

President's Message

Firstly, I wish to thank the outgoing members of the Friend's committee who have given so much time to planning meetings. Our Gardens are flourishing and continue to attract more people for a quiet ramble or a family picnic. Very special thanks to outgoing President, Hazel Bridgett, who has overseen some wonderful projects during her years as President. Hazel is still Vice President and Projects Officer, so will not be resting.

I look forward to working with the new committee, now a little more streamlined. The continuing and newly formed subcommittees have already begun putting their plans for 2022 into place, an amazing schedule of planting, maintenance, construction, guiding and creativity.

In 2022 we will be celebrating the twentieth anniversary of the first plantings at the Gardens which began in 2002. As well as our usual Botanic Gardens Open Day on May 29, we will hold a special event in Spring to mark this special moment in the history of the Gardens.

The committee recently awarded Life Membership to Marie Matthews, Denis Matthews, Hazel Bridgett and Jan de Nardi. Almost a combined 100 years of dedicated hard work and inspired leadership from these four people has seen the Gardens blossom. These Life Memberships will be awarded in person at the anniversary events. The nursery will be named in honour of Rose Hand, a life member who was the backbone of the original nursery in her own backyard, as well as designing the first stage of the new nursery at the Gardens.



Incoming committee after AGM in November 2021 – Ros Little, Leanne Davis, Tracey Whitby, Florence Treverrow, Judy Blood, Hazel Bridgett, and Jan de Nardi

We were saddened by the death recently of long-time Friend of the Gardens, Brian Sykes. Brian and his wife, Rosemary, worked very hard in the Gardens, especially at our last Sunday of the month working days and photos from as far back as 2006 showed their dedication and passion for the rainforest. Brian's family organised a beautiful celebration of his life at the Gardens, beside his favourite fig tree.

Big Scrub Day, along with many events in 2021, was postponed to this year and we are planning guided walks, educational activities, plant, book and card sales for Sunday February 27th. (See details page 4)

Projects for the rest of this year include many that were also postponed from 2021. The wonderful team of volunteers at our Wednesday workdays has been able to maintain their enthusiasm despite the

uncertainty and closures. Building projects for 2022 include a new bridge at the end of the Rainforest Walk crossing the creek, an office beside the Visitor's Centre, a gazebo in the Sensory Garden and a larger tool shed.

Guided walks have continued safely with the public, although we sorely miss our younger visitors from the local schools. However, the plants are thriving with the more regular rain this spring and summer, with stunning displays of flowering and fruiting, some for the first time.

We always welcome new members, who always bring new ideas and special skills. Don't hesitate to ring 0450 596 705 if you would like to come along.

Tracey Whitby
President@friendslrbg.com.au

Tree Profile

from Peter Gould

Abrophyllum ornans Native Hydrangea

Family: ROUSSEACEAE/ ESCALLONIAACEAE



Native Hydrangea is shrub or small tree growing in Warm Temperate Rainforest and Subtropical Rainforest where it is often found in gullies, on poorer soils.

Its range extends from Milton in southern NSW to the McIlwraith Range in far north Qld.

Leaves:

The dark green leaves are mostly large, oblanceolate to obovate or elliptic in shape and 10 to 20cm long. The leaf tip narrows to a fine point, the leaf base is tapered, and margins are rather irregularly toothed, each tooth having a small, blunt callous projection. The leaves are thin, hairless on top with fine, pale hairs below, especially along the veins.



Flowers:

The small greenish yellow flowers appear in short terminal or upper axillary panicles and are quite showy.

Fruit:

The fruit is a purple-black, ovoid berry 5 to 7mm long. Fruit appears from February to October and remains on the tree for some months.

Timber:

No use of the timber has been recorded and given its small size is unlikely to have been used. Native Hydrangea is an attractive garden specimen preferring sheltered semi-shade and well-drained soil. It is not tolerant of dry conditions.

References:

<https://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Abrophyllum~ornans>
Harden, G., McDonald, B. and Williams, J. 2006, *Rainforest trees and shrubs; a field guide to their identification*, Gwen Harden Publishing, Nambucca Heads, NSW.
Floyd, A.G. 1990, *Australian rainforests in New South Wales*, Surrey Beatty and sons, Chipping Norton, NSW.

Brian Sykes

Brian Sykes died on 14 October 2021. He was one of our oldest long term members and active volunteers – working at the Gardens right up to a few weeks before his death. Only Geoff Walker was his senior in years.

Geoff remembers greeting Brian as a very well informed, quietly spoken man who collected his tools and got on with the job... but always ready for morning tea and a good talk. He was excellent company with an active interest in local native plants... and many other things.

Jenny Dowell, another regular Sunday volunteer for many years, recalls working with Brian; “I found him a diligent weeder, and our conversations as we worked were about all sorts of things - gardening, environment, travels, politics. He was a very interesting, gentle man.”



