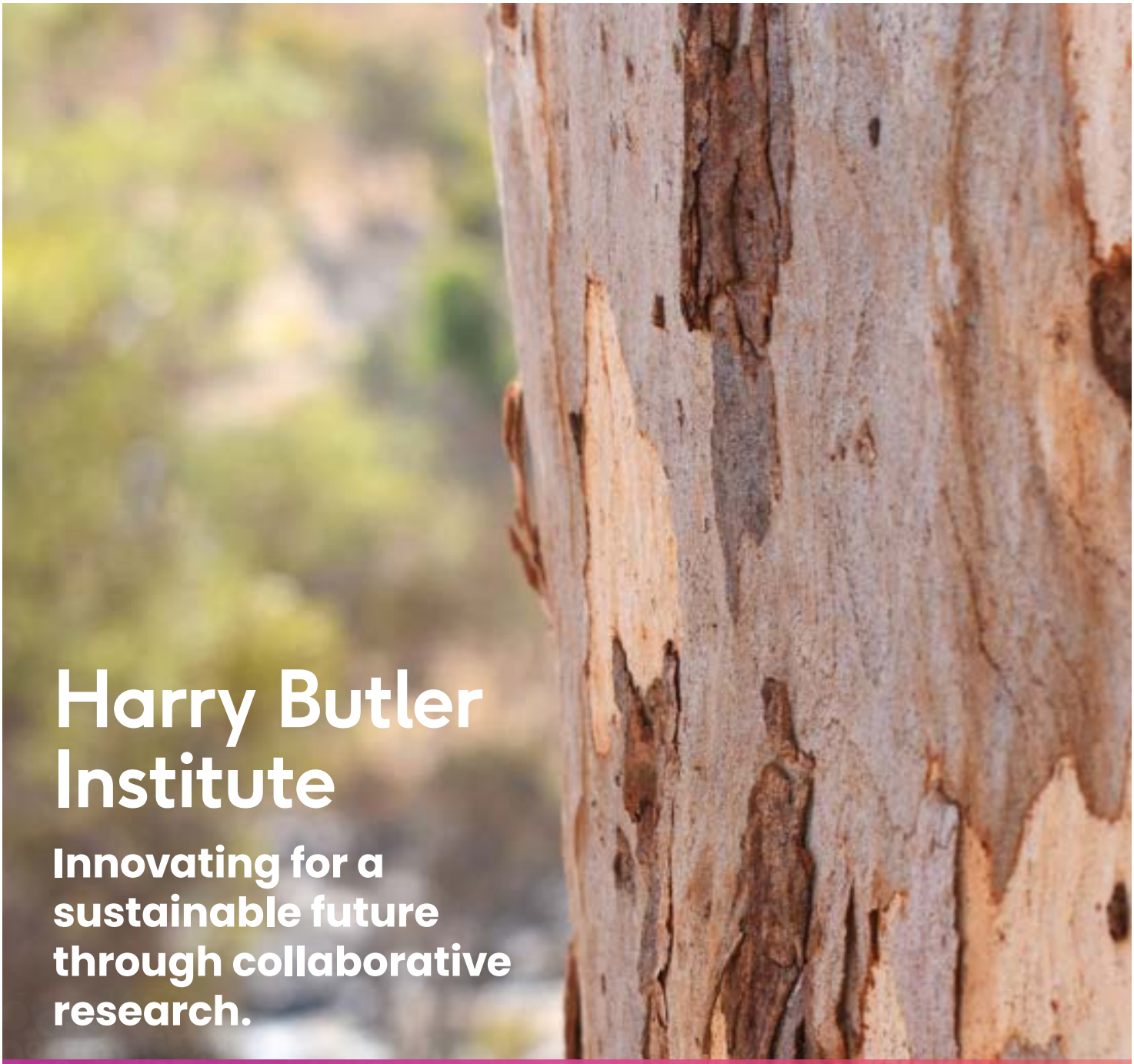
Murdoch University | Harry Butler Institute

Annual Report 2023



Harry Butler Institute

Innovating for a sustainable future through collaborative research.

Photo Kat Sambrooks, HBI

Contents

Acknowledgment of Country

The Harry Butler Institute acknowledges the Traditional Owners of Country throughout Australia. We pay our respects to Elders past and present.

Pro Vice Chancellor's Report

Professor Simon McKirdy
Pro Vice Chancellor,
Harry Butler Institute

Recent changes within the Harry Butler Institute have facilitated significant achievements for the Institute as a whole; from exciting new commercial ventures, to greater research support and communication, to connecting with stakeholders in a whole new way.

When first appointed to the role of Pro-Vice Chancellor of the newly created Harry Butler Institute, I saw the opportunity to build an innovative research centre for sustainable development, modelled on the ethos of famed Western Australian environmentalist, Harry Butler AO CBE. Harry, a man who inspired my own professional journey, recognised that humans are part of the environment and not separate from it, and that good environmental practices were critical for humanity to flourish. Inspired by Harry's legacy, we created an institute that collaborates with industry, government and community partners to deliver translational research outcomes which address real-world problems.

With our team of more than 160 academic researchers across four research centres, we've worked hard to shape HBI's international reputation for high-quality research with real world application, and innovative management solutions facilitated by a talented team of professional staff. Beyond research, our projects seek to educate and empower industries and communities, ensuring our work has effective and lasting impacts for the environment, species, communities and practices we are working on.

Innovation is one of our greatest strengths as a research institute. In 2023, we turned that innovation into business solutions, with the launch of HBIs first commercial venture: Algae Harvest Pty Ltd. The venture helps commercial partners to manage and minimise their waste with microalgae solutions utilising the latest algae research and development from the University Algae R & D Centre. Additional commercial ventures are under development.

HBI has grown in scope and ambition over our seven years to have far-reaching, lasting, impacts. One of our significant achievements has been to conceive and orchestrate a biennial conference on a vast range of topics concerning Western Australia's biodiversity. The Biodiversity Conference, now in its second year, was born from discussions between myself and Professor Stephen van Leeuwin of Curtin University, on the need for enabling broader, more-inclusive, strategic knowledge-sharing for biodiversity conservation in WA. The conference is now celebrated as a collaborative effort between all five WA Universities with the Department of Biodiversity Conservation and Attractions and the WA Biodiversity Science Institute, attracting more than 650 attendees from across Australia.

Leaving behind a legacy of which I'm proud, I moved from my role as Pro Vice Chancellor of the Harry Butler Institute to dedicate myself to the role of Deputy Vice Chancellor of Global Engagement. Through this new role, I will continue to support the advancement of HBI through an advisory role, as well as my continued research and student supervision.

The role of Pro Vice Chancellor of the Harry Butler Institute has been ably filled by Professor Treena Burgess. Professor Burgess, a research academic at Murdoch University for more than two decades, joined the HBI leadership team at the start of 2023 in the newly-created role of Director Research. She is recognised as global research leader in the biology, ecology and genetics of beneficial and detrimental microorganisms within natural ecosystems, plantation forestry and horticulture, with particular focus on biodiversity and bioinvasions. Professor Burgess is a strong and capable leader with the capacity to build upon the Institute's achievements. I look forward with great anticipation to its research impacts and HBI's full potential as a leader in this space.

Professor Simon McKirdy
Pro Vice Chancellor
Harry Butler Institute

Part of the Harry Butler Institute team at the Biodiversity Conference Gala dinner including conference organiser Susan Marie (second from right).
Photo Viewfinder Photography

Our People

Leadership Team

Prof Simon McKirdy
Pro Vice Chancellor,
Harry Butler Institute

Prof Treena Burgess
Director Research,
Harry Butler Institute

Andre deSouza
Director of Operations,
Harry Butler Institute

Centre Directors

A/Prof John Rubrecht
Director, Centre for Water Energy and Waste

Prof Trish Fleming
Director, Centre for Terrestrial Ecosystem Science and Sustainability

Prof Alan Lymbery
Director, Centre for Sustainable Aquatic Ecosystems

Prof Sam Abraham
Director, Centre for Biosecurity and One Health

Growth of the Harry Butler Institute

The Harry Butler Institute was built upon a decades-long legacy of world-class research at Murdoch University in the fields of environmental biosecurity, sustainable resource management, and the taxonomy and ecology of organisms and the systems that contain them.

Under one institute, we have encapsulated the academic strengths of our researchers through four key research centres (see **Our Research on page 9**). In doing so, we honour the path laid by the great environmental minds that have left their mark on Murdoch University, going all the way back to the University's founding Professors, like the late Dr Keith Roby. Dr Roby, a theoretical chemist, established courses and supervised students in science, technology and renewable energy, making an indelible mark on the University, staff and students before his untimely passing at 39.

HBI honours his legacy through the annual Keith Roby Memorial Lecture in Community Science memorial lecture in Community Science through the Keith Roby Trust.

Through our Honours, Masters and PhD programs, our academics are helping foster the next generation of great environmental thinkers, innovators, and problem solvers. At the primary and secondary level, the school outreach and work placement programs we've developed under the guidance of Pauline Charman are inspiring students and their school communities, while providing opportunities for hands-on learning. Our outreach programs and their links to research are being woven into the designs for the brand new Harry Butler Science Centre, currently under development in partnership with the Australian Government.

The relationships we've built with our industry, government and community partners have facilitated some of our most innovative translational research outcomes and helped us to commercialise our research services. Our newest company, Algae Harvest, is bringing microalgal technology and solutions to commercial partners. In an inaugural partnership with Spinifex Brewery, Algae Harvest is using microalgae to create high-value products from waste generated through the brewing process.

HBI's international collaborations (see **Global Collaboration Map on page 40**) have continued to strengthen our ties with research institutions across Europe, Asia, Africa and the Americas. Our strongest collaborations, those with the USA, China, UK, UAE, Egypt, Germany and South Africa, have resulted in research published in some of the worlds highest impact journals. Professor Simon McKirdy's dual roles as Director of HBI and Deputy Vice Chancellor Global Engagement are enabling further international collaborations which bring our research to new markets, including the Philippines.

Connecting with collaborators, funders and science audiences (both new and existing) has been a priority for the institute since its inception. Building our media presence through news stories, LinkedIn posts, videos and events has helped us strengthen those relationships on an international scale, showing the world what our researchers have to offer. HBI will continue to build upon its strengths in this space, with exciting new video projects underway, plans for expanding our social media presence, a series of project webpages in development and HBI scheduled to host several international conferences.

The leadership, academic and professional teams that comprise the Harry Butler Institute have worked hard to establish HBI's reputation for innovative, translational research. By choosing to work with industry partners to develop world's best practice, we're playing a crucial role in the creation of more sustainable practices. In this, we're following the ethos of our namesake, Dr Harry Butler. He recognised that humans are part of the environment, not separate from it, and that good environmental practices are critical for human endeavours to flourish.

We invite you to be a part of the solution for our future. Email us at hbi@murdoch.edu.au.

Achievements and Impact in 2023

SCIENTIFIC PUBLICATIONS

Total publications in 2023

291

percentage in Q1 outlets: **70%**

percentage in top 10% of outlets: **39.7%**

Number of citations in top 10% journals by Citescore

2023	2019–23
39.7%	**31.7%**

CITATIONS

Field-weighted citation impact

2023	2019–23
1.65	**1.73**

(usually done on a 5 year rolling average)

NEW FUNDING AWARDS

(income to MU where Chief Investigator is in HBI):

$10,156,971

HIGHER DEGREE RESEARCH

Load

195.5

Equivalent Full-Time Student Load (EFTSL)

Completions

37*

* based on best available data

RESEARCH OUTPUTS

Percentage of research outputs with international collaborators

2019–23

60.6%

COLLABORATIONS

Top collaborating institutions 2019–23:

UNIVERSITY OF WESTERN AUSTRALIA
UNITED ARAB EMIRATES UNIVERSITY
CSIRO
ZAGAZIG UNIVERSITY
FACULTY OF AGRICULTURE
STELLENBOSCH UNIVERSITY
CURTIN UNIVERSITY
UNIVERSITY OF MELBOURNE
AARHUS UNIVERSITET
ALEXANDRIA UNIVERSITY

New Holland Honeyeater on Albany Woolly Bush.
Photo Kat Sambrook, HBI

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Centre for Water, Energy and Waste

Associate Professor John Rubrecht
Director, Centre for Water Energy and Waste

About the Centre

Supplies of water and energy are fundamental to modern life, as is the management of waste. The Centre for Water, Energy & Waste conducts research in these three related areas, ensuring human endeavours can coexist with biodiversity and sensitive ecosystems.

Wind turbine.
Photo HBI

Photo Prof Trish Fleming, HBI

Single blade wind turbines might take renewables through the roof

Wind remains the cheapest source of large-scale renewable energy. New wind turbines being developed at Murdoch University have the potential to make it even more efficient.

Wind was Australia's leading source of clean energy in 2020, according to the Clean Energy Council, supplying 36 per cent of the country's clean energy and 10 per cent of Australia's overall electricity. While it was shaded by solar in 2021, it still contributes 10 per cent of the **total national energy mix**. This is a tremendous resource in the effort to decarbonize our power grid and one that is improving every year.

One of the latest innovations being developed and tested at the School of Engineering and Energy by Dr Jonathan Whale is a wind turbine with a single vertical blade. This contrasts with the three bladed horizontal designs dotted across Australia that are synonymous with wind energy.

"This new design is based on a single blade whose tip can be actively moved around in space."

Dr Jonathan Whale

"So, when the turbine is started, the blade faces into the wind and the lift on the blade means that the blade tip, lifts off the ground, commencing its circuit about the turbine axis."

Dr Whale was approached last year by inventor Mr Kim Schlunke to co-develop the novel turbine.

"This is a type of vertical-axis wind turbine, or VAWT, which have turbine rotors that rotate around an axis that is perpendicular to the ground."

"There are very few commercial wind farms that use them because they have some significant disadvantages compared with conventional horizontal-axis wind turbines (HAWTs), including lower efficiency, difficulty in self-starting and a significant proportion of cost devoted to tower and support struts."

The novel design by Mr Schlunke features just a single blade that can be actively moved around using a control system that will improve the efficiency of the turbine compared to conventional VAWTs.

"This single blade does not require any tower or support and so reduces the levelized cost of electricity achieved by the turbine, particularly when compared to the HAWT, the most common type of wind turbine," says Dr Whale.

Levelized cost of electricity is a measure of the average current day cost of electricity generation for a generator over its lifetime. In financial terms, the return on investment.

Dr Jonathan Whale, Associate Professor in the School of Engineering and Energy.

"We predict that one of these new turbines can produce the same amount of power as three 1.65 MW HAWTs, with a single blade that is half the length of the combined length of all the blades from the three HAWTs."

Dr Whale's research is a proof-of concept study that involves a small prototype of the novel VAWT design. PhD student, Jawad Mezaal, is involved in designing and testing the control system, supervised by Dr Whale, Prof Parisa Bahri and A/Prof David Parlevliet.

This research supports United Nations Sustainable Development Goal 7, to ensure access to affordable, reliable, sustainable and modern energy for all.

Electronic car charging.
Photo Wlademar via Unsplash

Rockingham research supporting WA's batteries boom

The Western Australian Government has backed world leading metals scientists at the Harry Butler Institute with funding for critical batteries research infrastructure.

Over $700,000 in grant funding, awarded to Murdoch University through the WA Government's Investment Attraction Fund, will see a new batteries research hub established in Rockingham.

Associate Professor John Ruprecht, who leads the **Centre for Water, Energy and Waste** at Murdoch, believes the industry collaborations the facility will foster in the Kwinana Strategic Industrial Area present a big opportunity for WA's nascent batteries industry.

"Our State produces more than half the world's lithium, an essential component in rechargeable batteries, and has globally significant stores of vanadium, a metal central to long-duration batteries," Dr Ruprecht explained.

"Now is the time to focus our collective efforts to ensure the industry borne from these minerals sits right here in Western Australia – this is the opportunity our research is laying the platform for."

Dr John Ruprecht

As the annual growth rate of global battery demand tips 34 per cent, Australia has the opportunity to build a $17 billion domestic battery industries, according to the Future Battery Industries CRC Final Report. This would support 61,400 jobs by 2030.

"There is much to be done and science and engineering have a large role to play in establishing a thriving battery industry in Western Australia that is fed by both metal mining and recycling the metal in old batteries," Dr Ruprecht said.

Embedding an industry-relevant research laboratory in a developing industry precinct will allow the timely communication of industry problems and expediate the development of practical solutions. This will support WA's economic agenda to move beyond being a commodities exporter to a technology powerhouse.

The Hydrometallurgy Research Group, under the guidance of leading metals scientist Professor Aleksandar Nikoloski, are experts in the hydrometallurgical processes used to extract and produce critical metals (lithium, nickel, cobalt, vanadium) from primary (ores) and secondary (recyclables such as e-waste) materials.

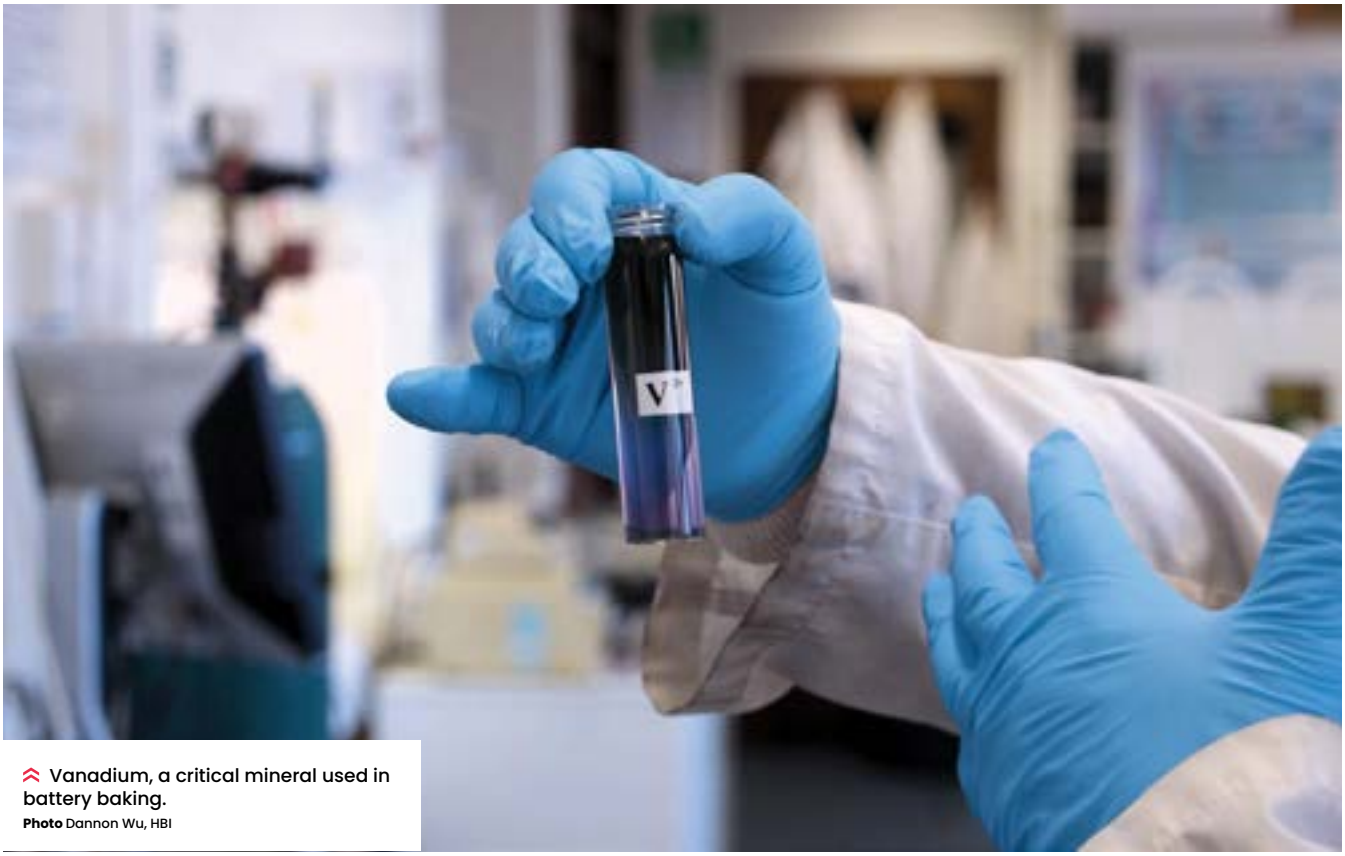
"It's important for industry, government and research institutions to collaborate, share ideas and create facilities to help identify opportunities for improvement, develop new process solutions and learn the skills to implement these changes," Dr Ruprecht said.

"This funding to establish a dedicated facility in Rockingham is an important step towards strengthening those ties with a focus on the industrial and processing potential of Kwinana and Rockingham."

Dr John Ruprecht

The State Government's ongoing funding demonstrates a commitment to a future battery industry in Western Australia with an emphasis on research and technology development across the battery value chain.

This research supports United Nations Sustainable Development Goal 7, to ensure access to affordable, reliable, sustainable and modern energy for all.



Vanadium, a critical mineral used in battery baking.
Photo Dannon Wu, HBI

Centre for Terrestrial Ecosystem Science and Sustainability

Professor Trish Fleming
Director, Centre for Terrestrial Ecosystem Science and Sustainability

About the Centre

The Centre represents a collaboration of academic research staff working with community, industry and management partners towards a shared vision of maintaining sustainable and biodiverse ecosystems through scientific excellence.

