FLRBG

February 2018

Newsletter of the Friends of Lismore Rainforest Botanic Gardens Inc.

President's Message

The last six months have been busy ones at the Gardens. After the dramas of the big flood and ongoing wet weather earlier in the year we moved into a very dry period where we had no rain for three months and keeping plants, especially newly planted ones, alive became a focus. And then it rained and kept raining which was wonderful for the plants but it meant an abundance of weeds.

I especially would like to praise the people who do the weeding. Without them we wouldn't have a garden. Their role is mostly invisible – they disappear into the rainforest with their tools and buckets and are not seen except at morning tea time. But they are essential to the Gardens – we couldn't do without them..

We had our AGM in September. Denis Matthews resigned – he reckons the meeting in October was the first one he has not had to attend in 14 years! However, he is still very involved with getting the Solar Clock constructed. Mary Mc Dermot has taken a year off to travel around Australia. But Leanne Davis has joined the committee and we are very pleased to have her on board.

In October our two key personnel in the Wednesday Work Group, Florence and Ros – were out of action with broken ankle and hip surgery respectively. Florence returned in mid January – still on crutches but making steady progress - and Ros hopes to be back after Easter. We felt lost without our trusty leaders but everyone has pulled together and got on with the job – sometimes taking on roles they were not used to doing. For that I am very grateful.

New Cool Cubby is proving very popular with young visitors

We had some great achievements. The new Nursery team, with Jan de Nardi at the helm, has done an admirable job getting the new Nursery into production, even managing to organise three big plant sale days in spite of working with makeshift facilities. However, the new Potting Shed has now been completed and we officially opened it just before Christmas. Thanks to Wil and his team.

The Cool Cubby was completed late August and is now a very popular feature of the barbecue area – kids are drawn to it like a magnet. Don Woodley and Margaret Hildebrand must be thanked for their vision and persistence!

The Native Rice Garden – including a linking path from the main sensory garden loop path is already a popular place for people to sit and chat. Signs went in last month and once the weather cools a bit we will put in the remaining landscaping plants.

The Wilson Park Path was gravelled, crossings in the main rainforest area were repaired and a new one installed in Walker Estate; bee hives were maintained and the stolen one replaced.

Pat Offord in her role of Curator has organised ongoing planting – both replacement and new, throughout the Gardens and we are gradually increasing the labelling of the plants. The Education team have done outstanding work with visiting school and pre-school groups and other activities - the two middle school terms were a particularly busy time for them.

In September we started running regular guided walks on the last Sunday of each month. These are proving popular and will continue into 2018. Our next walk in on February 25.

And as always, thanks to the committee. They are a great team and they help to make this work very rewarding.

Marie Matthews

Plant Profile:
Syzygium francisii
Family: Myrtiaceae

Syzygium francisii at our Fern Gully Picnic Area

Syzygium francisii is a medium to large buttressed tree. It grows to over 30m in height and there are reports of trees up to 45m. The trunk diameter can reach 150 cm and it has an attractive, slightly flaky bark. The tree's crown is dark and dense so it is a good shade tree, suitable for large open areas. It is a good regeneration tree and will tolerate poorly drained sites. It is not a plant for a small yard however it can, reportedly, be grown in a pot and pruned to keep small.

The common names for this tree include **Giant Water Gum**, **Rose Satinash**, and **Francis Water Gum.**

The leaves are ovate to elliptic, 4–8 cm long, 1.5–3.5 cm wide, apex acute to acuminate, base cuneat. The margins are undulate, glabrous and discolorous with lateral and intramarginal veins which are distinct on lower surface. Oil glands are sparse and not easy to see. The petioles are 4–9 mm long.

The white flowers come in panicles between September and December, followed by a purple blue fruit from January to April. This fruit is depressed-globose, 7–13 mm long, 10–20 mm diameter. Although in theory edible, the white flesh is flowery and quite unpalatable. However, it is eaten by many types of rainforest birds.

Fruit of Syzygium francisii

Each fruit has 1 or 2 seeds, with solitary embryo and smooth cotyledons.

The natural habitat of the *Syzygium francisii* is between Morisset, New South Wales (33° S) and Gladstone, Queensland (23° S). It is found in subtropical, dry and littoral rainforest, usually on basaltic or fertile alluvial soils, often in valleys. It will grow in full sun or partial shade, is frost hardy but needs reasonable access to moisture.