Denis Matthews added, “I used to treasure those occasions when I could work with Brian on a project. He was a man who had learned to value a long handled tool, be it shovel, rake or weeder and he could yarn without stopping work.

A ceremony attended by his wife Rosemary – also a long term FLRBG Volunteer - his family and friends was held on 27 November at the Gardens in his honour. Brian is missed, especially in the Sensory Garden, which was his favourite area to work in recent times... and also having coffee and cake (and in depth conversations) on the verandah of the Visitors Centre after a work morning.

Christmas Morning Tea for Volunteers



December 15 turned out to be a great morning for the Christmas morning tea for our Volunteers. The weather was warm but not hot, and it was not raining - a perfect day for having our Covid safe celebration on the verandah of the Environment Education Centre.

Nobody counted the number of people there but a group photo taken by Phil Jarman – with difficulty using a timer on an unfamiliar camera - shows 29 volunteers. And not everyone was in the photo! (See photo on back page).

It was a wonderful opportunity for our regular Wednesday workers to meet up with the Volunteer Guides and the Sunday work day team. And for some of our older members, now retired from the working team, to catch up with old colleagues and meet new volunteer workers... and to inspect what has been happening at the Gardens in recent months.

Special thanks must go to all those who helped organise the morning and to all the volunteers for their ongoing work and moral support in keeping the Gardens going and looking good.

Overall it was a delightfully relaxed morning with lots of interesting conversations and plenty of lovely food.



Gardening



'The true meaning of life is to plant trees under whose shade you do not expect to sit'

Nelson Henderson

'Gardening is civil and social but it wants the vigour and freedom of the forest and the outlaw'

Henry Thoreau

'If ever I'm reborn I want to be a gardener..... there's too much to do in one lifetime'

Karl Foerster

'What one needs in gardening is a cast-iron back with a hinge on it'

Charles Warner

When I read these quotations I think of our hardworking Friends of the Lismore Rainforest Botanic Gardens... on Wednesday mornings!

Geoff Walker

oooooooooooooooooooooooooooo

RAINFOREST

*The forest drips and glows with green.
The tree frog croaks his far off song.
His voice is stillness, moss and rain
drunk from the forest ages long.*

*We cannot understand that call
unless we move into his dream,
where all is one and one is all
And frog and python are the same.*

*We with our quick dividing eyes
measure, distinguish and are gone
The forest burns, the tree frog dies,
yet one is all and all are one.*

Judith Wright

Contribution from Hazel Bridgett on our Facebook page to mark both poetry month and National Tree Day 2021



Change in FLRBG Constitution

In anticipation of the 2021 Annual General Meeting, a small sub group of the Committee addressed the necessity of amending the Constitution of the LFRBG which no longer complied with the requirements of the legislation governing incorporated associations: the Associations Incorporations Act 2009 and the Associations Incorporations Regulation 2016.

The sub group, comprising the president, Hazel Bridget; membership secretary Susan Fitzpatrick and lawyer Diana Sharpe, recommended that the original aims should be reviewed in general and, in particular, provide for the establishment of a Public Fund, to receive gifts made for the specific purpose of supporting the environmental objects of the Friends. In this it was ably assisted by advice from Ruth from the Biodiversity Conservation Division of the Register of Environmental Associations, Department of Agriculture, Water and the Environment.

In the interests of managerial efficiency it was decided to reduce Committee numbers from thirteen to seven, and to authorise a number of sub committees to deal with specific issues and interests such as weeding, curating and maintenance. It is hoped that by so doing more members will be encouraged to engage actively in the running of the Gardens and provide a wider source of expertise for future management roles. There is no maximum number of consecutive terms for which a committee member may hold office EXCEPT for the president, who is limited to three consecutive terms, each of one year.

The amended Constitution closely follows the model provided by the relevant authority and was adopted unanimously at the AGM on November 20, 2021. It can be accessed on our website – Tab Newsletters then select New Constitution November 2021.

Diana Sharpe

Lure to attract Cane Toad Tadpoles



Funnelled Plastic Lure Box with tadpoles

A lure that attracts and traps cane toad tadpoles has been developed by the University of Queensland (UQ) Institute of Molecular Bioscience and the University of Sydney's Professor Rick Shine. The product has been licensed to not-for-profit environmental organisation Watergum and has been recently released commercially. Watergum is developing customised funnelled containers to trap the tadpoles so users do not have to make their own.

Cane Toad Tadpole breeding season tends to be when the weather is warm and wet and a female can lay up to 35,000 eggs in one clutch and can lay two clutches a year. So being able to trap large numbers of tadpoles is a game changer in reducing the population of these toxic pests.

Researchers discovered that tadpoles were able to detect cane toad eggs in the same body of water and seek them out and eat them. Using a similar pheromone found in the parotoid gland of the adult toads, researchers were able to lure tadpoles into the traps by coating a sugar cube-sized airstone with the chemical. Importantly, the lure does not attract the tadpoles of other native frog species.