This centre captures the outputs of 17 academic staff and over 100 current HDR students, with a shared vision to carry out robust science underpinning biodiversity conservation.

Our research strengths – in wildlife, plants and processes – are applied to ecosystems influenced by urbanisation, extraction industries, and primary production. Underpinning this research is our cross-cutting research themes, strong education linkage, and substantial industry and community engagement.

Cotton bush infestation, Perth hills.
Photo HBI

Climate scientists are producing regional climate projections up to the year 2100

Jatin Kala in greenhouse.
Photo A/Prof Jatin Kala

A state-of-the-art regional climate modelling project will deliver more detailed and reliable projections for local areas across Western Australia.

The projections will be used to inform planning for infrastructure and climate-sensitive sectors such as agriculture and conservation.

"Global climate models help us to simulate very large-scale weather patterns across the globe, but they are not suitable for regional applications," Dr Jatin Kala, Associate Professor of Atmospheric Science at Murdoch University, said.

"Our new high resolution regional projections will provide regionally specific information so that we can project, for example, the climate for Bunbury as distinct from that of Perth.

"The application of this new knowledge will have a broad range of applications, from climate-proofing agriculture and critical infrastructure to biodiversity conservation."

A/Prof Jatin Kala

A/Professor Kala is leading the scientific team that will work closely with the Pawsey Supercomputing Research Centre to create Western Australia's most comprehensive climate change projections.

Using Pawsey's powerful new supercomputer Setonix, researchers will combine the long-term predictive power of global climate models with the resolution of regional models.

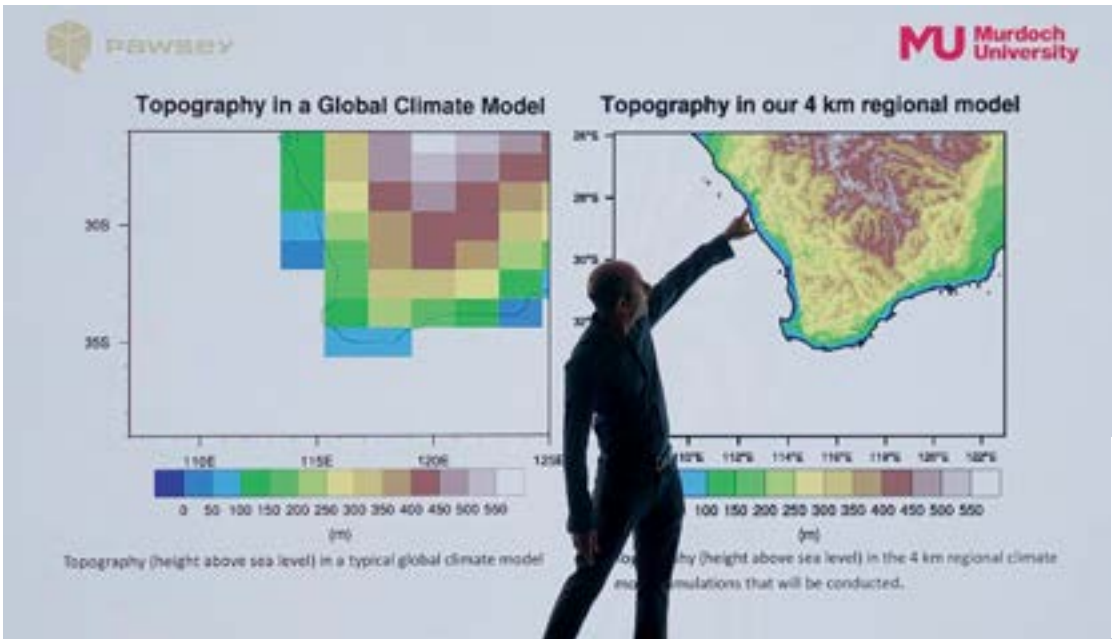
The Honourable Reece Whitby, Minister for Environment and Climate Action, said the project was a big step for climate change preparedness in Western Australia.

"The supercomputer's capabilities are extraordinary. It's a significant acknowledgement of our State and the nation's investment to take action against climate change," he said.

"These projections will provide the best information possible to shape our decisions."

The project is part of the Climate Science Initiative (CSI) being led by the Department of Water and Environmental Regulation (DWER) in partnership with the New South Wales Government and Murdoch University through the NSW Department of Planning and Environment's New South Wales and Australian Regional Climate Modelling Project (NARCliM 2.0) and the Pawsey Supercomputing Research Centre.

A/Professor Kala said these valuable local climate insights will support preparedness for increased temperatures, storm events and other climate-associated hazards, delivering predictions up to the year 2100.



« Dr Kala outlines the radically improved resolution of climate projections the project will provide.
Photo A/Prof Jatin Kala

"Modelling like this goes beyond just understanding weather patterns. For example, this information will allow winemakers in Margaret River to see what the next 50 to 100 years might look like for their industry in terms of a changing climate," Dr Kala said.

"This knowledge really will impact us all."

A/Prof Jatin Kala

Pawsey's Executive Director, Mark Stickells, said this project emphasised Pawsey's commitment to supporting transformative research, and showcasing the potential applications for industries throughout Australia and beyond.

"We are really proud to support this strategic partnership, as we can see the huge impact these climate change projections will have on our state," he said.

"Dr Kala and his team have been working with Pawsey in this space for many years, and to see the research progressing to such an impressive scale is a testament to what our experts are capable of when they have access to the tools they need.

"The power of our new supercomputer Setonix — recently recognised as one of the world's greenest supercomputers — gets Pawsey in a unique position to help develop these climate models that support WA."

This project will be one of the largest allocations for Setonix so far, with 40 million core hours available, alongside 1.5 petabytes of storage through Pawsey's high-speed data storage system, Acacia.

Dr Kala's team will be running simulations from 1950 to 2100 at 4 km grid cells resolutions, allowing for climate modelling at a far more local scale than ever before.

"Each simulation will include two future climate scenarios with two different modelling configurations, which is modelling on a scale that we have never attempted before," he said.

The project will also support two PhD scholarships and provide practical experience for graduate students in climate science.

The first projections are expected to be available to climate scientists in 2024. They will then be analysed and processed for use by a broader audience.

For more information on CSI, please visit wa.gov.au/climatescienceinitiative

This research supports United Nations Sustainable Development Goal 13, to take urgent action to combat climate change and its impacts.

Global experts weigh-in on biodiversity conservation under climate change

A large-scale, global study assessing the biodiversity conservation preferences of experts under future climate change scenarios has revealed important areas of consensus and contradiction when it comes to protecting global biodiversity.

HBI ecologist Associate Professor Rachel Standish and colleagues from the Australian National University and Oregon State University sought out environmental experts across the world to understand their perspectives.

Respondents were asked to consider their local contexts, revealing that location significantly influences their preferences, often more than disciplinary background or demographic factors. The research found significant—though not universal—support among experts for some unconventional options such as native species relocation. However, some experts expressed greater aversion to other unconventional approaches, such as prioritising management for social values.

While there is growing support for novel conservation strategies, experts remain cautious, particularly when data are uncertain. This openness to non-traditional methods contrasts with previous findings of experts being conservative, but cultural, institutional, and cognitive factors still shape preferences. The variability in expert views is driven by factors such as trust in governance, personal world views, and the perceived effectiveness of approaches.

Implications of this research suggest that novel conservation approaches, though increasingly supported, need more rigorous testing for social acceptability and ecological effectiveness. Experts recognise the urgency of ecosystem

» Relocating species such as this rare honeysuckle *Lambertia orbifolia* native to south-western Australia is a 'non-traditional' option for plant conservation.
Photo RJ Standish

degradation yet remain divided on how to implement innovative solutions. The study calls research to reduce uncertainties of different approaches to meet the challenges posed by the new geological, human-dominated epoch of Anthropocene.

Novel but effective solutions are more likely to be considered acceptable by stakeholders and First Nations rights-holders. Addressing the ecological and social complexities will be crucial for developing scientifically robust conservation strategies in the face of escalating climate risks.

Prof Standish is planning to attend a workshop in Dubin in 2025 to meet with other researchers and restoration practitioners. The working title of the workshop is "The Novel Ecosystem Concept: what's happened, what's missing, where next?".

Pine plantation at Gnangara. A 'novel ecosystem' that has become critical to the conservation of rare and endangered Carnaby's cockatoo. The cockatoos have been using the pines as a food source since the 1930s due to decline in banksia woodlands, their usual food source. Experts argue to keep the pines until banksia woodland restored elsewhere can provide food.
Photo RJ Standish

Published September 2023 in Global Environmental Change as 'Expert preferences on options for biodiversity conservation under climate change' **https://doi.org/10.1016/j.gloenvcha.2023.102759**

This project supports the United Nations Sustainable Development Goals 13, 15 and 17.

Endangered Carnaby's cockatoo.
Photo Karen Riley

Centre for Sustainable Aquatic Ecosystems

Professor Alan Lymbery
Director, Centre for Sustainable Aquatic Ecosystems

About the Centre

Our vision is for healthy, biodiverse and productive aquatic ecosystems supporting vibrant societies in Australia and the Indo-Pacific region.

Our mission is to provide, through discovery and innovation, adaptive and lasting solutions for protecting the health of aquatic ecosystems that underpin our economy and society.

Healthy freshwater, estuarine and marine ecosystems underpin economic development and provide social and recreational values for communities in Australia and throughout the world.

HBI researchers working on wetlands.
Photo Steve Beatty, HBI

Two-way science driving marine conservation and resource sharing

Yagarrajalajalan nagula buru **translates to 'we all care for saltwater country' in the language of Australia's Yawuru People. It's the name given to a collaborative multidisciplinary research project aiming to advance equity in marine park co-management and enhance shared custodianship of Saltwater Country.**

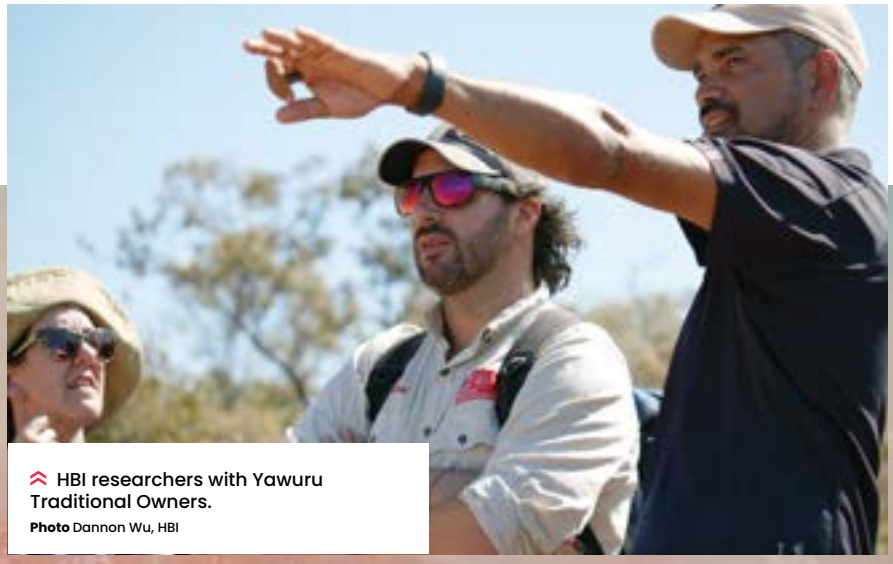
The landmark project follows the principles of two-way knowledge exchange between the Indigenous knowledge holders and western scientists. It integrates social, cultural, and ecological research into marine and coastal management with Yawuru Traditional Owners.

Traditional Owners throughout much of northern Australia have deep cultural ties and a long history of harvesting green turtles and dugongs. These species are also protected, important for tourism operators, and play integral roles in local ecosystems, as well as being intrinsically valued by broad parts of society.

"Marine environments hold shared resources accessed by a whole range of stakeholders with very different interests and responsibilities, which creates potential barriers for effective management."

Dr Adrian Gleiss

The *Yagarrajalajalan nagula buru* project centres on the Yawuru Nagulagun (Roebuck Bay) Marine Park on Yawuru Saltwater Country – an area in and around Broome, Western Australia.



HBI researchers with Yawuru Traditional Owners.
Photo Dannon Wu, HBI

"The research aims to answer how to effectively co-manage marine resources – specifically turtles and dugongs – cross-culturally."
Dean Mathews

Yawuru country.
Photo Dannon Wu, HBI

Co-led by HBI's Dr Adrian Gleiss and Dean Mathews of Nyamba Buru Yawuru, it brings together Yawuru Traditional Owners and the Department of Biodiversity, Conservation and Attractions to tackle a problem of great importance facing resource managers globally: how equity in resource management can be achieved with First Nations peoples.

The way green turtle and dugong populations are managed in Roebuck Bay provides an excellent opportunity to explore the dynamics of managing shared marine resources in a cross-cultural setting. It provides an Australian case study that can inform the co-management of marine resources with First Nations peoples in other parts of the world.

An important step for the project, it has been endorsed by UNESCO (United National Educational, Scientific and Cultural Organisation) as a Decade Action, part of the United Nations Decade of Ocean Science for Sustainable Development 2021–30.

Funding has been provided by the Department of Jobs, Tourism, Science and Innovation with additional support from the Department of Biodiversity, Conservation and Attractions and Rio Tinto. Murdoch's Harry Butler Institute is work with partners in both Perth and Broome, including Nyamba Buru Yawuru, University of Notre Dame Australia, James Cook University, Edith Cowan University, The University of Western Australia and the Department of Biodiversity, Conservation and Attractions.

Dugong mother and calf.
Photo Christophe Cleguer, HBI

The program aims to deliver social, environmental, and economic benefits by developing strategies to resolve potential conflict and enhance collaboration through improved management and communication. It seeks to create a shared understanding of the importance of Yawuru saltwater Country and its biodiversity.

"We recognise the value, skills, knowledge and lived experience of Indigenous land managers, and this project is an opportunity to merge western science and traditional knowledge, which is really important for effective two-way knowledge sharing," Dr Gleiss said.

The project will bring key sections of the community together to deliver tangible benefits for multiple stakeholders including Traditional Owners, tourism and the broader community by facilitating collaboration and knowledge sharing.

Learn more about *Yagarrajalajalan nagula buru* on the project website www.yagarrajalajalan-nagula-buru.org

This project supports the United Nations Sustainable Development Goals 10, 11, 12, 14 and 17

Community-led conservation saving the snake-necked turtle

Hundreds of turtle-tracking citizen scientists are playing a crucial role in helping to protect the south-western snake-necked turtle from becoming endangered.

Trained under the Saving Our Snake-Necked Turtle (SOSNT) project, these 'Turtle Trackers' go beyond protecting turtle nests on the ground, they also play a critical role in collecting invaluable data helping us addressing one of the major challenges in snake-necked turtle conservation — a lack of information.

The southwestern snake-necked turtle (*Chelodina oblonga*) is endemic to wetlands and rivers of southwest Western Australia. Research by Murdoch University scientists indicates the species is under immense pressure from threats associated with urbanisation, such as fox predation, bird predation, and road-related mortality. These pressures are leading to unsustainable losses in adult females, eggs and hatchlings.

If not addressed, many populations would see continued declines and local extinction in coming decades.

The SOSNT project is a citizen-science initiative that aims to directly address these threats and fill vast knowledge gaps about the species and inform conservation management.

Through partnerships with local councils, State Government departments, non-profit conservation organisations, 'friends' groups, and a wildlife hospital, Murdoch University scientists are engaging, training, and activating community members across the turtles' natural range.

Trained 'Turtle Trackers within partner council areas are visiting their local wetlands during

« Far left: Southwestern snake-necked turtle.
Photo Anthony Santoro, Murdoch University

Left: Turtle Tracker helping a snake-necked turtle into Bibra Lake.
Photo Catherine Baudains, Murdoch University

the species nesting period to monitor for turtle activity, monitor for nests, protect observed nests, and report their observations.

The first two years of the project have provided great benefits to the turtles and their nests, as well as the communities actively involved in their conservation. Citizen Scientists have recorded more than 2822 live turtles and protected more than 1139 nests across Perth and parts of regional Western Australia. Their data is also building a clearer picture of turtle losses, with more than 280 deceased turtles and 1866 destroyed nests recorded over the same period.

As well as contributing knowledge about the species previously unknown to science, Turtle Tracker volunteers are increasing their knowledge of turtles and wetlands, while enjoying physical exercise in natural areas, according to participant surveys.

Despite the significant contribution of current volunteers, partner councils and supporting organisations, further support is needed to address ongoing threats to the southwestern snake-necked turtle and prevent local extinctions across the species entire range. As such, SOSNT is seeking local governments across the entire south-west of WA to join the SOSNT program, so more members of the community can be engaged and trained in tracking and protecting this remarkable species.

The project is led by Perth South West Metropolitan Alliance with support from Murdoch University's Harry Butler Institute, Conservation Volunteers Australia, the City of Cockburn, NatureLink Perth and 1 Million turtles, as well as many other partner organisations and local governments.

To learn more about the project or get involved, visit the SOSNT website www.sosnt.net.au

This project supports the United Nations Sustainable Development Goals 13, 15 and 17

Centre for Biosecurity and One Health

Professor Sam Abraham
Director, Centre for Biosecurity and One Health

About the Centre

The Centre for Biosecurity and One Health recognises the linkages between health, biosecurity and the environment.

It comprises research across themes including One Health, antimicrobial resistance, biosecurity of environmental and production systems, vector and water borne diseases, epidemiology, food safety and zoonotic diseases. Policy, legislation and social science perspectives for each of these areas are a feature of our research outputs, with a transdisciplinary approach taken to address complex problems that relate to the health of animals, wildlife, plants, humans and eco-systems.

Karri forest Boranup WA.
Photo Kat Sambrooks, HBI

Leading arachnid taxonomy through science and engagement

An article published in Biodiversity Science examining new spider taxa described in the year 2022 named Murdoch University HBI Arachnologist Dr Volker Framenau number #7 in the world for describing new species of spiders. In 2022, Dr Framenau described and named more than 50 new spider species and 6 new spider genera, also making him number one in Australia.

Dr Framenau's species added to an exponentially growing global database of newly identified spider genera and species, which included 81 new genera and 1096 new species in 2022. Specimens, once collected, can take days to weeks to identify, as scientists photograph, measure and examine the anatomy of the spider under the microscope. New species must be scrutinized against other similar species, and are often compared at the DNA level to ensure the specimens collected represent distinct new species.

False Leaf-curling Spider.
Photo Pedro Castanheia, HBI

The Fauna Portal is make invertebrate taxonomy approachable and publicly available.

The article, *New taxa of spiders (Araneae) from the world in 2022*, ranked fellow HBI Arachnologist, Dr Pedro Castanheira, at number #31, on the list of top spider-describing Arachnologists in the world in 2022.

Dr Framenau and Dr Castanheira, who form a productive part of HBI's invertebrate zoology team, have described hundreds of spider species over the years. The team, that also includes Dr André do Prado and Farhan Bokhari, have been working to make invertebrate taxonomy approachable and publicly available through their website, The Fauna Portal Australia (**https://faunaportal.org/home/**) where species that are not formally described are also documented for identification.

Dr Castanheira also initiated and held the First Western Australian Colloquium on Arachnology in October (see **Marketing and Events on page 34**).

Read the Biodiversity Science article here: www.biodiversity-science.net/EN/10.17520/biods.2023175

This project supports the United Nations Sustainable Development Goals 15 and 17

HBI Research Fellows Rise to the Challenge

Four exceptional post-doctoral researchers; Dr Callum Donohue, Dr Daniel Gomez Isaza, Dr Salvador Carco-Perello and Dr Tina Parkhurst; were selected as recipients of the Harry Butler Institute Challenge Post-Doctoral Fellowship. During 2022–23 they each undertook research that transformed existing data and knowledge with novel findings in their field of expertise. The HBI Challenge Fellows have each given a brief summary their fellowship experience.

Dr Daniel Gomez Isaza

How will animals cope with a warmer and more variable future?

My time as a Challenge Research Fellow at the Harry Butler Institute (HBI) was incredible. The most valuable experience was the opportunity to gain independence as a scientist by leading an independent project. I used this opportunity to focus on a pressing challenge to the world's biota: climate change and increasing temperature variability. I hypothesised that variation around cool temperatures is beneficial to ectotherm performance whereas variation around warm temperatures is detrimental, using the most comprehensive database to date. My analyses revealed that daily temperature variation imposes a fitness cost on ectotherms whereby reproductive traits are decreased, but upper thermal limits are increased.

This project was made possible through the many collaborations I formed with researchers across the HBI, Murdoch University, Western Australia, and internationally. I am excited to continue these collaborations into the future while I continue to publish findings from my research fellowship.

The Fellowship also allowed me to expand my skills and credentials as an academic, attending numerous scientific conferences, organising a networking mixer on Experimental Biology in Western Australia, and gaining Associate Fellow of the Higher Education Academy status after completing training through Murdoch University. During my fellowship, I was also awarded funding from the British Ecological Society to study how body size and population affect the temperature tolerance of black bream. This study was published in the Journal of Thermal Biology (**https://doi.org/10.1016/j.jtherbio.2024.103970**)

It is incredible how much I was able to fit into my Fellowship, and the culmination of these experiences has strengthened my career in so many ways.

Since completing my Challenge Research Fellowship at HBI I have started a postdoctoral position at the Australian Institute of Marine Science, working to identify light intensity thresholds for dispersing turtle hatchlings.

