

Plant Cuttings – February 2024

Scammed by 'fake news': animals led by the nose to leave plants alone – The University of Sydney, 2 February 2024

University of Sydney researchers have shown it is possible to shield plants from the hungry maws of herbivorous mammals by fooling them with the smell of a variety they typically avoid. Findings from the study in *Nature Ecology & Evolution* show tree seedlings planted next to a solution mimicking the smell of avoided plants were 20 times less likely to be eaten by animals.

“This is equivalent to the seedlings being surrounded by actual plants that are unpalatable to the herbivore; tricking the animals so they take much longer to find and feed on them,” said PhD student Patrick Finnerty, the study’s lead author from the School of Life and Environmental Sciences Behavioural Ecology and Conservation Lab.

<https://www.sydney.edu.au/news-opinion/news/2024/02/02/shield-plants-from-herbivores-using-olfactory-misinformation-wallabies-elephants.html>

Genomic tools show innovative Indigenous agriculture – NITV, 18 January 2024

Aboriginal peoples increased the spread of a tree species that held cultural and culinary significance as a response to colonisation, new research has found. Bunya pines have been important to Aboriginal peoples for thousands of years, with a bumper season signalling important gatherings on the east coast.

The giant nuts come from the cone of the bunya pine (*Araucaria bidwillii*), which dates back to the age of dinosaurs. Genomic tools are now helping to retrace past Indigenous dispersal of the ancient plant species and could help with conservation.

<https://www.sbs.com.au/nitv/article/genomic-tools-show-innovative-indigenous-agriculture/tqmlq28tm>

The Wollemi Pine was long thought extinct. Now experts are trying to regrow the tree in top secret locations – 7:30 (ABC), 6 February 2024

Hidden deep in the Blue Mountains among the steep cliffs and eucalyptus canopy lies a living fossil. The Wollemi Pine thrived 91 million years ago, when dinosaurs roamed the earth. It was thought to have gone extinct two million years ago, until 1994, when an off-duty park ranger stumbled across a grove of these prehistoric giants. There are less than 90 Wollemi Pines remaining in that single grove west of Sydney. No more have been found in the wild since.

“It’s been described as the botanical find of the century,” said Dave Crust, Blue Mountains branch director of the NSW National Parks & Wildlife Service (NPWS). The discovery was grand but for the past three decades, a dedicated team has been working to conserve these ancient trees. 7.30 was granted exclusive access to visit one of three translocation sites, where the NPWS has planted hundreds of Wollemi Pines to expand the tree’s footprint.

<https://www.abc.net.au/news/2024-02-06/the-wollemi-pine-dinosaur-tree-was-long-thought-extinct/103292808>

‘Fascinating and troubling’: Australians would rather save a single human life than prevent an entire species from becoming extinct – The Conversation, 13 February 2024

Australia is in the grip of an escalating extinction crisis. Since colonisation, 100 native plant and animal species have become formally listed as extinct due to human activities. The actual number is undoubtedly far higher.

Surveys suggest Australians want to prevent extinctions, regardless of the financial cost. But when it comes to the crunch, how much do we really care? In emergency situations, there is a long-held convention that official responders such as firefighters first attempt to save human life, then property and infrastructure, then natural assets.

Our research published today investigated whether this convention reflects community values. We found the people we surveyed valued one human life more than the extinction of an entire non-human species – a result both fascinating and troubling.

<https://theconversation.com/fascinating-and-troubling-australians-would-rather-save-a-single-human-life-than-prevent-an-entire-species-from-becoming-extinct-222161>

Moorabool Shire Council gives away native plants and trees to increase local biodiversity – ABC News, 11 February 2024

The Moorabool Shire Council is giving away about \$3,000 worth of trees to residents. The native plants have been specifically chosen for the region's climate and soil conditions, and are part of a program designed to bring more life back to the region.

"If you are interested in creating a habitat for birds, bees, or butterflies, or just enjoy the beauty of nature, native plants are the way to go," said Moorabool Shire Mayor Ally Munari.

Among the dozens of plants being given away are taller shrubs and trees, as well as native insect-attracting groundcover plants like the golden billy button, the iconic acacia hedge wattle, and the locally famous Baccus Marsh Wattle.

<https://www.abc.net.au/news/2024-02-11/moorabool-shire-council-native-trees-to-grow-biodiversity/103436438>

A botanical Pompeii: we found spectacular Australian plant fossils from 30 million years ago – The Conversation, 21 February 2024

The Australian continent is now geologically stable. But volcanic rocks, lava flows and a contemporary landscape dotted with extinct volcanoes show this wasn't always the case. Between 40 and 20 million years ago – during the Eocene to Miocene epochs – there was widespread volcano activity across eastern Australia. In places such as western Victoria and the Atherton Tablelands in Queensland, it was even more recent.