The lure is placed in a specially designed box that allows the tadpoles to enter through funnels on either side and get trapped inside the box. UQ Institute for Molecular Bioscience's Professor Rob Capon who is one of the minds behind the lures said that while it was not a

silver bullet in eradicating the introduced pests it could make a big difference in their control.

Cane toad tadpoles can be distinguished from other tadpoles by being big and black and almost diamond shaped. They are active in the

heat of the day, swarming in the open. Whereas native tadpoles have a round, oval or irregular body shape, are independent (not swarming), and shelter under leaves or near the bottom.

The lure doesn't kill the tadpoles so they need to be euthanised as humanely as possible using the stepped hypothermia method. Put them in the fridge for 24 hours and then transfer them to the freezer. Don't quick freeze them as it is painful to the animals and amazingly they can actually come back to life when they are defrosted! It is important to dispose of dead tadpoles and adult toads carefully as they can be lethal to other animals.

Article sourced from following web pages
<https://www.abc.net.au/news/2021-09-22/cane-toad-tadpoles-lure-research-game-changer/100477028>
<http://www.frogwatch.org.au/?action=cms.page&p=465&m=102&sm=194§ion=1>
<https://watergum.org/canetoadsinfo/>

FLRBG Committee

Executive

President – Tracey Whitby
Vice President - Hazel Bridgett
Secretary/Treasurer Florence Treverrow

Committee

Ros Little
Judy Blood
Leanne Davis
Jan Di Nardi

CONTACT INFORMATION

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Facebook: www.facebook.com/FLRBG

Big Scrub Rainforest Day

Big Scrub Rainforest 'Day' this year will be held over four days at several venues from 24 to 27 of February! Big Scrub Landcare have organised a wonderful range of Covid-safe events that will provide opportunities for a deeper connection to the magnificent Big Scrub rainforest and its incredible flora and fauna.

Activities include various guided walks, presentations and nursery workshops as well as Science in the Pub, all organised to keep everyone Covid-safe.

Numbers are limited for each event. This means that you need to register for the events you are interested in attending and it is suggested that you do this early as places are starting to fill.



Other Big Scrub Day Activities at the Gardens

Self Guided walks - with associated guide brochures at Visitors Centre
Food and drinks for sale, at Visitors Centre

Plants for sale at the Nursery till 12
Greeting cards and books or sale
Visitors Centre

Settlers Twine Demonstration 10am
Outside Visitors Centre

Education displays all morning in the
Visitors Centre.

Note: all of our guided walks will start at front of the Visitors Centre.



*Follow the links below for more information and to register. Each event has limited capacity, **REGISTRATIONS ARE ESSENTIAL.***

Thursday 24 February:

ELTHAM PUB

- Richmond Landcare Inc. & Lismore City Council present, Science in the Pub with Tim Low: Eltham Pub, 5:30pm

Friday 25 February:

BANGALOW PARKLANDS

- Bangalow Bush Tucker Tour with Arakwal Bundjalung woman, Delta Kay, Bangalow Parklands, 4 pm

Saturday 26 February:

ROCKY CREEK DAM

- Mobile Phone Photography in the Rainforest with Iain Stych: Rocky Creek Dam, 9:30am

BIG SCRUB FLORA RESERVE

Rare & Threatened Flora Walk with Justin Mallee & Darren Bailey: Big Scrub Flora Reserve, 9:30 am (This activity has reached capacity, click the link to join the waitlist)

VICTORIA PARK NATURE RESERVE

- SeedTree Maps Guided Walk with Michelle Chapman: Adjacent to Victoria Park Nature Reserve, 10:00 am

MCLEODS SHOOT

- Rainforest tours with Cape Byron Distillery, McLeods Shoot (various dates and times)

Sunday 27th February:

BYRON WETLANDS

- Byron Bird Buddies present Rainforest Bird Insights & a guided walk with Jan Olley & Michael Brown: Byron Wetlands, 9:00 am (This activity has reached capacity, click the link to join the waitlist)

LISMORE RAINFOREST BOTANIC GARDENS

• GUIDED WALKS

- Useful Native Plants with Andreas, 9:30 am
- The Gardens Regeneration Walk with Mari Jo, 10:30 am
- Uncommon Plants of the Big Scrub with Peter, 11:00 am
- Native Bees as Pollinators with Graeme, 11:00 am
- Hoop Pine Forest Walk with Marama, 11:30 am
- Wilson Park Species Garden with Tim, 12:00 pm
- Useful Native Plants with Ken, 12:00 pm
- Encounters 2020 Garden with Tracey, 12:30 pm

(These walks will fill quickly so it is important to book early!)

Unfortunately, due to Covid19 we are unable to run the special children's activities originally planned at the Lismore Botanic Gardens.

