaluating their outcomes whilst remembering to account for the intrinsic value of nature.

Ecologists should consider the social-cultural nexus of the contribution of nature-based solutions to achieving net zero targets. For example, whilst the large-scale restoration of parts of the Scottish Highlands may provide carbon storage and/or biodiversity benefits, this transition must also be socially just and economically feasible. Carbon markets are critical to achieving the Scottish Government's target of net zero emissions by 2045. However, the Just Transition Commission noted that: "without careful design and meaningful engagement there is a risk that benefits may flow mainly to large landowners". Approaches taken in the UK also need to be understood in their global context to avoid increases in emissions and biodiversity impacts elsewhere. Therefore, ecologists must take an interdisciplinary, holistic, global and inclusive approach to inform an effective and coordinated response to the climate and biodiversity crises. ✺

AUTHORS

Simon Buckle, Phillipa Gillingham, Ellie Harris, Regina Kolzenburg, Charlotte Ndiribe, Adam Pellegrini, Sarah Rehman, Andy Stott, Toryn Whitehead and Orly Razgour

AQUATIC ECOLOGY GROUP

BESAG2023

LANCASTER UNIVERSITY + ONLINE

#BESAG2023

On the 18–19 September, the annual meeting of the Aquatic Ecology Special Interest Group (#BESAG2023) was held at Lancaster University. This was the first time we have based the meeting in Lancaster, and we were delighted to have over 60 registered attendees, joining us either in-person or online. We were impressed by the geographic reach of the event, with our speakers alone hailing from the UK, USA, Canada, Brazil, India, Poland, Reunion Island, Spain, Croatia, and The Netherlands.

Our event began with a half day comprising two in-person interactive workshops. First Will Pearse, of Imperial College London (UK), led a lively session to introduce the theory and application of machine learning (neural network) approaches to ecological problems. Then Maria Cuenca Cambronero, of the Universitat De Vic (Spain), encouraged us to think about the multiple benefits of pond ecosystems, to biodiversity and society, and their role in climate mitigation, based upon her work in the Ponderful project.

Day two was structured as a hybrid conference, including inspiring half-hour presentations from six invited keynote speakers, covering topics of fish behaviour and population genetics, the combined threats of ocean acidification and warming, coral microbiome manipulation, under-ice ecology, and team science. We also enjoyed lightning talks from no fewer than seventeen early career researchers (ECRs), covering topics as diverse as the impact of artificial light at night, seabird-derived nutrient subsidies to mangroves, the potential role of sponges as eDNA samplers, and the impact of anthropogenic noise on Ganges dolphins.

We were very lucky to be able to celebrate the achievements of our ECR community, through prizes sponsored by *Global Change Biology* (annual ECR prize) and the *Journal of Applied Ecology* (best ECR presentation). Thiago Couto (Brazil) was a very worthy annual prize winner, giving an excellent prize winner's talk on the innovative use of acoustic telemetry to survey marine fish. We had so many excellent candidates for the best ECR prize and, after much deliberation, awarded prizes to both Lynsey Harper (UK), for her presentation on citizen science through the Big Windermere Survey, and Sofia Rocha (Brazil), for her presentation on the potential implications of floating solar panels for freshwater ecosystems.

The meeting left us with a strong sense of community, and a recurring theme of the immense potential and importance of collaborative, team science, bringing interdisciplinary approaches and diverse perspectives to the challenge of understanding the complex pressures that face our marine and freshwater ecosystems.

MACROECOLOGY GROUP

MACRO ANNUAL MEETING

10–12 JULY 2024

CARDIFF UNIVERSITY

The BES Annual Meeting is just around the corner, and BES Macro SIG will be there! There will be a Macro SIG social event on the Wednesday night, so keep an eye on the conference timetable and our socials to find out all the details!

We are also delighted to announce that our annual Macro SIG conference will be held 10-12 July 2024 at Cardiff University. The first day being an in-person workshop for Early Career Researchers, and a variety of talks, posters and plenaries for the second and third day. More information will be available in the coming months, so keep an eye on our twitter (@BESMacroecol) or join the mailing list (email macro@britishecologicalsociety.org or visit https://tinyurl.com/BESMacroMailingList) to be kept up to date!

MOVEMENT ECOLOGY GROUP

BESMOVE2023

ST ANDREWS

#BESMOVE2023

This year we moved up north to the University of St Andrews – and it was fabulous! Between 28-29 August 2023 we were joined by 87 participants from four continents, including from Hong Kong, Africa, North and South America, from Scandinavia to Southern Europe.

It was also great to see a broad range of career stages, from undergraduate students to senior academics, managers and practitioners. Certainly our largest and most diverse annual meeting so far. The general theme on 'Animal and human movements and their interactions' brought together movement ecologists, geographers and experts in human mobility studies. We had six plenary talks, 21 contributed talks, 23 posters, covering aerial movement, human–wildlife Interactions in terrestrial environments, migratory navigation, animal movement in marine environments, and animal movement in terrestrial environments. The discussions continued during a lively beach activity, followed by social dinner.

All thanks to the outstanding work by the local organising committee, led by Urška Demšar and Christian Rutz, helped by Claire Forbes, Charlotte van der Lijn, Ali Moayedi, Robert Patchett, Beate Zein. Thanks for making the meeting such a success! If you would like to help us host one of our future meetings, please get in touch.

A VOICE FOR EARLY CAREERS

The BES places a big focus on supporting early career ecologists, so it's no surprise given that those just getting started in their ecological careers make up over 50% of our membership. As a result, a lot of work goes into making sure we remain in tune with the changing needs of those just getting started in the vast world of ecology.

EARLY CAREERS WORKING GROUP

The last few years have taught us that our circumstances and environment around us can change rapidly. To ensure that the BES continues to reflect what our membership wants, we have established the Early Careers Working Group. Our group comprises of a range of early career ecologists, some of whom sit as the early career representatives on BES committees and some of whom are new to the BES. Our representatives come from different vocational backgrounds, ranging from academia to industry. This ensures we are providing an inclusive platform and hearing from every perspective. We will be meeting four times a year to work on a variety of projects, providing feedback and ideas for professional development, and contributing to knowledge-sharing and networking between our members and staff.

MEET US IN BELFAST

We want to extend a warm welcome to all early career ecologists gearing up for the British Ecological Society's 2023 Annual Meeting in Belfast. This year, we have been focusing on ways to build up relationships with our members and provide them a place to turn to share their ideas, questions and concerns. As a result, we're excited to introduce the **Early Careers Drop-in Centre**, a dedicated session designed with you in mind.