Seed germination is relatively easy and quick, commencing at 20 days. Soaking of seeds is recommended to drown insect larvae.

The botannancial name *Syzygium* is from Greek – *syzygos* meaning joining together. This is in reference to the cap formed by the perianth segments - the non-reproductive part of the flower. The *francisii* is after W.D. Francis, Government Botanist Queensland 1950-54.

At the Gardens we have several mature specimens of this tree which were part of the remnant vegetation on the site when the Gardens were started in late 1990s.

Marie Matthews in Peter Gould's absence

References:

Rainforest Trees and Shrubs by G. Harden, B. McDonald and J. Williams. Pub Gwen Harden publishing, Nambucca Heads 2006, 2011

Meanings of Botanical names of plants at LRBG by Calder Chaffey, Publlsher FLRBG, Lismore 2006

Wikipedia.

www.abc.net.au/gardening/stories

http://plantnet.rbgsyd.nsw.gov.au/

Bark of Syzygium francisii

Miniature Water Gum

A dwarf form of *Syzygium francisii* – the cultivar "Little Gem" is a small shrub with mid-sized glossy green leaves with attractive red and pink new growth. White powder-puff flowers are followed by mauve fruits that attract birds. It is a good hedging plant as it responds well to pruning. Also good for a low screening, and for topiary and bonsai work. It does really well as a pot plant and is happy in both sun and partial shade in most soil types.

http://www.gardeningwithangus.com.au/

LRBG plant material at National Botanic Gardens Canberra…*progress report*

It is three years since my visit to your garden to collect cuttings of rare and threatened plant material for growing on in the living collection of the ANBG here in sunny Canberra.

This visit was prompted by our efforts to diversify the genetics of our threatened rainforest species' holdings and was facilitated initially by Pat Offord and on the day of the visit by Peter Gould.

I would like to give you a brief overview of progress to date with the salient warning that, unlike you fortunate folks of the subtropics with metres of red basalt soil and plenty of rain, us poor cousins in the south are scratching out a subsistence existence on depauperate ancient weathered soils with a five month growing season in a good year and the occasional -9 degree morning!

Rainforest Gully in Canberra's Botanic Gardens

Sampled specimens

We sampled specimens of nine species of which six are now planted in areas of our rainforest gully with cuttings of *Davidsonia johnsonii*, *Diploglottis campbellii*, and *Myrsine richmondensis* unfortunately not producing roots in our nursery's propagation house on our return to Canberra. Peter donated a plant of *Davidsonia jerseyana* and this has been joined in the ground by three cutting-grown plants. We also have several other plantings of this species which came from a commercial nursery without provenance information and have been growing steadily for 10 years and are now flowering, without as yet producing their prized fruits

Rocky Creek Dam Elaeocarpus, *Elaeocarpus sedentarius,* is another species we are trialling. Our material is from a cultivated source only. We are establishing some of its horticultural tolerances before planting out. We do this with our more valuable collections including the material obtained from you. Unfortunately only one cutting struck but this single plant is being established with extra diligence including a secure plant guard to protect against the intrusions of our resident swamp wallabies and kangaroos. A second Elaeocarp sampling, Hairy Quandong, *Elaeocarpus williamsianus*, also produced only one plant which is also being similarly cared for.

Fontainea oraria

ANBG has a special relationship with the very rare Lennox Head Fontainea, *Fontainea oraria,* having received a replicate collection of the 10 surviving adult trees from Di Brown at Coffs Harbour OEH last year. These plants originated in the recovery plan actions for the species which has seen it secured in multiple sites around the existing population as well as, in our case, ex-situ. We are using the plants as propagation stock before putting them out in the garden. The species does well in Canberra, our oldest plants now 20 years in the ground and 4 metres high flowering annually. The cuttings we took from your garden came from two of the wild plants, one of which at the time was thought to be the only surviving female. After several years of monitoring it has now been established that the species is able to change sex which will hopefully be beneficial for its long term survival.

Macadamia species

Macadamia integrifolia is a species that has been growing in our garden since the late 1960's and the oldest trees are now 6 metres tall and 4 metres wide and fruit regularly. Like many of our oldest rainforest collections, they were of cultivated origin and the 11 plants that originated from your collection are our first wild provenance planting.

