

Save our Flora

AN ONLINE INDEPENDENT NATIONAL PROJECT
CONSERVATION THROUGH CULTIVATION

Contact: E. saveourflora@gmail.com W. saveourflora.weebly.com

**Project launched on
 14th November 2013**

Maria Hitchcock OAM
 Administrator, Bulletin Editor

Membership

Individuals: 222

Groups: 22

International 3

Membership is free.

Please encourage others to join.

Quarterly Bulletins are sent by email
 only. Feel free to pass them on.

New members will receive the latest
 e-Bulletin only. Earlier Bulletins can be
 accessed online. (See box)

This is an informal interactive sharing
 group. We welcome your emails,
 articles and offers of seed and cuttings
 at any time.

Your privacy is respected and assured
 with this group. You may
[unsubscribe](#) at any time.



Banksia vincentia

Image: [The Nature of Robertson](#)

**Is your garden a
 native plants
 sanctuary?
 All you have to do
 is grow one or
 more threatened
 species.**

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Unsure if you have any rare or endangered plants? Check them out on the EPBC list

<http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=flora>

Save our Flora

Maria writes:

The drought continues over much of NSW and the media is full of charity appeals and drives to bring water and hay to farmers trying to save precious breeding stock. This reliance on hay which has to be trucked from as far west as WA seems like a modern trend. In the past farmers in western parts of NSW and beyond grew fodder trees on their farms. The trees acted as giant pumps bringing up water from low down to create a green canopy much of which can be fed as supplementary feed. In 1913 the Australian Bureau of Statistics Year Book published an extensive list of fodder trees compiled by J.H. Maiden, Director of the Botanic Gardens, Sydney. Go to

<http://www.abs.gov.au/ausstats/abs@.nsf/featurearticlesbytitle/4C690E6136B8B1EBCA2569DE00267E5F?OpenDocument>

There were no great appeals and drives in those days - farmers had to be resourceful. The list of 64 species is accompanied by notes regarding the nutritious value of these plants. We have all heard of the Kurrajong (*Brachychiton populneum*). Maiden says 'Cattle and sheep are fond of the leaves and branches, and in some dry seasons have existed for long periods on scarcely anything else'. I wonder how many properties have large stands of Kurrajongs growing now? Perhaps it's time to revisit planting fodder trees on farms as a matter of course. Droughts come and go and it seems sensible to plan for the dry times.

In this Bulletin I have given you details of the Parliamentary petition to call for a Myrtle Rust Summit on p. 4. Please sign the petition and encourage as many friends and colleagues to sign as well. At time of writing this we had 198 signatures. We need many many more - perhaps 1000 to be successful. We have until the 19th September to gather as many signatures as possible. I would like to thank Native Plants Queensland for taking leadership on this issue. Queensland has the most to lose with so many tropical and sub-tropical eco-systems which are home to large numbers of Myrtaceae species.

We can just allow the petition to be presented to parliament through their bureaucracy but most petitions are presented and spoken about in the House of Representatives by a Member of Parliament. My own member, Barnaby Joyce, is probably not the ideal politician to do this task. Can someone recommend a Queensland representative living in an area under threat of Myrtle Rust who could present the petition to Parliament? I need your suggestions ASAP in order to arrange for the formal presentation.

Maria Hitchcock OAM

Save our Flora

PowerPoint Presentation

Ready to go!

30 slides approx 30 mins. talk

If you are interested in obtaining

this presentation

please email me

I can send it in an email (4.3MB)

or as a CD

Send me a C5 stamped addressed envelope

Attach 2 stamps

or on a memory stick

Send me a blank memory stick plus a stamped addressed envelope - 2 stamps

Coming Events

are listed on our website

saveourflora.weebly.com

**Check it out and
bookmark the site.**

**Do you have a contact
at a local school?**

Why not ask them to join

Save our Flora

as a group member

More and more schools are

establishing

Endangered Species Gardens

featuring rare plants from

their local environment.

Drought

The drought in NSW continues with minimal falls of rain in the North West. The news is full of hay drives, charity campaigns and rain dances. A friend posted this photo which says it all.