Erupting volcanoes can have devastating consequences for human settlements, as we know from Pompeii in Italy, which was buried by ash when Mount Vesuvius erupted in 79 CE. But ash falls and lava flows can also entomb entire forests, or at least many of the plants within them. Our studies of these rare and unique plant time capsules are revealing exquisitely preserved fossil floras and new insights into Australia's botanical history. This new work is published in the journal *Gondwana Research*.

<https://theconversation.com/a-botanical-pompeii-we-found-spectacular-australian-plant-fossils-from-30-million-years-ago-222512>

Council plan to save Perth trees to be rejected by WA minister despite community support – ABC Radio, 1 February 2024

A plan to protect Perth's trees will be shot down by the state's planning minister despite overwhelming community support, the ABC understands.

In what was described as a "watershed moment" in March last year, the Nedlands and South Perth councils voted to approve rules which would require landowners to apply to clear trees over 8 metres on private property. In Nedlands, the rules would have applied only to residential lots zoned R20 or below. Advocates at the time said the changes would represent a move towards statewide tree protections.

But the ABC understands Planning Minister John Carey, who has the final say, has decided to reject the City of Nedlands' scheme amendment. Perth has the least tree canopy of any Australian capital city, and the scheme amendment was intended to help change that.

<https://www.abc.net.au/news/2024-02-01/tree-canopy-scheme-perth-nedlands-to-be-rejected-by-john-carey/103411194>

Battle for the bush – SA Life, 23 February 2024

Prolific plant author Neville Bonney might be aged in his 80s, but his passion for educating people about the importance of seeds and native plants shows no signs of slowing down.

Much has changed across the South Australian landscape since colonisation. Land clearing and urban sprawl, while the introduction of exotic weeds and farm animals have contributed to widespread native plant and vital habitat loss.

Thankfully, organisations such as Greening Australia and Trees for Life, along with a host of other regional volunteer collectives are assisting to help halt and, where possible, reverse the impact and degradation on bushland and local ecosystems. Among these groups are individuals who have become "agents for change", reaching out to the wider community to share knowledge and make a difference.

<https://salife.com.au/gardens/battle-for-the-bush/>

New ecosystems, unprecedented climates: more Australian species than ever are struggling to survive – The Conversation, 20 February 2024

Australia is home to about one in 12 of the world's species of animals, birds, plants and insects – between 600,000 and 700,000 species. More than 80% of Australian plants and mammals and just under 50% of our birds are found nowhere else.

But habitat destruction, climate change, and invasive species are wreaking havoc on Earth's rich biodiversity, and Australia is no exception. In 2023, the federal government added another 144 plants, animals and ecological communities to the threatened species list – including iconic species such as the pink cockatoo, spiny crayfish and earless dragons.

More and more species stand on the edge of oblivion. That's just the ones we know enough about to list formally as threatened. Many more are in trouble, especially in the oceans. Change is the new constant. As the world heats up and ecosystems warp, new combinations of species can emerge without an evolutionary connection, creating novel communities.

<https://theconversation.com/new-ecosystems-unprecedented-climates-more-australian-species-than-ever-are-struggling-to-survive-222375>

Hangers On – Gardening Australia, 9 February 2024

Botanist Ryan Craig is completing a PhD on botanical parasitology – that is, plants that feed off other plants for their nutrients and water. There are 4,500 plants around the world that do this. One that Ryan has a special interest in grows locally in the Perth hills, often on a favourite host plant, the native 'egg and bacon' plants, *Daviesia angulata*. The parasitic plant is called *Pilostyles hamiltoniorum*, and while there are 134 species of *Daviesia* in WA, *Pilostyles* will only grow on 10 of them.

There are 11 species of *Pilostyles* in the world, including three in Australia – all endemic to WA. All the species infect shrubs from the pea family. The *Pilostyles* looks like tiny buds along the stem of the host plant, but these are actually flowers erupting from the main part of the parasitic plant, which is hidden inside the stem of the plant. Ryan is keen to learn more about how the two plants interact.

<https://www.abc.net.au/gardening/how-to/hangers-on/103448156>

Preserving Plants – Gardening Australia, 2 February 2024

Collection manager Dr Hannah McPherson explains the herbarium is like a library, but with plants instead of books. She says most of the collection involves dried plant specimens alongside information that researchers need to know about the plant.

The building is shaped like a waratah seed pod with a large domed roof set above the buildings below, and each section of the building created from rammed-earth walls about 45cm thick, which insulates the interiors, is fire-proof, and keep the plants inside dry, cool, and protected from pests and mould.

The herbarium offers a botanical identification service, where members of the public can submit samples for ID, and which also deals a range of other duties, from biosecurity to assisting police with illegal cannabis.