A second Macadamia species we sampled in 2014, *M. tetraphylla*, is also a long cultivated species at the ANBG and like *M. integrifolia* has shown great tolerance to our climatic extremes. Seven of your plants have made it through the nursery to be planted out in the garden.

Continuing the Macadamia theme, it was with great pleasure that we were able to send cuttings of our wild sourced *M. ternifolia* to Rose Hand at your nursery in 2016. I understand you had lost this species from your collection and we were more than happy to step into the breach. More recently, we were able to assist Peter with information for your Biosecurity Strategy.

Once again, as an employee of a large capital city institution, I would like to thank and commend all those involved with your gardens. Such endeavours not only bond and invigorate local communities but can become vital cogs in the safeguarding of our nation's floral heritage. I look forward to continuing our collaboration.

Toby Golson, Senior Horticulturist
Australian National Botanic Gardens

Third Time Lucky for Native Bees?

Peter distributing native honey at Christmas MT

Our first hive of native bees at the Gardens - the tiny *Trigona carbonaria* - one of the Australian stingless bees and indigenous to this area, was installed late in 2015. This bee colony soon established and appeared to be very healthy. But for no apparent reason, late 2016, it died. On close examination, house fly sized maggots were found in the bee propolis within the hive. However, it is unlikely that flies caused the loss but merely fed on the remains including those precious honey pots. The loss remains a mystery.

A replacement box, based on a recently divided box from my Alstonville garden, was duly installed and the bees soon established a very heathy hive. Then disaster struck again - this time the box was stolen! The adjectives describing the 'low life' thief are unprintable! I have since learned that other items including a bench seat and a solar pump have also suffered the same fate. And other native bee hives in the district were also stolen.

Determined not to be deterred, on 1st November 2017 we installed a replacement box. My bee box partner and box maker Don Woodley bolted a strong hook to the lower section of a new box for security, and a 'full top half' was added from Alstonville . Normally it is better to relocate a box with a full bottom half and an empty top so that the bees have a familiar access hole, but this time security was a priority.

Now we have three boxes of native stingless bees at the Lismore Gardens , each padlocked to chains embedded in mass concrete. **This is a deterrent to thieves, not a challenge!!**

Don and Peter placing new hive in position

Not to be outdone, the worker bees have doubled their guards around the entrance hole to ward off predators, it is just a shame they have no sting!

Our bees have caught the interest of a lot of visitors and around 50 people attended the talks on native bees and hive box construction at an open day earlier last year.

Don and I are working on a plan to install a special loft to the new box for honey collection in the near future!

At our recent Christmas Morning Tea for our volunteers I brought in some honey from my own hives for people to try. It proved very popular. Next year I hope the honey will be a product of Lismore Rainforest Botanic Gardens. A sweet taste of success!

Peter Swain

Our Bees in print!!

Late in 2017 ABC Organic Gardener magazine ran a competition for stories about keeping bees in Australia which was advertised on the Gardening Australia TV programme. They wanted reports of the experiences of people and organisations in establishing and maintaining bee hives both native, and imported honey bees. We decided to rewrite Peter's stories to fit the parameters of the competition and, together with some photos we had about our bees, lodged our entry. Just before Christmas we received a phone call from the Organic Gardener people informing us that our submission had been accepted and that it will be included in an illustrated book to be published September this year!!

Working on Rainforest Regen with Wyrallah Public School

Mid 2017 we were approached by Wyrallah Public School about the possibility of providing some input into their plan to develop a small rainforest in the School grounds.

Peter Gould and I agreed to get involved and in August visited the school to look at the site and see what help we could be in its future rainforest development.

A site adjacent in the north-west corner of the school grounds was planted in the early 1990's with rainforest species typical of the Big Scrub and a number of the original trees have formed a canopy over parts of the School grounds.

We did an audit of the plants already present and noted what exotic plants needed to be removed, also what other site preparation needed to be completed. From the information we collected that day and consultation with the school, we prepared a map of the site and worked on a suggested plant list. Meantime a small core group was formed at the school to take on responsibility for the development.

In September we presented a draft of possible options for the site. We suggested adding understory plants beneath existing canopy trees and semi-shade shrubs/small trees for more open areas on northern and eastern boundaries of site. We also thought a bush foods/useful plants section along Northern border pathway would work well. As well as the selection and positioning of plants there were some very practical things to deal with such as getting water to the site, removing dangerous overhanging branches , arranging a system for disposing and processing of green waste. Also grant(s) needed to be applied for and signage organised.