← For other Activities at the Gardens see adjacent listing

FIREWHEEL RAINFOREST NURSERY present Rainforest Seeds, Propagation and Nursery tour: Dorrroughby

- Beginners session, 9:00 am
- Intermediate session, 12:00 pm
- Advanced session, 3:00 pm

Passive spaces in nature



Path through our main Rainforest area

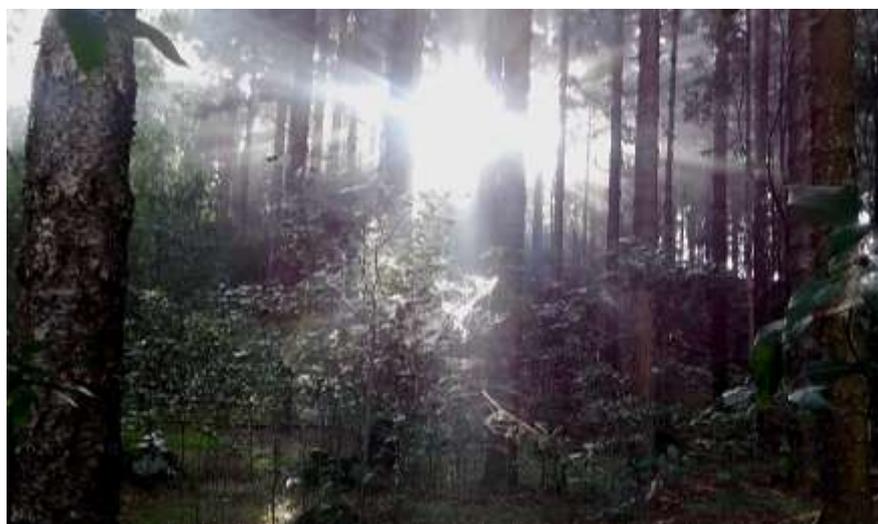
A dawning moment for many Sydneysiders last year was the positive effect that stepping into a passive space in nature had on their mental health. The link between the natural environment and mental health is not a recent revelation. There have been numerous studies. In 2005 NSW Health published a literature review presenting mounting evidence that gardens in healthcare settings had a restorative effect on stressed patients.

Biophilic design specialist Amanda Sturgeon says that with Sydney's parks barely coping with numbers of visitors, much of her work in Sydney concerns 'rewilding' parts of the city in ways that allow nature to take back control. 'It is very hard for nature to thrive within manicured

sports fields. Active spaces don't give us that kind of diversity of nature... biophilia shows that we actually like to engage with a richness that nature offers us that's ever-changing and which stimulates the senses.'

Health educator Lenny Ramsay, says passivity (of the natural setting) is crucial. "In a hospital setting they call it 'prospect refuge theory'. You know how you wander through a park and you find a space with a seat, and you think 'Oh, this just feels right, I feel safe here'. We have sporting fields, and we see the benefits of them, but spaces which have that passive, deeper mindset capacity... well in COVID, everyone's found that it is key".

*Extracted from Article by Angus Thompson in Sydney Morning Herald 10 January 2022
Adapted and edited by Marie Matthews*



Hoop Pine Forest at sunrise in winter

Bees survive volcano

As a result of the eruption of La Palma Volcano in the Canary Islands in September 2021, six bee hives, located only 600 metres away from the volcano, were either completely or partially buried under a thick layer of ash. Reports vary as to whether they were Canary Black Bees, which are native to the Islands, or the more common European Honey Bees. Rescuers had to wait 50 days to uncover the hives, and when it was safe to do so, were amazed to see that the bees in five of the six bee hives had survived.



Elías González, president of the Aggrupation de Defensa Sanitaria (ADS) Beekeepers de La Palma, reported that the bees were able to survive due to the type of porous ash that typically falls close to the volcano. Also, the bees were able to seal themselves in the hive with propolis, leaving a tiny pathway so they could eventually escape when conditions improved. Propolis is a type of 'bee glue' that is created when bees mix saliva and beeswax with secretions from sap and other plant parts. Because the owner of the hives had not yet removed the honey from the hives before the eruption, the bees were able to feed on their own accumulated stores of honey.

*Sourced from
globalnews.ca/news/8418368/bees-survive-la-palma-volcano-ash/ and
www.nytimes.com/2021/12/04/world/europe/canary-islands-volcano-honeybees.html*

Curators report - LRBG- CWAG

The recent meeting of the CWAG team was intended as an informal catch up but we covered a surprising amount. Items discussed included:

As 2022 is 20th Anniversary of First Plantings and we will consider projects to enhance the Gardens and celebrate the landmark date.

Curation document sharing - Set up a Curation Team folder in Office 365 so that we can share working documents, plant lists and information resources.

Rainforest Plants - investigate ways to promote rainforest plants and to improve public access to resources

FLRBG website – we will look at ways we can add plant information resources to our site including book lists and web resources and plant profiles. Update Peter Gould’s detailed plant listing. Maybe include hyperlinks to plant profile information. We also discussed implementing QR codes. **Facebook** is already established and is a good way to tell Garden’s stories and plant stories.