Dr Salvador Zarco-Perello

A challenging mosaic of research projects: From coral reef herbivory to the trophic networks of kelp forest ecosystems

As a marine ecologist, I am interested in understanding the form and function of interconnected marine ecosystems across climate gradients, from tropical coral reefs and seagrass meadows to temperate kelp forests. Through my postdoctoral Challenge Research Fellowship at HBI, I built my expertise in the construction and analysis of trophic networks through a complex mosaic of related research projects. By the end of my fellowship, I had built a meta-network of temperate reef fishes of Western Australia, helping to identify the most important predator-prey interactions and paths of energy flow in the community. My collaborative work on Intra- and interspecific trophic differences of rabbitfishes yielded the research paper, Biogeographical diet variation within and between the rabbitfishes *Siganus corallinus*, *Siganus doliatus*, *Siganus trispilos* and *Siganus virgatus*, published in Ecology and Evolution (**https://doi.org/10.1002/ece3.11326**).

During this time, I was awarded a Fulbright Future Fellowship as a collaboration between the University of California Santa Barbara and the University of New Hampshire (UNH) in the USA. In this project, I have extended the work I did at HBI to the kelp forests of California but increasing in detail and complexity. My project assesses the effect of Marine Protected Areas (MPAs) on the structural and functional properties of the trophic networks of these ecosystems across time. While based at UNH, I also have explored and reviewed the ecological history of New England's kelp forests, bearing witness to the "rise of crabs" in the region. The review has allowed me to identify other potential research collaborators in the broader region.

Although moving to another country is challenging, the Fulbright experience is a great opportunity for researchers like myself, who are hungry to make connections and appreciate teamwork.

Dr Tina Parkhurst

Balancing the books of nature: Accounting for ecosystem condition following ecological restoration

Following the completion of my PhD in 2022, I joined HBI as one of the four Challenge Research Fellows. The fellowship allowed me to explore my progressive and highly topical research proposal investigating ecological restoration outcomes in the context of changes in natural capital.

I was able to expand my scholarly expertise gained during my PhD and collaborate with a broad range of experts, industry and other stakeholders. This led to the publication of a major contribution spanning the fields of environmental accounting and ecosystem restoration; *Balancing the books of nature by accounting for ecosystem condition following ecological restoration* (published in *Scientific Reports* **https://doi.org/10.1038/s41598-024-62137-5**); attracting substantial additional research funding.

The Cooperative Research Centre -Transformations in Mining Economies (CRC-TiME) and Department of Climate Change, Energy, the Environment and Water (DCCEEW)-funded collaboration investigated the application of natural capital accounting in the mining sector with Associate Professor Rachel Standish and myself leading the Alcoa Australia case study on linking mining rehabilitation interventions to changes in natural capital. The case study findings were published in an industry report for CRC-TiME: *Natural Capitol Accounting in the Australian Mining Sector: Case Study Report*. (**https://crctime.com.au/blog/media-release-new-reports-to-help-test-applicability-of-natural-capital-accounting-in-australias-mining-sector/**)

In March 2024, I joined the University of Melbourne as a postdoctoral research fellow and I am now focussing my research on the application of ecosystem science to inform corporate nature disclosure frameworks, to ultimately improve conservation outcomes.

Dr Callum Donohue

Can bioenergetics help fish conservation in intermittent rivers?

The Challenge Research Fellowship at HBI gave me the opportunity to rapidly advance in critical research skills that are otherwise difficult to develop for early career researchers. I was challenged to build, manage and execute a novel research project that brought together Murdoch researchers and external stakeholders.

My project took and energetic approach to conservation, seeking to understand how bioenergetics can help fish conservation in intermittent rivers. Through this fellowship, I learnt valuable skills in team building, management and communications and in developing methods to achieve practical outcomes suitable for a range of stakeholder groups. Most importantly, the Challenge Research Fellowship gave me the unique opportunity to create and develop my own research project within the Harry Buter Institute, based on my personal interest and passions. I was also able to attend an International Symposium and Thematic School on Dynamis Energy Budget Theory for Metabolic Organisation in Louisiana, USA.

Consequently, I am now working with researchers within HBI's Centre for Sustainable Aquatic Ecosystems, developing strategies to progress freshwater conservation methods. I am continuing to expand my academic skills and experience through field-based data collection and data management, analysis and report writing. Simultaneously, I have been supported in strengthening my relationship with external stakeholders, leading the submission of an ARC Linkage Project application and forthcoming ARC Early Career Industry Fellowship.

Photo Viewfinder Photography

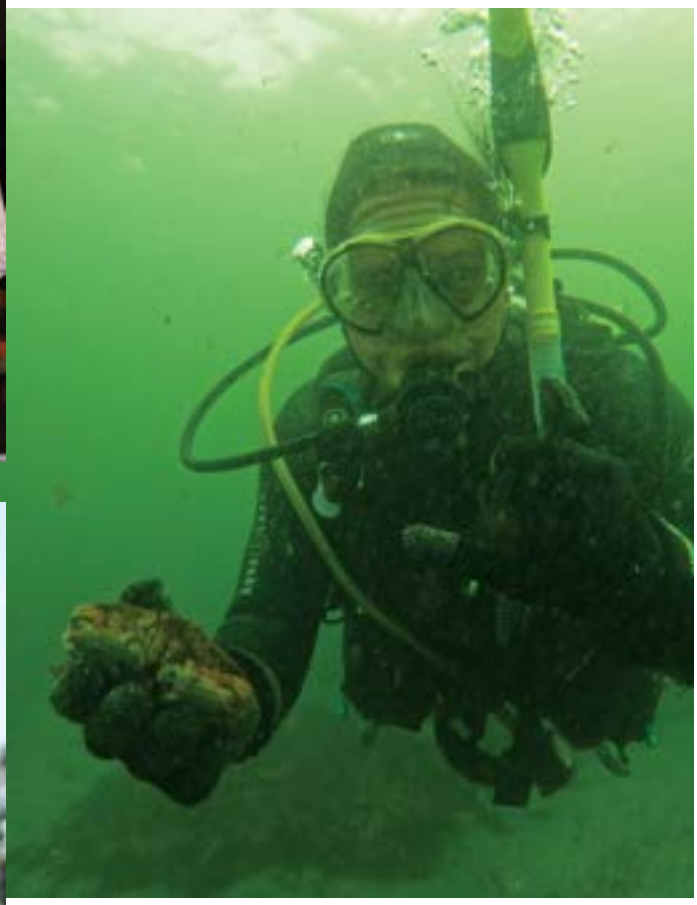


Photo Salvador Zarco-Perello

Photo Callum Donohue

Photo Tina Parkhurst

Clockwise from top left: Dr Daniel Gomez Isaza receiving a prize at the 2023 Biodiversity Conference. Salvador Zarco-Perello with a crab from New England's kelp forests. Tina Parkhurst. Callum Donohue.

Cockburn Wetlands Centre.
Photo Anna Tarrazas, The Wetlands Centre Cockburn

Work Integrated Learning student Lorna Mcmullan recording data at the Wetlands Centre.
Photo Pauline Chaman, HBI

Al Cottingham measuring mussel.
Photo Dannon Wu, HBI

Wetlands Centre Partnership

In 2023, the Harry Butler Institute advanced its mission of environmental sustainability and biodiversity conservation through strategic partnerships, notably with The Wetlands Centre Cockburn. HBI Education Specialist Pauline Charman coordinated initiatives for a new wetland education program.

The Wetland Centre Aquarium

Under a project led by Dr Steve Beatty, the Wetland Centre Aquarium was installed, providing a living tribute to key freshwater species. PhD candidate Jake Daviot established a maintenance plan for the project, making the aquarium a key educational resource. In addition to Dr Alan Cottingham's 'Spyvalve' technology-enabled mussels, the team plans to install a live-streaming webcam which will enhance real-time wetland monitoring for classrooms and the public.

Artificial Wetland Development

The artificial wetland, serving as a mini version of Walliabup (Bibra Lake), was further developed by final-year Environmental Science student Lorna McMullan, who established a baseline water quality monitoring system. Additionally, Dr Holly Emery-Butcher updated specimen collection permits and documentation.

Save Our Snake-Necked Turtle Citizen Science Project

Led by Dr Anthony Santoro, this project involves community members as Turtle Trackers, meeting regularly at the Wetland Centre. New activities emphasize behaviour changes to protect vulnerable turtle populations, fostering community participation in conservation.

Building Volunteer/Internship Opportunities

Students were recruited through MSP201, Work Integrated Learning units, and the MESH Consultancy unit, resulting in four placements at the Wetland Centre. Ayush Gupta developed a business plan for the education centre, Lorna McMullan created a water quality monitoring program, and MESH students developed a communication strategy.

Wetland Nursery – Filming of Propagation Methods

The expertise of senior WA horticulturist Hazel Dempster, who established unique native plant stocks at the nursery, will be highlighted in a series of instructional videos produced by HBI videographer Dannon Wu.

Through these projects, HBI and The Wetlands Centre Cockburn are fostering a deeper understanding of wetland ecosystems and empowering the next generation of environmental stewards.

Hazel Dempster in The Wetlands Centre Nursery.
Photo The Wetlands Centre

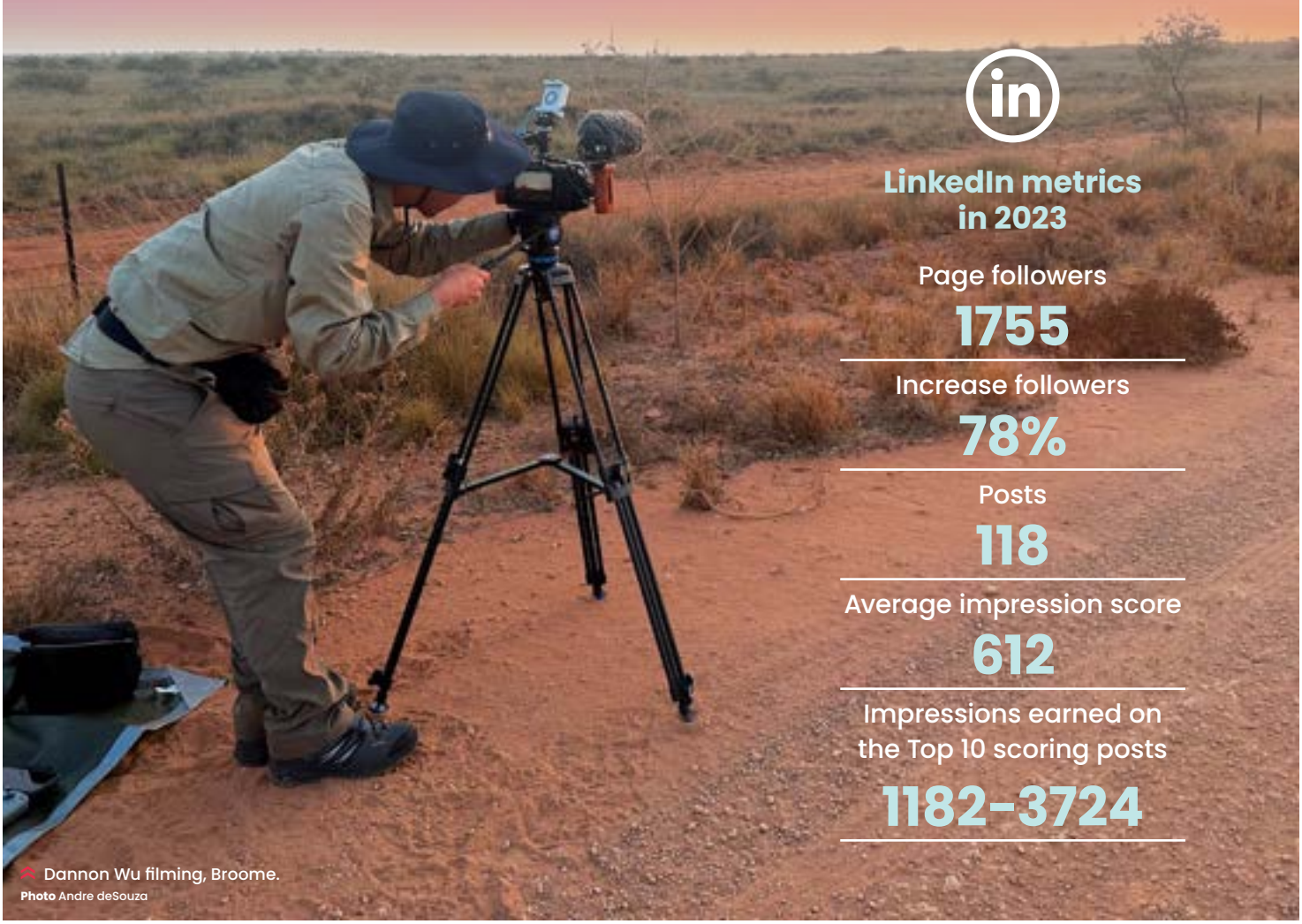
Marketing and Events

Marketing and events are fast becoming some of the core activities of the institute, with HBI leading significant internal and public events, and the extension of our video production into documentaries.

Marketing

Social media

Increased efforts and output through our LinkedIn page, YouTube and HBI website have further established the Harry Butler Institute's brand and identity in 2023. Regular posting of engaging content and videos through the HBI LinkedIn page has increase our followers by **78%** over the year, to more than **1700**. Our most engaging posts featured top ranking **arachnologists**, videos on **algal research**, and dedications to **women in science**.



Dannon Wu filming, Broome.
Photo Andre deSouza

LinkedIn metrics in 2023

Page followers
1755

Increase followers
78%

Posts
118

Average impression score
612

Impressions earned on the Top 10 scoring posts
1182-3724

Website

HBI's website has been under review while an updated version is developed which aligns with Murdoch University's updated branding and web design, consistent throughout much of the main website as well as newly-developed School subsites. The process has provided opportunity for HBI's leadership and professional team to request improvements to website function and website functionality that best supports our research communication needs.

Videos

Video production at HBI in saw a massive boost in 2023, both in the creation of content as well as publication. We fully established the style of our videos, generally aiming for 3-5 minute duration videos with the intent of humanising our research stories by focussing on specific people rather than just the projects being discussed.

Our videos were uploaded to the Murdoch University YouTube channel and added to a newly created Harry Butler Institute playlist, along with all previously published HBI video content.

HBI Video Playlist: www.youtube.com/playlist?list=PLibRr7jgG2270B-_GPngtW_Z0spCTYn_X

A total of 10 videos were published to YouTube in 2023, including several completed in 2022. Video uploads were generally accompanied by a post on the HBI LinkedIn page, and some were embedded within Murdoch University news articles.

Video metrics in 2023

Number of videos published to YouTube

10

Hydrometallurgy at Murdoch University scored the highest number of views at

1059

Total number of videos completed during 2017-23:

29

Finally, HBI has embarked on an exciting new media endeavour with production commencing on two new documentary projects. These 15–30-minute documentaries are more story-driven, allowing a deeper dive into the people, stories and symbols behind featured research projects. HBI's Video Production Officer, Dannon Wu, has been following our researchers out on Country, capturing the footage that will tell these important stories.

Scan me
Murdoch University YouTube channel

Events

WA Climate Science Initiative Public Lecture

With the opening of Murdoch University's award-winning Boola Katitjin building, HBI utilised the state-of-the-art facilities and technology to hold a **WA Climate Science Initiative Public Lecture** in partnership with the WA Government Department of Water and Environmental Regulation. The sold-out hybrid event provided an invaluable opportunity for public education on the climate science project from project leads Dr Jatin Kala and Kelly Barnes.

Colloquium of Arachnology audience.
Photo Kat Sambrooks, HBI

Western Australian Colloquium of Arachnology

The **First Western Australian Colloquium of Arachnology** was held at Murdoch University, lead by HBI arachnologist Dr Pedro Castanheira. The inaugural event attracted arachnology taxonomists, ecologists, biologists and enthusiasts from across the world, leading to some stimulating discussions and the development of exciting new collaborations.

Our Only World lecture series

HBI's **Our Only World lecture series** ran throughout the year at the City of Perth Library, with four researchers delivering engaging talk for the public. Dr Adrian Gleiss, Dr Sarah Sapsford, Dr Gloria Rupf and Dr Charlotte Oskam relished the opportunity to engage a diverse audience on topics from advances in monitoring technology, to the decline of iconic marri, to saving the world with engineering, and dealing with troublesome ticks.

Dr Adrian Gleiss presenting his lecture on Smart tech and AI.
Photo Kat Sambrooks, HBI

2023 Keith Roby lecture presenter (Chris Ledger) with the committee and Keith Roby's wife, Kathy, and son, Mark.
Photo Kat Sambrooks, HBI

Sustainability, Creativity and the Human Vocation

After a 3 year hiatus, the Keith Roby Memorial Lecture returned to the stage, with HBI leading logistics. Keith Roby bibliographer and honours student, Dr Chris Ledger, presented the 2023 lecture on the topic of **Sustainability, Creativity and the Human Vocation**. Dr Ledger gave a first-hand insight and shared lessons from Keith Roby's life, returning to the very foundations of sustainability at Murdoch University.

Murdoch University Community Beach Clean Up

Together with the Murdoch University Sustainability team we held our **Murdoch University Community Beach Clean Up** at Woodman Point on March 5th for Clean Up Australia Day. We were once again joined by an enthusiastic volunteer force of Murdoch staff, students, alumni and friends who helped to remove more than 120gk of rubbish from the Jervoise Bay area.

Beach clean-up briefing and hand-made sign.
Photo Kat Sambrooks, HBI

Biodiversity Conference

An idea seeded at the Harry Butler Institute has bloomed into one of the most pivotal conservation events in the Western Australian calendar. Drawing a sold-out crowd of more than 650 delegates from across academia, government, industry, community and across Country, the conference shared insights and facilitated discussions transversing themes around biodiversity in Western Australia.

The biennial conference, now in its second year, has embraced its central theme 'Listen to country' in a meaningful and impactful way. The three-day conference program was structured to facilitate knowledge sharing between traditional indigenous and western scientific biodiversity management. Day one of the conference, dedicated to presentations by Indigenous Elders and Traditional land managers from across Country, was followed by two days of programming exploring themes of biodiversity conservation and management, capped off by a Gala dinner and award ceremony at Fraser's Restaurant.

HBI Associate Professor Rachel Standish Chaired the 2023 conference, while HBI Project Lead Susan Marie managed the grand event. Research from the Institute featured significantly in the program, with HBI researchers and research students presenting on a wide range of topics from biosecurity frameworks to sawfish nurseries, and pocket forests.

Our efforts were rewarded, with PhD candidate Jack Ingelbrecht and graduate researcher Chris O'Brien receiving high commendation in the marine awards category, and Cecelia Crowe, Sara Cavalcanti Marques and Daniel Gomez Isaza receiving high commendations for their posters.

The need for a conference combining a broad range of biodiversity conservation themes relevant to the Western Australian environment was first conceived in 2022 by Simon McKirdy in collaboration with Curtin University Botanical Ecologist, Professor Stephen van Leeuwin. It was proposed as a collaborative enterprise, jointly supported and run by all five WA Universities, the Department of Biodiversity Conservation and Attractions, and the Western Australian Biodiversity Science Institute. Since its inception, Murdoch University and the Harry Butler Institute have played a key role in its success, through roles on the Conference Committee, event support and conference management.

We're proud of the conference we've helped create and the lasting impact it's having on biodiversity conservation in WA and the custodians, practitioners and researchers who take part in it.

Prof Anne Poelina from the University of Notre Dame giving a plenary presentation on Listening to Martuwarra Country.
Photo Viewfinder Photography

Awards

Animal Welfare Early Career Researcher of the Year

Dr Jordan Hampton, adjunct lecturer and veterinary scientist at Murdoch University, was joint recipient of the Universities Federation for Animal Welfare (UFAW) Early Career Researcher of the Year Award 2023. Jordan has been acknowledged for his influential research in the field of wild animal welfare.

AMSA awarded marine students

At the Australian Marine Sciences Association (AMSA) Conference on the Gold Coast, Dr Adrian Gleiss, Dr Jenna Hounslow, Marie Windstein, and Christine Barry presented the latest research from the PEAC lab and connected with colleagues from across Australia. PhD-candidate Christine Barry was awarded Best Oral Presentation, while PhD-candidate and Forrest Fellow Marie Windstein won the award for Best Poster Presentation.

Citizen Science Eureka Prize Finalist

The Australian Museum Eureka Prize recognises excellence in the fields of research & innovation, leadership, science engagement, and school science. The Harry Butler Institute was delighted to announce in May that Dr Grey Coupland, leader of the Miyawaki Forest Outreach Program, had been selected as a finalist in the Innovation in Citizen Science category.

While Grey didn't seize the top prize, she felt honoured to be recognised as an award finalist, taking the opportunity to reconnect and interview with Robyn Williams from ABC's The Science Show.

Clockwise from top: Eureka Prize winner Dr Grey Coupland with Ainsley Andrew and Peter Eastwood on the red carpet. Dr Grey Coupland with Dr Karl and Robyn Williams.

Global Collaboration Map

International collaborations 2018–23

Map pin size shows strength of connection

Photo Prof Trish Fleming, HBI

Publications

Researchers across the Institute have published their original research, analytical reviews and novel species descriptions in some of the highest rated scientific journals including *Nature*, *Science of the Total Environment*, *Scientific Reports*, and *Plos One*.