Our early career reps will be hanging out in the Arc bars at the Belfast International Convention Centre during the poster sessions to give delegates a chance to network, share their challenges and discuss what the BES could do to support and encourage early career ecologists in their career development. Meet them:

- Wednesday 13 December, 6pm
- Thursday 14th December, 5pm

Our primary questions to you: What could the BES do to best support you on your journey? Your insights are the cornerstone of our collective progress. Your feedback will be instrumental in shaping future initiatives and resources tailored for early career ecologists.

For those who cannot attend in person, there will also be a session on Whova, our events platform. This will run during the entirety of the event to allow for maximum impact and all feedback will be discussed at our next meeting in March 2024. Simply locate the 'Community' tab on the Whova app and look for the forum post titled 'Early Careers Drop In'.

Can't attend the annual meeting this year? Don't worry! We are working behind the scenes to make our group accessible to the wider membership and will be announcing ways to get involved next year. ✺

We look forward to meeting you!

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NATURE-FOCUSED CAREERS

One of CIEEM's current high priority work areas is focused on ensuring there are enough people coming into nature-focused careers. We are a Defra-nominated organisation on the Government's Green Jobs Delivery Group (GJDG), which is currently developing an action plan to ensure the pipeline of people coming into the green jobs market is sufficient over the next 5–10 years.

There are three main areas of work focus:

- Raising the visibility of the breadth of nature-related jobs and the career opportunities
- Improving and diversifying routes into nature-related jobs
- Working with employers to create more diverse and inclusive working environments

As far as the second point is concerned, this is a key point that has come out of our recently published research (co-led with Lantra) that looked at non-degree entry routes into ecology and environmental management. This showed that our sector is still very dependent on graduates with little awareness or engagement from employers with vocational qualifications such as apprenticeships, but also frustration about the lack of practical skills amongst recent graduates – something employers value highly. This issue also fuels the tendency towards encouraging graduates into a period of volunteering to gain practical experience – a practice that is neither inclusive nor fair.

At CIEEM we want to see greater diversity and inclusivity in the education and training available and we want to see an end to the expectation of unpaid volunteering. We are working with employers, apprenticeship bodies and sector skills bodies to take a fresh look at apprenticeships and other vocational qualifications and work collaboratively to ensure they meet both employers and learners needs. We are also starting to work with our accredited degree programme leaders to see how CIEEM can support students in the acquisition of practical skills.

GREEN JOBS FOR NATURE – HOW YOU CAN HELP

I am pleased to report that we now have over 100 job profiles showcasing a wide range of roles in the ecology and environmental sector, which is brilliant news.

We do still have some gaps we would like to fill and we would encourage BES members to help us fill those gaps by submitting a profile using the online form at https://greenjobsfornature.org/job-profile-form/. We would also welcome short video clips of you in your work role or out and about doing something for nature.

The particular areas where we need more profiles include:

- Media and comms
- Data mapping/management
- Land management
- Academia

We have already recruited some great content and engagement partners, especially organisations whose stakeholders are audiences currently under-represented in the ecology and environmental management sector. A significant part of the GJFN project is raising awareness of the career opportunities available amongst under-represented communities, so over the next 18 months we are planning to deliver engaging outreach activities to reach this audience, supported by a specialist comms agency working in this area.

SPRING CONFERENCE 2024 – BIODIVERSITY NET GAIN IN PRACTICE

With mandatory Biodiversity Net Gain (BNG) imminent in planning policy in England and moves towards similar planning policy solutions elsewhere in the UK, our online Spring Conference (March 2024) will examine the lessons learnt from local planning authority areas that have been early adopters of the process. There is a particular focus on the delivery of BNG post planning approval, highlighting habitat creation, management and monitoring. You can find out more information about the conference at cieem.net/events.

Sally Hayns CEcol MCIEEM, Chief Executive Officer
01962 868626 | enquiries@cieem.net
cieem.net

LONG-TERM EXPERIMENTS ESSENTIAL FOR OUR FUTURE

Jeffrey Duckett's insightful article in the summer edition of *The Niche* was most opportune in highlighting that many environmental questions are not being answered effectively. For a variety of reasons, some of our forebears did not set up the necessary long-term experiments (LTEs) that provide the *only* route to the required knowledge and evidence. Two examples quoted by Jeffrey illustrate the difficulties in starting and, more importantly, keeping LTEs going.

The article identified correctly that no LTEs were set up specifically to examine the effects on vegetation by the reduced rabbit populations following the introduction of myxomatosis. However, some studies were done, firstly by happenstance, secondly by design. The pioneering work of A.S. Watt FRS at Lakenheath Warren in the Breckland compared the effects of removing rabbit grazing on grassland communities across an acid to base-rich gradient. This work pre-dated myxomatosis, but on some grasslands Watt maintained comparisons into the post-myxomatosis era. For decades, Watt's plots were a cornerstone of field course ecology teaching. They were seminal for understanding the effects of rabbits on different grassland communities. Sadly however, when I worked at Lakenheath in the 1980s, only one exclosure remained (Grassland-A). This was monitored by Tony Davy until 1994 when the hidden plot markers disappeared.

A.S.Thomas set up a series of monitoring transects in six sites across southern England comparing vegetation through time in what today would be a before-after (rabbit removal) design. The data were stored under Terry Wells's desk at Monks Wood for at least 20 years and have never seen the light of day!

It could be argued therefore that the bare bones of LTEs were there to assess effects of myxomatosis but that they failed to materialise because of the retirement of Principals and changes in research emphases. Of course, ECT with its role in preserving 'continuity' did not exist back then. Their reinstatement – particularly the Lakenheath plots in the driest part of England – could now provide key insights into the effects of our rapidly changing climate on grasslands.

Jeffrey Duckett's second example was Cow Green in Upper Teesdale. Since the dam construction was so contentious, it is surprising that no experimental ecological restoration was attempted. Yet, at the same time further up the fell at Moor House, numerous experiments were devised to determine the environmental factors most relevant for upland conservation. These experiments are now included in ECT's national register of LTEs. The question remains as to why no restoration experiments were established down the catchment in Teesdale. Thankfully, Margaret Bradshaw and colleagues have monitored the Teesdale flora since the dam construction and these data now form the ideal platform for future LTEs.

These examples clearly demonstrate that, in the past, we ecologists have missed golden opportunities and could (should) have done better. However, with the ECT acting as a focal point to promote the value of LTEs, I hope things will improve in the future. Four aspects are crucial: (1) replicated manipulative experiments; (2) dedicated leaders with a succession strategy; (3) full written methods so that new scientists can take over when retirement/death occurs; and (4) well-curated, secure databases. All these are in line with the ECT's ethos of championing LTEs and developing good practice.