Rain Gauge sculpture Image: John Nevin



Acacia curranii Image: [PBase.com](#)

flowering season from August to September to find and monitor this rare plant. The NSW Saving our Species (SoS) program had provided \$3,200 in funding to undertake fieldwork monitoring of the wattle on Monia Gap Station, west of Lake Cargelligo. "Only about 30 populations of this wattle are known and most of these are very small, located near Cobar south to Hillston area," said OEH Senior Threatened Species Officer, Darren Shelly. Populations of the Curly-bark Wattle occur in conservation areas in Gundabooka National Park near Bourke, and Yathong and Round Hill Nature Reserves. About 20 of the populations have fewer than 500 individual plants left. [Read more.](#)

ANPC News - Aug 31, 2018

[Protecting our mountain giants - Threatened Species Recovery Hub, 29 May 2018](#)

Australia is losing large old hollow-bearing trees in our mountain ash forests due to logging, fires and climate change. A team at the Australian National University have been investigating the importance of these trees, the implications of their loss and things we can do to ensure we have enough mountain giants for the future. Large old trees are keystone structures in many of the world's forests. Despite being of great ecological importance and fulfilling critical roles in these forest ecosystems, globally, large old trees are in decline. In the mountain ash forests of south-eastern Australia, the loss of large old trees has been rapid and is ongoing, with the average forest age now younger than it has ever been. This changes the fundamental dynamics of the forest, as young forest is more fire-prone, stores less carbon and has less water runoff. [Read more.](#)

[Funding to monitor rare Curly-bark Wattle at Lake Cargelligo - OEH, 26 July 2018](#)

The Office of Environment and Heritage (OEH) will take advantage of the Curly-bark Wattle's brief

[Brisbane Seed Bank storing some of the world's rarest seeds for posterity - ABC Radio Brisbane, 5 August 2018](#)

A small vault in the back of the Brisbane Botanical Gardens is under lock and key, keeping some of the world's rarest seeds safe and sound. The Brisbane Seed Bank began its collection in 1983 and now holds more than 1,000 species of seeds. One of most valued is the Senna species (Davies Creek), a flowering tropical shrub found only on the Atherton Tablelands in far north Queensland. "It's never been recorded before, so this could be the only collection of seeds in the world of this very special plant," curator Dale Arvidsson said. "We can't say just how rare this plant is, but when we collected these seeds there was only three plants producing them." [Read more.](#)

**Remember and Promote
Threatened Species Day
September 7 2018**

Sign the petition for a Myrtle Rust Summit

Go to

https://www.aph.gov.au/.../H.../Petitions_General/Petitions_List

Our petition is No. ENo686

(Add the code to the box above the petition)

Signatures open: 22/08/2018 Close: 19/09/2018

Following the close of the signature period, the petition will be presented in the House and may be referred to the relevant Minister.

Petition

To the Hon. Speaker of the House of Representatives and Members of the House of Representatives

Petition Of *

Certain citizens of Australia

Since its accidental introduction to Australia in 2010, Myrtle Rust disease, caused by the fungal pathogen *Austropuccinia psidii*, has spread alarmingly along the east and north coast of Australia, destroying large stands of eucalypts, melaleucas, tea-trees and others. It has spread into the Daintree and other significant rainforest eco-systems in Australia and has the capacity to wipe out our hardwood forestry and tea-tree oil industries not to mention many threatened species. The Draft Action Plan is inadequate as it does not address funding or a timetable for action. The situation requires urgent action.

We therefore ask the House to approve a National Myrtle Rust Summit to be held in Canberra on a suitable date in 2019 and to involve all the major stakeholders - researchers, botanic gardens, government representatives, forestry and horticultural industry representatives, environmental and agricultural representatives and community members. The Summit should aim for a **reasonable and achievable fully funded plan of action** to be instituted as quickly as possible to halt the further spread of Myrtle Rust. We call for a co-ordinated approach involving many government agencies and community groups.

Available Propagators

The following people have indicated a willingness to work with projects that require good propagation skills. If you would like to be added to this list please let Maria know.

Maria Hitchcock Armidale NSW

Life member NSW - APS

Over 40 years propagating experience.

Cool Natives Online Nursery

<https://coolnativesnursery.com>

Col Jackson

Over 20 years propagating experience

Member of the Latrobe Valley APS Victoria

coljackson57@hotmail.com

Spencer Shaw

We operate two nurseries,
Brush Turkey Enterprises Wholesale

www.brushturkey.com.au and

Forest Heart Eco-Nursery

www.forestheart.com.au

and specialise in SE QLD native plants, particularly rainforest.

spencer.shaw@brushturkey.com.au

0428 130 769

Helen Howard

grevillea.hh@gmail.com

I have grafted Eucalypts, Grevilleas, Eremophilas and Brachychitons. My teacher was Merv Hodge. If any BG has a project I could help out with let me know.

Please encourage your friends and colleagues to sign.

We can't allow it to continue spreading.

A detailed article on Myrtle Rust is included on pp. 10-11



[Check out our latest newsletter.](#)

Welcome to Issue 20 of *Wildlife Lands*!