1. Santoro, A., Chambers, J.M., Ebner, B.C., Beatty, S.J. 2023. Implications of Climatic Drying on the Nesting Triggers for a Freshwater Turtle. Herpetologica. **79**. 166–175. 10.1655/Herpetologica-D-23-00018

2. Abdullahi, I.N., Lozano, C., Zarazaga, M., Trabelsi, I., Reuben, R.C., Stegger, M., Torres, C. 2023. Nasal staphylococci microbiota and resistome in healthy adults in La Rioja, northern Spain: High frequency of toxigenic S. aureus and MSSA-CC398 subclade. Infection, Genetics and Evolution. **116**. 10.1016/j.meegid.2023.105529

3. Guo, C., Kwok, S.W.H., Xu, Y., Wang, G. 2023. Machine learning analysis of government's public risk communication during COVID-19 lockdown in Wuhan, China. International Journal of Disaster Risk Reduction. **99**. 10.1016/j.ijdrr.2023.104119

4. Truswell, A., Lee, Z.Z., Stegger, M., Blinco, J., Abraham, R., Jordan, D., Milotic, M., Hewson, K., Pang, S., Abraham, S. 2023. Augmented surveillance of antimicrobial resistance with high-throughput robotics detects transnational flow of fluoroquinolone-resistant *Escherichia coli* strain into poultry. Journal of Antimicrobial Chemotherapy. **78**. 2878–2885. 10.1093/jac/dkad323

5. Lassaunière, R., Polacek, C., Utko, M., Sørensen, K.M., Baig, S., Ellegaard, K., Escobar-Herrera, L.A., Fomsgaard, A., Spiess, K., Gunalan, V., Bennedbæk, M., Fonager, J., Schwartz, O., Planas, D., Simon-Lorière, E., Schneider, U.V., Sieber, R.N., Stegger, M., Nielsen, L., Hoppe, M., Krause, T.G., Ullum, H., Jokelainen, P., Rasmussen, M. 2023. Virus isolation and neutralisation of SARS-CoV-2 variants BA.2.86 and EG.5.1. The Lancet Infectious Diseases. **23**. e509–e510. 10.1016/S1473-3099(23)00682-5

6. Larkins, A., Temesgen, W., Chaters, G., Di Bari, C., Kwok, S., Knight-Jones, T., Rushton, J., Bruce, M. 2023. Attributing Ethiopian animal health losses to high-level causes using expert elicitation. Preventive Veterinary Medicine. **221**. 10.1016/j.prevetmed.2023.106077

7. Siebert, J., Sünnemann, M., Hautier, Y., Risch, A.C., Bakker, J.D., Biederman, L., Blumenthal, D.M., Borer, E.T., Bugalho, M.N., Broadbent, A.A.D., Caldeira, M.C., Cleland, E., Davies, K.F., Eskelinen, A., Hagenah, N., Knops, J.M.H., MacDougall, A.S., McCulley, R.L., Moore, J.L., Power, S.A., Price, J.N., Seabloom, E.W., Standish, R., Stevens, C.J., Zimmermann, S., Eisenhauer, N. 2023. Drivers of soil microbial and detritivore activity across global grasslands. Communications Biology. **6**. 10.1038/s42003-023-05607-2

8. Dang, C., Donaghy, L., Macnab, A., Gholipour-Kanani, H. 2023. Optimising flow-cytometry methods for marine mollusc haemocytes using the pearl oyster Pinctada maxima as a model. Fish and Shellfish Immunology. **143**. 10.1016/j.fsi.2023.109220

9. Santoro, A., Chambers, J.M., Ebner, B., Beatty, S.J. 2023. Climate change affects the early-life history of a freshwater turtle in a severely drying region. Austral Ecology. **48**. 2205–2229. 10.1111/aec.13456

10. Gao, C., Cai, X., Lymbery, A.J., Ma, L., Li, C. 2023. The evolution of NLRC3 subfamily genes in *Sebastidae teleost* fishes. BMC Genomics. **24**. 10.1186/s12864-023-09785-5

11. Murphy, C.A., Gerth, W., Neal, T., Antonelli, K., Sanders, J.L., Williams, T., Roennfeldt, R.-L., Crowhurst, R.S., Arismendi, I. 2023. Evidence for infection influencing survival of the freshwater copepod *Salmincola californiensis*, a parasite of Pacific salmon and trout. Journal of Aquatic Animal Health. **35**. 280–285. 10.1002/aah.10206

12. Hasan, A.S.M.M., Diepeveen, D., Laga, H., Jones, M.G.K., Sohel, F. 2023. Image patch-based deep learning approach for crop and weed recognition. Ecological Informatics. **78**. 10.1016/j.ecoinf.2023.102361

13. Huang, K.-X., Vadiveloo, A., Zhong, H., Li, C., Gao, F. 2023. High-efficiency harvesting of microalgae enabled by chitosan-coated magnetic biochar. Bioresource Technology. **390**. 10.1016/j.biortech.2023.129860

14. Yong, R.Q.-Y., Martin, S.B., Smit, N.J. 2023. A new species of Siphoderina Manter, 1934 (Digenea: Cryptogonimidae) infecting the Dory Snapper *Lutjanus fulviflamma* (Teleostei: Lutjanidae) from the east coast of South Africa. Systematic Parasitology. **100**. 673–686. 10.1007/s11230-023-10116-1

15. Schrobback, P., Dennis, G., Li, Y., Mayberry, D., Shaw, A., Knight-Jones, T., Marsh, T.L., Pendell, D.L., Torgerson, P.R., Gilbert, W., Huntington, B., Raymond, K., Stacey, D.A., Bernardo, T., Bruce, M., McIntyre, K.M., Rushton, J., Herrero, M. 2023. Approximating the global economic (market) value of farmed animals. Global Food Security. **39**. 10.1016/j.gfs.2023.100722

16. Gunasekera, S., Clode, P.L., King, B., Monis, P., Thierry, B., Carr, J.M., Chopra, A., Watson, M., O'Dea, M., Hijjawi, N., Ryan, U. 2023. Comparison of in vitro growth characteristics of *Cryptosporidium hominis* (IdA15G1) and *Cryptosporidium parvum* (Iowa-IIaA17G2R1 and IIaA18G3R1). Parasitology Research. **122**. 2891–2905. 10.1007/s00436-023-07979-0

17. Clement, S., Standish, R.J., Kennedy, P.L. 2023. Expert preferences on options for biodiversity conservation under climate change. Global Environmental Change. **83**. 10.1016/j.gloenvcha.2023.102759

18. Alhadad, M.F., Oskierski, H.C., Chischi, J., Senanayake, G., Schulz, B., Suvorova, A.A., Gain, S.E.M., Dlugogorski, B.Z. 2023. Pressure leach of β-spodumene with carbonic acid: Weak acid process for extraction of lithium. Minerals Engineering. **204**. 10.1016/j.mineng.2023.108398

19. Hart, C.J., Riches, A.G., Tiash, S., Abraham, R., Fayd'Herbe, K., Joch, E., Zulfiqar, B., Sykes, M.L., Avery, V.M., Šlapeta, J., Abraham, S., Ryan, J.H., Skinner-Adams, T.S. 2023. Thieno[3,2-b] pyrrole 5-carboxamides as potent and selective inhibitors of *Giardia duodenalis*. International Journal for Parasitology: Drugs and Drug Resistance. **23**. 54–62. 10.1016/j.ijpddr.2023.09.002

20. De Weerdt, J., Pacheco, A.S., Calambokidis, J., Castaneda, M., Cheeseman, T., Frisch-Jordán, A., Garita Alpízar, F., Hayslip, C., Martínez-Loustalot, P., Palacios, D.M., Quintana-Rizzo, E., Ransome, N., Urbán Ramírez, J., Clapham, P., Van der Stocken, T. 2023. Migratory destinations and spatial structuring of humpback whales (*Megaptera novaeangliae*) wintering off Nicaragua. Scientific Reports. **13**. 10.1038/s41598-023-41923-7

21. Johnson, M.F., Ide, T., Gonzalez Cruz, J. 2023. Conceptualizing resilience within environmental peacebuilding. Current Opinion in Environmental Sustainability. **65**. 10.1016/j.cosust.2023.101362

22. Grant, M.I., Kyne, P.M., James, J., Hu, Y., Mukherji, S., Amepou, Y., Baje, L., Chin, A., Johnson, G., Lee, T., Mahan, B., Wurster, C., White, W.T., Simpfendorfer, C.A. 2023. Elemental analysis of vertebrae discerns diadromous movements of threatened non-marine elasmobranchs. Journal of Fish Biology. **103**. 1357–1373. 10.1111/jfb.15537

23. Sapsford, S.J., Dickie, I.A. 2023. Slow soil enzyme recovery following invasive tree removal through gradual changes in bacterial and fungal communities. Journal of Ecology. **111**. 2614–2626. 10.1111/1365-2745.14186

24. Ennaceri, H., Mkpuma, V.O., Moheimani, N.R. 2023. Nano-clay modified membranes: A promising green strategy for microalgal antifouling filtration. Science of the Total Environment. **902**. 10.1016/j.scitotenv.2023.166479

25. Shan, C., Li, B., Li, L., Du, X., Ren, Y., McKirdy, S.J., Liu, T. 2023. Comparison of fumigation efficacy of methyl bromide alone and phosphine applied either alone or simultaneously or sequentially against *Bactrocera correcta* in *Selenicereus undatus* (red pitaya) fruit. Pest Management Science. **79**. 4942–4951. 10.1002/ps.7697

26. Bower, D.S., McKnight, D.T., Sullivan, K., Macdonald, S.L., Georges, A., Clulow, S., Mathwin, R., Connell, M.J., Nelson, H.V., Santoro, A., Nordstrom, B., Van Dyke, J.U., Kidman, R.A., Streeting, L.M., Dillon, M.L., Spencer, R.-J., Thompson, M.B., Nordberg, E.J. 2023. Opportunities for research and conservation of freshwater turtles in Australia. Austral Ecology. **48**. 1483–1491. 10.1111/aec.13403

27. Martin, S.B., De Silva, M.L.I., Pathirana, E., Rajapakse, R.P.V.J. 2023. Polyphyly of the Dinurinae Looss, 1907 (Digenea: Hemiuridae) and resurrection of the Mecoderinae Skrjabin & Guschanskaja, 1954 based on novel collection of *Tubulovesicula laticaudi* Parukhin, 1969 from marine elapid snakes in Sri Lanka. Parasitology International. **97**. 10.1016/j.parint.2023.102776

28. Islam, M.T., Bruce, M., Alam, K. 2023. Cascade of diabetes care in Bangladesh, Bhutan and Nepal: identifying gaps in the screening, diagnosis, treatment and control continuum. Scientific Reports. **13**. 10.1038/s41598-023-37519-w

29. Wang, X.S., Perry, L.B., Malpique, A., Ide, T. 2023. Factors predicting mathematics achievement in PISA: a systematic review. Large-Scale Assessments in Education. **11**. 10.1186/s40536-023-00174-8

30. Harrison, N.D., Steven, R., Phillips, B.L., Hemmi, J.M., Wayne, A.F., Mitchell, N.J. 2023. Identifying the most effective behavioural assays and predator cues for quantifying anti-predator responses in mammals: a systematic review. Environmental Evidence. **12**. 10.1186/s13750-023-00299-x

31. Kwok, S.W.H., Wang, G., Sohel, F., Kashani, K.B., Zhu, Y., Wang, Z., Antpack, E., Khandelwal, K., Pagali, S.R., Nanda, S., Abdalrhim, A.D., Sharma, U.M., Bhagra, S., Dugani, S., Takahashi, P.Y., Murad, M.H., Yousufuddin, M. 2023. An artificial intelligence approach for predicting death or organ failure after hospitalization for COVID-19: development of a novel risk prediction tool and comparisons with ISARIC-4C, CURB-65, qSOFA, and MEWS scoring systems. Respiratory Research. **24**. 10.1186/s12931-023-02386-6

32. Liu, Y., Thomas, M.L., Coupland, G.T., Wang, P., Zheng, D., McKirdy, S.J. 2023. Info-gap theory to determine cost-effective eradication of invasive species. Scientific Reports. **13**. 10.1038/s41598-023-29571-3

33. Cai, X., Gao, C., Lymbery, A.J., Ma, L., Fu, Q., Huang, R., Li, C. 2023. LncRNA activates immune response against Vibrio anguillarum in the intestine-liver axis of turbot (*Scophthalmus maximus L.*) by sponging miRNA in a ceRNA regulatory network. Aquaculture. **576**. 10.1016/j.aquaculture.2023.739882

34. Mkpuma, V.O., Moheimani, N.R., Ennaceri, H. 2023. Commercial paper as a promising carrier for biofilm cultivation of *Chlorella* sp. for the treatment of anaerobic digestate food effluent (ADFE): Effect on the photosynthetic efficiency. Science of the Total Environment. **898**. 10.1016/j.scitotenv.2023.165439

35. Buzatto, B.A., Clark, H.L., Harvey, M.S., Volschenk, E.S. 2023. Two new species of burrowing scorpions (Urodacidae: Urodacus) from the Pilbara region of Western Australia with identical external morphology†. Australian Journal of Zoology. **71**. 10.1071/ZO23018

36. Harshani, H.S., Tsakalos, J.L., Mansfield, T.M., McComb, J., Burgess, T.I., St. J. Hardy, G.E. 2023. Impact of Phytophthora cinnamomi on the taxonomic and functional diversity of forest plants in a Mediterranean-type biodiversity hotspot. Journal of Vegetation Science. **34**. 10.1111/jvs.13218

37. Tsakalos, J.L., Smith, M.R., Luebert, F., Mucina, L. 2023. climenv: Download, extract and visualise climatic and elevation data. Journal of Vegetation Science. **34**. 10.1111/jvs.13215

38. Camer-Pesci, B., Laird, D.W., van Keulen, M., Vadiveloo, A., Chalmers, M., Moheimani, N.R. 2023. Opportunities of *Asparagopsis sp.* cultivation to reduce methanogenesis in ruminants: A critical review. Algal Research. **76**. 10.1016/j.algal.2023.103308

39. Skafte-Holm, A., Pedersen, T.R., Frølund, M., Stegger, M., Qvortrup, K., Michaels, D.L., Brown, D.R., Jensen, J.S. 2023. *Mycoplasma phocimorsus* sp. nov., isolated from Scandinavian patients with seal finger or septic arthritis after contact with seals. International Journal of Systematic and Evolutionary Microbiology. **73**. 10.1099/ijsem.0.006163

40. Migliorini, D., Vivas, M., Wingfield, M.J., Shaw, C., Burgess, T.I. 2023. Oomycete composition in Proteaceae orchards and natural stands on three continents. Mycological Progress. **22**. 10.1007/s11557-023-01925-1

41. Batchelor, K.L., Bell, K.L., Campos, M., Webber, B.L. 2023. Can honey bees be used to detect rare plants? Taking an eDNA approach to find the last plants in a weed eradication program. Environmental DNA. **5**. 1516–1526. 10.1002/edn3.471

42. Olsen, M., Demaneuf, T., Singh, G., Goldsworthy, A., Jones, P., Morgan, M., Nassar, R., Senok, A., Ghemrawi, R., Almheiri, R., Marzooqi, H.A., Almansoori, S., Albastaki, A., Almansoori, R., McKirdy, S., Alghafri, R., Tajouri, L. 2023. Do mobile phone surfaces carry SARS-CoV-2 virus? A systematic review warranting the inclusion of a "6th" moment of hand hygiene in healthcare. Journal of Infection and Public Health. **16**. 1750–1760. 10.1016/j.jiph.2023.08.017

43. Nadimpalli, M.L., Stegger, M., Viau, R., Yith, V., de Lauzanne, A., Sem, N., Borand, L., Huynh, B.-T., Brisse, S., Passet, V., Overballe-Petersen, S., Aziz, M., Gouali, M., Jacobs, J., Phe, T., Hungate, B.A., Leshyk, V.O., Pickering, A.J., Gravey, F., Liu, C.M., Johnson, T.J., Le Hello, S., Price, L.B. 2023. Plugging the leaks: antibiotic resistance at human–animal interfaces in low-resource settings. Frontiers in Ecology and the Environment. **21**. 428–434. 10.1002/fee.2639

44. Barry, C., Gleiss, A.C., Ferreira, L.C., Thums, M., Davis, R.W., Fuiman, L.A., Roche, N.R., Meekan, M.G. 2023. Predation of baitfishes associated with whale sharks at Ningaloo Reef. Marine Biology. **170**. 10.1007/s00227-023-04291-4

45. Amalia, D., Singh, P., Zhang, W., Nikoloski, A.N. 2023. Discharging of Spent Cylindrical Lithium-Ion Batteries in Sodium Hydroxide and Sodium Chloride for a Safe Recycling Process. JOM. **75**. 4946–4957. 10.1007/s11837-023-06093-x

46. Nowosielska, A.M., Nikoloski, A.N., Parsons, D.F. 2023. The effects of saline water on the recovery of lead and zinc sulfide during froth flotation. Minerals Engineering. **202**. 10.1016/j.mineng.2023.108236

47. Robinson, J.M., Breed, M.F., Maher, N.L., Gibson, D., Ducki, L.C., Standish, R.J., Veneklaas, E.J., Merritt, D.J., Prober, S.M., Renton, M., Broomfield, S., Dobrowolski, M.P., Krauss, S.L. 2023. Putting provenance into perspective: the relative importance of restoration site conditions over seed sourcing. Restoration Ecology. **31**. 10.1111/rec.13989

48. Hyndman, T.H., Fretwell, S., Bowden, R.S., Coaicetto, F., Irons, P.C., Aleri, J.W., Kordzakhia, N., Page, S.W., Musk, G.C., Tuke, S.J., Mosing, M., Metcalfe, S.S. 2023. The effect of doxapram on survival and APGAR score in newborn puppies delivered by elective caesarean: A randomized controlled trial. Journal of Veterinary Pharmacology and Therapeutics. **46**. 353–364. 10.1111/jvp.13388

Publications *(cont.)*

49. Wang, G., Kwok, S.W.H., Axford, D., Yousufuddin, M., Sohel, F. 2023. An AUC-maximizing classifier for skewed and partially labeled data with an application in clinical prediction modeling. Knowledge-Based Systems. **278**. 10.1016/j.knosys.2023.110831

50. Allen, B.L., Bobier, C., Dawson, S., Fleming, P.J.S., Hampton, J., Jachowski, D., Kerley, G.I.H., Linnell, J.D.C., Marnewick, K., Minnie, L., Muthersbaugh, M., O'Riain, M.J., Parker, D., Proulx, G., Somers, M.J., Titus, K. 2023. Why humans kill animals and why we cannot avoid it. Science of the Total Environment. **896**. 10.1016/j.scitotenv.2023.165283

51. Shayesteh, H., Jenkins, S.N., Moheimani, N.R., Bolan, N., Bühlmann, C.H., Gurung, S.K., Vadiveloo, A., Bahri, P.A., Mickan, B.S. 2023. Nitrogen dynamics and biological processes in soil amended with microalgae grown in abattoir digestate to recover nutrients. Journal of Environmental Management. **344**. 10.1016/j.jenvman.2023.118467

52. Srivastava, K., Mickan, B.S., O'Connor, J., Gurung, S.K., Moheimani, N.R., Jenkins, S.N. 2023. Development of a controlled release fertilizer by incorporating lauric acid into microalgal biomass: Dynamics on soil biological processes for efficient utilisation of waste resources. Journal of Environmental Management. **344**. 10.1016/j.jenvman.2023.118392

53. Ebner, B.C., Maeda, K., Donaldson, J.A., Harasti, D., Lord, C., Haÿ, V., Heffernan, J., Starrs, D., Thuesen, P., Beatty, S., Boseto, D., Copeland, L.K.F., Rashni, B., Hevalao, R.S., Keith, P. 2023. Pebbled places preferred by people and pipefish in a World Heritage protected area [Les fonds rocheux et de galets des aires protégées: des zones très prisées des hommes et des syngnathes d'eau douce.]. Cybium. **47**. 401–416. 10.26028/cybium/2023-039

54. Cautivo-Reyes, K., Knight, D.R., Bowie, D., Moreira-Grez, B., Whiteley, A.S., Riley, T.V. 2023. Biogeographic distribution and molecular epidemiology of Clostridioides (Clostridium) difficile in Western Australian soils. Applied and Environmental Microbiology. **89**. 10.1128/aem.00379-23

55. Soltani, M., Shafiei, S., Mirzargar, S.S., Asadi, S. 2023. Probiotic, Paraprobiotic, and Postbiotic as an Alternative to Antibiotic Therapy for Lactococcosis in Aquaculture. Iranian Journal of Veterinary Medicine. **17**. 287–299. 10.32598/ijvm.17.4.1005342

56. de la Fuente, J., Estrada-Peña, A., Rafael, M., Almazán, C., Bermúdez, S., Abdelbaset, A.E., Kasaija, P.D., Kabi, F., Akande, F.A., Ajagbe, D.O., Bamgbose, T., Ghosh, S., Palavesam, A., Hamid, P.H., Oskam, C.L., Egan, S.L., Duarte-Barbosa, A., Hekimoğlu, O., Szabó, M.P.J., Labruna, M.B., Dahal, A. 2023. Perception of Ticks and Tick-Borne Diseases Worldwide. Pathogens. **12**. 10.3390/pathogens12101258

57. Herdiana, Y., Wiryawan, B., Wisudo, S.H., Tweedley, J.R., Yulianto, I., Natsir, M., Agustina, S., Hordyk, A., Loneragan, N.R. 2023. Application of the Method Evaluation and Risk Assessment Tool for a Small-Scale Grouper Fishery in Indonesia. Fishes. **8**. 10.3390/fishes8100498