What we can also predict is that ecologists will need new LTEs to answer new questions where no other route to knowledge exists. Jeffrey Duckett's suggestion of novel experiments in Britain's Atlantic oakwoods is certainly a good one: we simply have no idea how these bryophyte-rich communities will be impacted by climate change.

Rob Marrs
University of Liverpool

Ben Sykes Executive Director, ECT
ben.sykes@ecologicalcontinuitytrust.org
ecologicalcontinuitytrust.org

COMMUNITY

MEMBER STORIES

ELENA RAČEVSKA

Zagreb Zoo, Zagreb, Croatia
elenaracevska@gmail.com
#ethnozoology
#ethnobotany
#ecopsychology

I joined the BES… for opportunities to meet and network with people of similar and different professional interests and be further inspired by them, their unique career and life paths, and how they were able to develop and grow, both as scientists and as people.

What inspires me… kindness – towards animals, plants, and people. There is no amount of well-written, well-cited articles that could ever, in my opinion, replace – or even compete with – a lack of heart.

Significant experiences… volunteering at Zagreb Zoo got me interested in human–animal relationships. My first field job in Indonesia got me interested in studying animals *in situ*. My PhD in Madagascar helped me mature and discover who I want to be as a scientist and as a person.

I would tell my younger self… to not be so impressed by people's intelligence, knowledge or academic achievements. These all mean very little if not accompanied by similar levels of emotional maturity, kindness and humility.

My funniest fieldwork fail… falling asleep in a swamp in Madagascar and not realising it (long live waterproof trousers!).

My favourite organism is… my dog Dublin! If we are talking about species, I adore primates – especially *Eulemur collaris*, *Nycticebus javanicus*, *Alouatta pigra*, *Gorilla gorilla*). I love corvids, wolves, sea lions, leopards, dogs, cows, horses. I also really love people.

Slow loris *(Nycticebus javanicus)*

DAVID HARING CC BY NC SA 3.0

ISABELLA M. CATTADORI

Pennsylvania State University (USA), Department of Biology
#infectious diseases
#population dynamics
#environmental drivers

I joined the BES… when I was doing my PhD as I wanted to keep up with the work done in my field and in ecology as a whole.

What inspires me… I like to think that there is always a parsimonious mechanism that can explain what we observe in nature. This is what drives my work on infectious disease dynamics and host–parasite interactions.

Significant experiences… I think I have been lucky to work on some great long-term datasets. Two datasets shaped my PhD/postdoc career, the third dataset shaped my career as a faculty.

I would tell my younger self… to believe in yourself, never give up and take the opportunities when they come.

When I'm not an ecologist… I keep my body happy by doing sport, I love swimming I started with open water swimming and then got into triathlon; at the age of 50 I thought wise to move to long-distance triathlon, which has been fun. The soul also wants its part and I find visual art fascinating, old and new. There is a lot to learn and a lot that I do not understand but I persevere.

REBECCA WALLEY

Policy Officer

Continuing our careers Q&A series, we chat to one of the newer BES staff members, Rebecca Walley, Policy Officer, about her ecological career journey.

Tell us about your career pathway, I've heard it's an unusual one

I've been a bit of a yo-yo in and out of higher education for the past decade: I did my undergrad in earth sciences, then spent a year as a team leader in a supermarket, then undertook a masters in micropalaeontology. After that I worked in internal communications for a year or so, then went back to education as a postgraduate researcher in palaeoecology. Now I'm Policy Officer at the BES!

What does an average day at work look like for you now?

It's a cliché, but every day is different! Some days I'll focus solely on one piece of work, such as editing an upcoming policy report, and other days I'll be running meetings for the BES Welsh Policy Group. One of the great things about being part of the policy team at the BES is that I have some responsibilities that are solely mine, but I also get to dedicate time to supporting the work of other members of the team so I'm building a good understanding of the differences in policy across all four nations of the UK.

What's your favourite thing about your role?

I love connecting with lots of people over our shared passions (and frustrations) of environmental policy. I feel very at home at the BES in an ambitious, supportive team – which fosters confidence in the work I'm doing.

That sounds great! Have you had any mentors or role models throughout your career?

I'm privileged to have worked alongside lots of inspiring, dedicated, intelligent and creative people – but the people who have really stood out are those that are not only brilliant at what they do, but they do it with kindness. Whether that's by being inclusive whilst chairing a meeting, framing their feedback on a piece of writing constructively or remembering to thank you for the little things.

You're completing a PhD at the moment, right? How do you find a good work-life balance juggling all these tasks?

Well, coming onboard at the BES during the trial of the 4-day work week has really made me think carefully about how I spent my time. As yes, I am completing a PhD alongside my full time role, so I have to be very strict with myself about getting outdoors every day to clear my mind. I thrive most when I'm busy, so I enjoy coming into the office and having exercise classes or catch ups with friends booked most evenings – so the 4-day work week has helped me to build in some downtime too!

Seems like you're pretty great at figuring out which jobs work well for you – do you have any tips for other's hoping to do the same?

It's okay to take a while to figure out the right balance of saying yes or no to opportunities. The more experience you get, the better you know if something is the right fit or if you have the capacity for it. Admittedly this takes a long time, and I'm not entirely perfect with it myself yet, but it's all a matter of practice. ✺

HERE TO MAKE VOLUNTEERING FOR THE BES REWARDING AND EASY

Have you ever helped us run an event, contributed to a report, or helped set up a community group? There are myriad ways to get involved at the BES and our new Volunteer Officer, **Katie Weston**, is here to make volunteering with us worthwhile.

"Volunteering is something I've done throughout my life, both because I've wanted to and because it's helped me professionally. I still volunteer in my spare time and I understand what it means to gift your time and expertise to something that you believe in."

Katie (they/them) has worked with volunteers for over ten years, from developing inclusive volunteering projects in museum curatorial roles to most recently at Chelsea Physic Garden, helping to develop and establish volunteering programmes. They are with us for three years to help support and deliver the volunteer strategy.

INTERNATIONAL VOLUNTEERS DAY

On 5 December we recognise Internal Volunteers Day – a worldwide celebration of the incredible contributions that over one billion volunteers provide. The BES is proud to celebrate the involvement of our international volunteers – our work engages people worldwide so it is ever more important and significant that our volunteers reflect this. Thank you for your contributions and for being a part of the BES community.

If you want to know more about volunteering at the BES, reach out to Katie at katiew@britishecologicalsociety.org

LAUNCHING OUR NEW MENTORING PROGRAMME

Our new platform makes it even easier for you to take part in an expanded mentoring programme for all career stages.

The BES has had a long history of providing successful mentoring opportunities including peer, publishing, and women's mentoring schemes. We are now opening our mentoring programme to all members looking to learn from each other.