This edition features member sanctuary and *Sanctuaries You Can Stay* profiles, a feature article on our latest successful national Threatened Ecological Community nomination, a double feature of threatened species (Bennett's and Lumholtz's tree kangaroos) and much more. Also included is an in-depth piece on the work of the incredible Trish Kelly, who was one of the first Wildlife Land Trust members I had the pleasure of welcoming to the Australian network back in 2010.

We also welcome 44 new member sanctuaries, bringing us well over the milestone of 500 sanctuaries across the country. With this recent growth we've given our website a redesign – check it out at: www.wildlifelandtrust.org.au

In event news, we were pleased to support the Australian Wildlife Rehabilitation Conference in Sydney and are also looking forward to the Private Land Conservation Conference to be held in Brisbane in late October, where I'll be presenting on *Celebrating and supporting the collective contributions and diversity of Wildlife Land Trust sanctuary owners*.

We hope you enjoy *Wildlife Lands* 20!

Yours sincerely,
Evan Quartermain
Head of Programs

Figs, ferns and featherwoods: learn all about Australia's native trees and plants

The Conversation August 10, 2018 2.13pm AEST

Sign up to the special Beating Around the Bush newsletter [here](#).



Acacia howittii Image: Percita/Flickr

Australia is classified as “megadiverse” meaning it’s a global hotspot for plant and animal diversity, and has vast numbers of unique species found nowhere else on Earth. With this newsletter we want you to be able to wander down the garden path, off the beaten track, and smell the gum leaves. Specifically, what kind of gum leaf? What is it from? Where does it grow?

[Read more: Bunya pines are ancient, delicious and possibly deadly](#)

We'll let you know every time a new edition in our **Beating Around the Bush** series comes out, putting the spotlight on a different native plant every time. We're on a roughly fortnightly schedule, but like any garden there might be a few surprises along the way. I'll also be rounding up some of the greatest hits from our archives, and talking about what's new in the plant world.

If someone else in your life might enjoy this mix in their inbox, please let them know about it. And if you have any feedback, feel free to let us know in the comments.

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ANPC News

Drovers say Australia's legendary outback stock routes in danger of collapse

By national rural and regional correspondents

[Dominique Schwartz](#) and [Aneeta Bhole](#)

ABC News 30 Jun 2018, 2:00pm

Australia's iconic stock routes are languishing after years of neglect and are in danger of



being privatised, drovers and ecologists warn.

PHOTO: ["I'd say there's been a rapid decline, really, in the last three years."](#) Brad Brazier says of Australia's cattle routes. (ABC News: Dominique Schwartz)

The historic network of reserves for travelling sheep and cattle are etched into the national psyche by writers Henry Lawson and Banjo Paterson. They're also a refuge for endangered flora and fauna, and are rich in Indigenous heritage. The routes cover 45,000 square kilometres of New South Wales and Queensland, with 76,000 kilometres of tracks in the Sunshine State alone.

"There are a lot of changes [on the routes]. Fences going up everywhere, leasing and permanent grazing set-ups and things like that," Mr Brazier said.

Drovers and graziers pay to use the stock reserves through a series of permits, and that money is channelled back into weed control, water infrastructure and maintenance. But it's not value for money, according to Brad Brazier. He said the

cattle owner that he droves for would have spent half a million dollars on travelling permits over the past year, only to find that pasture has been eaten out along the route by resident herds.

NSW says there are 'no plans' to sell off cattle routes

The New South Wales government is waiting for the final report of a review looking at the management of the Travelling Stock Reserves.

"There are no plans to sell off our travelling stock routes," NSW Primary Industries Minister Niall Blair told the ABC.

"Traditionally the upgrade and investment [comes] from the income that has been generated from those that have used the reserves. We've increased that funding by a million dollars and we'll be looking to provide more funding," Mr Blair said. His office did not provide figures on how much revenue is raised by those who use the routes, saying that "it varies greatly from year to year depending upon seasonal conditions."

But NSW Opposition spokesman for lands and primary industries Mick Veitch said he's concerned they've slated the travelling stock reserve estate for sale. "They could transfer a Crown Land parcel to Property NSW — that is the real estate arm of the New South Wales government — and it would just make it so much easier to sell without telling the community, and anyone else that may be interested in looking after that parcel of land."

In north-western New South Wales alone, there are 38,000 cattle on the routes. "It's one of the only main drought relief things we've got," Brad Brazier said. He has been droving for more than three decades and says he's never seen the state so dry — or the routes so poorly maintained.

At Krui Bore near Moree, the windmill turns slowly, but there's no water to be pumped, and it's not even connected to the tank or troughs. "I've passed through Krui Bore many times over the last 30 years and I've never actually seen this dam dry," he said.