Plants and Weeds –providing cheat sheets for weeders - maybe laminated page/s of just photos with imbedded names – weeds, unwanted native seedlings, seedlings for the nursery, etc

Maintenance standards –How to balance between regeneration and



Some of the CWAG team at work recently – Damian Butler, Judy Blood and Peter Gould

traditional park management? Specifics needed in particular locations.

Volunteer education – instigate an introduction programme for volunteers to the Gardens. Maybe a set of online resources, followed by an occasional practical training session. Coverage would include Garden’s policies, maintenance guidelines, reference documents, best practice guidelines for pruning, weeding hygiene awareness for tools and boots and basic plant identification.

Nursery liaison and plant management – before autumn planting we plan to systematically identify and document all the plants in nursery that are ready for planting, list where they are to be planted and schedule planting dates.

Priorities for planting this year.

New Rare and Threatened beds – weeding, further mulching, watering system

New Acacia beds – identify bed location and parameters, bed prep, possible soil and mulch needs

Rooms 5 & 6 – review plants needed, possible

plant removal

Bridge path – new plantings between the new bridge and Nursery

Proteaceae bed – assess area across from nursery, beside path to the bridge. Low plantings needed to avoid shading the nursery. We will look at alternative to current site further down, above the roadway.

In **Typha Swamp** and drainage edges we will mostly use plants held in nursery from last year

Fill gaps Anniversary Slope and Old Acacia Bed

Sensory Garden Pond – possible alternative approach. Maybe plant Melaleucas and other plants that can handle regular flooding? Planting of perimeter could be decorative. It would provide good habitat. We also need to consider safety issue around deepish water.

Judy Blood, for CWAG - Peter Gould, Susan Fitzpatrick, Damian Butler, Neil Tierney



Some of the weeding team uncovering recently planted trees and shrubs from too much native ground cover in old Acacia Bed.

When not “captured,” or fixed in place naturally by trees, soil, grasslands and oceans, carbon is one of the leading greenhouse gases contributing to climate change. This year, 2021, Research Forester Grant Domke from USDA Forest Service’s Northern Research Station and his team [reported](https://www.fs.usda.gov/features/growing-trees-and-capturing-carbon) that in terms of terrestrial carbon storage, forest land, harvested wood products, woodlands, and urban trees collectively represent the largest net carbon sink in the United States, offsetting more than 11% of total greenhouse gas emissions in 2019. <https://www.fs.usda.gov/features/growing-trees-and-capturing-carbon>

WEEDS, WEEDS, everywhere are WEEDS, blocking out the scenery, breaking my mind... (Apologies to Five Man Electrical Band – 1971)

Susan Fitzpatrick



Susan Fitzpatrick, Weed Team leader & Theodora Hendricks at work in Palm Gully

Home gardeners and rainforest restorers are constantly battling the invasion of weeds. And, with the recent good rainfall and warm weather not only have our trees and plants thrived but also the dreaded weeds. The LRBG Weed Warriors are constantly doing battle with weed removal. It is very satisfying to look back after a good morning session to see the beauty of the plants without the smothering weeds.

Definition - A weed is a plant considered undesirable in a particular situation, "a plant in the wrong place". Taxonomically, the term "weed" has no botanical significance, because a plant that is a weed in one context is not a weed when growing in a situation where it is wanted. The term weed is also applied to any plant that grows or reproduces aggressively outside its native habitat⁽¹⁾.

Environmental weeds may be defined as plants that have become problems by invading and altering native plant communities. As well as introduced (exotic) plants, weeds can include Australian native plants growing away from their place of origin.⁽²⁾

Did you know - Weeds are amongst the most serious threats to the long-term survival of subtropical rainforest remnants and other rainforest vegetation? Weeds cause serious degradation of subtropical rainforest, and can ultimately lead to the destruction of rainforest remnants. Weeds can damage and sometimes kill rainforest trees and other

rainforest plants by smothering and suppression of natural regeneration and other ecosystem processes vital for the long-term viability of rainforest vegetation⁽³⁾.

Did you know - Many "weeds" that have infiltrated our subtropical rainforests are home garden escapees. Dispersal may be due to wind, water runoff, birds and animals, transplanting by humans, rubbish dumping, inappropriate urban development, inappropriate fire regimes, movement by domestic, commercial and recreational vehicles and heavy machinery.

Some common garden escapees include, but are not limited to: Lantana, Camphor Laurel, Privet, Umbrella Tree, Coffee, Guava, Passionfruit Vine, Butterfly Bush, Water Hyacinth, Water Lettuce, Canna Lily, Watsonia, Gladiolus, Madeira Vine, Asparagus Fern, Coral Berry, Morning Glory, Coral Tree, Yellow Bells, Hairy Commelina, Trad (Wandering Jew), Resurrection plant, Glory Lily, Mother of Millions, Kahili Ginger. As well as other grass weeds such as Kikuyu, Paspalum, Oxalis, Setaria, among a host of others.