58. Whitfield, A.K., Houde, E.D., Neira, F.J., Potter, I.C. 2023. Importance of marine-estuarine-riverine connectivity to larvae and early juveniles of estuary-associated fish taxa. Environmental Biology of Fishes. **106**. 1983–2009. 10.1007/s10641-023-01474-2

59. Riley, K.J., Warren, K., Armstrong, N., Yeap, L., Dawson, R., Mawson, P.R., Saunders, D.A., Cooper, C.E., Shephard, J.M. 2023. Accelerometry reveals limits to use of an energy-saving anthropogenic food source by a threatened species: A case of Carnaby's cockatoos (*Zanda latirostris*) and canola. Ecology and Evolution. **13**. 10.1002/ece3.10598

60. Travaglione, N., Evans, R., Moustaka, M., Cuttler, M., Thomson, D.P., Tweedley, J., Wilson, S. 2023. Scleractinian corals rely on heterotrophy in highly turbid environments. Coral Reefs. **42**. 997–1010. 10.1007/s00338-023-02407-2

61. Van Yken, J., Boxall, N.J., Cheng, K.Y., Nikoloski, A.N., Moheimani, N., Kaksonen, A.H. 2023. Techno-economic analysis of an integrated bio- and hydrometallurgical process for base and precious metal recovery from waste printed circuit boards. Hydrometallurgy. **222**. 10.1016/j.hydromet.2023.106193

62. Lee, J.Y., Aghamohammadi, N. 2023. Restaurant managers knowledge and intention to improve building ventilation and indoor air quality using control measures in a middle-income country. Building and Environment. **244**. 10.1016/j.buildenv.2023.110775

63. Calver, M.C., Cherkassky, L., Cove, M.V., Fleming, P.A., Lepczyk, C.A., Longcore, T., Marzluff, J., Rich, C., Sizemore, G. 2023. The animal welfare, environmental impact, pest control functions, and disease effects of free-ranging cats can be generalized and all are grounds for humanely reducing their numbers. Conservation Science and Practice. **5**. 10.1111/csp2.13018

64. Mulwanda, J., Senanayake, G., Oskierski, H.C., Altarawneh, M., Dlugogorski, B.Z. 2023. Extraction of lithium from lepidolite by sodium bisulphate roasting, water leaching and precipitation as lithium phosphate from purified leach liquors. Hydrometallurgy. **222**. 10.1016/j.hydromet.2023.106139

65. Li, M.-Y., Kwok, S.W.H., Tan, J.-Y.B., Bressington, D., Liu, X.-L., Wang, T., Chen, S.-L. 2023. Somatic acupressure for the fatigue-sleep disturbance-depression symptom cluster in breast cancer survivors: A phase II randomized controlled trial. European Journal of Oncology Nursing. **66**. 10.1016/j.ejon.2023.102380

66. Lazcano-Pacheco, C., Castillo-Sánchez, A.J., Ortega-Ortiz, C.D., Martínez-Serrano, I., Villegas-Zurita, F., Frisch-Jordán, A., Guzón-Zatarain, O.R., Audley, K., Ransome, N., Bolaños-Jiménez, J., Urbán-R., J., Douglas, A.B. 2023. Ecological aspects of false killer whales (*Pseudorca crassidens*) from Mexican Pacific and Southern California waters. Marine Mammal Science. **39**. 1344–1355. 10.1111/mms.13056

67. Feng, K., Li, N., Huang, Y., Chen, C., Wen, L., Wang, W., Ryan, U.M., Xiao, L., Feng, Y., Guo, Y. 2023. Longitudinal follow-up reveals occurrence of successive *Cryptosporidium bovis* and *Cryptosporidium ryanae* infections by different subtype families in dairy cattle. International Journal for Parasitology. **53**. 651–661. 10.1016/j.ijpara.2023.04.005

68. Pember, B.M., Chaplin, J.A., Braccini, M., Loneragan, N.R. 2023. Population genomic and size distribution data suggest high genetic connectivity in the sandbar shark (*Carcharhinus plumbeus*) along a 2700 km coastline. Fisheries Research. **266**. 10.1016/j.fishres.2023.106779

69. Hoeksema, S.D., Chuwen, B.M., Tweedley, J.R., Potter, I.C. 2023. Ichthyofaunas of nearshore, shallow waters of normally-closed estuaries are highly depauperate and influenced markedly by salinity and oxygen concentration. Estuarine, Coastal and Shelf Science. **291**. 10.1016/j.ecss.2023.108410

70. Martínez-Azorín, M., Crespo, M.B., Alonso-Vargas, M.Á., Pinter, M., Crouch, N.R., Dold, A.P., Mucina, L., Pfosser, M., Wetschnig, W. 2023. A generic monograph of the Hyacinthaceae subfamily Urgineoideae. Phytotaxa. **609**. 1–143. 10.11646/phytotaxa.610.1.1

71. Rasmussen, M., Moller, F.T., Gunalan, V., Baig, S., Bennedbak, M., Christiansen, L.E., Cohen, A.S., Ellegaard, K., Fomsgaard, A., Franck, K.T., Larsen, N.B., Larsen, T.G., Lassauniere, R., Polacek, C., Qvesel, A.G., Sieber, R.N., Rasmussen, L.D., Stegger, M., Spiess, K., Eric Tang, M.-H., Vestergaard, L.S., Andersen, T.E., Hoegh, S.V., Pedersen, R.M., Skov, M.N., Steinke, K., Sydenham, T.V., Hoppe, M., Nielsen, L., Krause, T.G., Ullum, H., Jokelainen, P. 2023. First cases of SARS-CoV-2 BA.2.86 in Denmark, 2023. Eurosurveillance. **28**. 10.2807/1560-7917.ES.2023.28.36.2300460

72. Kumar, Y., Guareschi, E.E., Bharti, H., Magni, P.A. 2023. Haemorrhagic Artefacts Produced by Ant Activity on Human Cadavers in the Early Post-Mortem Period. Forensic Sciences. **3**. 506–520. 10.3390/forensicsci3030035

73. Nwoba, E.G., Vadiveloo, A., Bahri, P.B., McKirdy, S.J., Moheimani, N.R. 2023. Understanding photochemical adaptations of microalgal ammonium extremophiles to elevated ammonium concentrations in abattoir anaerobic digestate. Algal Research. **75**. 10.1016/j.algal.2023.103272

74. Akther, M., Akter, S.H., Sarker, S., Aleri, J.W., Annandale, H., Abraham, S., Uddin, J.M. 2023. Global Burden of Lumpy Skin Disease, Outbreaks, and Future Challenges. Viruses. **15**. 10.3390/v15091861

75. Tweedley, J.R., Obregón, C., Beukes, S.J., Loneragan, N.R., Hughes, M. 2023. Selecting from the Fisheries Managers' Tool-Box: Recreational Fishers' Views of Stock Enhancement and Other Management Options. Fishes. **8**. 10.3390/fishes8090460

76. Shayesteh, H., Laird, D.W., Hughes, L.J., Nematollahi, M.A., Kakhki, A.M., Moheimani, N.R. 2023. Co-Producing Phycocyanin and Bioplastic in *Arthrospira platensis* Using Carbon-Rich Wastewater. BioTech. **12**. 10.3390/biotech12030049

77. Suwaydi, M.A., Lai, C.T., Rea, A., Gridneva, Z., Perrella, S.L., Wlodek, M.E., Geddes, D.T. 2023. Circadian Variation in Human Milk Hormones and Macronutrients. Nutrients. **15**. 10.3390/nu15173729

78. Amalia, D., Singh, P., Zhang, W., Nikoloski, A.N. 2023. The Effect of a Molasses Reductant on Acetic Acid Leaching of Black Mass from Mechanically Treated Spent Lithium-Ion Cylindrical Batteries. Sustainability (Switzerland). **15**. 10.3390/su151713171

79. McLean, B., Rodgers, E.M. 2023. Deteriorating waterways: The effect of nitrate pollution on the development and physiology of the endangered southern bell frog (*Litoria raniformis*). Aquatic Toxicology. **262**. 10.1016/j.aquatox.2023.106670

80. Harshani, H.S., McComb, J., Burgess, T.I., Hardy, G.E.S.J. 2023. Selecting plant species to rehabilitate *Phytophthora cinnamomi* infested forest. Australasian Plant Pathology. **52**. 463–475. 10.1007/s13313-023-00934-8

81. Long, K.K., Kwok, S.W.H., Kotz, J., Wang, G. 2023. A deep multi-view imbalanced learning approach for identifying informative COVID-19 tweets from social media. Computers in Biology and Medicine. **164**. 10.1016/j.compbiomed.2023.107232

82. Larkins, A., Bruce, M., Phetsouvanh, R., Ash, A. 2023. Risk mapping for *Taenia solium*: Applying multicriteria decision analysis in Lao PDR. Tropical Medicine and International Health. **28**. 736–741. 10.1111/tmi.13917

83. Hounslow, J.L., Fossette, S., Chong, W., Bali, R., Tucker, A.D., Whiting, S.D., Gleiss, A.C. 2023. Behaviour-specific spatiotemporal patterns of habitat use by sea turtles revealed using biologging and supervised machine learning. Journal of Applied Ecology. **60**. 1828–1840. 10.1111/1365-2664.14438

84. Hosein, A.S., Whale, J., Simsek, Y., Urmee, T. 2023. Exploring energy policy scenarios to transition to a low carbon economy by 2050: A case study on the Northern Territory of Australia. Energy Policy. **180**. 10.1016/j.enpol.2023.113663

85. Watchorn, D.J., Duncan, T.A., Cowan, M.A. 2023. The risks and rewards of using artificial habitat structures for wildlife conservation. Austral Ecology. **48**. 1207–1222. 10.1111/aec.13376

86. Santoro, A., Newsome, R., Regan, Z., Chambers, J.M., Beatty, S.J. 2023. Optimizing road underpass design to maximize use by a freshwater turtle (*Chelodina oblonga*). Aquatic Conservation: Marine and Freshwater Ecosystems. **33**. 995–1002. 10.1002/aqc.3982

87. Huang, J., Chen, M., He, Y., Chen, H., Huang, M., Li, N., Ryan, U., Kváč, M., Feng, Y., Xiao, L., Guo, Y. 2023. Cryptosporidium equi n. sp. (Apicomplexa: Cryptosporidiidae): Biological and genetic characterisations. International Journal for Parasitology. **53**. 545–554. 10.1016/j.ijpara.2023.02.008

88. Hampton, J.O., Lohr, M.T., Specht, A.J., Nzabanita, D., Hufschmid, J., Berger, L., McGinnis, K., Melville, J., Bennett, E., Pay, J.M. 2023. Lead exposure of mainland Australia's top avian predator. Environmental Pollution. **332**. 10.1016/j.envpol.2023.122004

89. Emery-Butcher, H.E., Beatty, S.J., Robson, B.J. 2023. Seasonal and perennial water populations of an endemic crayfish differ in behavioural responses to drying but not metabolism. Ecohydrology. **16**. 10.1002/eco.2566

90. El-Marzoky, A.M., Elnahal, A.S.M., Jghef, M.M., Abourehab, M.A.S., El-Tarabily, K.A., Ali, M.A.M.S. 2023. Purpureocillium lilacinum strain AUMC 10620 as a biocontrol agent against the citrus nematode T*ylenchulus semipenetrans* under laboratory and field conditions. European Journal of Plant Pathology. **167**. 59–76. 10.1007/s10658-023-02684-1

91. Ranasinghe, S., Aspinall, S., Beynon, A., Ash, A., Lymbery, A. 2023. Traditional medicinal plants in the treatment of gastrointestinal parasites in humans: A systematic review and meta-analysis of clinical and experimental evidence. Phytotherapy Research. **37**. 3675–3687. 10.1002/ptr.7895

92. Kachigunda, B., Coupland, G.T., Mengersen, K., Perera, D.I., van der Merwe, J., McKirdy, S. 2023. A systems approach to biosecurity pays off: a case study investigating introduction pathways and interceptions of non-indigenous species at a biosecurity border. Biological Invasions. **25**. 2849–2871. 10.1007/s10530-023-03077-5

93. Fu, Z., Hong, S., Liu, M., Laga, H., Bennamoun, M., Boussaid, F., Guo, Y. 2023. Multi-stage information diffusion for joint depth and surface normal estimation. Pattern Recognition. **141**. 10.1016/j.patcog.2023.109660

94. Taylor, C.L., Egan, S.L., Gofton, A.W., Irwin, P.J., Oskam, C.L., Hochuli, D.F., Banks, P.B. 2023. An invasive human commensal and a native marsupial maintain tick populations at the urban fringe. Medical and Veterinary Entomology. **37**. 460–471. 10.1111/mve.12643

95. Wu, L., Quan, L., Deng, Z., Vadiveloo, A., Cheng, Y., Yang, L., Zhang, Z., Saber, A.A., Lan, S. 2023. Performance of a biocrust cyanobacteria-indigenous bacteria (BCIB) co-culture system for nutrient capture and transfer in municipal wastewater. Science of the Total Environment. **888**. 10.1016/j.scitotenv.2023.164236

96. Cai, X., Gao, C., Ma, L., Li, C. 2023. Genome-wide identification, evolution and expression analysis of tight junction gene family and the immune roles of claudin5 gene in turbot (*Scophthalmus maximus L.*). Gene. **877**. 10.1016/j.gene.2023.147541

97. Suepaul, S., Stegger, M., Boyen, F., Georges, K., Butaye, P. 2023. The Diversity and Zoonotic Potential of *Staphylococcus pseudintermedius* in Humans and Pet Dogs in Trinidad and Tobago. Antibiotics. **12**. 10.3390/antibiotics12081266

98. Olsen, M., Goldsworthy, A., Nassar, R., Senok, A., Albastaki, A., Lee, Z.Z., Abraham, S., Alghafri, R., Tajouri, L., McKirdy, S. 2023. Ultraviolet-C-Based Mobile Phone Sanitisation for Global Public Health and Infection Control. Microorganisms. **11**. 10.3390/microorganisms11081876

99. Jiang, D., Wu, J., Ding, F., Ide, T., Scheffran, J., Helman, D., Zhang, S., Qian, Y., Fu, J., Chen, S., Xie, X., Ma, T., Hao, M., Ge, Q. 2023. An integrated deep-learning and multi-level framework for understanding the behavior of terrorist groups. Heliyon. **9**. 10.1016/j.heliyon.2023.e18895

100. Lymbery, A.J., Smit, N.J. 2023. Conservation of parasites: A primer. International Journal for Parasitology: Parasites and Wildlife. **21**. 255–263. 10.1016/j.ijppaw.2023.07.001

101. Barry, C., Legaspi, C., Clarke, T.M., Araujo, G., Bradshaw, C.J.A., Gleiss, A.C., Meyer, L., Huveneers, C. 2023. Estimating the energetic cost of whale shark tourism. Biological Conservation. **284**. 10.1016/j.biocon.2023.110164

102. Yehia, N., Elsayed, S., Al-Saeed, F.A., Ahmed, A.E., El-Tarabily, K.A., El-Saadony, M.T., El-Halem Mohammed, A.A. 2023. Current situation and genomic characterization of fowlpox virus in lower Egypt during 2022. Poultry Science. **102**. 10.1016/j.psj.2023.102769

103. Hutchinson, D.J., Jones, E.M., Pay, J.M., Clarke, J.R., Lohr, M.T., Hampton, J.O. 2023. Further investigation of lead exposure as a potential threatening process

for a scavenging marsupial species. Australian Veterinary Journal. **101**. 313–319. 10.1111/avj.13252

104. Wang, G., Kwok, S.W.H., Yousufuddin, M., Sohel, F. 2023. A Novel AUC Maximization Imbalanced Learning Approach for Predicting Composite Outcomes in COVID-19 Hospitalized Patients. IEEE Journal of Biomedical and Health Informatics. **27**. 3794–3805. 10.1109/JBHI.2023.3279824

105. Alhamami, T., Roy Chowdhury, P., Venter, H., Veltman, T., Truswell, A., Abraham, S., Sapula, S.A., Carr, M., Djordjevic, S.P., Trott, D.J. 2023. Genomic profiling of *Pasteurella multocida* isolated from feedlot cases of bovine respiratory disease. Veterinary Microbiology. **283**. 10.1016/j.vetmic.2023.109773

106. Ercoli, M.D., Álvarez, A., Warburton, N.M., Janis, C.M., Potapova, E.G., Herring, S.W., Cassini, G.H., Tarquini, J., Kuznetsov, A. 2023. Myology of the masticatory apparatus of herbivorous mammals and a novel classification for a better understanding of herbivore diversity. Zoological Journal of the Linnean Society. **198**. 1106–1155. 10.1093/zoolinnean/zlac102

107. El-Saadony, M.T., Saad, A.M., El-Wafai, N.A., Abou-Aly, H.E., Salem, H.M., Soliman, S.M., Abd El-Mageed, T.A., Elrys, A.S., Selim, S., Abd El-Hack, M.E., Kappachery, S., El-Tarabily, K.A., AbuQamar, S.F. 2023. Hazardous wastes and management strategies of landfill leachates: A comprehensive review. Environmental Technology and Innovation. **31**. 10.1016/j.eti.2023.103150

108. Tay, N.E., Warburton, N.M., Moseby, K.E., Fleming, P.A. 2023. Predator escape behaviour in threatened marsupials. Animal Conservation. **26**. 587–601. 10.1111/acv.12847

109. Zhang, X., Wang, H., Song, J., He, S., Sun, C. 2023. Co-Design of Adaptive Event Generator and Asynchronous Fault Detection Filter for Markov Jump Systems via Genetic Algorithm. IEEE Transactions on Cybernetics. **53**. 5059–5068. 10.1109/TCYB.2022.3170110

110. Ovalle, J.T., Reich, M., Barra, F., Simon, A.C., Godel, B., Le Vaillant, M., Palma, G., Deditius, A.P., Heuser, G., Arancibia, G., Morata, D. 2023. Fluid-Assisted Aggregation and Assembly of Magnetite Microparticles in the Giant El Laco Iron Oxide Deposit, Central Andes. ACS Earth and Space Chemistry. **7**. 1378–1387. 10.1021/acsearthspacechem.3c00036

111. Xiong, Y., Wang, X., Deng, W., Xiong, Z., Xu, J., Jiang, L., Su, S., Hu, S., Hu, X., Gao, X., Li, J., Wang, Y., Xiang, J. 2023. Synchronous bio-oil upgrading and CO2 fixation by co-electrolysis. Energy Conversion and Management. **288**. 10.1016/j.enconman.2023.117135

112. Standish, R.J., Gove, A.D., Grigg, A.H., Daws, M.I. 2023. Correction to "Beyond species richness and community composition: Using plant functional diversity to measure restoration success in jarrah forest" [Applied Vegetation Science, 24(3), e12607]. Applied Vegetation Science. **26**. 10.1111/avsc.12746

113. Abbas, S., Basit, F., Tanwir, K., Zhu, X., Hu, J., Guan, Y., Hu, W., Sheteiwy, M.S., Yang, H., El-Keblawy, A., El-Tarabily, K.A., AbuQamar, S.F., Lou, J. 2023. Exogenously applied sodium nitroprusside alleviates nickel toxicity in maize by regulating antioxidant activities and defense-related gene expression. Physiologia Plantarum. **175**. 10.1111/ppl.13985

114. Mkpuma, V.O., Ishika, T., Moheimani, N.R., Ennaceri, H. 2023. The potential of coupling wastewater treatment with hydrocarbon production using *Botryococcus braunii*. Algal Research. **74**. 10.1016/j.algal.2023.103214

115. Ziogos, S., Dadour, I.R., Pitts, K., Magni, P.A. 2023. Qualitative Analyses of Textile Damage (Cuts and Tears) Applied to Fabrics Exposed to the Decomposition of Carcasses and Associated Insect Activity in an Austral Summer. Insects. **14**. 10.3390/insects14070618

116. Crespo, M.B., Alonso, M.Á., Martínez-Azorín, M., Villar, J.L., Mucina, L. 2023. What Is Wrong with Frankenia nodiflora Lam. (Frankeniaceae)? New Insights into the South African Sea-Heaths. Plants. **12**. 10.3390/plants12142630

117. Hain-Saunders, N.M.R., Knight, D.R., Bruce, M., Byrne, D., Riley, T.V. 2023. Genomic Analysis of *Clostridioides difficile* Recovered from Horses in Western Australia. Microorganisms. **11**. 10.3390/microorganisms11071743

118. Marsh, J.R., Bradford, T.M., Cooper, S.J.B. 2023. Strong Population Genetic Structure for the Endangered Micro-Trapdoor Spider *Moggridgea rainbowi* (Mygalomorphae, Migidae) in Unburnt Habitat after Catastrophic Bushfires. Diversity. **15**. 10.3390/d15070827

119. Simmons, L.W., Lovegrove, M., Du, X., Ren, Y., Thomas, M.L. 2023. Humidity stress and its consequences for male pre- and post-copulatory fitness traits in an insect. Ecology and Evolution. **13**. 10.1002/ece3.10244

120. Wild, K.H., Roe, J.H., Schwanz, L., Rodgers, E., Dissanayake, D.S.B., Georges, A., Sarre, S.D., Noble, D.W.A. 2023. Metabolic consequences of sex reversal in two lizard species: a test of the like-genotype and like-phenotype hypotheses. Journal of Experimental Biology. **226**. 10.1242/jeb.245657