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That's an indication not only of how bad things are out here, he said, but also the lack of resourcing to clean out the drains feeding the dam before a storm dumped four inches of rain in April. The dry dam meant his herd had to walk 25 kilometres between drinks, when anything over 10km is a stretch for the cattle.

Like drover Brad Brazier, ecologist Phil Spark is deeply concerned about areas of the routes being fenced off by landholders, with permits to graze for one month or up to five years.



PHOTO: [Ecologist Phil Spark examines one of the rare grasses, *Digitaria porrecta*, found along the stock routes.](#)
(ABC News: Dominique Schwartz)

"We are losing a lot of diversity in plants through more constant grazing. Vast areas, really large areas are now fenced for long-term grazing permits," he said. He has just finished an ecological assessment of the north-west region, and said it identified 60 threatened species of plants and animals. The problem, he said, is that the Travelling Stock Reserves (TSRs) are "not resourced at all".

"That's what brought on this new grazing regime of long-term permits to supposedly get money to feed into the management of them, but that hasn't worked. It's contributing to the decline of the travelling stock routes."

From tomorrow, (1 July) travelling cattle won't be allowed onto the stock routes in north-western New South Wales, unless they are moving to a clear destination.

"Our TSR network is just about exhausted," said Wayne Gransey, the team leader for the North-West Land Services, the New South Wales government agency which manages the stock reserves."

"We've had to make difficult decisions on future management." He said the number of cattle allowed on short-term grazing permits held by landowners would also be reduced. Mr Gransey said grazing permits were an important part of managing the stock routes. The successful tenderer of a long-term permit promises to manage the land as their own, and is responsible for care and maintenance and weed control. Mr Gransay said that arrangement eases pressure on his staff.

"We've got an incredibly dedicated team of rangers and field officers. Yes, we can't get it all done, but we cover a massive area and they do an excellent job." He said fences were also used to keep stock off busy roads, and to restrict illegal activity such as woodcutting and rubbish dumping.

In central-western Queensland, which has battled drought for the best part of seven years, there are similar concerns. Regional councils manage the stock routes but receive only \$800,000 between them from the state government — not nearly enough, according to the Mayor of Longreach, Ed Warren. He said Longreach ratepayers kick in an extra \$100,000 a year and neighbouring councils would contribute similarly.

"There's a lot of watering points and infrastructure getting further behind and it would be millions of dollars to spend to bring them up into a working condition," he said. Mayor Warren would like to see a wider system of grazing permits to generate more revenue for the stock routes. He said 70 per cent of the landholders that graze stock on the routes pay nothing.

Professional drover Billy Little, who has worked the routes across both states, would like a better user-pays system, but cautions against fencing off sections for local grazing. More than anything, he wants the stock routes kept in public hands.

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ANPC News

NSW Environment Office applies drone AI to buzz endangered plants

iTnews [Matt Johnston](#) Jul 17 2018 4:49PM

Remote surveys go FIFO.

The NSW Office of Environment and Heritage (OEH) has harnessed drone footage coupled with artificially-intelligent video analytics to conduct crucial vegetation surveys of remote areas that would otherwise be “prohibitively expensive”.



In a move that reflects the increasing use of unmanned aerial vehicles by government agencies, councils utilities and surveyors to glean data and imagery of assets more accurately affordably, OEH is using the technology to identify endangered and invasive plant species.

An OEH spokesperson told *iTnews* that “scanning and surveying large areas of bushland in the hope of spotting a threatened species usually involves field trips or the chartering of a helicopter to access the area and capture images,” which is both costly and time intensive.

However a recent pilot program in partnership with Fujitsu’s Digital Owl project has already yielded success by identifying two endangered plant species

in the state’s Upper Hunter region. Drones were used to fly over and scan a mountainside with no road access where the summit can only be reached by helicopter - or after a full day’s hiking.

A hyperspectral camera fitted to the drone was then linked to an AI engine to different identify species and generate highly accurate distribution maps.

OEH Ecosystems and Threatened Species team senior team leader Lucas Grenadier said it was “critical” for the OEH to understand the distribution of threatened species to effectively manage them. He added the technology could also be used to better understand and manage “the levels of weed incursions and other threats”. Weed monitoring and control is essential to effective environmental management because of the effects outbreaks can have on biodiversity, water management and agriculture.

NSW Environment Minister Gabrielle Upton is a clear fan of getting a bird’s eye view of conditions. “It’s exciting to be using new drone technology with detailed layers of analytics behind them to get more accurate information including maps of otherwise inaccessible areas,” said Upton said.