There are various methods of removal of weeds, depending on type, spread, size. At the Rainforest gardens, we mostly hand-dig and cut to remove, but sometimes herbicide application is required when the weed is widespread. This may include foliage spraying, cut-scrape-paint, scrape-gouge-paint, tree

drilling/injecting. [Conducted by trained persons].

Additionally, it is important for home gardeners to be aware of what plants are likely to 'spread' outside their home boundaries and become a 'pest' for others and the greater environment. Awareness and due diligence is the key to reducing weed infestation in our natural spaces.

Some resources for weed identification and control

Northern Rivers Invasive Plants Action Strategy 2009-2013. For the use of all public & private land managers
NOXIOUS WEEDS NSW Far North Coast – Rous County Council.

Big Scrub Rainforest Landcare Group – www.bigscrubrainforest.org/big-scrub-landcare-resources/

Reference: (1) Wikipedia
(2 & 3) BSRLG-Common Weeds of Subtropical Rainforests of Eastern Australia.

Weed Sniffer Dog



Fonzie – a black German Shepherd - has been trained to find invasive weeds in Tasmania's Central Highlands. Sniffer dog trainer Steve Austin, has taught Fonzie to recognise Orange Hawkweed which was brought to Tasmania as an ornamental flower and Serrated Tussock which is very similar in appearance to native Tussock grasses. Mr Austin says that Fonzie has turned out to be a very good detector dog in the conservation field.

From ABC Rural News 22 January 2022
<https://www.abc.net.au/news/rural/2022-01-23/weed-sniffing-dogs-unleashed-n-tasmanian-central-highlands/>

Current Building Projects at the Gardens



Will with Don and Dave working on foundations of new footbridge

Regular visitors to the gardens will have noticed the construction of fixed assets and paths over the last 20 years. These include decks, benches, sheds, bridges, boardwalks, causeways, raised garden beds, signage and bee boxes. Most of this work has been completed by the volunteer construction and maintenance team. Funding is sourced from a combination of grants and donations. Currently the team is working on the completion of the substantial foundations to support the new 7 metre steel bridge, designed by Lucena Engineering, to span upper Fern Gully at the end of the bitumen path in the rainforest. This will form a loop across to the nursery access road and back down through rooms 5 and 6. It will also facilitate further conservation work at the Western end of the LRBG. The bridge has been made by the fabrication team of Lismore City Council and will be installed by crane

once the foundations are finished. Further work will be required to complete the decking on the bridge and the Eastern approach ramp. The engineers have designed the bridge to be above any potential flooding rain which, experience has shown, can be fast and damaging because the gully, at that point, comes down a steep slope.

The next projects planned for 2022 will be the fitout of the office to be built at the Visitors' Centre, building by BT sheds will commence shortly, and a Gazebo with a shingle covered pyramid roof in the western end of the Sensory Garden. The Gazebo will be supported by the reinforced concrete piles which were poured before planting commenced. Another major project, which will require grant funding, is a new three bay equipment shed and workshop to replace the existing small steel garden shed.

Oak Trees at Ely Cathedral

The first phase of the (reconstruction work at Ely Cathedral near Cambridge in the UK - after collapse of main tower in 1322 - was completed in 1328 with the timber lantern having been designed by William Hurley, the King's carpenter. (The lantern was supported by an octagonal stone structure). The lantern part of the design is framed by eight vertical oak posts 60ft in length.



Ely Cathedral Lantern Image Public Domain

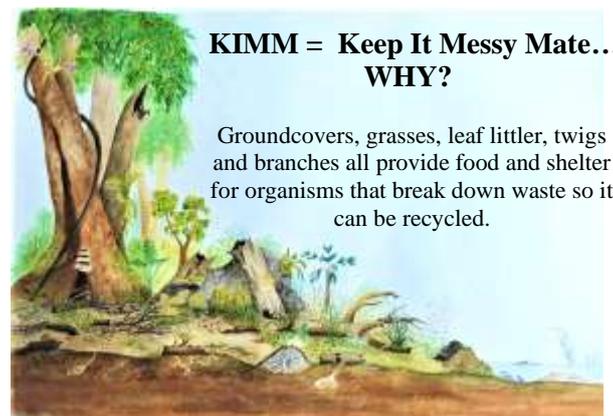
The wood used to create these came from Oak trees at Chicksands Priory in Bedfordshire. As each beam weighed in at over 10 tons, bridges on the route from the priory to Ely had to be reinforced to take the weight of these great oaks!

<https://www.facebook.com/ElyMuseum/photos/it-was-onthisday-the-13th-february-1322-at-around-430am-shortly-after-the-monks-10157461641918876/>

New Signs for the Gardens

As part of an educational programme to inform people about the importance of biodiversity in our gardens and in the environment generally, new signs are being developed for various sections of the gardens. From simple "Please don't remove plant material" signs, to local native frog and native grass signs to two large biodiversity signs – one aimed at children and to be printed as a banner and the other with similar information but aimed at an older audience.