The School reviewed and revised our draft and settled on a final version including the location of pathways, a yarning circle, screen plantings etc.

We suggested planting in two stages – an initial planting in November, followed by a second planting of the remaining species between February and April. Work was done by the school on preparing the site for planting and a maintenance plan for new plantings was devised.

The school organised the first planting day on 29 November. This was a real community event with volunteers from the school community and also other organisations in the area. It was a great success and people were excited at the progress.

Graeme Patterson, Peter Gould & Lisa Fahy, Principal Wyrallah Public School

Obviously this is only the start. The second planting is to happen in the autumn months and then further development of the site will occur as time and money are available. But plans are in place.

This has been a good experience for us - an opportunity for community engagement with just a few hours input on and off site. Who knows, word may spread and this approach could be useful for other groups, and could even help us with funding down the track.

It wouldn't have happened, though, without Peter Gould's invaluable wealth of knowledge and expertise – he led and I learned lots from him.

Graeme Patterson
FLRBG Education Team

Community workers at the school's planting day in November.
Back: Georgina Jones, Envite Environment/Rous County Council ; Barbara Jensen, Lismore City Council; Lyn Thomson, Richmond Landcare; Cindy Picton, Dorroughby Environmental Education Centre; Graeme Patterson, LRBG. Front Row: Marianne Logan, SCU,; Aunty Lois Cook, Aboriginal Elder, Nyangbul; Tamlin Mackenzie, Dorroughby Environmental Education

Feel Blue, Touch Green

On 27 October Lismore City Council's Feel Blue, Touch Green (FBTG) Project was launched by the Mayor, Isaac Smith at a special Mental Health Day at the City Hall. Long term programmes are still being clarified but the whole focus is about utilising the beautiful green areas within the City of Lismore. Just being in the presence of living plants – be it private garden or wilderness, has been proven to be of benefit to health - physical, emotional, mental and spiritual. Our Botanic Gardens has been nominated as one of the sites for future activities. The first formal event of the new programme was a special healing day held at the Buddhist Centre at Tullera in November.

Human Sundial construction underway

Denis checking the position of sample date scale for sundial

Having been in the pipeline for a year now, construction of our Human Sundial – or Solar Clock- is at last underway in the Sensory Garden.

Two retired scientists from Sundials Australia have very cleverly come up with a design which takes into account the difference between clock time and sun time each day. This is essential for the human sundial to show the correct clock time. These two enthusiasts have been very supportive in sharing their knowledge with us.

Having calculated the size and shape of our date scale we assumed we would set a brass strip into our short concrete path. However, when we approached local firm, Reading Engineering, they suggested using their computer controlled laser cutter to create our shape from a sheet of stainless steel. They will also supply us with labels for the first day of each month and all at a fraction of the cost we might otherwise incur.

We have already acquired a test pattern cut from a thin sheet of zincalume steel and when we are satisfied that our calculations are correct, they will cut the shapes from a thicker sheet of stainless steel and then weld a spline to the underside that will allow our building team, to set the steel correctly and securely into concrete.

Denis Matthews

Propagation Shed opened

Before our Christmas Morning tea for the Wednesday Work Group in December Wil Evans cut the ribbon to officially open our new propagation shed at the Nursery. This has been very much Wil's project, with the support of Michael, Don, Grahame, Nick and others. And in spite of the flood and many wet Wednesday's earlier in the year the building was completed on the last work day in November . A great step forward for the nursery team who have been making do since the nursery moved on site .

Wil cutting the ribbon with help from Propagation Team leader, Jan de Nardi

Work on walkway in Geoff's Quarry is also happening

Another project which has been in the pipleline since early last year is the walkway and small viewing platform in Geoff's Quarry – at the western end of the Gardens. The site has been cleared and forming is currently going in. This has been Geoff's dream for a very long time – converting this old council quarry into a beautiful Palm and Fern Gully which can be viewed from above or, for the more adventurous, below. Some initial planting has been done and there are plants in the nursery ready to go in as soon as the construction work is completed.