Fujitsu said it would continue to refine the AI program used by training it with visual data collected from future drone flights at different altitudes. The company said the program could also one day be used to identify threatened animal populations. Similar trials have been already been successful in Queensland, with drones being used to **kill weeds** and AI to **track invasive plants** camouflaged against dense growth.

ANPC News

The plan to save one of Australia's rarest plants - *Banksia vincentia*

Canberra Times [Blake Foden](#) 25 July 2018 12:00am

Only four are known to exist in the wild, making the *Banksia vincentia* one of Australia's rarest plants.



Banksia vincentia [Office of Environment and Heritage - NSW Government](#)

But conservationists in Canberra and on the NSW South Coast hope its critically endangered status will soon be a thing of the past as they work to drastically boost the flowering plant's numbers and secure its future.

The species is only found in the wild near the small South Coast town of Vincentia, but new seed orchards are now being constructed to protect and propagate the plants at Booderee National Park at Jervis Bay and the Australian National Botanic Gardens in Canberra.

Booderee National Park acting botanic gardens curator Stig Pedersen said he hoped to propagate at least 800 *Banksia vincentia* plants in the Booderee orchard by 2020.

Mr Pedersen said no decisions had been made yet about how many of those would then be reintroduced into the wild, or whether they would be reintroduced in the same area as the four surviving plants.

"It will take a few years before they mature and set seed," he said. "By autumn 2020, we hope to have the bulk of the orchard established, but

reintroducing [the plants] to the wild is a few years away."

Importantly for the plant's prospects of survival, Mr Pedersen said the plants being propagated at Booderee contained eight different variations of genetic material. While the Booderee program features an in-ground orchard, the Australian National Botanic Garden is cultivating 45 of the plants above the ground.

Each *Banksia vincentia* has its own 60 centimetre by 60 centimetre container, designed to maximise their chances of producing seeds. "[The containers] are effectively concrete pipes used by industry for drainage and other purposes," Australian National Botanic Gardens living collections curator David Taylor said. "We're getting the plants off the ground as an extra insurance policy to give them the best possible shot and try to prevent issues we might have with pests, soil, poor drainage and things like that."

Jacki Koppman and Suellen Harris discovered the *Banksia vincentia* 10 years ago, and only 14 of the plants were ever found. A deadly mixture of bushfire and a soil-borne disease reduced the count to just four, leading to the critically endangered plant's listing as a priority species in the federal government's threatened species strategy.

Threatened species commissioner Dr Sally Box praised the new seed orchard programs.

"The work being done to secure the future of *Banksia vincentia* is important for us all [because] it means we're holding onto a part of what makes our country so unique," Dr Box said.

B. vincentia was formerly included in the *B. spinulosa* complex and described by M.L. Stimpson, J. J. Bruhl and P.H. Weston (2014)

Ref. Phytotaxa 163(5): 278-279, Figs 5, 6 [tax. nov.]



Save our Flora

Threatened Species Recovery Hub

Myrtle rust is here

Tue, 29 May 2018

<http://www.nespthreatenedspecies.edu.au/news/myrtle-rust-is-here>

What are we doing about a new fungal disease hitting Australia's most iconic plant family?

A new contagious fungal plant disease has entered Australia, myrtle rust. It's highly mobile, can reproduce rapidly and is infecting many species across a broad geographic range. Containment and eradication responses have so far been unsuccessful. In short, the risks posed by myrtle rust are a perfect storm for plant species within one of Australia's most important plant families, the Myrtaceae.

Jarrah Wills from the Queensland Herbarium describes why this plant disease poses such a threat and what we are doing about it.

Myrtle rust (*Austropuccinia psidii*) is believed to have originated in South America. It was first described in Brazil in 1884, where it was observed infecting the common guava, and it has been infecting eucalypt timber species on that continent since the 1970s. From that time, it has spread rapidly, impacting many species of commercial and ecological significance in the US (Hawaii, Florida and California), New Caledonia, South Africa, Indonesia and Singapore.

Myrtaceae is a large and iconic plant family in Australia, with over 1600 described species. It includes the eucalypts (*Eucalyptus*, *Corymbia* and *Angophora*) and paperbarks (*Melaleuca*) and many other genera. The leaves of these trees, often called myrtle species, have oil dots that usually yield a distinctive eucalypt-oil smell when crushed. The family includes hard-fruited species that are prominent in the open-forests and soft fruited species that are particularly diverse in rainforests. Members of the Myrtaceae family provide food and homes for nectar- and fruit-eating birds and mammals. Some myrtle species have limited distributions and are especially vulnerable to new disease.