Our Wednesday Work Day leader Ros Little has done some beautiful artwork to go on these signs and our Graphic Designer Annette Deal is working on further developing the design.



KIMM = Keep It Messy Mate... WHY?

Groundcovers, grasses, leaf litter, twigs and branches all provide food and shelter for organisms that break down waste so it can be recycled.

FLRBG Plant Nursery



Neil Walker, Geoff Walker Jenny Wilson and Jan de Nardi in Propagation Shed

FLRBG Nursey is situated at the western end of the Gardens, above the end of the sealed path through the main rainforest area. It is adjacent to the site of the new footbridge and just a stone's throw from beautiful Palm Gully.

The Nursery team is led by botanist Jan DeNardi and they all meet on a Wednesday morning from 9.30 till midday.

Their focus is to raise beautiful and healthy rainforest and other local native plants needed in the Gardens. But plants are a also vailablefor sale to the general public on a Wednesday morning and at our Open Days and other events.



Stenocarpus sinuatus Firewheel Tree

The Nursery will be selling plants this coming Sunday 27 February at the Nursery as part of the Big Scrub Day from 9.30am till 12noon.

There will be a great mix of plants available from ground covers, shrubs and vines to small and large trees.

PAYMENT IS STRICTLY CASH there are **NO CARD FACILITIES** .

Prices are mostly \$2, \$4 and \$5 with occasional higher price for large trees. We appreciate payment in small denomination notes or gold coins wherever possible.

'Spirit of the Forest'

In a recent interview on Science Extra on ABC Radio National Professor Michael Manfield , Environmental Scientist University of NSW, expressed some interesting thoughts about the microorganisms of Earth.

"I recently watched a Japanese anime movie Princess Mononiki, the central theme of which was conflict between humans and the environment. One of the main characters is Spirit of the Forest who rises above the forest at dusk bringing things to life and causing things to die and decay, to decompose, to weather - cycling of

ecosystems. I had a moment of realisation that these processes are aspects of ecology that microorganisms are responsible for. There is actually a spirit of the earth – the spirit of ecology - it is just not made up of a giant being that rises out of the forest in animal/humanoid form - it is made of microorganisms.

We have microbes all around us – in the soil, in the oceans. There are enough microbes in the oceans to have, over time, oxygenated the atmosphere of Earth. We have microbes on us and inside us – mostly in the gastro intestinal system. If we break a human down by cell count we find that 50% cells are human and 50% microbial. In a sense, human kind and all multi-celled organisms that are big enough to be seen have evolved with permission of the microbes. If the evolution of something actually threatens the microbes, because



they are the foundation of all life, it will not be allowed to evolve.

Estimates of the quantity of microorganisms on the Earth are only that - estimations. However, a reasonable figure is that there are around 10 to the power 30 (1 with 30 zeros) such organisms on planet Earth and that is 100 million times the number of stars in the universe! In terms of mass – for every kilogram of human there are 100,000 kgs of microbes on this planet. 100 tonnes of microbes for every kilogram of human being! Thinking about this it is easy to reinterpret the language that people have used over time to describe their deities and rephrase it in terms of ecology."

<https://www.abc.net.au/radionational/programs/scienceshow/science-extra-climate-change-cop26-electric-cars-global-warming/13675230>

Extracted by Marie Matthews from Interview aired 17 January 2022 ABC RN

Murnong – Yam Daisy... a valuable food plant?

The **Murnong** or **Yam daisy** *Microseris lanceolata* was an important food source for Indigenous people in Australia up till colonial times. In 1835, the Tasmanian colonist John Batman set up his base camp for the land speculation company Port Phillip Association at Indented Head. One of his men, Andrew Todd, reported: 'We have commenced eating Murnong roots the same as the natives do.' Todd made sketches of the local people – one showing a line of women digging for Yam Daisy 'the women were spread out over the plain as far as the eye could see, collecting the yams'. Explorer Thomas Mitchell also reported seeing 'a vast extent of open downs quite yellow with Murnong and natives spread over the field digging for roots'.

Colonial settler Malcom reported on eating the Murnong: 'It is rather agreeable to the taste as a native article of food, and when you squeeze it, there is a sort of milk or creamy substance which comes out of it. I have eaten it many a time, and a man named Buckley who lived among the natives for thirty years before the settlement was formed, told me, that a man may live on the root for weeks together; and that he has dug them up in great numbers for food.'