This mentoring programme can help you increase your personal development skills and develop or share your knowledge in a wide range of career development areas such as leadership, navigating protected characteristics in the workplace, grant writing, work/life balance, and imposter syndrome.

What is mentoring?

Mentoring is a way to help fellow ecologists fulfil their potential by providing unique perspectives and advice, inspire, and support each other. A mentor's role is to listen to, guide and support a mentee, allowing them to reach their own conclusions and set goals and assess progress. The BES mentoring programme is based around personal development rather than subject specific knowledge.

Who can be a mentor?

There are many benefits to signing up as a mentor and we encourage everyone with at least 2–3 years in a relevant ecological role, or at a graduate level, to join. Being a mentor will build your confidence and help you develop your leadership, listening and feedback skills.

What is the time commitment?

It will be up to you to decide how often you meet and how much contact there is in between meetings. For example, some mentoring partners meet once every couple of weeks for an hour, with agreed email communication in between if questions arise. We suggest each mentoring partnership lasting about 6 to 12 months, which will provide enough time and structure to assess goal progression. Don't forget to set expectations from the beginning!

How does the mentoring platform work?

The platform is really easy to use and guides you through the process. Once you've logged in you can create a profile and note your preferences. After saving your profile, mentees can see you when searching for specific areas of help, and will reach out if they think you could help. Once a mentoring pair has been confirmed you will be provided with the information to develop goals and objectives, outline your expectations, and set the date for your first meeting. Adopting a structured approach provides a clear purpose for the mentorship and increases the chance of success.

Will there be additional benefits to joining?

Participants of the mentoring scheme will have access to tailored training and webinars. Additionally, mentors will have the opportunity to network and share learnings with each other.

Sounds great, how do I sign up?

Just search for "mentoring" on our website. Use your BES account details to sign-up and create a profile. The rest will be easy to navigate!

The BES Professional Development team are on hand to answer any of your questions and to support you through your mentoring journey. ✺

REFLECTIONS FROM THE BES TEACHER TRAINING DAY

Secondary school teacher **Rose Edmondson** rediscovers a passion for nature which she'll take back to the classroom.

I am ashamed to say that despite holding a biological sciences degree, I actively avoided all modules linked to ecology because I was obsessed with human biology and microbiology as an undergrad. More recently, reading about plants captured my imagination and over the past three years I've been rediscovering the importance of nature and ecology through an array of projects set up at school. Discovering what plants can actually do, that they can communicate, that they interact with their environment just hadn't been brought to life or mentioned at all by any of my teachers before.

I was fortunate enough to come across an advert to attend a teacher training day focusing on bringing nature to life for secondary school teachers. Our school, Falinge Park, is near the centre of Rochdale but we benefit from being opposite a park and have a small orchard and garden area in the school grounds. The training seemed like an excellent opportunity to learn more about how to develop and use these spaces.

There was an excellent range of activities and workshops on offer to cater for every aspect of developing a love of nature regardless of your level of experience. This included a session linked to invertebrates in an orchard, how to get involved with citizen science, and possibly my favourite session of the day led by Sammy Mason on UK mammals. As well as the fantastic range of workshops, we had lots of opportunities for tea breaks which allowed us to network and share our ideas. Memorable moments included accidentally coming across a hornet nest in a tree in the orchard, looking at photos captured overnight on the camera traps, and finding out more about what the new Natural History GCSE might have to offer our pupils. Not only were we guided by experts on the day, we were also provided with a generous goody bag containing some pretty special kit to help us set up our nature projects back at school.

Our school has a partnership with a local primary school to help them to develop their pond area, as well as loan out bio themed boxes to families so they can explore nature from home and to share these experiences with the wider community. We've also set up workshops and hope to make a tangible difference to climate change in the Rochdale area by propagating and replenishing sphagnum moss. This is especially important to our pupils – realising that they have the power to get involved and influence change directly is incredibly beneficial and motivating for them – so much so that this year they are passionately setting up a nature club in school for the younger pupils.

My passion for nature has been cemented by attending Preston Montford for the day. Networking with others and being immersed in nature in such a fantastic setting just made me more determined to carry out our goals. Being fortunate enough to have a primary teacher attending the following day brought something unique to the table as we can now exchange ideas and develop and collaborate alongside each other. The session on mammals is what really made me think. Despite their size, and the interest that pupils have with mammals, how often are British mammals actually taught in our schools? How quick are we to discuss mammals from another continent? Discovering that scientists need more records of British wildlife made me more determined to set up our wildlife cameras, to contribute to citizen science projects, and to work alongside some local project groups to exchange and collate data. This is something which excites me because its tangible and so easy to get involved. Providing as many opportunities as possible to involve pupils with real life data collection in our local area is incredibly important both within the curriculum and beyond.

I know our school will benefit from the training, not just because of the equipment we were given, but also because of the connections formed. We're looking forward to being part of a larger ecological network through the BES and to share our camera trap data with the national MammalWeb project.

Back at school we'll be using our new equipment, setting up a nature journaling club, and will be inviting families to get involved in exploring nature, especially over the autumn and winter months. ✺

> "For me and my school, attending this training has completely revitalised our determination to shout from the rooftops just how vital it is that pupils appreciate how awe inspiring yet fragile ecosystems truly are!"

EDUCATION

Equipment for the teacher training day was funded by the Government's Green Recovery Challenge Fund via the Connecting Schools to Nature legacy project. The fund was developed by Defra and its Arm's-Length Bodies. It was delivered by The National Lottery Heritage Fund in partnership with Natural England and the Environment Agency.

Green Recovery Challenge Fund

Department for Environment Food & Rural Affairs

The National Lottery Heritage Fund

Environment Agency

NATURAL ENGLAND

BREAKING THE GREEN CEILING

Dr Ciara Dwyer
SEED Network Co-Chair

The longstanding influence of upper class amateur naturalists has cast a shadow over the ecology profession. This history means that an ecology career can present unique challenges for first-generation students and those from working class backgrounds. These barriers can hinder entry and progress within the field of ecology and intersect with other marginalised characteristics such as gender, race, disability, LGBTQIA+ and Indigenous identities.

The Socioeconomic Equality and Diversity (SEED) network aims to support ecologists who are first in their family to go to university and/or come from a working class background. While our current focus is on the UK, we acknowledge that these barriers exist on a global scale. I serve as a co-chair for SEED and am myself a first-generation ecologist from a working class background. One of our aims as a network is to raise awareness of the socioeconomic barriers encountered by individuals in this group.

SO, WHAT ARE THE BARRIERS FOR FIRST-GENERATION AND WORKING CLASS ECOLOGISTS?