121. Alonso, M.Á., Crespo, M.B., Martínez-Azorín, M., Mucina, L. 2023. *Spergularia hanoverensis* (Caryophyllaceae): Validation and Recircumscription of a Misinterpreted Species from South Africa. Plants. **12**. 10.3390/plants12132481

122. Abraham, R., Allison, H.S., Lee, T., Pavic, A., Chia, R., Hewson, K., Lee, Z.Z., Hampson, D.J., Jordan, D., Abraham, S. 2023. A national study confirms that *Escherichia coli* from Australian commercial layer hens remain susceptible to critically important antimicrobials. PLoS ONE. **18**. 10.1371/journal.pone.0281848

123. Shahbazi, P., Sheikhzadeh, N., Siahtan, M.A.N., Ghadimi, A.K., Soltani, M., Nofouzi, K., Mousavi, S., Khordadmehr, M., Marandi, A., Firouzamandi, M. 2023. Efficacy of dietary live or heat-killed Bacillus subtilis in goldfish (*Carassius auratus*) infected with *Ichthyophthirius multifiliis*. Veterinary Medicine and Science. **9**. 1636–1645. 10.1002/vms3.1183

124. Nicholson, K. 2023. Entanglement in recreational fishing gear poses a threat to estuarine and coastal dolphins: Animal welfare and population level impacts should guide intervention decision making. Marine Pollution Bulletin. **192**. 10.1016/j.marpolbul.2023.115094

125. Yehia, N., Rabie, N., Adel, A., Mossad, Z., Nagshabandi, M.K., Alharbi, M.T., El-Saadony, M.T., El-Tarabily, K.A., Erfan, A. 2023. Differential replication characteristic of reassortant avian influenza A viruses H5N8 clade 2.3.4.4b in Madin-Darby canine kidney cell. Poultry Science. **102**. 10.1016/j.psj.2023.102685

126. Paget, S., Gleiss, A.C., Kuchling, G., Mitchell, N.J. 2023. Activity of a freshwater turtle varies across a latitudinal gradient: Implications for the success of assisted colonisation. Functional Ecology. **37**. 1897–1909. 10.1111/1365-2435.14338

127. Wang, W., Zheng, Z., Feng, C., Gao, X., Qiao, Y., Xu, M. 2023. Application of zeolite synthesized from coal fly ash via wet milling as a sustainable resource on lead(II) removal. Waste Management and Research. **41**. 1246–1254. 10.1177/0734242X231160077

128. Albornoz, F.E., Standish, R.J., Bissett, A., Prober, S.M. 2023. Richness of arbuscular mycorrhizal fungi increases with ecosystem degradation of temperate eucalypt woodlands. Plant and Soil. **488**. 255–271. 10.1007/s11104-023-05962-3

129. Sarker, S.R., McComb, J., Hardy, G.E.S.J., Burgess, T.I. 2023. Sample volume affects the number of Phytophthora and Phytopythium species detected by soil baiting. European Journal of Plant Pathology. **166**. 303–313. 10.1007/s10658-023-02661-8

130. Rady, M.M., Elrys, A.S., Selem, E., Mohsen, A.A.A., Arnaout, S.M.A.I., El-Sappah, A.H., El-Tarabily, K.A., Desoky, E.-S.M. 2023. Spirulina platensis extract improves the production and defenses of the common bean grown in a heavy metals-contaminated saline soil. Journal of Environmental Sciences (China). **129**. 240–257. 10.1016/j.jes.2022.09.011

131. Watson, S.M., McLean, D.L., Balcom, B.J., Birchenough, S.N.R., Brand, A.M., Camprasse, E.C.M., Claisse, J.T., Coolen, J.W.P., Cresswell, T., Fokkema, B., Gourvenec, S., Henry, L.-A., Hewitt, C.L., Love, M.S., MacIntosh, A.E., Marnane, M., McKinley, E., Micallef, S., Morgan, D., Nicolette, J., Ounanian, K., Patterson, J., Seath, K., Selman, A.G.L., Suthers, I.M., Todd, V.L.G., Tung, A., Macreadie, P.I. 2023. Offshore decommissioning horizon scan: Research priorities to support decision-making activities for oil and gas infrastructure. Science of the Total Environment. **878**. 10.1016/j.scitotenv.2023.163015

132. Amos, M., De Ridder, T.R., Pople, A., Brennan, M., Hampton, J.O. 2023. Further refinement of helicopter capture for Australian chital deer (Axis axis). Australian Mammalogy. **46**. 10.1071/AM23015

133. Firth, R., Kala, J., Hudson, D., Evans, F. 2023. Evaluation of ACCESS-S1 seasonal forecasts of growing season precipitation for Western Australia's wheatbelt region. Journal of Southern Hemisphere Earth Systems Science. **73**. 131–147. 10.1071/ES22031

134. Soltani, M., Rakhshanimehr, K., Mirzargar, S.S., Zargar, A., Shohreh, P., Asadi, S. 2023. Antibiotic Resistance in Pathogenic Bacteria, the Causative Agents of Bacterial Diseases in Farmed Rainbow Trout (*Onchorhynchus mykiss*) in Iran. Journal of Veterinary Research. **78**. 85–96. 10.22059/jvr.2022.346130.3287

135. Wylie, S., Habili, N. 2023. State-of-the-Art Plant Virus Research in Australasia. Viruses. **15**. 10.3390/v15061311

136. Imwattana, K., Shivaperumal, N., Leepattarakit, T., Kiratisin, P., Knight, D.R., Riley, T.V. 2023. The Brief Case: a White-Colony-Producing *Clostridioides difficile* Ribotype 020 Strain. Journal of Clinical Microbiology. **61**. 10.1128/jcm.00893-22

137. Bambaradeniya, T.B., Magni, P.A., Dadour, I.R. 2023. A Summary of Concepts, Procedures and Techniques Used by Forensic Entomologists and Proxies. Insects. **14**. 10.3390/insects14060536

138. Tweedley, J.R., Obregón, C., Beukes, S.J., Loneragan, N.R., Hughes, M. 2023. Differences in Recreational Fishers' Motivations for Utilising Two Estuarine Fisheries. Fishes. **8**. 10.3390/fishes8060292

139. Marcot, B.G., Scott, P., Burgess, T.I. 2023. Multivariate Bayesian analysis to predict invasiveness of Phytophthora pathogens. Ecosphere. **14**. 10.1002/ecs2.4573

140. Sultan-Alolama, M.I., Amin, A., Vijayan, R., El-Tarabily, K.A. 2023. Isolation, Characterization, and Comparative Genomic Analysis of Bacteriophage Ec_MI-02 from Pigeon Feces Infecting *Escherichia coli* O157:H7. International Journal of Molecular Sciences. **24**. 10.3390/ijms24119506

141. Ennaceri, H., Nwoba, E.G., Ogbonna, C.N., Bahri, P.A., Moheimani, N.R. 2023. Progress of non-destructive hydrocarbon extraction technology of *Botryococcus braunii*. Algal Research. **73**. 10.1016/j.algal.2023.103156

142. Liu, Y., Xia, F., Yang, Y., Chen, M. 2023. Thermodynamic analysis and in situ powder X-ray diffraction investigation of the formation and transformation of mineral phases during pressure oxidation of pyrite. Hydrometallurgy. **220**. 10.1016/j.hydromet.2023.106089

143. Sarker, S.R., Burgess, T.I., Hardy, G.E.S.J., McComb, J. 2023. Closing the gap between the number of Phytophthora species isolated through baiting a soil sample and the number revealed through metabarcoding. Mycological Progress. **22**. 10.1007/s11557-023-01892-7

144. Setta, A., Yehia, N., Shakak, A.O., Al-Quwaie, D.A., Al-Otaibi, A.M., El-Saadony, M.T., El-Tarabily, K.A., Salem, H. 2023. Corrigendum to Molecular detection of highly pathogenic avian influenza H5N8 in commercial broiler chicken farms from 2019 to 2022 [Poultry Science, Volume 102, Issue 6, June 2023, 102639] (Poultry Science (2023) 102(6), (S0032579123001633), (10.1016/j.psj.2023.102639)). Poultry Science. **102**. 10.1016/j.psj.2023.102777

145. Lear, K.O., Fazeldean, T., Bateman, R.L., Inglebrecht, J., Morgan, D.L. 2023. Growth and morphology of Critically Endangered green sawfish *Pristis zijsron* in globally important nursery habitats. Marine Biology. **170**. 10.1007/s00227-023-04220-5

146. Filipe, J.C., Ahrens, C.C., Byrne, M., Hardy, G., Rymer, P.D. 2023. Germination temperature sensitivity differs between co-occurring tree species and climate origins resulting in contrasting vulnerability to global warming. Plant-Environment Interactions. **4**. 146–162. 10.1002/pei3.10108

147. Setta, A., Yehia, N., Shakak, A.O., Al-Quwaie, D.A., Al-Otaibi, A.M., El-Saadony, M.T., El-Tarabily, K.A., Salem, H. 2023. Molecular detection of highly pathogenic avian influenza H5N8 in commercial broiler chicken farms from 2019 to 2022. Poultry Science. **102**. 10.1016/j.psj.2023.102639

148. Yang, L., Vadiveloo, A., Chen, A.-J., Liu, W.-Z., Chen, D.-Z., Gao, F. 2023. Supplementation of exogenous phytohormones for enhancing the removal of sulfamethoxazole and the simultaneous accumulation of lipid by *Chlorella vulgaris*. Bioresource Technology. **378**. 10.1016/j.biortech.2023.129002

149. Carey, N., Chester, E.T., Robson, B.J. 2023. Loss of functionally important and regionally endemic species from streams forced into intermittency by global warming. Global Change Biology. **29**. 3019–3038. 10.1111/gcb.16650

150. Kompas, T., Chu, L., McKirdy, S., Thomas, M., Van Der Merwe, J. 2023. Optimal post-border surveillance against invasive pests to protect a valuable nature reserve and island asset. Ecological Economics. **208**. 10.1016/j.ecolecon.2023.107789

151. Liu, P., Zhang, Y., Tang, H., Wang, Y., Sun, X. 2023. Prevalence of Streptococcus suis in pigs in China during 2000–2021: A systematic review and meta-analysis. One Health. **16**. 10.1016/j.onehlt.2023.100513

152. Brown, A.M., Allen, S.J., Kelly, N., Hodgson, A.J. 2023. Using Unoccupied Aerial Vehicles to estimate availability and group size error for aerial surveys of coastal dolphins. Remote Sensing in Ecology and Conservation. **9**. 340–353. 10.1002/rse2.313

153. Nyboer, E.A., Reid, A.J., Jeanson, A.L., Kelly, R., Mackay, M., House, J., Arnold, S.M., Simonin, P.W., Sedanza, M.G.C., Rice, E.D., Quiros, T.E.A.L., Pierucci, A., Ortega-Cisneros, K., Nakamura, J.N., Melli, V., Mbabazi, S., Martins, M.S.L., Ledesma, A.B.B., Obregón, C., Labatt, C.K., Kadykalo, A.N., Heldsinger, M., Green, M.E., Fuller, J.L., Franco-Meléndez, M., Burnett, M.J., Bolin, J.A., Andrade-Vera, S., Cooke, S.J. 2023. Goals, challenges, and next steps in transdisciplinary fisheries research: perspectives and experiences from early-career researchers. Reviews in Fish Biology and Fisheries. **33**. 349–374. 10.1007/s11160-022-09719-6

154. Omeyer, L.C.M., Duncan, E.M., Abreo, N.A.S., Acebes, J.M.V., AngSinco-Jimenez, L.A., Anuar, S.T., Aragones, L.V., Araujo, G., Carrasco, L.R., Chua, M.A.H., Cordova, M.R., Dewanti, L.P., Espiritu, E.Q., Garay, J.B., Germanov, E.S., Getliff, J., Horcajo-Berna, E., Ibrahim, Y.S., Jaafar, Z., Janairo, J.I.B., Gyi, T.K., Kreb, D., Lim, C.L., Lyons, Y., Mustika, P.L.K., Neo, M.L., Ng, S.Z.H., Pasaribu, B., Pariatamby, A., Peter, C., Porter, L., Purba, N.P., Santa Cruz, E.T., Shams, S., Thompson, K.F., Torres, D.S., Westerlaken, R., Wongtawan, T., Godley, B.J. 2023. Interactions between marine megafauna and plastic pollution in Southeast Asia. Science of the Total Environment. **874**. 10.1016/j.scitotenv.2023.162502

155. Yang, G., Liu, Y., Yang, C., Xia, F., Wu, Y., Shpotyuk, Y., Takats, V., Zeng, H., Xu, Y., Chen, H., Gao, Y. 2023. Influence of glass matrix SiO2–B2O3–NaF on the formation of NIR-shielding functional units in energy-saving window glasses. Ceramics International. **49**. 16314–16322. 10.1016/j.ceramint.2023.01.230

156. Meekan, M., Gleiss, A. 2023. Free-diving sharks. Science. **380**. 583–584. 10.1126/science.adg8452

157. Wang, S., Vaughan, J., Xia, F., Etschmann, B., Brugger, J., Brand, H., Peng,

H. 2023. Revealing the Effect of Anions on the Formation and Transformation of Zeolite LTA in Caustic solutions: An In Situ Synchrotron PXRD Study. Crystal Growth and Design. **23**. 3660–3670. 10.1021/acs.cgd.3c00106

158. Dielenberg, J., Bekessy, S., Cumming, G.S., Dean, A.J., Fitzsimons, J.A., Garnett, S., Goolmeer, T., Hughes, L., Kingsford, R.T., Legge, S., Lindenmayer, D.B., Lovelock, C.E., Lowry, R., Maron, M., Marsh, J., McDonald, J., Mitchell, N.J., Moggridge, B.J., Morgain, R., O'Connor, P.J., Pascoe, J., Pecl, G.T., Possingham, H.P., Ritchie, E.G., Smith, L.D.G., Spindler, R., Thompson, R.M., Trezise, J., Umbers, K., Woinarski, J., Wintle, B.A. 2023. Australia's biodiversity crisis and the need for the Biodiversity Council. Ecological Management and Restoration. **24**. 69–74. 10.1111/emr.12594

159. Hampton, J.O., Flesch, J.S., Wendt, A.S., Toop, S.D. 2023. Highlighting the risk of environmental lead contamination for deer management in Australia. Ecological Management and Restoration. **24**. 128–136. 10.1111/emr.12584

160. Greenwell, C.N., Dunlop, J.N. 2023. Drivers of colony failure in a vulnerable coastal seabird, the Australian Fairy Tern (*Sternula nereis nereis*). Pacific Conservation Biology. **29**. 490–502. 10.1071/PC23001

161. Shivaperumal, N., Hain-Saunders, N.M.R., Chang, B.J., Riley, T.V., Knight, D.R. 2023. Complete Genome Sequences of Evolutionary Clade C-III Strains of Clostridioides (Clostridium) difficile Isolated from the Environment in Western Australia. Microbiology Resource Announcements. **12**. 10.1128/mra.00239-23

162. Nicholls, C.R., Peters, K.J., Cagnazzi, D., Hanf, D., Parra, G.J. 2023. Incidence of shark-inflicted bite injuries on Australian snubfin (*Orcaella heinsohni*) and Australian humpback (*Sousa sahulensis*) dolphins in coastal waters off east Queensland, Australia. Ecology and Evolution. **13**. 10.1002/ece3.10026

163. Fong, C.S., Manavvi, S., Priya, R.S., Ramakreshnan, L., Sulaiman, N.M., Aghamohammadi, N. 2023. Traits of Adaptive Outdoor Thermal Comfort in a Tropical Urban Microclimate. Atmosphere. **14**. 10.3390/atmos14050852

164. Yingchanakiat, K., Limsivilai, O., Sunpongsri, S., Niyomtham, W., Lugsomya, K., Yurayart, C. 2023. Phenotypic and Genotypic Characterization and Antifungal Susceptibility of *Sporothrix schenckii sensu stricto* Isolated from a Feline Sporotrichosis Outbreak in Bangkok, Thailand. Journal of Fungi. **9**. 10.3390/jof9050590

165. Marsh, J.R., Milner, S.J., Shaw, M., Stempel, A.J., Harvey, M.S., Rix, M.G. 2023. A Case for Below-Ground Dispersal? Insights into the Biology, Ecology and Conservation of Blind Cave Spiders in the Genus Troglodiplura (Mygalomorphae: Anamidae). Insects. **14**. 10.3390/insects14050449

166. Alejandro, A.L., Leo, W.W.C., Bruce, M., Gimutao, K. 2023. Does antibiotic awareness campaigns exposure decrease intention to demand antibiotic treatment? Testing a structural model among parents in Western Australia. PLoS ONE. **18**. 10.1371/journal.pone.0285396

167. Ennaceri, H., Ishika, T., Mkpuma, V.O., Moheimani, N.R. 2023. Microalgal biofilms: Towards a sustainable biomass production. Algal Research. **72**. 10.1016/j.algal.2023.103124

168. Yehia, N., Salem, H.M., Mahmmod, Y., Said, D., Samir, M., Mawgod, S.A., Sorour, H.K., AbdelRahman, M.A.A., Selim, S., Saad, A.M., El-Saadony, M.T., El-Meihy, R.M., Abd El-Hack, M.E., El-Tarabily, K.A., Zanaty, A.M. 2023. Common viral and bacterial avian respiratory infections: an updated review. Poultry Science. **102**. 10.1016/j.psj.2023.102553

169. Larkins, A., Keatley, S., Insisiengmay, B., Phetsouvanh, R., Bruce, M., Ash, A. 2023. The challenges of detecting Taenia solium and neurocysticercosis in low and middle-income countries: A scoping review of Lao People's Democratic Republic. Tropical Medicine and International Health. **28**. 344–356. 10.1111/tmi.13870

170. Whitfield, A.K., Potter, I.C., Neira, F.J., Houde, E.D. 2023. Modes of ingress by larvae and juveniles of marine fishes into estuaries: From microtidal to macrotidal systems. Fish and Fisheries. **24**. 488–503. 10.1111/faf.12745

171. Huang, K.-X., Vadiveloo, A., Zhou, J.-L., Yang, L., Chen, D.-Z., Gao, F. 2023. Integrated culture and harvest systems for improved microalgal biomass production and wastewater treatment. Bioresource Technology. **376**. 10.1016/j.biortech.2023.128941

172. Knight, D.R., Imwattana, K., Collins, D.A., Lim, S.-C., Hong, S., Putsathit, P., Riley, T.V. 2023. Genomic epidemiology and transmission dynamics of recurrent *Clostridioides difficile* infection in Western Australia. European Journal of Clinical Microbiology and Infectious Diseases. **42**. 607–619. 10.1007/s10096-023-04569-x

173. Gao, C., Cai, X., Ma, L., Xue, T., Li, C. 2023. Molecular characterization, expression analysis and function identification of TNFα in black rockfish (*Sebastes schlegelii*). International Journal of Biological Macromolecules. **236**. 10.1016/j.ijbiomac.2023.123912

174. Mukerji, S., Sahibzada, S., Abraham, R., Stegger, M., Jordan, D., Hampson, D.J., O'Dea, M., Lee, T., Abraham, S. 2023. Proximity to human settlement is directly related to carriage of critically important antimicrobial-resistant *Escherichia coli* and *Klebsiella pneumoniae* in Silver Gulls. Veterinary Microbiology. **280**. 10.1016/j.vetmic.2023.109702

175. Guinat, C., Tang, H., Yang, Q., Agüí, C.V., Vaughan, T.G., Scire, J., Yu, H., Wang, W., Chen, Z., Ducatez, M.F., Stadler, T. 2023. Bayesian phylodynamics reveals the transmission dynamics of avian influenza A(H7N9) virus at the human–live bird market interface in China. Proceedings of the National Academy of Sciences of the United States of America. **120**. 10.1073/pnas.2215610120

176. Kundo, H.K., Brueckner, M., Spencer, R., Davis, J.K. 2023. The politics of linking disaster risk reduction and climate adaptation with social protection in Bangladesh. International Journal of Disaster Risk Reduction. **89**. 10.1016/j.ijdrr.2023.103640

177. Hampton, J.O., Cobb, M.L., Toop, S.D., Flesch, J.S., Hyndman, T.H. 2023. Elevated lead exposure in Australian hunting dogs during a deer hunting season. Environmental Pollution. **323**. 10.1016/j.envpol.2023.121317

178. Gao, C., Cai, X., Lymbery, A.J., Ma, L., Cao, M., Li, C. 2023. Integrative transcriptomic profiling reveals the key pathways in the regulation mechanism of fish intestine-spleen immunity during the bacterial challenges. Aquaculture. **568**. 10.1016/j.aquaculture.2023.739320

179. Nzabanita, D., Hampton, J.O., Toop, S.D., Bengsen, A.J., Specht, A.J., Flesch, J.S., Hufschmid, J., Nugegoda, D. 2023. Expanding the use of portable XRF to monitor lead exposure in an Australian duck species two decades after a ban on lead shot. Science of the Total Environment. **869**. 10.1016/j.scitotenv.2023.161803

180. Larkins, A., Bruce, M., Ash, A. 2023. A Spatial Autocorrelation Method for Taenia solium Risk Mapping: The Case of Lao PDR. Tropical Medicine and Infectious Disease. **8**. 10.3390/tropicalmed8040221

181. Png, G.K., De Long, J.R., Fry, E.L., Heinen, R., Heinze, J., Morriën, E., Sapsford, S.J., Teste, F.P. 2023. Plant-soil feedback: the next generation. Plant and Soil. **485**. 1–5. 10.1007/s11104-023-06000-y

