

Plant Cuttings – April 2024

Fears of another 'forest collapse' event in Western Australia after record dry spell – ABC Stateline, 11 April 2024

After a record-breaking hot summer and significant dry spell, ecologists are warning large pockets of WA's central to south-west coast are facing a potential forest collapse event, where trees and other smaller plants get so dry they die.

One expert has likened it to coral bleaching on land, and just like in the ocean, such an event can have serious implications on the wider ecosystem, impacting breeding habitats and potentially populations of entire species.

Murdoch University fire and plant ecologist Dr Joe Fontaine has been tracking and recording signs of tree and plant stress since early February, with numerous areas displaying large swathes of dry and dying flora, some of it already dead.

<https://www.abc.net.au/news/2024-04-11/ecologists-warn-potential-forest-collapse-event-wa/103682304>

Beauty of threatened plant species highlighted in new art exhibition at Royal Botanic Garden Sydney – ABC News, 6 April 2024

While not always taken with her subjects at first, artist Beverly Allen often ends up falling in love with them.

She was not particularly enamoured with the little-known native guava before she began painting it last year.

But it was on a list of plants chosen for their threatened status, rather than their beauty, that the Botanic Gardens of Sydney asked artists to paint.

"There were so many little white flowers in green leaves, and there was nothing spectacular and eye-catching — but we've actually come to love them," Allen says.

<https://www.abc.net.au/news/2024-04-06/botanic-garden-sydney-rainforest-species-at-risk-exhibition/103674834>

The greenest way to mine metals for batteries could be with plants – Bulletin of the Atomic Sciences, 26 March 2024

Gouging a mine into the Earth is so 1924. In 2024, scientists are figuring out how to mine with plants, known as phytomining. Of the 350,000 known plant species, just 750 are "hyperaccumulators" that readily absorb sky-high amounts of metals and incorporate them into their tissues. Grow a bunch of the European plant *Alyssum bertolonii* or the tropical *Phyllanthus rufuschaneyi* and burn the biomass, and you end up with ash that's loaded with nickel.

“In soil that contains roughly 5 percent nickel—that is pretty contaminated—you’re going to get an ash that’s about 25 to 50 percent nickel after you burn it down,” says Dave McNear, a rhizosphere biogeochemist at the University of Kentucky. “In comparison, where you mine it from the ground, from rock, that has about .02 percent nickel. So you are several orders of magnitude greater in enrichment, and it has far less impurities.”

<https://thebulletin.org/2024/03/the-greenest-way-to-mine-metals-for-batteries-could-be-with-plants/>

JCU plant-saving team on conservation mission – James Cook University, 4 April 2024

A team of James Cook University conservationists and researchers could be the key to safeguarding the future of Queensland’s rarest plants, including native bananas with commercial market potential.

Led by Environmental Officer Brandan Espe, the Estate Directorate team tends to a living collection of about 80 threatened plant species including a rare native banana species that would be crucial should an invasive disease strike.

“Australia originally had three native bananas (*Musa*) of which one is already extinct, one is endangered and in decline, and the last is poorly recorded and rarely grown,” Mr Espe said.

“On the Bebegu Yumba (Townsville) campus we now have the last two remaining species planted out and we intend to grow more clones for distribution to other conservation organisations.

“By strengthening the species, we can ensure they are around for future generations, as well as future research to help protect the commercial banana industry.

<https://www.jcu.edu.au/news/releases/2024/april/jcu-plant-saving-team-on-conservation-mission>

New course reveals Fair Harvest's secrets – Margaret River Mail, 12 April 2024

Fair Harvest Permaculture is teaming up with Nature Conservation Margaret River Region to offer a course to the local community on repairing and rehabilitating riverbanks and wetlands.

It's aimed at landholders who live in or near a catchment area in the Margaret River region or beyond and who want to learn how to boost nature, habitat, biodiversity and water quality.

"Over the last couple of years, we have had a major focus on water catchment on the farm, as we feel this will be a critical resource in years to come," Fair Harvest's Jodie Lane said.

"This year our focus is on restoring the waterways for the ecological health of the system.

<https://www.margaretrivermail.com.au/story/8584384/riparian-zone-rehabilitation-course-at-fair-harvest/>

Inside Tanya Plibersek's delay in fixing 'broken' environment laws – Sydney Morning Herald, 21 April 2024

Tanya Plibersek's appointment as environment minister sparked widespread optimism among conservation groups, most of whom list new national laws as their top priority to fix what she declared were "broken" environmental protections.

That was in March 2022. Last week, almost the entire conservation movement felt deep disappointment in the minister's failure to deliver on that promise.

Plibersek represents the socially progressive electorate of Sydney and is a senior figure in Labor's green-tinged Left faction. She came to the portfolio with a reform agenda mapped out in Labor's election campaign.