These barriers primarily stem from economic pressures, such as lack of financial means, reluctance to take financial risk, and lack of representation in the field. These barriers hinder a person's ability to engage in activities necessary for competitiveness in the field of ecology, such as education and low-paying positions.

ACCESS TO EDUCATION

Working class and first-generation students are less likely to attend university and, when they do, are less likely to attend prestigious institutions. Of those who go to university, first-generation students consistently achieve lower grades compared to their peers with university-educated parents. This pattern is similar for students from lower socio-economic backgrounds in comparison to their wealthier counterparts. Finally, from those students who do get a degree, first-generation students and working class students are less likely to continue to postgraduate studies.

Why does this matter? Ecology jobs often require at least a bachelor's degree, and frequently a master's degree. To be competitive for PhD applications, the candidate often needs both. For some PhD applications, they now consider candidates with an undergraduate degree and relevant experience, but to get relevant experience, often a master's degree is required.

FINANCIAL BARRIERS

Pursuing a degree can pose financial challenges for students from less affluent backgrounds. Taking on debt to pay tuition fees can be a significant undertaking for working class students, who are more likely to be financially risk averse. Hidden costs are also overlooked such as expensive field courses, costing over £1000. In addition, students might feel compelled to invest in high-end branded clothing and equipment to fit in, even if these aren't job necessities but help foster a sense of belonging. Ecology careers continue to pose financial barriers requiring expenses like a driving license and car, membership fees, as well as up-front payments for later reimbursements.

LOW-PAYING POSITIONS AND VOLUNTEERING

Ecology jobs are often low paid, creating financial barriers that hinder career progression. This extends to PhD positions, with NERC students receiving a stipend of approximately £18,600 annually (slightly more in London). Entry-level roles and internships also do not pay well, or in some cases abroad they are unpaid.

Early career ecologists are commonly advised to volunteer to gain relevant experience but balancing this with work and/or studies can be challenging and unsustainable. Some universities now compact teaching into fewer days to facilitate this. But even if these students manage to volunteer, costly pay-for-volunteering schemes like Operation Wallacea are often favoured in recruitment over local fieldwork, potentially impacting individuals' skills, motivation, and job prospects.

UNDER-REPRESENTATION

The lack of representation of first-generation and working class people can deter potential ecologists, as well as hinder their progress and the fields advancement. I recently wrote a more personal blog for CIEEM sharing my experience. With SEED we hope to make it easier for the next generation of first-generation and working class ecologists to step out of the shadows and flourish in this exciting discipline.

JOIN THE SEED NETWORK!

If you haven't done so already, please join our SEED mailing list! We have hosted our (sold out) inaugural event – an online panel featuring four first-generation and working class ecologists discussing career pathways in ecology. We are also excited to announce the SEED networking event at the BES Annual Meeting in Belfast this year. Hope to see you there! ✺

SEED NETWORK

If you would like to keep up to date with the SEED network's activities, contact **katiew@britishecologicalsociety.org** to be added to our mailing list.

Visit our webpage for more information about the SEED Network, to view our policies and find additional resources.

MAKING IT ACROSS, TOGETHER

Susmita Aown
REED Vice Chair, University of Sussex

I am a biology PhD student at the University of Sussex and NIAB, East Malling. My PhD research is investigating the feeding behaviour of meadow spittlebug (*Philaenus spumarius)*, which vectors the plant pathogen *Xylella fastidiosa*. *Xylella fastidiosa* has not yet been found in the UK, however, it is highly likely that the bacterium might enter the UK from Europe, where it is a very costly crop pest. My research is aiming to establish the host plant preference of *P. spumarius* in lavender and grapevine cultivars in southern England.

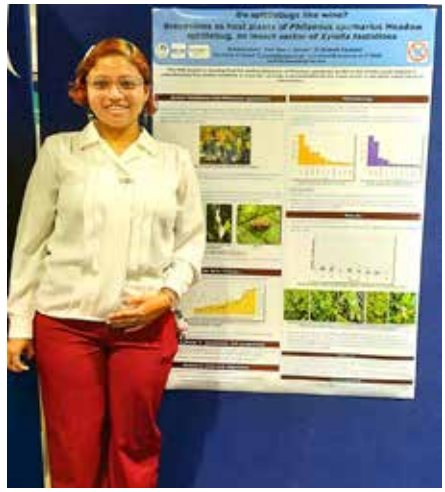
I studied for my undergraduate degree at the University of Northampton, and masters at Anglia Ruskin University. My passion is in grassland ecosystems and insects. My interest in grasslands, especially calcareous grasslands, developed while I was working as a Volunteer Officer at the Wildlife Trust BCN at Lings Office in Northampton during the summer of 2018. I then worked on an undergraduate project that investigated plant species richness and dynamics of plant composition in abandoned quarries in Northamptonshire using historical plant data from Northamptonshire Natural History Society.

After graduating with a BSc in biology, I worked as a Field Research Assistant at the University of Northampton, where I learned more about different insect pollinators, and their interactions with plants. I then went on to improve my knowledge and research skills in plant–pollinator interactions through my master's project with Dr Thomas Ings at Anglia Ruskin. I investigated which plant traits and bee traits affect the plants that bees visit for collecting nectar and pollen in UK farmlands.

After finishing my MSc in 2020, I worked as a Research Assistant at Conservation Evidence, helping a PhD student at University of Cambridge to gather and wrangle GIS data. I spent the summer of 2021 as a Volunteer Researcher at Butterfly Conservation, mainly doing transect walks at the Salcey Forest in Northampton where I recorded butterflies for the UK Butterfly Monitoring System.

Before beginning my PhD, I worked on plant-pollinator systems, so I was naturally attracted to plant-pollinator projects. Though, my initial interest and quest was to understand insect herbivores. With a quirk of fate, I was offered a PhD in plant-insect herbivore interactions, which fulfilled my original interest!

Since beginning my PhD, I joined the REED Ecological Network, where I am now the new Vice Chair. I initially joined REED to find a community of people who I would feel safe with and share my concerns. I came to the UK from India to follow my dreams of becoming an ecologist. I was doing my master's and looking a for a funded PhD studentship during the pandemic. It was a rough time in my academic career and being part of the REED community help me reach the other side. I joined the REED committee to help others get over difficult times and ensure that they reach their goals and dreams. I want to share resources and my personal experience to ensure that others can be happy and have a career in ecology. I want to be there for people in need as the REED community was when I needed support. I hope that learning about my story encourages others like me to pursue a career in ecology and follow their dreams too. ✺



REED NETWORK

The Racial and Ethnic Equality and Diversity (REED) Ecological Network is a supportive platform for ecologists facing any form of racism and marginalisation within the ecological sciences and related disciplines. It is for people at all career stages and a source of inspiration for younger generations.

britishecologicalsociety.org/reednetwork

LGBTQIA+ VISIBILITY IN THE WORKPLACE

Tally Yoh (she/her), ALDER Network Co-Chair, @TallyYoh
Catherine Mercer (they/them), ALDER Network Communications Officer, @catherine_merc

Solving complex ecological questions requires a diverse range of ideas and thinking. Equality, diversity and inclusion (EDI) initiatives help foster inclusive work environments for under-represented groups, who bring unique perspectives and solutions. For LGBTQIA+ people, increasing visibility can be an important step to creating welcoming workspaces and a sense of inclusion and belonging.