<https://www.abc.net.au/gardening/how-to/seed-banking/103417320>

Events and Opportunities

Invitation to comment, King Island scrub complex listing

Each year on behalf of the Threatened Species Scientific Committee, the Department of Climate Change, Energy, the Environment and Water invites public nominations for items that merit listing as threatened under national environment law. The “King Island scrub complex” was nominated for listing as a threatened ecological community and prioritised for assessment from October 2022.

You are invited to provide your views on the assessment and draft conservation advice for the King Island scrub complex.

The committee’s assessment and advice to the minister is due by **30 April 2024**.

Proposed Conservation Status: Endangered

Distribution: King Island, Tasmania

<https://www.dcceew.gov.au/environment/biodiversity/threatened/nominations/comment/king-island-scrub-complex>

The Australian Flora Foundation: Call for Applications for Research Grants – 2024

The Australian Flora Foundation invites applications for funding of research projects from individual researchers and research teams, to support original scientific studies on the biology, ecology, and cultivation of Australian plants. The Australian Flora Foundation was established in 1981 with the aim of fostering scientific research on Australian plants. It aims to support research that will create improved understanding and greater awareness of the value of the Australian flora, leading to pathways for their conservation and utilisation. Grants will be awarded for research projects to commence in early 2025, with funds available from December 2024.

<https://aff.org.au/grants/grant-criteria/>

2023/2024 State and Territory Landcare Awards – Closing 1 March 2024

Now in its 32nd year, the State and Territory Landcare Awards stand as a prestigious biennial national Landcare Awards program. The objective is to honour individuals, groups and organisations that are making outstanding contributions to caring for the environment in their local communities for the benefit of all Australians today, and for generations to come.

In each state and territory, the Landcare Awards will be granted to recognise the achievements that encompass climate action, environmental leadership, sustainable agriculture, First Nations, Women in landcare, youth, Coastcare and children.

<https://landcareaustralia.org.au/landcare-awards-2023>

AABR National Forum – The Rs of Restoration – Fitzroy VIC, 22 March 2024

Restoring biodiversity through resilience, regeneration, reintroduction and reconnecting to country.

With continued biodiversity decline and fragmentation of natural places across the country, there is an increasing need for restorationists, land managers, planners and on-ground practitioners to understand and recognise the importance of working with nature's resilience and restoration techniques consistent with the National Standards for Ecological Restoration.

<https://www.aabr.org.au/event/aabr-national-forum/>

Rainforest Connections 2024: Conservation, Innovation, Restoration - Ballina NSW, 4-7 June 2024

Rainforest Connections 2024 is the first conference in over two decades that is dedicated to the restoration, rehabilitation, and management of Australia's unique rainforest habitats. This event will connect more than 200 delegates from a wide range of backgrounds including scientists, program managers, on-ground practitioners, community members and specialists implementing projects in the field.

<https://rainforestconnections.com.au/>

11th Australian Stream Management Conference and Awards Gala – Victor Harbor SA, 11-14 August 2024

The 11th Australian Stream Management Conference and Awards Gala provides an exciting opportunity to share the knowledge and practice within waterway management in Australia and celebrate these incredible achievements. Held in the beautiful Victor Harbor in South Australia, the ASM Conference and Awards Gala will come together for the first time. The hope is that we can braid Australia's numerous threads of waterway knowledge together to revive our river basins for a brighter future.

<https://www.11asm.org.au/>

23rd Australasian Weeds Conference – Brisbane QLD, 25-29 August 2024

Invasive Species Queensland (formerly the Weed Society of Queensland) is excited to collaborate with the Council of Australasian Weed Societies (CAWS) in hosting the 23rd Australasian Weeds Conference (AWC). Join us from August 25 to 29, 2024 at the Brisbane Convention and Exhibition Centre for this significant national event.

<https://icebergevents.eventsair.com/awc24/>

3rd Australian Biosecurity Symposium – Gold Coast QLD, 27-29 August 2024

Building upon the groundbreaking ideas and enriching conversations that marked the success of the 1st and 2nd Australian Biosecurity Symposiums, #BioSym2024 is set to delve even deeper into the future landscape of Australian Biosecurity. This is your chance to be a part of shaping that future. Seize the opportunity to connect with key decision-makers,

trailblazing innovators, influential voices, and dedicated researchers within the realm of Australian biosecurity. Mark your calendar, because this is an event you won't want to miss!

<https://www.biosym.com.au/>

**8th International Orchid Conservation Congress – Perth WA, 3-6 September 2024
(post-congress fieldtrip 8-10 September)**

Welcome to the 8th International Orchid Conservation Congress (IOCC).

A Minute to Midnight theme reflects the global rates of biodiversity decline. Never before in human history have so many wild species been faced with habitat loss and decline. Orchids have not been spared, and IOCC8 is dedicated to understanding the threats and the solutions that are needed to arrest the decline of orchids. Speakers will present a range of relevant topics with the field trip visiting the global biodiversity hotspot of Southwest Australia.

<https://iocc8.com/>