182. Dang, Q.N., Burgess, T.I., McComb, J., Pham, T.Q., Le, B.V., Tran, T.V., Nguyen, L.T., Hardy, G.E.S.J. 2023. Fungal and bacterial endophytes antagonistic to Phytophthora species causing root rot in *Cinnamomum cassia*. Mycological Progress. **22**. 10.1007/s11557-023-01878-5

183. Udyawer, V., Huveneers, C., Jaine, F., Babcock, R.C., Brodie, S., Buscot, M.-J., Campbell, H.A., Harcourt, R.G., Hoenner, X., Lédée, E.J.I., Simpfendorfer, C.A., Taylor, M.D., Armstrong, A., Barnett, A., Brown, C., Bruce, B., Butcher, P.A., Cadiou, G., Couturier, L.I.E., Currey-Randall, L., Drew, M., Dudgeon, C.L., Dwyer, R.G., Espinoza, M., Ferreira, L.C., Fowler, A., Harasti, D., Harborne, A.R., Knott, N.A., Lee, K., Lloyd, M.,

Lowry, M., Marzullo, T., Matley, J., McAllister, J.D., McAuley, R., McGregor, F., Meekan, M., Mills, K., Norman, B.M., Oh, B., Payne, N.L., Peddemors, V., Piddocke, T., Pillans, R.D., Reina, R.D., Rogers, P., Semmens, J.M., Smoothey, A., Speed, C.W., Van Der Meulen, D., Heupel, M.R. 2023. Scaling of Activity Space in Marine Organisms across Latitudinal Gradients. American Naturalist. **201**. 586–602. 10.1086/723405

184. Gao, C., Cai, X., Ma, L., Sun, P., Li, C. 2023. Systematic analysis of circRNA-related ceRNA networks of black rockfish (*Sebastes schlegelii*) in response to *Aeromonas salmonicides* infection. Fish and Shellfish Immunology. **135**. 10.1016/j.fsi.2023.108648

185. Shayesteh, H., Raeisossadati, M., Vadiveloo, A., Bahri, P.A., Moheimani, N.R. 2023. Culture depth effect on *Scenedesmus* sp. growth, photo-physiology and nutrient removal rate in anaerobically digested abattoir effluent. Journal of Applied Phycology. **35**. 567–580. 10.1007/s10811-023-02915-2

186. Hampton, J.O., Pain, D.J., Buenz, E., Firestone, S.M., Arnemo, J.M. 2023. Lead contamination in Australian game meat. Environmental Science and Pollution Research. **30**. 50713–50722. 10.1007/s11356-023-25949-y

187. Lear, K.O., Ebner, B.C., Fazeldean, T., Whitty, J., Morgan, D.L. 2023. Inter-decadal variation in diadromous and potamodromous fish assemblages in a near pristine tropical dryland river. Ecology of Freshwater Fish. **32**. 444–463. 10.1111/eff.12698

188. De Long, J.R., Heinen, R., Heinze, J., Morriën, E., Png, G.K., Sapsford, S.J., Teste, F.P., Fry, E.L. 2023. Plant-soil feedback: incorporating untested influential drivers and reconciling terminology. Plant and Soil. **485**. 7–43. 10.1007/s11104-023-05908-9

189. Elrys, A.S., Zhu, Q., Jiang, C., Liu, J., Sobhy, H.H.H., Shen, Q., Uwiragiye, Y., Wu, Y., El-Tarabily, K.A., Meng, L., Müller, C., Zhang, J. 2023. Global soil nitrogen cycle pattern and nitrogen enrichment effects: Tropical versus subtropical forests. Global Change Biology. **29**. 1905–1921. 10.1111/gcb.16603

190. Martínez-Loustalot, P., Audley, K., Cheeseman, T., De Weerdt, J., Frisch-Jordán, A., Guzón, O., Olio, M., Ortega-Ortiz, C.D., Ransome, N., Villegas-Zurita, F., Urbán R., J. 2023. Towards the definition of the humpback whale population units along the Mexican and Central American coasts in the Pacific Ocean. Marine Mammal Science. **39**. 422–437. 10.1111/mms.12980

191. Abad, Z.G., Burgess, T.I., Redford, A.J., Bienapfl, J.C., Srivastava, S., Mathew, R., Jennings, K. 2023. IDphy: An International Online Resource for Molecular and Morphological Identification of Phytophthora. Plant Disease. **107**. 987–998. 10.1094/PDIS-02-22-0448-FE

192. Cao, Y., Xiong, Z., Liang, Q., Jiang, W.-J., Xia, F., Du, X., Zu, L., Mudie, S., Franks, G.V., Li, D. 2023. Subnanometric Stacking of Two-Dimensional Nanomaterials: Insights from the Nanotexture Evolution of Dense Reduced Graphene Oxide Membranes. ACS Nano. **17**. 5072–5082. 10.1021/acsnano.3c00155

193. Cottingham, A., Bossie, A., Valesini, F., Maus, C., Tweedley, J.R. 2023. Habitat compression of an estuarine mytilid following half a century of streamflow decline. Estuarine, Coastal and Shelf Science. **282**. 10.1016/j.ecss.2023.108253

194. Riddell, D.L., Hyndman, T.H., Bowden, R.S., Musk, G.C. 2023. Use of a Low-calorie Flavored Gel to Facilitate Oral Self-administration of Analgesics in Mice. Journal of the American Association for Laboratory Animal Science. **62**. 163–169. 10.30802/AALAS-JAALAS-22-000039

195. Brandano, A., Serra, S., Hardy, G.E.S.J., Scanu, B. 2023. Potassium Phosphonate Induces Resistance in Sweet Chestnut against Ink Disease Caused by Phytophthora Species. Pathogens. **12**. 10.3390/pathogens12030365

196. Laird, T., Jordan, D., Pluske, J., Mansfield, J., Wilkinson, S., Cadogan, D., Abraham, S., O'Dea, M. 2023. Development of an In Vivo Extended-Spectrum Cephalosporin-Resistant *Escherichia coli* Model in Post-Weaned Pigs and Its Use in Assessment of Dietary Interventions. Animals. **13**. 10.3390/ani13060959

197. Alattas, H., Ardley, J., O'Dea, M., Swift, R., Jackson, S., Biddulph, B., Bekuma, A., Zandberg, J., Abraham, S., Tiwari, R., Reeve, W. 2023. Complete Genome Sequence of the Ice-Nucleation-Active *Pseudomonas syringae* Strain MUP17, Isolated from the Frost-Damaged Barley Cultivar *Hordeum vulgare* cv. La Trobe. Microbiology Resource Announcements. **12**. 10.1128/mra.01215-22

198. Alattas, H., Ardley, J., Swift, R., Jackson, S., Biddulph, B., Bekuma, A., Zandberg, J., Abraham, S., Tiwari, R., Reeve, W. 2023. Complete Genome Sequence of the Ice-Nucleation-Active *Pseudomonas syringae* Strain MUP20, Isolated from Frost-Damaged Wheat (*Triticum aestivum cv. Scepter*) in Western Australia. Microbiology Resource Announcements. **12**. 10.1128/mra.01275-22

199. Alattas, H., Ardley, J., Swift, R., Kant, P., Jackson, S., Biddulph, B., Bekuma, A., Zandberg, J., Abraham, S., Tiwari, R., Reeve, W. 2023. Complete Genome Sequence of the Ice-Nucleation-Active *Pseudomonas syringae pv. pisi* Isolate MUP32, Isolated from Frost-Damaged Pea (*Pisum sativum* subsp. arvense cv. Dundale) in New South Wales. Microbiology Resource Announcements. **12**. 10.1128/mra.01276-22

200. Ignatieva, M., Dushkova, D., Martin, D.J., Mofrad, F., Stewart, K., Hughes, M. 2023. From One to Many Natures: Integrating Divergent Urban Nature Visions to Support Nature-Based Solutions in Australia and Europe. Sustainability (Switzerland). **15**. 10.3390/su15054640

201. Gao, F., Zhou, J.-L., Zhang, Y.-R., Vadiveloo, A., Chen, Q.-G., Liu, J.-Z., Yang, Q., Ge, Y.-M. 2023. Efficient coupling of sulfadiazine removal with microalgae lipid production in a membrane photobioreactor. Chemosphere. **316**. 10.1016/j.chemosphere.2023.137880

202. Ain Farooq, Q.U., McComb, J., St. J. Hardy, G.E., Burgess, T. 2023. Correction to: Soil amendments and suppression of Phytophthora root rot in avocado (*Prsea americana*) (Australasian Plant Pathology, (2023), 52, 1, (1-11), 10.1007/s13313-022-00889-2). Australasian Plant Pathology. **52**. 163. 10.1007/s13313-023-00904-0

203. Dawson, S.J., Kreplins, T.L., Kennedy, M.S., Renwick, J., Cowan, M.A., Fleming, P.A. 2023. Land use and dingo baiting are correlated with the density of kangaroos in rangeland systems. Integrative Zoology. **18**. 299–315. 10.1111/1749-4877.12683

204. Framenau, V.W., de Castanheira, P.S., Yoo, J.-S. 2023. The artoriine wolf spiders of Australia: the new genus Kochosa and a key to genera (Araneae: Lycosidae). Zootaxa. **5239**. 301–357. 10.11646/zootaxa.5239.3.1

205. Nazloo, E.K., Moheimani, N.R., Ennaceri, H. 2023. Graphene-based catalysts for biodiesel production: Characteristics and performance. Science of the Total Environment. **859**. 10.1016/j.scitotenv.2022.160000

206. Woolley, L., Chaklader, M.R., Pilmer, L., Stephens, F., Wingate, C., Salini, M., Partridge, G. 2023. Gas to protein: Microbial single cell protein is an alternative to fishmeal in aquaculture. Science of the Total Environment. **859**. 10.1016/j.scitotenv.2022.160141

207. Hassan, N., Minakshi, M., Ruprecht, J., Liew, W.Y.H., Jiang, Z.-T. 2023. A Binary Salt Mixture LiCl–LiOH for Thermal Energy Storage. Materials. **16**. 10.3390/ma16041434

208. Listyarini, K., Sumantri, C., Rahayu, S., Islam, M.A., Akter, S.H., Uddin, M.J., Gunawan, A. 2023. Hepatic Transcriptome Analysis Reveals Genes, Polymorphisms, and Molecules Related to Lamb Tenderness. Animals. **13**. 10.3390/ani13040674

209. Khan, H.A., Oskam, C., Kumarasinghe, P. 2023. Dermatological aspects of ticks in Australia: An update. Australasian Journal of Dermatology. **64**. 11–17. 10.1111/ajd.13961

210. Zahedi, A., Liu, D., Yang, R., Austen, J.M., Potter, A., Ryan, U. 2023. Next-generation sequencing amplicon analysis of the genetic diversity of Eimeria populations in livestock

and wildlife samples from Australia. Parasitology Research. **122**. 615–624. 10.1007/s00436-022-07764-5

211. Ali, M.I., Wahab, W.M.A.E., Hassan, A., Ryan, U., Xiao, L., Arafa, W.M., Hamdy, D.A. 2023. Detection of unusual *Cryptosporidium parvum* subtype in patients with gastrointestinal cancer in Egypt. Parasitology Research. **122**. 597–606. 10.1007/s00436-022-07761-8

212. Yadollahi, F., Soltani, M., Modarresi, M.H., Basti, A.A. 2023. Efficacy of vitamin E with or without probiotic, astaxanthin or rosemary extract on microbiological and chemical characteristics of fresh and frozen fillet of rainbow trout (*Oncorhynchus mykiss*). Aquaculture Reports. **28**. 10.1016/j.aqrep.2022.101426

213. Farooq, Q.U.A., McComb, J., Hardy, G.E.S.J., Burgess, T. 2023. Soil amendments and suppression of Phytophthora root rot in avocado (*Persea americana*). Australasian Plant Pathology. **52**. 1–11. 10.1007/s13313-022-00889-2

214. Van Yken, J., Cheng, K.Y., Boxall, N.J., Nikoloski, A.N., Moheimani, N., Valix, M., Kaksonen, A.H. 2023. An integrated biohydrometallurgical approach for the extraction of base metals from printed circuit boards. Hydrometallurgy. **216**. 10.1016/j.hydromet.2022.105998

215. Huang, Z., Tu, Y., Fang, H., Wang, H., Zhang, L., Shi, K., He, S. 2023. Off-policy reinforcement learning for tracking control of discrete-time Markov jump linear systems with completely unknown dynamics. Journal of the Franklin Institute. **360**. 2361–2378. 10.1016/j.jfranklin.2022.10.052

216. Albastaki, A., Olsen, M., Almulla, H., Nassar, R., Boucherabine, S., Mohamed, L., Almheiri, R., Kachigunda, B., McKirdy, S., Alghafri, R., Tajouri, L., Senok, A. 2023. Mobile phones as fomites for pathogenic microbes: A cross-sectional survey of perceptions and sanitization habits of health care workers in Dubai, United Arab Emirates. Infection, Disease and Health. **28**. 19–26. 10.1016/j.idh.2022.07.001

217. Kobryn, H.T., Swinhoe, E.J., Bateman, P.W., Adams, P.J., Shephard, J.M., Fleming, P.A. 2023. Foxes at your front door? Habitat selection and home range estimation of suburban red foxes (*Vulpes vulpes*). Urban Ecosystems. **26**. 1–17. 10.1007/s11252-022-01252-5

218. Laga, H., Padilla, M., Jermyn, I.H., Kurtek, S., Bennamoun, M., Srivastava, A. 2023. 4D Atlas: Statistical Analysis of the Spatiotemporal Variability in Longitudinal 3D Shape Data. IEEE Transactions on Pattern Analysis and Machine Intelligence. **45**. 1335–1352. 10.1109/TPAMI.2022.3163720

219. Sepp, S.-K., Vasar, M., Davison, J., Oja, J., Anslan, S., Al-Quraishy, S., Bahram, M., Bueno, C.G., Cantero, J.J., Fabiano, E.C., Decocq, G., Drenkhan, R., Fraser, L., Garibay Oriel, R., Hiiesalu, I., Koorem, K., Kõljalg, U., Moora, M., Mucina, L., Öpik, M., Põlme, S., Pärtel, M., Phosri, C., Semchenko, M., Vahter, T., Vasco Palacios, A.M., Tedersoo, L., Zobel, M. 2023. Global diversity and distribution of nitrogen-fixing bacteria in the soil. Frontiers in Plant Science. **14**. 10.3389/fpls.2023.1100235

220. Abdelkhalik, A., Abd El-Mageed, T.A., Mohamed, I.A.A., Semida, W.M., Al-Elwany, O.A.A.I., Ibrahim, I.M., Hemida, K.A., El-Saadony, M.T., AbuQamar, S.F., El-Tarabily, K.A., Gyushi, M.A.H. 2023. Soil application of effective microorganisms and nitrogen alleviates salt stress in hot pepper (Capsicum annum L.) plants. Frontiers in Plant Science. **13**. 10.3389/fpls.2022.1079260

221. Jabeen, S., Gao, X., Hayashi, J.-I., Altarawneh, M., Dlugogorski, B.Z. 2023. Effects of product recovery methods on the yields and properties of hydrochars from hydrothermal carbonization of algal biomass. Fuel. **332**. 10.1016/j.fuel.2022.126029

222. Gohar, I.M.A., Alyamani, A., Shafi, M.E., Mohamed, E.A.E., Ghareeb, R.Y., Desoky, E.M., Hasan, M.E., Zaitoun, A.F., Abdelsalam, N.R., El-Tarabily, K.A., Elnahal, A.S.M. 2023. A quantitative and qualitative assessment of sugar beet genotype resistance to root-knot nematode, *Meloidogyne incognita*. Frontiers in Plant Science. **13**. 10.3389/fpls.2022.966377

223. El-Saadony, M.T., Yang, T., Korma, S.A., Sitohy, M., Abd El-Mageed, T.A., Selim, S., Al Jaouni, S.K., Salem, H.M., Mahmmod, Y., Soliman, S.M., Mo'men, S.A.A., Mosa, W.F.A., El-Wafai, N.A., Abou-Aly, H.E., Sitohy, B., Abd El-Hack, M.E., El-Tarabily, K.A., Saad, A.M. 2023. Impacts of turmeric and its principal bioactive curcumin on human health: Pharmaceutical, medicinal, and food applications: A comprehensive review. Frontiers in Nutrition. **9**. 10.3389/fnut.2022.1040259

224. Cook, D.C., Gardiner, P.S., Broughton, S. 2023. Cost effectiveness of spread mitigation strategies for polyphagous shot hole borer *Euwallacea fornicatus* (Coleoptera: Curculionidae: Scolytinae). Frontiers in Insect Science. **3**. 10.3389/finsc.2023.1279547

225. Ferreira, L.C., Thums, M., Whiting, S., Meekan, M., Andrews-Goff, V., Attard, C.R.M., Bilgmann, K., Davenport, A., Double, M., Falchi, F., Guinea, M., Hickey, S.M., Jenner, C., Jenner, M., Loewenthal, G., McFarlane, G., Möller, L.M., Norman, B., Peel, L., Pendoley, K., Radford, B., Reynolds, S., Rossendell, J., Tucker, A., Waayers, D., Whittock, P., Wilson, P., Fossette, S. 2023. Exposure of marine megafauna to cumulative anthropogenic threats in north-west Australia. Frontiers in Ecology and Evolution. **11**. 10.3389/fevo.2023.1229803

226. Gille, C.E., Finnegan, P.M., Hayes, P.E., Ranathunge, K., Burgess, T.I., de Tombeur, F., Migliorini, D., Dallongeville, P., Glauser, G., Lambers, H. 2023. Facilitative and competitive interactions between mycorrhizal and nonmycorrhizal plants in an extremely phosphorus-impoverished environment: role of ectomycorrhizal fungi and native oomycete pathogens in shaping species coexistence. New Phytologist. 10.1111/nph.19489

227. Hang Kwok, S.W., Sipka, C., Matthews, A., Lara, C.P., Wang, G., Choi, K.-S. 2023. Predicting Dementia Risk for Elderly Community Dwellers in Primary Care Services Using Subgroup-specific Prediction Models. Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBS. 10.1109/EMBC40787.2023.10340793

228. Barbosa, A.D., Egan, S., Feng, Y., Xiao, L., Ryan, U. 2023. Cryptosporidium and Giardia in cats and dogs: What is the real zoonotic risk?. Current Research in Parasitology and Vector-Borne Diseases. **4**. 10.1016/j.crpvbd.2023.100158

229. Barbosa, A.D., Egan, S., Feng, Y., Xiao, L., Ryan, U. 2023. How significant are bats as potential carriers of zoonotic Cryptosporidium and Giardia?. Current Research in Parasitology and Vector-Borne Diseases. **4**. 10.1016/j.crpvbd.2023.100155

230. Alejandro, A.L., Bruce, M., Leo, W.W.C. 2023. Changes in parental anxiety and intention to demand antibiotics: A longitudinal study among parents during the COVID-19 pandemic. Journal of Advanced Nursing. 10.1111/jan.16008

231. Abad, Z.G., Burgess, T.I., Bourret, T., Bensch, K., Cacciola, S.O., Scanu, B., Mathew, R., Kasiborski, B., Srivastava, S., Kageyama, K., Bienapfl, J.C., Verkleij, G., Broders, K., Schena, L., Redford, A.J. 2023. Phytophthora: taxonomic and phylogenetic revision of the genus. Studies in Mycology. **106**. 259–348. 10.3114/sim.2022.106.05

232. Phiri, T.C., Singh, P., Hara, Y.S., Siame, J., Nikoloski, A.N. 2023. Carbothermic Reduction of Copper Slag in the Presence of Borax. Mineral Processing and Extractive Metallurgy Review. 10.1080/08827508.2023.2282702

233. Stanczak, N., Harvey, M.S., Harms, D., Hammel, J.U., Kotthoff, U., Loria, S.F. 2023. A new pseudoscorpion genus (Garypinoidea: Garypinidae) from the Eocene supports extinction and range contraction in the European paleobiota. PeerJ. **11**. 10.7717/peerj.15989

234. Hodgson, A.J., Kelly, N., Peel, D. 2023. Drone images afford more detections of marine wildlife than real-time observers during simultaneous large-scale surveys. PeerJ. **11**. 10.7717/peerj.16186

235. Sepulveda, P., Stegger, M., Monti, G., Canales, N., Mella, A., Butaye, P., Müller, A. 2023. Draft genomes of 16 *Bartonella henselae* strains from cats in

Valdivia, Chile. Microbiology Resource Announcements. **12**. 10.1128/MRA.00648-23

236. de Senerpont Domis, L.N., Robson, B.J. 2023. Structure and Productivity of Aquatic Ecosystems. Wetzel's Limnology: Lake and River Ecosystems, Fourth Edition. 209–228. 10.1016/B978-0-12-822701-5.00009-4

237. Laenoi, W., Uddin, M.J., Gunawan, A., Kayan, A. 2023. Polymorphism and promoter methylation-regulated mRNA expression of IFI6 gene affect meat quality in pigs. Italian Journal of Animal Science. **22**. 1294–1304. 10.1080/1828051X.2023.2277886

238. Hampton, J.O., Hemsworth, L.M., Hemsworth, P.H., Hyndman, T.H., Sandøe, P. 2023. Rethinking the utility of the Five Domains model. Animal Welfare. **32**. 10.1017/awf.2023.84