From Pride pins to positive space stickers, queer colleagues and allies have been working to increase LGBTQIA+ visibility. Small steps can go a long way to increasing visibility. Other examples include lanyards, pride badges and stickers, pronoun badges, flags, posters and even Pride-themed shoe laces. More and more institutions are also encouraging people to include their pronouns in their email signatures. By joining in, allies can also show their support of the LGBTQIA+ community and signal that they are a safe point of call for LGBTQIA+ students and colleagues.

Diverse representations of LGBTQIA+ people can boost self-esteem, feelings of belonging and lead to healthier and happier work environments. When colleagues feel they can show up as their true self they can have increased confidence in their work and greater productivity. Seeing yourself represented can create positive affirmations and increase self-esteem. Visibility is particularly important for helping new colleagues and students feel welcomed.

It is important for LGBTQIA+ people to see others like them represented in the job roles they aspire to attain in future. Identifying such role models can help students and young people identify possible mentorship opportunities which can help improve career progression and overall wellbeing.

While visibility campaigns are an important step to creating inclusive workplaces, they do not remedy existing policy and structures that have historically excluded LGBTQIA+ people. Advocating for policy change and introducing EDI initiatives that promote intersectionality with other under-represented groups will help make departments more equitable places for all.

With all this in mind, we encourage more people to show their support where they can for their LGBTQIA+ colleagues and students in some small way. Even the small things can go a long way to helping queer and trans ecologists feel welcome in the places they work and study. Importantly, visibility campaigns are a small step which can complement broader departmental and institutional EDI initiatives for all under-represented groups. As the days get colder and evenings darker this winter, LGBTQIA+ visibility can bring a welcoming warmth. ✺

ALDER NETWORK

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Visit our webpage for more information about the ALDER Network, to view our policies, and find additional resources on LGBTQIA+ inclusion.

BRITISH ECOLOGICAL SOCIETY

ANNUAL MEETING 2024

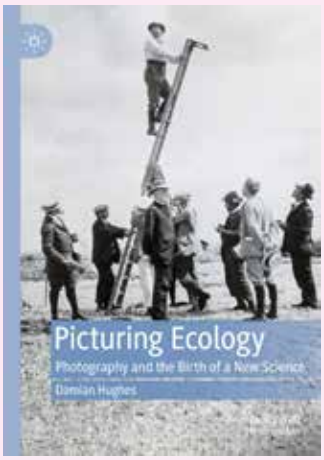
10-13 December | Liverpool
#BES2024

For more information visit
britishecologicalsociety.org

Join us in Liverpool for an inspiring programme of talks, workshops and networking events suitable for all career stages: researchers, practitioners and policy makers alike. We'll be opening our Call for Abstracts in early Summer.

If your organisation is thinking about exhibiting or sponsorship, please contact
events@britishecologicalsociety.org

READ | WATCH | LISTEN | VISIT



READ

PICTURING ECOLOGY: PHOTOGRAPHY AND THE BIRTH OF A NEW SCIENCE

Damien Hughes

Springer 2022

£109.99

We have become so inured to the ubiquity of images that we have long ceased to appreciate what a subversive activity photography once was. Images are so common we hardly register the fact they are being taken and the common sight at any event is to see people looking *at* a scene *through* their phones rather than at the scene directly. If we stopped to consider this for a moment, we might realise that what we are doing is an act of mediation between what is there and what we see as there through a lens.

NOW, GO BACK 130 YEARS. ECOLOGY BARELY EXISTED AS A SUBJECT AND THE IDEA OF LOOKING AT ECOSYSTEMS WASN'T REALLY TAKEN SERIOUSLY.

Cameras were glass plate versions and hardly portable in the field. This book charts the rise of ecology and photography as intertwined and interdependent as any other species interaction. The story that unfolds here is truly fascinating and the book focuses on photos and their construction and use rather than on ecological science. It tells us how early ecologists "saw" ecology and how photography helped ecologists agree on what they saw.

We start with the earliest of image-making – drawing – and the competing worldviews between species botany (the accepted way of studying the natural world) and the new world of plant associations. The "new" ecology was very much a visual ecology and it is this that distinguished it from the older systems that underpinned research. Photography became a mirror held up to the living world to demonstrate that plants were in associations, not standalone species set in a background.

As printing images became easier, so the worldviews they promulgated could reach a wider audience. It should be noted with some pride that the leading ecologists and publications were supported and promoted by the British Ecological Society both via founding members (e.g. Tansley) and foundation journals (*Journal of Ecology*).

What a photograph includes and excludes matters. Maps, for example, are visual representations of landscape and, like photographs, they demand a sense of visual cognition by the viewer. Interpretation (as anyone teaching mapping and images will attest) is far more than looking at something. Visual cognition is a crucial skill.

This is a fascinating read. How does our field equipment – the camera – both broaden and constrain what we see? How do we know if others see what we do and does this matter? By looking at such a broad range of sources, philosophies and techniques, this book provides significant insight into how we literally view ecology as a modern science.

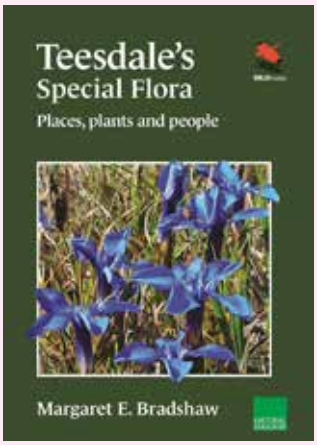
Paul Ganderton

GET INVOLVED

If you have read an interesting book, from any genre, that touches on ecological research or concepts, then write us a review!

If you are promoting an event, have created a documentary or film, or know of any interesting ecological events coming up then please let us know about it.