The introduction of cattle, sheep and goats by early colonists led to the near extinction of Murnong, with calamitous results for Indigenous communities who depended upon Murnong for a large part of their food. Mitchell had noted that 'the cattle are very fond of the leaves of this plant, and seem to thrive upon it'. Sheep were more destructive, eating the tops and the roots and, with the cattle, compacting the soil with their hard hooves. As Murnong had grown abundantly on the plains and open forests where the introduced sheep thrived, their arrival sounded a death knell for the native plant. Within five years of the

founding of Melbourne, Murnong had disappeared from the surrounding area. And the introduction of rabbits in 1859 was a final nail in the coffin for this nutritious plant. Except for very rare survivors in protected sites such as railway sidings and cemeteries this plant became virtually extinct.

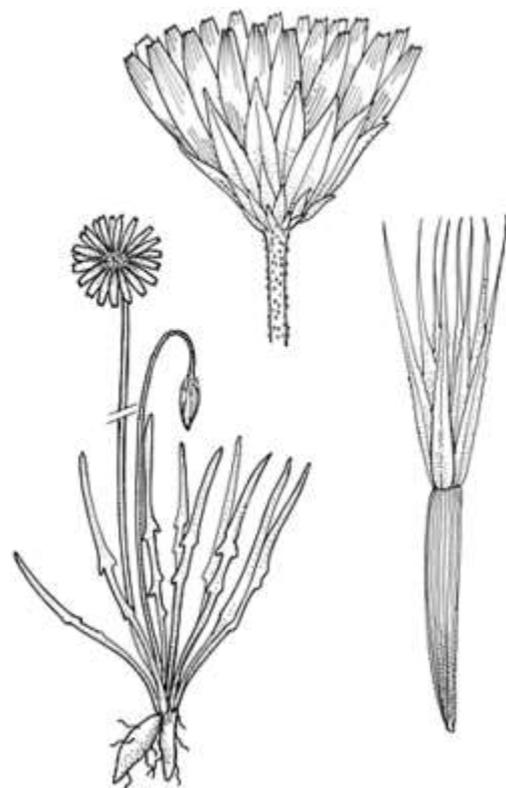
Plantnet indicates that *Microseris lanceolata* is native to most of south eastern Australia including North Coast area but it is difficult to find hard evidence of where it actually grew in this area. Apochryphal evidence indicates that it has been found grown in the Kyogle area and recently there are unconfirmed reports that the plant has been found in regrowth after the 2019 fires in the Mt Nardi area.

Local Bush Food guru David Hardwick reports that he hasn't seen any records for Yam Daisy growing in this area and he failed in his only attempt to grow Murnong in a pot at Bangalow. However, he reports knowing of it being grown by a horticultural colleague on the Sunshine Coast which has a similar climate.

Bruce Pascoe reports in his book "Dark Emu" that some species from dryer climates can definitely adapt to being grown in the wet subtropics. He also wrote: 'The yam was a crucial plant in the economy of pre-colonial Aboriginal Australia but few have examined this productive tuber. Surely we can no longer ignore such a valuable plant or the commercial opportunities it offers'.

References:

Wikipedia – Murnong or Yam Daisy
Australia's forgotten food by Dan Saladino, *The Australian*
<https://bit.ly/3BNaOU2>;
Plantnet.com.au;



Yam Daisy image from Plantnet.com.au

Propagation

'Seed of the Yam daisy can be found in some nurseries. The plant is quick growing, and likes full sun to part shade. Will do well in most soil types, and while it is drought and frost tolerant, good care will ensure better growth. Needs well drained position. Propagation is by seed, which germinate in a couple of weeks, old seed (over 6 months old) has a much lower germination rate. Sow in autumn to early winter, as hot weather limits germination, and sow on the soil surface as darkness limits germination. A small sprinkle of sand or seed raising mix over the top of the seed will help it not be blown away. Alternatively, push seed down into soil with the fluffy top (the pappus) exposed on the soil surface. Keep moist until germination.'

Extract from *Gardening With Angus*
www.Gardeningwithangus.com.au

Ancient trees are precious. There is little else on Earth that plays host to such a rich community of life within a single living organism.

Sir David Attenborough



Group photo of FLRBG Volunteers at Christmas Morning Tea in December. Photo Phil Jarman

Brand new set of greeting cards

Just arrived from the printer.
They are beautiful! 12 different photos
of flowering plants and local
native animals, taken by Friends of LRBG.

ONLY \$20 A SET OF 12!

Blank for your own message.

If you would like to purchase them, email
publicity@friendslrbg.com.au



Guided Walks for this Year

Guided Walks are planned for the last Sunday of each month.

See page 4 for details of walks planned for 27 February – Big Scrub Day.

Walks are free – however Gold Coin donations are very welcome. Coffee and cake usually available at the Visitors Centre after the walks – also Gold Coin.

From March through to November walks will be start at the Visitors Centre 9.30am in the hotter months and 10am in winter.

Details of specific walks will be advertised on the Web site and our Facebook page (see page 3 for details)

All walks are limited to 10 and bookings should be made via publicity@friendslrbg.com.au.

NUMBERS ARE STRICTLY LIMITED

Other walks and/or talks for groups or individuals can be arranged at other times. For these there is a charge.

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