Iain Stych and Stewart McCulloch, from Envite's WFD Team, putting in steps leading to raised walkway in the quarry

Davidson Plum Jam

At our Christmas morning tea in December Jan de Nardi distributed Davidson Plum Jam on bread to us all. She had made the jam from plums harvested from our own trees at the Gardens. Our first 'home-grown' food product and it was delicious. Maybe this is something we can pursue in the future on a larger scale as a product available for sale at our Visitors Centre?

Holiday Family Days at Gardens a great success

It's always difficult to keep the kids busy during five weeks of summer school holidays. It's usually hot and often wet here on the Far North Coast, but this January many family groups visited our Gardens on one of the three Family Activity Days.

Organised by our Children's Education Officer, Margaret Hildebrand, with the help of the nursery manager, Jan de Nardi, children were totally absorbed in a range of activities set up around the site - in the Hoop Pine and Eucalyptus forests and along the walking tracks in the main rainforest areas.

The children made pots from recycled materials, potted their own plants to take home, and learnt about the plants and butterflies in the rainforest.

Many families brought picnics to share while the children played in the new Cool Cubby, a sustainable cubby with solar power and water tank, and of course its own little garden. Mums, dads and carers all mentioned the positive benefits of escaping televisions and computers and enabling their young families to run and explore the outdoors safely and within three kilometers of the Lismore CBD.

One budding young entomologist, took over twenty photos of insects she found while walking through the Gardens. The Hibiscus Harlequin Bug was one she found particularly beautiful. Her sister was fascinated by the displays in the Visitors' Centre.

One little girl - Violet - took extra special care of her newly potted plant: a Native Violet, of course. Her brothers, chose Cordylines to pot and take home. Others enjoyed a ramble along the paths, finding the various activities scattered throughout the forest.

The family days were also designed to show the work that the volunteers are doing every Wednesday morning at the Gardens, so visitors were encouraged to stop and say hello to the Friends and to talk to them about what they had seen. ***Tracey Whitby***

Some of our young visitors enjoying the Family Days at the Gardens with Jan de Nardi (left) and Margaret Hildebrand (above).
Images from Tracey Whitby with permission of parents.

Butterfly Signs Installed at Gardens

The importance of pollinators in a rainforest environment – in fact in any environment – is immense. As a way to demonstrate this to children, our Education Team decided to install butterfly signs in various parts of the Gardens.

The project is associated with the Cool Cubby Project and a grant of $500 was given to the Gardens by the local Science Hub.

Copies of illustrations from Helen Schwenke's book *'Grow More Butterflies'* were obtained and laminated. Posts and fittings acquired and in November last year six of the signs were installed along the walking path in the Wilson's Park Species Garden – each in the vicinity of a plant on which the particular butterfly fed or laid its eggs.

Each sign has a large coloured photo of a local species of butterfly with text describing the plants to which they are attracted and other features relating to each of the species. There are still more signs to go in around the Visitor's Centre and Cool Cubby area.

These signs are a colourful addition to the Gardens and another very useful educational tool for children and adults.

Margaret Hildebrand

Approaches to conservation of local native plants at our Gardens

Useful Plants Garden newly planted

Being one of the new style botanic gardens we have few formal garden beds. We are instead working at creating an environment in which local indigenous plants will thrive in a natural environment. At the same time we have to develop a Botanic Garden and not just a regeneration site. Plants have to be accessible to the public and the site needs to be a beautiful place to visit

Situated as we are at the edge of the Big Scrub - originally around 75,000 hectares of magnificent rainforest, but now less than 700 hectares of scattered remnants - it is one of our aims to replicate ALL the species known to have grown in this original forest as well as other indigenous plants from an area within a 200km radius of Lismore.

Since our first planting in 2002 we have planted over 7000 trees, almost 600 different species including 53 listed as officially threatened and many others that are rare in our local native forests. We are becoming a gene pool for local rainforest species.

Our principal method of conservation is planting of species sourced from local landholders and nurseries, and wherever possible, trees with good provenance. As our plant collection matures we are propagating many in our own nursery. We aim to have a minimum of two of each of our specimen trees - some in our Uncommon Plants Gardens but others spread throughout the Gardens.

We try to plant in the most appropriate site for any particular tree or group of trees, and if that is not available then we work at creating such an environment by planting screening plants and also interplanting with short lived local native 'nursery' plants which give protection from sun and wind until the specimen trees are established.