Detection, range and impacts

Myrtle rust was first detected in Australia at Gosford on the New South Wales coast just north of Sydney in 2010. Since then, it has spread rapidly, particularly through air-borne spores, honeybees and the live plant trade. It has now been detected the entire length of the eastern seaboard, from gardens in Tasmania and Victoria to Bamaga at the tip of the Cape York Peninsula. More recently, it has also been detected in the Tiwi Islands and Darwin in the Northern Territory.

Infection by myrtle rust is known to affect more than 347 species. So far, occurrence west of the Great Dividing Range is rare, and restricted to nurseries and urban gardens. The disease has crossed the Tasman to New Zealand, where it is likely to threaten another economically significant myrtle species, Manuka, which is important to the honey industry. Successful monitoring and subsequent eradication has taken place on Lord Howe Island; however, reinfection is likely to occur.

Globally, several different strains of myrtle rust occur which can infect different hosts, and here in Australia we have the pandemic strain.

While the potential threat of this strain of myrtle rust is enormous, its full impact on our native species and ecosystems is not yet well understood. We do know the rust seems to be particularly threatening to the fleshy-fruited myrtle species that occupy rainforests and their margins. And it is believed the fungus could have a significant impact on more than 40 range-restricted myrtle species. The rust may dramatically decrease the range of these species, even pushing some of them to extinction within an estimated five to 10 years.

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TSR Hub myrtle rust project

The TSR Hub is supporting a six-month pilot project that incorporates existing data to generate and store broad baseline information needed to evaluate the impact of the disease. It grows from a review of myrtle rust and its impacts and will build on baseline data generated by a small group of plant pathologists. It will help us identify which plant species or populations are at greatest risk, enabling us to prioritise our responses.

The research team will gather information by interviewing botanists, researchers, bush regenerators, government scientists and engaged citizens. The research will also conduct targeted field surveys to fill the gaps in our knowledge. We will bring the information together in a database to assess the impact of myrtle rust on Australian plant species and ecosystems. This database will help inform decision-makers and managers on the fate of individual species such as the native guava (*Rhodomyrtus psidioides*).

From information to action

Native guava was once common across its range, which extends north from Gosford in northern New South Wales to Tinana Creek, south of Maryborough, Queensland. Previous studies have identified that this species has declined by more than 50% in less than five years, with further declines expected. The database will identify guava populations that may be resistant to myrtle rust, or determine whether this species is at risk of being lost in the wild and will require speedy conservation actions.

The database will also help us to determine threats to other species and the impact on ecosystems. It will point to where the disease has been particularly damaging, which species may be resistant in certain parts of their range, and which species are at greatest risk of extinction across their range. As myrtle rust evolves, the manner in which the disease impacts different plants will change. One aim of our research is to find populations that may show resistance or identify moves between host species. To safeguard some species, we may need to translocate them beyond their current ranges. New Zealand is

devoting considerable resources to the fight against the scourge of myrtle rust. In Australia, however, resources were targeted to the potential commercial consequences of the disease, but have dwindled when it was realised that natural ecosystems would suffer the major impacts. Given the wide range and rapid spread of the disease it is essential that assessment of impacts are extended in order to best prioritise conservation action.

Key messages

- Since it arrived in 2010, myrtle rust has infected many species across the Myrtaceae family.
- The rust is particularly threatening for the fleshy-fruited myrtle species in rainforests. It has the potential to significantly impact more than 40 range-restricted myrtle species.
- Baseline information is being collated and collected to evaluate the geography of the disease and assess its impact through time.

For further information

Jarrah Wills - jarrah.wills@des.qld.gov.au

Rusty Plants

Rusts are fungal plant diseases that infect living plant tissues. Infections begin when a fungal spore lands on the plant surface, germinates and invades its host. Rusts are named for their infections, which often make host plants look rusty, an effect caused by deposits of powdery rust-coloured or brown spores on the plant's surface. Humans have been contending with rusts since the beginning of agriculture. The strain of myrtle rust spreading through Australia is having a severe impact on some myrtle species. The disease can cause deformed leaves, heavy defoliation of branches, reduced fertility, dieback, stunted growth and plant death. It is not known how myrtle rust entered Australia. However, now that it is here, its spores are easily spread via wind, people, infected plant material and equipment. It can also be dispersed by insect/animal movement. These characteristics make it extremely difficult to control and impossible to eradicate from natural settings.



AUSTRALIAN FLORA FOUNDATION

By Paddy Lightfoot (Newcastle APS)

Members of the Newcastle Group of Australian Plants Society (APS) have supported the Australian Flora Foundation with substantial donations over many years.