For further details email theniche@britishecologicalsociety.org



READ

TEESDALE'S SPECIAL FLORA: PLACES, PLANTS AND PEOPLE

Margaret E. Bradshaw

Princeton University Press 2023

£14.99

There's nowhere else in England like Teesdale, and there's no one better qualified to tell us about it than Margaret Bradshaw. As the subtitle says, places, plants and people, and they're all here: the unique history, climate, geology and plants of Teesdale, the story of how those plants were discovered, and accounts of their present status and prospects. Even today, 50 years on, it's still painful to read of the construction of Cow Green reservoir, drowning a significant fraction of some of the rarities. Would such an act of environmental vandalism be allowed today? Sadly, I suspect it would.

In a classic paper, Pigott & Walters (1954) listed seven kinds of habitats that appear to have provided open, base-rich conditions throughout the post-glacial period, and which today support assemblages of rare plants. Astonishingly, as Bradshaw explains, no fewer than five of those habitats are found in Teesdale, each of them home to its own suite of rare plants. Even so, the fact that the right habitats, and the plants that call them home, have survived for the last 10,000 years seems little short of miraculous. In fact, not all of them have; *Melampyrum sylvaticum* was last recorded in 1976, *Woodsia ilvensis* survives only as a re-introduction, *Draba incana* appears to heading inexorably for local extinction, and nearly all the rarities are declining.

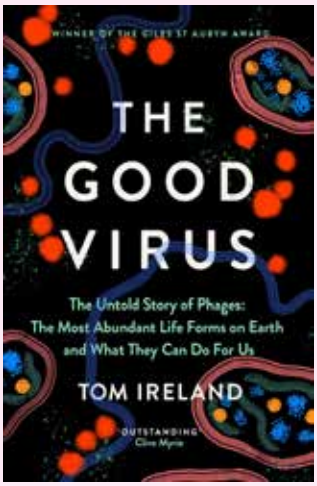
Part of the problem, as always with rare plants, hanging on in a few isolated outposts, is knowing their real requirements. If *Myosotis alpestris* grows in the UK only in Teesdale and on Ben Lawers, what does that tell us? Not only that, plants that grow side by side seem often to require different levels of grazing, so that management of grazing, Bradshaw tells us, is 'a nightmare'. At least sheep are (theoretically at least) under our control, but rabbits are not.

Another problem is that in this cold, infertile site, long-term trends really are long-term, and only careful, patient monitoring for many decades has any hope of revealing what is really going on. We owe much of this monitoring to Bradshaw herself, who has been a tireless campaigner for Teesdale for longer than most of us have been alive, and who still managed to start a new long-term study of *Dryas octopetala* in 2019.

As Bradshaw says of the Teesdale flora in the concluding passage of this excellent book, "In spite of trying, I have failed to prevent its decline, now it is up to you."

Pigott, C.D. & Walters, S.M. (1954)
On the interpretation of the discontinuous distributions shown by certain British species of open habitats.
Journal of Ecology, 42, 95-116.

Ken Thompson



READ

THE GOOD VIRUS

Tom Ireland

Hodder & Stoughton 2023

£25

There are more bacteriophages in a litre of seawater than there are humans on the planet. These tiny viruses of bacteria occur in even greater concentrations on land, with over a billion phages found in a gram of soil in forests and wetlands. In total, they are estimated to hold roughly 200 megatonnes of carbon.

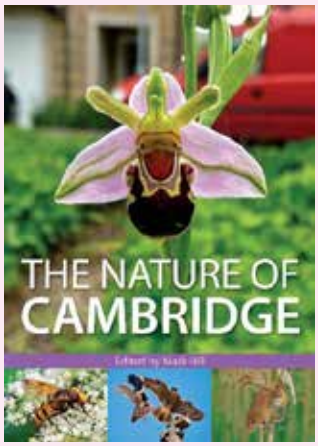
These facts staggered me, revealing how embarrassingly blind I'd been to the diversity of organisms that are hidden to the human eye. I'm not alone – we've been blind as a scientific community. As *The Good Virus* explains, sometimes that blindness was caused by prejudice and mistrust. The book tells the story of the early successes in phage therapy – phages were being used to treat humans as early as the 1920s. But it goes on to describe the reasons that phage research remained fringe, and it isn't a flattering picture for science. Egos and personal differences played a role, as did persecution of Soviet scientists and derision of their discoveries. The most convincing early studies were published in Georgian, Russian and French, and science's extreme bias towards English means they may as well not have existed. It's a humbling thought.

Thankfully, phages are now getting more attention, and Ireland describes fascinating cases where phages have been used to treat bacterial infections that would otherwise have killed the patient. Work is underway to make phage therapy widely available, not just as a last-ditch attempt when all else fails.

There is also growing interest in the role that phages play in ecosystems. Up to half the bacteria in the ocean are thought to die from phage infections, releasing energy and nutrients into the water. This stimulates the growth of more bacteria, creating a vast growth and recycling system. This knowledge caused the rules of ocean biogeochemistry to be completely rewritten, and no doubt new research will reveal more surprises.

IT IS TIME WE STOPPED IGNORING THE GREATEST SOURCE OF DIVERSITY ON THE PLANET, AND THIS ENGAGING BOOK SHOULD GO A LONG WAY TOWARDS RAISING THEIR PROFILE.

Rebecca Nesbit



READ

THE NATURE OF CAMBRIDGE

Edited by Mark Hill

Pisces Publications 2022

£24.99

In 2015 the Cambridge Natural History Society decided to produce a publication that would provide a snapshot of the flora and fauna of Cambridge city and its immediate environs – in practice an 8 x 8 km square centred on the city. This book is the result, and it certainly does the job. Chapters cover everything from birds and bees to mammals, moths and mosses, with additional chapters on history, climate and geology, interesting sites and nature conservation, all profusely illustrated with numerous colour photos. A concluding chapter sets the natural history of Cambridge in a wider context.

As studies of urban wildlife always do, it reveals an astonishing diversity, even if some of Cambridge's inhabitants have had problems unique to a university city; rooks have been persecuted for grubbing up pristine college lawns in search of insect larvae, as well as making too much noise during exam revision, while frogs were at one time reduced to relative rarity owing to the demand for animals for dissection in biology classes.

There are natural history nuggets on almost every page. Here are a few I came across while flicking through the book more or less at random:

- A photo of a muntjac deer which has taken up residence in a Cambridge garden, where it has struck up a partnership with a magpie that was seen to spend ten minutes picking ticks and dead skin out of its ears and fur.
- Like two warring tribes, hedgehogs are almost confined to the east of Cambridge, while badgers (their main predator) occupy the west.
- Yellow-browed warbler and Pallas's warbler (two rare migrants) look identical to me. No wonder warblers have a reputation for being difficult to identify.
- A picture of Trinity College's fake coyote, employed (apparently successfully) to discourage Canada geese.
- Otters are doing well in Cambridge, and have their own spotting team, aka college night porters.
- The midwife toad is well established in a small number of Cambridge gardens, but shows no sign of spreading. Its origin is unknown.
- To my surprise, there has been only one record of a slow worm in Cambridge between 2010 and 2019.
- Mistletoe has increased dramatically in Cambridge in recent years. The cause is unknown, but improved dispersal by overwintering blackcaps (which have been seen vigorously defending fruiting plants) is strongly suspected.