That pledge included setting up an Environment Protection Agency to handle development decisions and enforce regulations, national standards that would rule out damage to critical habitats, and comprehensive changes to strengthen the Environment Protection Biodiversity Conservation Act.

<https://www.smh.com.au/politics/federal/inside-tanya-plibersek-s-delay-in-fixing-broken-environment-laws-20240419-p5fl34.html>

Labor accused of broken promise after delaying laws to address Australia's extinction crisis – The Guardian, 16 April 2024

The Albanese government has further delayed a commitment to rewrite Australia's failing national environment laws.

The environment minister, Tanya Plibersek, said the government would introduce legislation in coming weeks to create two previously announced bodies – an environment protection agency and a second organisation called Environment Information Australia, which will provide public data on ecosystems, plants and animals.

But a commitment to introduce a suite of laws to address Australia's extinction crisis, including new national environmental standards against which development proposals would be assessed, has been pushed back to an unspecified date.

<https://www.theguardian.com/environment/2024/apr/16/labor-national-environment-laws-australia-wildlife-threatened-species>

Western Australia's eucalypt forests fade to brown as century-old giant jarrahs die in heat and drought – The Guardian, 20 April 2024

A couple of weeks ago, Joe Fontaine stood in the middle of one of Western Australia's eucalypt forests on another hot and dry day that was stripped of the usually raucous backing-track of bird calls.

"I could hear this scratching-crunching noise coming from the trees," says Fontaine, a forest ecologist at Perth's Murdoch University.

Peeling back the bark, a handful of beetle larvae “about the size of your pinky” were eating away at the dead and dying wood. “When the trees are stressed, the beetles get the upper hand,” he says.

Above Fontaine, the forest canopy was turning brown. Trees more than a century old are barely alive. Some of these giant jarrahs might survive, but some won't.

It's a scene that's being replicated in forests and coastal shrublands spanning more than 1,000km (620 miles) across the state's south-west after drought and baking heat.

<https://www.theguardian.com/environment/2024/apr/20/western-australias-eucalypt-forests-fade-to-brown-as-century-old-giant-jarrahs-die-in-heat-and-drought>

Reseeding Euroa – Gardening Australia, 26 April 2024

Euroa, about two hours' north east of Melbourne, sits on Taungurung Country with the Strathbogie Ranges to its east.

Just out of town is the Euroa Arboretum, a 27ha public park run by development manager Cathy Olive, where a group of local plant lovers are growing something very special.

Wetlands and grasslands have been restored here, and a seed bank and nursery sit beside other facilities such as playgrounds, picnic areas and a dam for fishing.

Before restoration, the site had been used as a sheep paddock and roads infrastructure means some areas were covered with black plastic and road base.

When Cathy started working on the project in 2010, trees and shrubs had already been planted, so her challenge was establishing a grassland – which should contain between 60-120 different plant species – within that overstorey.

<https://www.abc.net.au/gardening/how-to/reseeding-euroa/103773244>

Our tall, wet forests were not open and park-like when colonists arrived – and we shouldn't be burning them – The Conversation, 24 April 2024

Some reports and popular books, such as Bill Gammage's *Biggest Estate on Earth*, have argued that extensive areas of Australia's forests were kept open through frequent burning by First Nations people. Advocates for widespread thinning and burning of these forests have relied on this belief. They argue fire is needed to return these forests to their “pre-invasion” state.

A key question then is: what does the evidence say about what tall, wet forests actually looked like 250 years ago? The answer matters because it influences how these forests are managed. It's also needed to guide efforts to restore them to their natural state.

<https://theconversation.com/our-tall-wet-forests-were-not-open-and-park-like-when-colonists-arrived-and-we-shouldnt-be-burning-them-228601>

Blue Derby Wild's High Court appeal thrown out, with native logging set to continue near mountain-biking trails – ABC News, 23 April 2024

The logging of native forest is set to resume next to world-famous mountain-biking trails in north-east Tasmania after the High Court dismissed a challenge from environmentalists.

An injunction, or halt, against logging in two coupes near Derby – alongside mountain bike trails that have held Enduro World Series events – was removed last week, and the High Court has this morning refused to grant leave to appeal.

It is the final hurdle for the resumption of logging, which has faced legal challenges since April 2022.

<https://www.abc.net.au/news/2024-04-23/derby-logging-high-court-decision/103755942>

What is human composting and should it be legalised? These green-minded souls say yes – ABC News, 27 April 2024

Julieanne Hilbers smiles as she thinks about her body being transformed into soil after she dies.

"The reality of life is 100 per cent of us are going to die," she says. "For me, a good death would be one that gives back to the earth."

Dr Hilbers spends much of her life with her hands in the dirt, planting native shrubs and flowers at her two properties in Western Australia's South West region.

She is not keen on the idea of a traditional burial or being cremated and has her eye on a greener method that is not yet legal in Australia.