The Foundation is located at Sydney University and its Council is composed of professional botanists augmented by lay members of the APS.

Each year grants are made to researchers who are working on Australia's unique and wonderful flora. I attended the recent meeting (the council meets three times a year) at the University where three grants were made for 2019 projects.

About twenty applications for funding had been previously received. Six of these had been forwarded to the scientific committee for vetting and three were then chosen following the committee's report.

The first grant was made to Bryn Funnekotter of Curtin University. With habitat destruction and climate change continuing unabated it is very important that we preserve seeds for the future regeneration of our ravaged ecosystems. Currently cryo-preservation seems to be the most successful method available to us. Australia is host to an incredibly diverse range of species requiring conservation. Bryn's project attempts to understand why cryo-preservation is not working with many seeds (in particular those of rainforest plants) proving to be a problem. The study will involve looking at the mitochondria of species to establish why the failure?

The second grant was awarded to Jodi Price of Charles Sturt University. Her project is to alleviate regeneration failure in seed restoration projects for re-vegetation. This understanding is particularly important in degraded, fragmented landscapes involving severe loss of Australian flora. Recent research suggests failure following seeding may be occurring leading to restoration collapse once the shrubs from original seeds reach their life span. Why aren't the plants naturally producing off-spring? What are the barriers?

The final grant was made to Nathan Emery of the Australian Botanic Gardens Mt Annan. Nathan has been involved with study of the Hairy *Persoonia* – *Persoonia hirsuta*. A sub-species of this *Persoonia* is *P hirsuta* spp 'Yengo NP'. This plant is growing close to us here in the Hunter. Nathan states that only nine

plants survive in the wild. The Mt Yengo form is apparently a particularly attractive vegetative sub-species of this *Persoonia*. He wishes to investigate a propagation protocol to grow plants for prevention of extinction in the wild as well as to introduce the species to cultivation in our gardens.

Persoonia hirsuta drupe - Boree Track Yengo NP

Image: Wikipedia

The Australian Flora Foundation is providing wonderful research in our Australian plants. Our APS group supports AFF with donations annually. As you can see from the above it is indeed worthwhile supporting!

You can, of course, make your own tax-deductible donations to this worthy cause.

This donation can be made by either sending your donation to:

Australian Flora Foundation Inc.

Box 846 Willoughby NSW 2068.

OR

Doing an Electronic Transfer of your donation to the Australian Flora Foundation's account:

Bank: Commonwealth Bank of Australia

Account Name: Australian Flora Foundation

BSB 062 284

Account Number: 10278612

Save our Flora

Seed and Cuttings Exchange

Please send all requests directly to the person making the offer or the group email saveourflora@gmail.com

Please follow the correct protocols for requests of seed or cuttings. These are detailed on the next page. Please note that some species are in very short supply and cutting material may be limited.

Maria Hitchcock

16 Hitchcock Lane Armidale NSW 2350

Correa eburnea, *Correa calycina*, *Callistemon pungens*

Zieria adenodonta, *Zieria prostrata*, *Zieria floydii*

I also sell some rare species through my online nursery

<https://coolnativesnursery.com>

Arthur Baker

55 Moran ST Gatton Qld 4343

Gardenia psidioides, *Grevillea quadricauda*, *Grevillea*

glossadenia, *Eucryphia wilkiei*, *Graptophyllum ilicifolium*

Xanthostemon formosus, *Phaius tancarvilleae*,

Plectranthus nitidus, *Zieria prostrata*, *Grevillea mollis?*

Eremophila nivea, *Dodonaea rupicola*, *Xanthostemon*

arenaris, *X verticulatus*/seeds or cuttings

Kunzea flavescens, *K graniticola*, *Callistemon pearsonii*

Callistemon flavovirens{seeds}, *Melaleuca irbyana*

Lilaeopsis brisbanica {Water plant}, *Hernandia bivalis*

Spathoglottis pauliniae {Tropical ground orchid,

Rhododendron Lachiae

Charles Farrugia (email saveourflora@gmail.com)

Eremophila denticulata ssp trisulcata

Eremophila denticulata ssp denticulata

Eremophila nivea (blue form)

Eremophila nivea (white form) - limited.