We mulch thickly with recycled green waste from the adjacent Recycling Centre or de-headed setaria hay. We are also starting to use coir mulching pads for isolated new plantings – partly as mulch but also to clearly mark them and so ensure they remain obvious for weeding and watering till well established. We aim to give deep watering on a regular basis rather that frequent shallow watering. We use guards to protect young plants – plastic mostly - but also more recently we have been trialling hessian. Wire cages are used on older trees to protect them from bark eating wallabies.

We leave prunings and non-seeding weeds on the ground to break down and so help create and sustain the natural rainforest environment. This results in the growth of fungi, lichen, soil bacteria and the gradual building up soil and humus, with the associated insects and other small animals. We use small amounts of native plants slow release fertilizer with the initial planting and then once a year with young plants, and as indicated by the condition of established plants.

In most parts of this Northern Rivers region, indigenous plants are either already present in the soil as stored seed or they have been moved there by birds, bats, other small animals, also wind and rain. So in spite the current emphasis on planting as a means of reclamation, rehabilitation and restoration, the **ecological process of 'succession'** is being tried. It is a very low cost option that can be very successful. By removing exotic weeds and systematically shifting the balance in favour of local plants, the native plants are taking over very quickly. We retain self-sown native grasses and other groundcovers, unless they are smothering young specimen plants. They serve as living mulch and are allowed to seed where practicable to help spread the species.

We don't always get it right but generally our plants are doing well.

Marie Matthews with input from Damian Butler, Pat Offord & Jan de Nardi

The Useful Plants Garden four years later

New stand discovered of Minyon Quandong

Article from Big Scrub Landcare News reprinted with permission of author

A team of dedicated bush regenerators has recently been working in the Terania Creek Valley, Nightcap National Park, as part of the Saving our Species (SoS) program. While removing weeds threatening the habitat of the Fleay's Barred Frog *Mixophyes fleayi*, they made an unexpected discovery…

One cool morning in May, team leader Darren Bailey noticed a seedling that looked a little different. With many years working in the local area and many days at the Fleay's Barred Frog management site, he knew this little tree was something out of the ordinary.

He decided to snap a few photos and take a waypoint on his GPS before continuing his weed work. After a long day in the field he consulted some reference books and confirmed his suspicions that he had discovered **a new population of the vary rare Minyon Quandong *Elaeocarpus sedentarius*.**

The first collection of this species was made in 1936 north of Minyon Falls in north-eastern NSW. This lonely sample sat at the herbarium for over 50 years until the species was rediscovered in 1992. Following this rediscovery, a flurry of survey activity ensued with botanists roaming here and there, checking leaves, barks and fruits in likely locations throughout the north-east. After extensive searches during the mid-1990s a total of 700 individuals were found.

Some 20 years later, those same botanists (Nan Nicholson, Rob Kooyman, Barbara Stewart, Annette McKinley and Hugh Nicholson), bush regenerators Darren Bailey and Alex Stephens, and the NPWS North Coast Branch SoS team had been marshalled by SoS Project Officer Justin Mallee, and were gathered around a picnic table to share a cup of tea, disinfect their boots and plan the day ahead.

The mission: to survey the area surrounding the seedling discovery and find more individuals of the rare and illusive Minyon Quandong. While cups of tea and planning have not changed much in the 20 years since the initial field work, hygiene has become very important, especially since the rapid decline in mature individuals at other sites is thought to be related to a fungal pathogen.

As the team descended on the discovery site there were cameras flashing, GPSs beeping and hand lenses being wielded with expert precision. Over the following hours many an, "ooooh!", "wow!" and, "I've found one" could be heard throughout the valley.

The results: 11 trees were located at the new site – one for each member of the field team! These comprised 8 mature trees, 2 seedlings and 1 tree reshooting from coppice shoots. It was a very productive day and a great result for the SoS program. Thanks to all who attended for volunteering their time and contributing to the conservation of one of the natural wonders of the Gondwanan Rainforests of Australia World Heritage Area.