I DON'T THINK YOU COULD ASK FOR A BETTER PORTRAIT OF THE CURRENT STATE OF THE NATURAL HISTORY OF URBAN BRITAIN. IT MAY NOT BE A BOOK MANY OF US WOULD WANT TO READ STRAIGHT THROUGH, BUT TO DIP INTO AT RANDOM, IT'S AN ABSOLUTE DELIGHT.

Ken Thompson

WATCH

PLANET EARTH III

BBC

For many of us, David's Attenborough's documentaries are one of the sparks that ignited our love for the natural world. So this new eight-part series from BBC Natural History is a welcome comfort blanket for the winter months.

Keen BES eyes will spot a familiar sight in the freshwater episode – Capturing Ecology winner Brandon Guell (p28) was part of the team filming gliding tree frogs in Costa Rica! This is the first time this explosive event has been caught on camera and is just one of many filming-firsts in the series.

But do nature documentaries actually help nature conservation? They've been criticised for only showing the glamourous side – charismatic animals with anthropomorphised stories in pristine landscapes. There's still plenty of that in this series but we do see some impacts of climate change, plastic pollution, and industry too. Most of us here probably understand what we're looking at when we watch nature documentaries, so why not let yourself be carried away with an hour of awe on a Sunday night?

READ

NEW GUIDE TO BETTER SCIENCE: FIELDWORK

New in our free series, this guide is for those going on fieldwork and for managers sending others off to work in the field. It focuses on how to ensure fieldwork is safe and inclusive for everyone – from designing fieldwork programmes, to logistics in the field, and adjusting back into regular work after time away.

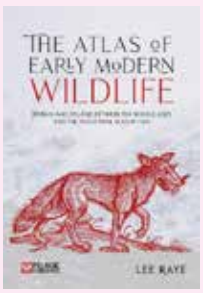
Download the guide for free from our website: britishecologicalsociety.org/guides-to

FROM THE BOOKWORM

Resident reviewer **Paul Ganderton** looks at ideal stocking stuffers for the ecologist in your life.

Paul started reviewing ecology books in the late 1980s as part of the Teaching Ecology Group. Here he focusses on books that broaden our access to different ideas.

Find Paul on Twitter/X as **@ecogeog** or email **paul@ecogeog.com** with ideas for the next bookworm column.



THE ATLAS OF EARLY MODERN WILDLIFE

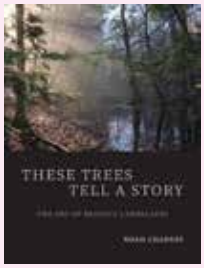
Lee Raye

A fascinating tale from naturalists, travellers and historians about the wildlife recorded between the Middle Ages and Industrial Revolution. This is the culmination of thousands of reports set with maps, woodcuts and detailed notes about sources and their interpretation. It's an enjoyable read and an excellent introduction to historical ecology.

EDIBLE

Kevin Hobbs & Artur Cisar-Erlach

Are you concerned about the range of foodstuffs we eat? What alternatives are out there that we could use at scale? And what about climate change and shifting growing ranges? This is a collection of 70 plants that are not only edible but sustainable. Colourful illustrations and a set of serving suggestions, it's one for all the ecologist-cooks!



THESE TREES TELL A STORY

Noah Charney

There is a world of difference between seeing and observing – landscape literacy is a crucial skill and I'm not sure we do enough to foster it. It's about literally seeing the wood for the trees and how it all fits together. Part natural history tour, part basic landscape guide, this book is a gentle introduction to questioning and then understanding what is around us.

NATURE PROSE: WRITING IN AN ECOLOGICAL CRISIS

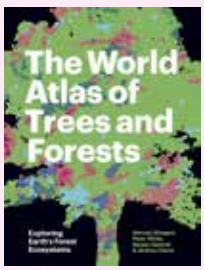
Dominic Head

We start with the tale of the butterfly that wasn't there – not a detective novel but a reflection on childhood and recollections. It's literary criticism that takes aim at nature writing. Nature texts like academic papers, are seen purely for the data they contain and not for the literary merit they might offer. A challenging read demanding an open mind but one well worth the effort.

BOTANICAL SKETCHBOOKS

Helen & William Bynum

Forget Peter Rabbit, Beatrix Potter was famous in her day for her skills as a botanical artist. This book lets the art and artists speak for themselves. There are key naturalists such as Darwin and Linnaeus but there's also a strong representation of women. Intriguing and beautiful – a delightful book.



THE WORLD ATLAS OF TREES AND FORESTS

Herman Shugart et al.

A fertile cross between coffee table book and serious work. If the aim is to enthuse the reader, then it has succeeded. The focus is global forestry, from the nature of a tree to forest biomass and chronosequences, there's a lot to take in. An ecological and visual delight.

HORIZONS

LESSONS IN GROWING

Dr Sofia Miah
London School of Hygiene & Tropical Medicine

I was a single tree planted under pale skies.
My silhouette was noticeable even to passers-by
Who looked up and saw the stark contrast of my smooth,
Brown bark against the uniform whiteness of the skies.
They wondered what I was doing standing there,
And how I got there in the first place.
Maybe, they guessed,
It was the wind that carried me.

When winter arrived,
I felt unprepared and out of place,
Not built to cope with his cold and gloomy disposition.
The clouds did not make way for me or the light.
Without it, my naked arms forgot
How to bear sprouting leaves or budding flowers.
My skin began to flake off and shed its pigmented layers.
In the process, I lost these parts of myself
And succumbed to the wait
For warmth again.

When the sun finally returned,
She invited spring along
Who taught me lessons in blooming:
How to recollect the pieces of myself
That had fallen apart,
The drying leaves and wilting petals.
How to tend to the blossoming flowers
And green vines intertwining my limbs,
How to regrow something stronger
From the enduring soil,
Something worth loving again.

Once spring felt satisfied, she left
And summer took her place.
His arrival inspired heavy showers:
Gushing rain and howling winds,
Which tested my strength
And how determined I was to be anchored
To this one place.

When the rain eventually stopped falling,
And the earth around me had been washed away,
I was stripped down to nothing but my roots.
Slowly, new buds and shoots began to emerge.
They reminded me where I had been planted
But also of how I had bloomed. ✺

Submit a piece for Horizons to: theniche@britishecologicalsociety.org