Eremophila vernicosa – extremely limited

Russell (email saveourflora@gmail.com)

Boronia clavata

Denise & Graeme Krake

752 Warrigal Range Rd. Brogo NSW 2550

Seed of

Hakea dohertyi, *Hakea ochroptera*

Hakea longiflora, *Grevillea maccutcheonii*

Geoff & Gwynne Clarke

Grevillea humifusa - cuttings

Angophora robur - seed

Dodonaea crucifolia - cuttings or seed

This was named a couple of years ago by Ian Telford who came down from Armidale to look over our block. Many people were calling it *Dodonaea hirsuta*, but it is not very hairy and has no hairs at all on the fruits. It also grows in a nearby flora reserve. If people would like to try this I can

make it available when the material is ready. I have grown it successfully from cuttings, but it does not live long after planting out. It also produces seed and I can collect that after the next flowering (spring fruits). It grows happily around the block, popping up from seed here and there, produces plenty of seed, but it is not long lived even when self sown. Fruits are showy reds.

Bob O'Neill



7 Hillsmeade Drive, Narre Warren South, Vic. 3805
I want to increase our range of *Lechenaultias* and *Correa pulchellas*. Can anyone help us out? Both of these groups of plants are doing well for us at Narre Warren South, Vic. I would be delighted to offer cuttings from our range to interested people. Some plants may be available to people who are able to come to our home address.

Paul Kennedy (Leader ANPSA Hakea SG) (email

saveourflora@gmail.com)

I have seed of *Hakea dohertyi* and a large plant of *Hakea ochroptera* from which cutting material could be taken. I also have a plant of *Callistemon megalongensis* which has not flowered yet, but cutting material would be available in autumn. The seed originally came from the *Melaleuca* Study Group seed bank many years ago.

Verna Aslin

20-22 Bega St Cobargo NSW 2550

Asterolasia beckersii and *Grevillea iaspicula*

Do you have any EPBC plants growing in your garden with sufficient foliage to share cuttings with our members? Let me know and I'll print it here. It would be easier if we can add your address so that members can contact you directly. Please make sure you follow the protocols on the back page. (Ed)

Save our Flora

Requesting and sending seed by post

Please follow these simple steps.

Make a request

1. Send your request by email first. It will be forwarded to the grower so you can request seed and ask for the address.
2. Send your request enclosing a self-addressed envelope with two 60c stamps attached. Post the envelope.

Send seed

1. When you receive an envelope with a seed request, package up the required seed which includes the name, provenance (if known) and date of collection. Add any tips on germinating the seed and post.

Receiving seed

1. Seed should be stored in paper (small manilla seed packets are best but any cheap envelopes will do) and kept in a cool dark place. Some people use those small paper lolly bags and staple them at the top. Add mothballs if you like. This will prevent insect attack. I save moisture absorbers from medicine bottles and add them to my seed drawer to ensure the seeds do not rot.

Seed life varies according to species. Acacias will last for many years while Flannel Flower needs to be really fresh. Old seed may not germinate and needs to be thrown out. Test some of your seed periodically. It's worth asking seed suppliers for the age of certain species of seed before purchasing.

Requesting and sending cuttings by post

Please follow these simple steps.

Make a request

1. Send your request by email first. It will be forwarded to the grower so you can request cuttings and ask for the address.
2. Purchase an Express Post small satchel for \$10.55. it will hold up to 500 gms.
3. Self address your satchel and place it in an envelope with your cuttings request. Add a label/s with the name of the species and sender. Pencil is best for writing on labels.
4. Post the envelope.

Send cuttings

1. When you receive an envelope with a satchel inside, cut about 6 stems of the requested species. The best time to do this is early morning. Store cuttings in the crisper part of the fridge until they are ready to be posted.
2. Wrap the cuttings in damp newspaper and place them in a cliplok plastic bag. Make sure you label each parcel with the names of the species and sender. Squeeze air out of the bag and fasten top.
3. Put the bag in the satchel and post.

Receiving cuttings

1. As soon as you receive your cuttings put the unopened plastic bag in the crisper part of the fridge until you are ready to prepare them.

Group Members

ANPSA Groups

APS Echuca Moama Vic
 APS Melton Bacchus Marsh Vic
 APS Sutherland NSW
 NPQ Ipswich Qld
 NPQ Sunshine Coast and
 Hinterland Qld

Botanic Gardens and Reserves

Burrendong Arboretum Wellington
 Crommelin Native Arboretum NSW
 Hunter Regional BG NSW
 Lindum Park Flora and Fauna Res
 Tamworth Regional BG NSW
 Swan Reserve Garden Vic

Nurseries

Bilby Blooms Binnaway NSW
 Cool Natives Armidale NSW
 Mole Station Tenterfield NSW
 Forest Heart Eco-Nursery SE Qld

Seed Suppliers

Victorian Native Seeds

Study Groups

Acacia SG
 Correa SG
 Epacris SG
 Garden Design SG
 Grevillea SG
 Hakea SG
 Waratah & Flannel Flower SG

Landscapers

Brush & Bush Tamworth NSW