Author Justin Mallee, Project Officer Threatened Species, NSW National Parks and Wildlife Service. *November 30, 2017*

Minyon Quandong *Elaeocarpus sedentarius* at the Gardens

An early fruiting of one of our specimens of this species

Myrtle Rust control at the Gardens

Myrtle Rust, a disease caused by the exotic fungus *Puccinia psidii*, has been found in recent years right down the East Coast. It threatens trees and shrubs in the Myrtaceae family which includes Australian bottle brush (*Callistemon spp*.), tea tree (*Melaleuca spp*.) and eucalypts (*Eucalyptus spp*., *Angophora spp.,* and *Corymbia spp.*). Myrtle Rust spores are spread easily by insect/animal movement and wind dispersal. These characteristics make it extremely difficult to control and so far impossible to eradicate from natural settings. At the Gardens we have a regular fungicide spray program using Triforine as a control and Lime Sulfur in a regular low concentration, to help reduce the amount of rust on the plant. Two badly affected plants in this area are *Rhodamnia rubescens* and *Rhodomyrtus psidioides*.

References: http://www.environment.gov.au/biodiversity/; http://link.springer.com/article/10.1007/s10530-015-0996-y

A letter from our Gardens

"Looking around the twenty-four happy perspiring faces at last Wednesday's work party I thought it was about time to say how much I appreciate the voluntary work you all do for me.

I have never forgotten how the Friends befriended me way back in 1998: a degraded weed-infested paddock full of lantana and camphor laurels. Thanks to the Lismore City Council and the scores of you, I have blossomed over the twenty- odd years into a relaxing rainforest garden.

How happily I recall those early work parties, with machete and saw, cutting through to the previously undiscovered Grandis Creek from Upper Fern Gully or later when, along the northern boundary, you cleared my tangles and prickles to create the Wilson Park Alliance.

Most of you had faith in me and stuck it out. It was hard pushing loaded wheelbarrows across creeks before the bridges went over. You carried buckets from distant water taps to tiny seedlings and later rejoiced when water was piped from the Dog Pound to Upper Fern Gully.

You even came in the wet and repaired my eroding creeks. You sought Government grants to mend the flood damage and replace the seedlings washed away.

Looking at your sweat-streaked faces last week at The Nursery and at the work parties on Sunday and Wednesday I realised what dependable backups you provide for our wonderful gardener – he and I get on well together. He knows plenty about me and really cares.

Lastly I must say how much I look forward to the children on their school excursions. It is music to hear their excited chatter up in my Pine Forest. For some, it is their first trek into real forest. Thank you to those special Friends who lead those visits.

As I grow to shade our paths for our visitors I do appreciate all your voluntary work and grubby finger-nails to make me a special retreat for Lismore."

Lismore Rainforest Botanic Gardens in person, via Geoff Walker

Interesting Gardens Installations

Like our old wooden fence-post installation in The Sensory Gardens, many botanic gardens have a quirky or even humorous item. Here is "*The Blue Tree* " within the Mount Annan Botanic Gardens, near Campbelltown.

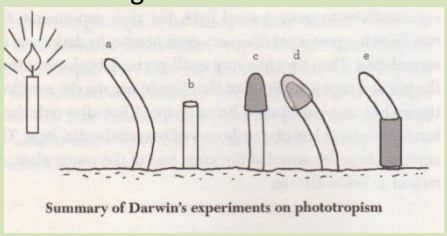
Blue Tree at Mt Annan Botanic Gardens

This 'jaw-dropper ' stands quite alone in an undulating distant part of the Gardens between the Banksia Garden and the Callitris Grove. It is about three and a half kms by asphalt road from the Australian Plantbank and wholly within the Botanic Gardens. How did the staff (or the Friends?) apply its two thick paint coats? Surely from a cherry-picker. ***Geoff Walker***

Here in our Rainforest Botanic Gardens we have installed an almost full size man and boy - made of old plastic flower pots – riding a bike and scooter respectively. Our own Flower Pot Men are made from materials found at the adjacent Recycling Centre. Here John and Margaret Hildebrand are putting them in position beside the main entrance road. A visiting little boy has named them Mr Pots and Potsie!

How a Plant 'Sees'

For many years after the publication of 'On the Origin of Species' Charles Darwin conducted a series of experiments attempting to better understand the effect of light on plant movement. It was discovered in 1864 that it was blue light that the plants responded to but just which part of the plant was used to 'see' this light was not known.



Summary of Darwin's experiments on phototropism

Darwin set five seedlings in a position where they had access to light only from one side. One he left untreated, one he cut off the tip, one had an opaque cover on the tip, the next one has a transparent cover on the tip and the fifth one had an opaque cover placed below the tip. Only the one with the opaque cover on tip and the one with the tip cut off did not respond to the light and lean towards it. This proved to Darwin that the plant 'sees' with the tip which transfers the information to the mid section telling it to bend towards the light.