239. Rossi, G.D.F., Castanheira, P.D.S., Baptista, R.L.C., Framenau, V.W. 2023. Venomius, a new monotypic genus of Australian orb-weaving spiders (Araneae, Araneidae). Evolutionary Systematics. **7**. 285–292. 10.3897/evolsyst.7.110022

240. Tilley, A., McHenry, M.P., McHenry, J.A., Solah, V., Bayliss, K. 2023. Enzymatic browning: The role of substrates in polyphenol oxidase mediated browning: Mechanisms of enzymatic browning. Current Research in Food Science. **7**. 10.1016/j.crfs.2023.100623

241. Li, Y., Mayberry, D., Jemberu, W., Schrobback, P., Herrero, M., Chaters, G., Knight-Jones, T., Rushton, J. 2023. Characterizing Ethiopian cattle production systems for disease burden analysis. Frontiers in Veterinary Science. **10**. 10.3389/fvets.2023.1233474

242. Subasinghe, R., Lymbery, A. 2023. Foreword. Immunomodulators in Aquaculture and Fish Health. vii.

243. Soltani, M., Ghosh, K., Dutta, D., Ringø, E. 2023. Prebiotics and Probiotics as Effective Immunomodulators in Aquaculture. Immunomodulators in Aquaculture and Fish Health. 136–168. 10.1201/9781003361183-13

244. Ransome, N., Frisch-Jordán, A., Titova, O.V., Filatova, O.A., Hill, M.C., Cheeseman, T., Bradford, A.L., Urbán, R.J., Martínez-Loustalot, P., Calambokidis, J., Medrano-González, L., Burdin, A.M., Fedutin, I.D., Loneragan, N.R., Smith, J.N. 2023. A trans-Pacific movement reveals regular migrations of humpback whales *Megaptera novaeangliae* between Russia and Mexico. Endangered Species Research. **52**. 65–79. 10.3354/esr01263

245. Amalia, D., Singh, P., Zhang, W., Nikoloski, A.N. 2023. Liberation of Valuable Materials from Spent Cylindrical Lithium-Ion Batteries via Semi-Autogenous Attrition. Mineral Processing and Extractive Metallurgy Review. 10.1080/08827508.2023.2259576

246. Schwenkenbecher, A., Hewitt, C.L., Heesen, R., Campbell, M.L., Fritsch, O., Knight, A.T., Nash, E. 2023. Epistemology of ignorance: the contribution of philosophy to the science-policy interface of marine biosecurity. Frontiers in Marine Science. **10**. 10.3389/fmars.2023.1178949

247. Lymbery, S.J., Webber, B.L., Didham, R.K. 2023. Complex battlefields favor strong soldiers over large armies in social animal warfare. Proceedings of the National Academy of Sciences of the United States of America. **120**. 10.1073/pnas.2217973120

248. Boonlaos, A., Uddin, M.J., Temyord, K., Jattawa, D., Kayan, A. 2023. Muscle fiber characteristics and expression level of Troponin T3, Toll-like receptor 2, and Toll-like receptor 4 genes in chicken meat with white striping. Veterinary World. **16**. 1415–1420. 10.14202/vetworld.2023.1415-1420

249. Povh, L.F., Willers, N., Shephard, J.M., Fleming, P.A. 2023. A conservation-significant threatened mammal uses fire exclusions and shifts ranges in the presence of prescribed burning. International Journal of Wildland Fire. 10.1071/WF22196

250. Abd El-Hack, M.E., Abdel-Moneim, A.-M.E., Shehata, A.M., Mesalam, N.M., Salem, H.M., El-Saadony, M.T., El-Tarabily, K.A. 2023. Microalgae applications in poultry feed. Handbook of Food and Feed from Microalgae: Production, Application, Regulation, and Sustainability. 435–450. 10.1016/B978-0-323-99196-4.00008-5

251. King, J., Whiting, S.D., Adams, P.J., Bateman, P.W., Fleming, P.A. 2023. Camera traps show foxes are the major predator of flatback turtle nests at the most important mainland western Australian rookery. Wildlife Research. 10.1071/WR22109

252. Gaudette, S., Smart, L., Woodward, A.P., Sharp, C.R., Hughes, D., Bailey, S.R., Dandrieux, J.R.S., Santos, L., Boller, M. 2023. Biomarkers of endothelial activation and inflammation in dogs with organ dysfunction secondary to sepsis. Frontiers in Veterinary Science. **10**. 10.3389/fvets.2023.1127099

253. Humphries, A., Seow, B., Danee, S., Ness, B., Warburton, N.M. 2023. Comparative tongue anatomy of the rakali (*Hydromys chrysogaster*) and greater stick-nest rat (*Leporillus conditor*) (Rodentia; Muridae). Australian Mammalogy. **45**. 210–219. 10.1071/AM22029

254. Johannesen, T.B., Munkstrup, C., Edslev, S.M., Baig, S., Nielsen, S., Funk, T., Kristensen, D.K., Jacobsen, L.H., Ravn, S.F., Bindslev, N., Gubbels, S., Voldstedlund, M., Jokelainen, P., Hallstrøm, S., Rasmussen, A., Kristinsson, K.G., Fuglsang-Damgaard, D., Dessau, R.B., Olsén, A.B., Jensen, C.S., Skovby, A., Ellermann-Eriksen, S., Jensen, T.G., Dzajic, E., Østergaard, C., Andersen, S.L., Hoffmann, S., Andersen, P.H., Stegger, M. 2023. Increase in invasive group A streptococcal infections and emergence of novel, rapidly expanding sub-lineage of the virulent Streptococcus pyogenes M1 clone, Denmark, 2023. Eurosurveillance. **28**. 10.2807/1560-7917.ES.2023.28.26.2300291

255. Castanheira, P.D.S., Framenau, V.W. 2023. Kangaraneus, a new genus of orb-weaving spider from Australia (Araneae, Araneidae). Zoosystematics and Evolution. **99**. 307–323. 10.3897/ZSE.99.101417

256. Prideaux, G.J., Warburton, N.M. 2023. A review of the late Cenozoic genus Bohra (Diprotodontia: Macropodidae) and the evolution of tree-kangaroos. Zootaxa. **5299**. 1–95. 10.11646/zootaxa.5299.1.1

257. Rodgers, E.M., Gomez Isaza, D.F. 2023. The mechanistic basis and adaptive significance of cross-tolerance: a 'pre-adaptation' to a changing world?. Journal of Experimental Biology. **226**. 10.1242/jeb.245644

258. McKellar, R.A., Kreplins, T.L., Fleming, P.A. 2023. Chicken's best friend- Livestock guardian dog bonding with free-ranging chickens. Translational Animal Science. **7**. 10.1093/tas/txad014

259. Vasar, M., Davison, J., Moora, M., Sepp, S.-K., Anslan, S., Al-Quraishy, S., Bahram, M., Bueno, C.G., Cantero, J.J., Fabiano, E.C., Decocq, G., Drenkhan, R., Fraser, L., Oja, J., Garibay-Orijel, R., Hiiesalu, I., Koorem, K., Mucina, L., Öpik, M., Põlme, S., Pärtel, M., Phosri, C., Semchenko, M., Vahter, T., Doležal, J., Palacios, A.M.V., Tedersoo, L., Zobel, M. 2023. Metabarcoding of soil environmental DNA to estimate plant diversity globally. Frontiers in Plant Science. **14**. 10.3389/fpls.2023.1106617

260. Paba, R., Moniz, R., Magni, P.A. 2023. Optimizing underwater visual records for crime scene investigations in water with clear to reduced visibility. Forensic Science International: Synergy. **6**. 10.1016/j.fsisyn.2023.100329

261. De Prato, L., Ansari, O., Hardy, G.E.S.J., Howieson, J., O'Hara, G., Ruthrof, K.X. 2023. Physiological and cannabinoid responses of hemp (*Cannabis sativa*) to rock phosphate dust under tropical conditions. Functional Plant Biology. **50**. 378–389. 10.1071/FP22264

262. Hughes, M., Newsome, D., Culverhouse, E. 2023. Initiatives in Urban Greening: analysis of attitudes towards a voluntary-assisted urban residential road verge-planting program. Australian Geographer. **54**. 303–323. 10.1080/00049182.2023.2204573

263. McLeish, E., Sooda, A., Slater, N., Kachigunda, B., Beer, K., Paramalingam, S., Lamont, P.J., Chopra, A., Mastaglia, F.L., Needham, M., Coudert, J.D. 2023. Uncovering the significance of expanded CD8+ large granular lymphocytes in inclusion body myositis: Insights

into T cell phenotype and functional alterations, and disease severity. Frontiers in Immunology. **14**. 10.3389/fimmu.2023.1153789

264. Nikoloski, A.N., Kafashi, S., Kuhar, L., Bóna, A. 2023. Review of Fracturing Techniques (Microwaves, High-Voltage Pulses, and Cryogenic Fluids) for Application as Access Creation Method in Low-Permeability Hard Rocks for Potential in situ Metal Recovery. Mineral Processing and Extractive Metallurgy Review. 10.1080/08827508.2023.2196070

265. Kardena, I.M., Adi, A.A.A.M., Astawa, I.N.M., O'Dea, M., Robertson, I., Sahibzada, S., Bruce, M. 2023. Individual and Herd-Level Seroprevalence in Association with Potential Risk Factors of Japanese Encephalitis in Pigs Collected from Urban, Periurban, and Rural Areas of Bali, Indonesia. Veterinary Medicine International. **2023**. 10.1155/2023/9682657

266. Khdiar, M.Y., Mahmood, A.A., Shihab, L.A., St. Hardy, G.E.J. 2023. Isolation of Fungi from Petroleum-Contaminated Soil and Evaluation of Their Ability to Degrade Crude Oil. Iraqi Journal of Applied Physics. **19**. 13–20.

267. Ranasinghe, S., Armson, A., Lymbery, A.J., Zahedi, A., Ash, A. 2023. Medicinal plants as a source of antiparasitics: an overview of experimental studies. Pathogens and Global Health. **117.** 535–553. 10.1080/20477724.2023.2179454

268. Castanheira, P.D.S., Framenau, V.W. 2023. Abba, a new monotypic genus of orb-weaving spiders (Araneae, Araneidae) from Australia. Evolutionary Systematics. **7**. 73–81. 10.3897/evolsyst.7.98015

269. Truswell, A., Laird, T.J., Jones, S., O'Dea, M., Blinco, J., Abraham, R., Morison, D., Jordan, D., Hampson, D.J., Pang, S., Abraham, S. 2023. Antimicrobial Resistance of and Genomic Insights into *Pasteurella multocida* Strains Isolated from Australian Pigs. Microbiology Spectrum. **11**. 10.1128/spectrum.03784-22

270. Chisholm, J.M., Putsathit, P., Riley, T.V., Lim, S.-C. 2023. Spore-Forming Clostridium (Clostridioides) difficile in Wastewater Treatment Plants in Western Australia. Microbiology Spectrum. **11**. 10.1128/spectrum.03582-22

271. Ide, T. 2023. Climate change and Australia's national security. Australian Journal of International Affairs. **77**. 26–44. 10.1080/10357718.2023.2170978

272. Ranasinghe, S., Zahedi, A., Armson, A., Lymbery, A.J., Ash, A. 2023. In Vitro Susceptibility of *Cryptosporidium parvum* to Plant Antiparasitic Compounds. Pathogens. **12**. 10.3390/pathogens12010061

273. Cottingham, A., Bossie, A., Valesini, F., Tweedley, J.R., Galimany, E. 2023. Quantifying the Potential Water Filtration Capacity of a Constructed Shellfish Reef in a Temperate Hypereutrophic Estuary. Diversity. **15**. 10.3390/d15010113

274. Leong, C.-C., Oskam, C.L., Barbosa, A.D., Aleri, J.W. 2023. Distribution and Prevalence of *Theileria orientalis* Genotypes in Adult Lactating Dairy Cows in South West Region of Western Australia. Pathogens. **12**. 10.3390/pathogens12010125

275. Koli, P., Agarwal, M., Kessell, D., Mahawar, S., Du, X., Ren, Y., McKirdy, S.J. 2023. Metabolite Variation between Nematode and Bacterial Seed Galls in Comparison to Healthy Seeds of Ryegrass Using Direct Immersion Solid-Phase Microextraction (DI-SPME) Coupled with GC-MS. Molecules. **28**. 10.3390/molecules28020828

276. Ide, T., Johnson, M.F., Barnett, J., Krampe, F., Le Billon, P., Maertens, L., von Uexkull, N., Vélez-Torres, I. 2023. The Future of Environmental Peace and Conflict Research. Environmental Politics. **32**. 1077–1103. 10.1080/09644016.2022.2156174

277. Cai, X., Gao, C., Lymbery, A.J., Armstrong, N.J., Ma, L., Li, C. 2023. The immune-related circRNA-miRNA-mRNA ceRNA regulatory network in the liver of turbot (*Scophthalmus maximus L.*) induced by Vibrio anguillarum. Fish and Shellfish Immunology. **132**. 10.1016/j.fsi.2022.108506

278. Zhang, L., Du, Y., Xia, F., Gao, Y. 2023. Two birds with one stone: A novel thermochromic cellulose hydrogel as electrolyte for fabricating electric-/thermal-dual-responsive smart windows. Chemical Engineering Journal. **455**. 10.1016/j.cej.2022.140849

279. Hijjawi, N., Zahedi, A., Ryan, U. 2023. Point of care diagnostics for Cryptosporidium: New and emerging technologies. Current Opinion in Gastroenterology. **39**. 3–8. 10.1097/MOG.0000000000000895

280. Farghly, M.F.A., Elsagheer, M.A., Jghef, M.M., Taha, A.E., Abd El-Hack, M.E., Jaremko, M., El-Tarabily, K.A., Shabaan, M. 2023. Consequences of supplementing duck's diet with charcoal on carcass criteria, meat quality, nutritional composition, and bacterial load. Poultry Science. **102**. 10.1016/j.psj.2022.102275

281. Alejandro, A.L., Leo, W.W.C., Bruce, M. 2023. Opportunities to Improve Awareness of Antimicrobial Resistance Through Social Marketing: A Systematic Review of Interventions Targeting Parents and Children. Health Communication. **38**. 3376–3392. 10.1080/10410236.2022.2149132

282. Lee, W., Barbosa, A.D., Irwin, P.J., Currie, A., Kollmann, T.R., Beaman, M., Lee, A.H., Oskam, C.L. 2023. A systems biology approach to better understand human tick-borne diseases. Trends in Parasitology. **39**. 53–69. 10.1016/j.pt.2022.10.006

283. Alhadad, M.F., Oskierski, H.C., Chischi, J., Senanayake, G., Dlugogorski, B.Z. 2023. Lithium extraction from β-spodumene: A comparison of keatite and analcime processes. Hydrometallurgy. **215**. 10.1016/j.hydromet.2022.105985

284. Martínez-Azorín, M., Crespo, M.B., Alonso-Vargas, M.Á., Pinter, M., Crouch, N.R., Dold, A.P., Mucina, L., Pfosser, M., Wetschnig, W. 2023. Molecular phylogenetics of subfamily Urgineoideae (Hyacinthaceae): Toward a coherent generic circumscription informed by molecular, morphological, and distributional data. Journal of Systematics and Evolution. **61**. 42–63. 10.1111/jse.12905

285. Feng, C., Xie, W., Zhang, D., Gao, X., Qiao, Y., Xu, M. 2023. Pyrolysis of sewage sludge under conditions relevant to applied smouldering combustion. Proceedings of the Combustion Institute. **39**. 3447–3456. 10.1016/j.proci.2022.07.202

286. Yang, G., Liu, Y., Yang, C., Xia, F., Hu, D., Wu, Y., Shpotyuk, Y., Takats, V., He, X. 2023. Near-infrared-shielding energy-saving borosilicate glass-ceramic window materials based on doping of defective tantalum tungsten oxide (Ta0.3W0.7O2.85) nanocrystals. Ceramics International. **49**. 403–412. 10.1016/j.ceramint.2022.09.003

287. Davison, E., Hardy, G. 2023. Getting the best from pot trials with soil-borne Oomycetes. Plant and Soil. **482**. 1–5. 10.1007/s11104-022-05705-w

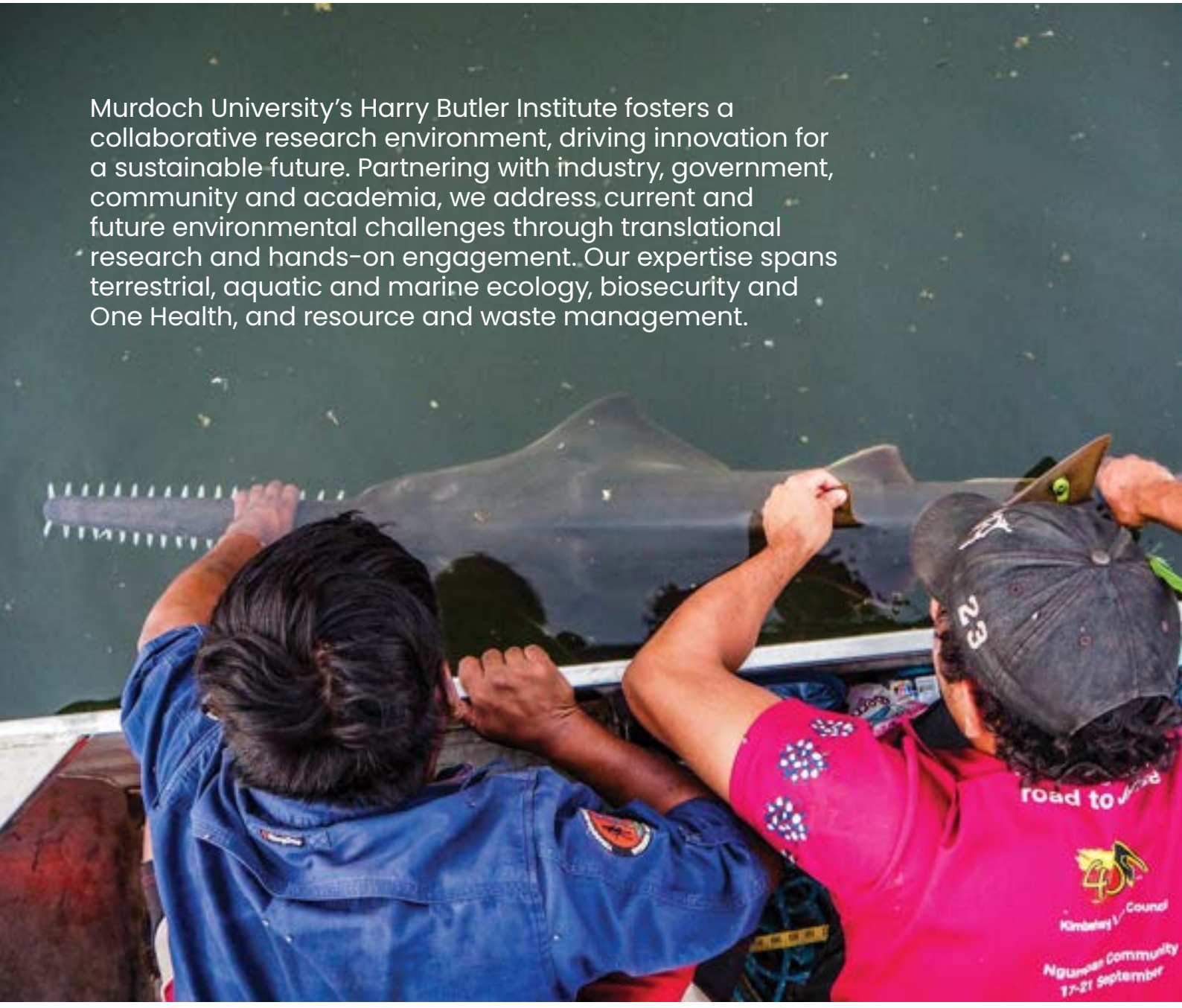
288. Khdiar, M.Y., Burgess, T.I., Barber, P.A., Hardy, G.E.S. 2023. Calcium chelate is as effective as phosphite in controlling Phytophthora root rot in glasshouse trials. Plant Pathology. **72**. 112–119. 10.1111/ppa.13642

289. Nicholson, K., van Aswegen, M., Loneragan, N., Bejder, L. 2023. Demographics and viability of an estuarine community of Indo-Pacific bottlenose dolphins. Marine Mammal Science. **39**. 59–76. 10.1111/mms.12961

290. Mahmudul Hasan, A.S.M., Sohel, F., Diepeveen, D., Laga, H., Jones, M.G.K. 2023. Weed recognition using deep learning techniques on class-imbalanced imagery. Crop and Pasture Science. **74**. 628–644. 10.1071/CP21626

291. El-Saadony, M.T., Zabermawi, N.M., Zabermawi, N.M., Burollus, M.A., Shafi, M.E., Alagawany, M., Yehia, N., Askar, A.M., Alsafy, S.A., Noreldin, A.E., Khafaga, A.F., Dhama, K., Elnesr, S.S., Elwan, H.A.M., Cerbo, A.D., El-Tarabily, K.A., Abd El-Hack, M.E. 2023. Nutritional Aspects and Health Benefits of Bioactive Plant Compounds against Infectious Diseases: A Review. Food Reviews International. **39**. 2138–2160. 10.1080/87559129.2021.1944183

Cowslip orchids.
Photo Kat Sambrooks, HBI



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Contact us

For more information:
e: hbi@murdoch.edu.au

murdoch.edu.au/research/hbi

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