Human composting is growing in popularity in America as a more affordable and environmentally friendly way of laying people to rest.

<https://www.abc.net.au/news/2024-04-27/calls-to-legalise-human-composting-for-eco-friendly-burials/103677926>

Expert commentary: Flowering plant tree of life revealed – CSIRO, 25 April 2024

An international team of researchers, including scientists from CSIRO, Australia's national science agency, have produced a genomic 'tree of life' using the DNA sequences of more than 9,500 flowering plant species.

The tree of life was built using 1.8 billion letters of genetic code sequenced from living plants and centuries-old specimens held in herbaria across Australia and the world. It includes extinct and endangered species and contains 15 times more data than any comparable studies of the flowering plant tree of life, as well as 800 plants that have never had their DNA sequenced before.

The tree of life presents the most up-to-date understanding of flowering plants which will help scientists do everything from plant classification to discovery of new medicines. It is also a step toward building a tree of life for all 330,000 known species of flowering plants by Royal Botanic Gardens, Kew's Tree of Life Initiative.

<https://www.csiro.au/en/news/All/News/2024/April/Expert-commentary-Flowering-plant-tree-of-life-revealed>

Events and Opportunities

Vonow Conservation Biology Grants 2024

Conservation Biology Grants are awarded each year for Honours or Postgraduate research that contributes towards one or more of these South Australia-based conservation goals:

- improving understanding of the conservation status of species or ecological communities,
- providing recommendations for improvement of some aspect of biodiversity conservation,
- understanding the ecology of species or communities,
- understanding threats to biodiversity and management of those threats

The deadline for applications is Sunday, 5th of May.

<https://biologysocietysa.com/research-grant.html>

OCOC Leadership development grants

The Our Catchments, Our Communities (OCOC) Leadership Development Grants support aspiring future leaders in integrated catchment management in Victoria.

The 3 grant categories are:

- Aboriginal leadership - recognising and supporting Traditional Owners and Aboriginal Victorians as leaders
- Women in leadership - improving diversity and inclusion and the opportunity for women to lead
- Innovation - new approaches and knowledge to address contemporary issues in integrated catchment management.

Applications close 13 May 2024 (5pm AEST).

<https://www.water.vic.gov.au/grants/ococ-leadership-development-grants>

The Florilegium: Rainforest Species at Risk, 5 April – 5 May 2024

The Garden Gallery, Royal Botanic Garden Sydney

The Florilegium Society is excited to present the inaugural exhibition at The Garden Gallery in the newly refurbished Robert Brown Building at the Royal Botanic Garden Sydney. This exhibition will focus on the impact of climate change and plant pathogens on rainforest species and increased human activity leading to habitat loss and fragmentation of rainforests.

As well as the new paintings of rainforest species and relevant works from the existing collection the content will include an introduction to The Florilegium Society and its previous projects and a focus on botanical illustration at the National Herbarium of New South Wales

including some of the exquisite early twentieth century works by Margaret Flockton and more recent illustrations by Lesley Elkan and Catherine Wardrop.

<https://www.botanicgardens.org.au/our-science/our-collections/botanical-illustration/the-florilegium-society>

Kwodjet Goorliny Symposium: Moving forward together to care for Country – Albury WA 14-16 May 2024

This symposium is showcasing the culmination of the Walking Together Project, exploring the latest developments in cross-cultural conservation, and involves opportunities to be immersed in Country with Merningar/Menang/Goreng Elders, and yarn up the next steps for cross-cultural collaboration. With growing need and demand for genuine cross-cultural approaches to care for Country, this symposium offers an amazing opportunity to come together to learn from one another and celebrate the good work that we all do in this space.

<https://www.trybooking.com/events/landing/1169043>

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/>

Island Arks Symposium VIII. Island Stewards: Caring for land and sea – Kangaroo Island SA, 26-29 August 2024

The Island Arks Symposium is an exciting opportunity to share the knowledge and practice of our Island stewards.

An invaluable forum for developing collaborations and partnerships for those involved in, or with an interest in Island management within the Pacific Region and elsewhere.

Previously held on Daydream Island, Tasmania, Norfolk Island, Fiji, Rottneest Island and Philip Island, this year the symposium will be held on Kangaroo Island.

Join practitioners, land managers, policy makers, scientists, community groups and traditional custodians as they explore the challenges, pathways and solutions to island sustainability.

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

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/>

ESA 2024 – Melbourne VIC, 9-13 December 2024

The conference will showcase the science of ecology in Australia – across all its varied forms – and be an opportunity to explore the connection between science theory, science research, science policy and science on-ground outcomes.

The conference of the Ecological Society of Australia (ESA 2024) will be an in-person conference but a limited number of online options will be offered, including live-streamed plenaries, some live-streamed symposia and some of the presentations being made available online after the conference.

<https://esa2024.org.au/>