Information and illustration from the Book 'What a Plant Knows' by Daniel Chamovic pub. 2012 by Scribe Publications,Brunswick Vic. Australia.


Weeping Grass – *Microlaena stipoides*

Our Native Rice Garden with main sign in position

Weeping Grass

Microlaena stipoides

One of the Native Rice-like plants in our new Rice Garden is *Microlaena stipoides ,* Weeping Grass. It belongs to - *Oryzeae tribe of family Poaceae* and is a close relative of the *Oryza sativa* the familiar domestic rice used almost universally in cooking.

M. stipoides is deep rooted, doesn't need to be replanted each season and is well adapted to regular drought and low fertility soil. It is currently used as a high protein grazing fodder . It is widespread throughout the North Coast of NSW on hillsides and river flats and establishes easily where there is partial shade and some moisture. It is frost tolerant and makes a soft attractive ground cover. The seed is commercially available.

There are reports in diaries of the early explorers of it being grown by the Australian Indigenous people as a crop in inland Australia. In the book 'Dark Emu' by Bruce Pascoe it is referred to as a native barley.

References:

'Grasses of the North Coast of NSW' by Harry and Carol Rose and Tac Campbell for NSW Dept. of Primary Industries

'The Oldest Food on Earth by John Newton published 2016 New South Publishing Sydney Australia.

'Dark Emu' by Bruce Pascoe pub. 2014 by Magabala Books, Broome

Guide Training

This year we are planning to finally get our guide training programme off the ground. We are hoping that our initial course will produce a small but well informed team of guides who can show people around the Gardens either on our regular advertised guided walks or taking specialised walks with individuals or small groups.

We have received a lot of help from Kate Heffernan from the Regional Botanic Gardens on the Gold Coast and from the National Botanic Gardens in Canberra who have been very generous with their material and general know-how about guiding. We are still pulling information together but hope to have course work finalised and a date set for first course in the very near future. We will keep you informed.

Anybody with an interest in rainforest, the environment generally, in botany and/or talking with people is encouraged to get in touch. We will provide help in finding the information and skills you will need. Taking a group around the Gardens is a very rewarding thing to do.

Mr Pots and Potsie

As mentioned earlier in the newsletter, this week we welcomed 2 new members to LRBG – Mr Pots and his son, nicknamed 'Potsie'.

Mr Pots said they have taken on the challenge of riding their pushbikes to LRBG and then exploring a different area each week.

'Potsie' says he likes the Cool Cubby best and Mr Pots says he is enjoying learning about the Big Scrub Rainforest and the traditional Bundjalung uses of plants.

If you see our newest members please give them a wave and a smile. We would like to hear about other experiences in our Gardens too, so please send a photo and any comments you may have – maybe a new flower, bird or animal.

Margaret Hildebrand
Children's Education Officer

Our tracks and crossings' expert Grahame at work in Walker Estate

Sunday Work Group after a very useful work morning in January *Photo Jenny Dowell*

Nick and John at work gravelling path in Wilson Park Garden

Thanks to Sponsors

We would like acknowledge Andrew and Jeni Binns and local firms Adrian Williamson, Ginger Blue Graphic Design, Steve Bull from Trenches McKenzie Cox, Reading Engineering and all who are supporting us in various ways. We are very grateful to you and to all who help financially or in other ways at the Gardens, including some who have requested to remain anonymous.

GUIDED WALKS

on the last Sunday of each month starting at 9.30am

next walk

USEFUL PLANTS GARDEN

25 February 2018

Later months will be advised on Facebook, Web Site and by email to members.

CONTACT DETAILS

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WORK MORNINGS:

Sunday Group meets last Sunday of each month starting at 7.30am in summer with a change to 8.00am when Daylight Saving ends.
Contact Leanne 0408 471 970 or Marie 0428 895261.
Wednesday Group meets every Wednesday starting 8am Contact Ros 6628 2909 , 0412 317744, roslittle46@gmail.com
Propagation Group every Tuesday starting at 9.00am at the Nursery Contact Jan 6629 8244, jandenardi41@gmail.com
Local Native Plants sales at the Nursery between 10 and 11 am each Tuesday or by arrangement.