



Friends of Maroochy Regional Bushland Botanic Gardens Inc. NEWSLETTER

Sept 2022 Volume 26 Issue 3

From the President

Lynn Vlismas

Spring seems to have announced itself earlier this year or could it just seem that way because the winter chills are still blowing around our ankles while the sun shines warmly during these increasingly longer days?

The Gardens are a haze of purple and yellow with Hoveas and Acacias competing for the title of "the shrub that flowers most prolifically". The Friends are also in the final stages of preparing for the "Wild Flowers of the Botanic Gardens" photographic exhibition. Our long-time volunteer and photographer Greg Miller will be exhibiting the most surprising and luscious flowers captured in a way that will show visitors how magnificent our local species can be to grow in their own gardens.

Wildflowers will also be a feature at the AAFBG conference at the end of August 2024 and planning is underway with our inspired group of recent conference goers after their trip to the Eurobodalla Botanic Garden conference. We are lucky in being able to also draw on the expertise of other Botanic Gardens close to us in the SE Qld region to show Friends groups, who may come from other parts of Australia, the best of what is possible in subtropical plant species displays.

It has been a busy and productive year so far for the Friends and we are only a bit over half way through it; with detailed Masterplan discussions starting on two major projects, one at the arrivals area of the Gardens and the other at the Richmond Birdwing and butterfly garden. Several Friends exhibits have been held with our own botanically inspired artwork and photography on show. Koala research has been funded and a school holiday citizen science display being planned to show families what is involved in finding koalas and helping to keep them healthy well into the future.

The Friends' collaboration with Council to sponsor the WildHeArt Student Art Prize has had spectacular results and is being opened on Saturday 17th September at the A&E. Cathy Money, Friends and Council's Education Support Officer has been overwhelmed by the high standard and quality of students' art entries from young Queensland people as far away as Cairns. I heard that almost 500 entries had been received at the last count - and it has all been inspired by our flora, fauna and fungi. So come along and spot the Fungi and be amazed by the proficiency and interests of our environmentally aware younger generation.

Friends of MRBBG Inc.

Our Mission:

'To support the establishment and development of a unique world-class Bushland Botanic Gardens for the Sunshine Coast'

Our Vision for the Gardens:

'To experience the harmony between people and the living environment'.

Our Vision for the Friends:

'To establish a vibrant and responsive Friends organization known for enthusiasm, participation and initiative'.

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That doesn't mean that the Friends have not been working hard outside in the garden areas as well: paths are being improved, sculptures are being conserved, timber being preserved, gardens weeded, planned and planted and plant species being named and noted to assist our guiding team in their future endeavours. Additional trail extensions to allow circumnavigation of the entire Garden and conservation reserves will soon be possible with recent grant approvals allowing for work to continue over the next three years.

We are continuing to manage our work at the Gardens and also as a cohesive group despite having volunteers retire for various reasons during the past two years. Now we are also working closely with Council to find new recruits who may eventually become Friends.

If you have any friends who may like to join our group at the Gardens, please let them know that we can be contacted by email see below. We can then help guide them through the Council application and induction process.

It's amazing and encouraging to see what we all manage to get done each month.

Fern Fever

Wendy Johnson

Pteridomania was a fearsome ailment. Symptoms caused women to swoon and fall off of cliffs—and entire species to fall into endangered status. But the contagious disease wasn't one of the body: "Fern fever" was a fad that swept through England during the 19th century.

Not so surprisingly, a botanist was to blame for the craze. In 1829, Nathaniel Bagshaw Ward had given up trying to grow ferns in the polluted London air, and had moved on to studying moths. But when studying a chrysalis that he kept in a covered glass bottle, he noticed that ferns began to grow in the soil at the bottom of the jar. Ignoring the moth, he began to experiment with **tightly-sealed glass cases**.

To modern-day readers, there's nothing unusual about a terrarium, but "Wardian cases" as they became known, were big news for Victorians. Suddenly, it was possible to



Wardian Case

grow and study plants indoors—a feat helped along by quick industrialization, which made such devices accessible to ordinary people. People started to mailorder exotic ferns to grow at home and set out in search of the perfect specimen.

It turns out that ferns' sex lives are just as bizarre as the idea of fern fever sweeping an entire nation. As NPR's Geoff Brumfiel recently reported, at least one species of fern emerged from the unexpected mating between two different fern species that lived and flourished in completely different places and were "separated by nearly 60 million years of evolution."

Fern-o-mania's biggest proponents were young women, who took to fern hunting, preservation, and growth in large numbers. Charles Kingsley dubbed the phenomenon "Pteridomania", complaining that "Your daughters, perhaps ... [are] wrangling over unpronouncable names of species, (which seem to be different with every new fern that they buy), till the Pteridomania seems to you something of a bore."



Charles Sillem Lidderdale – "The fern Gatherer" 1877

In the socially-acceptable pursuit of ferns, young women could get outdoors, often without the strict chaperonage of indoor activities. They could have adventures and compete with one another. They also could run into trouble: In her book *The Bronte Cabinet: Three Lives in Nine Objects*, Deborah Lutz writes about a fern-seeker named Miss Jane Myers who plummeted 170 feet to her death while gathering ferns.

But the relentless pursuit of all things fern had a downside: It led to dramatic depopulation of native fern species in the UK. Species like the Killarney fern_still suffer from the effects of the craze today—an unexpected dark side to what seems like a harmless obsession.

From "That Time When Victorians Contracted Fern Fever" by Erin Blakemore 2015

Jill Chamberlain

Judy Burns and Janet Colledge

Jill Chamberlain is a recently-retired member of the Friends. Now a lady of advanced years, Jill has, over the years since joining in 1997, been an active contributor to our organisation. As tracks were made through the Bushland Gardens, Jill instigated the Wildlife Preservation Society's monthly early-morning Fauna Watch walks, which continue to this day. Her diligent records of the birds and other wildlife observed have been supplied to the Friends over all these years, forming a valuable natural scientific resource. When our Visitor Information Centre was active, Jill filled a regular spot on the roster.

Jill's colleague and Friends member, Judy Burns, has supplied the following tribute to an unassuming lady whose work has made the Sunshine Coast a better place, and who is an example to us all.

There are many people on the Sunshine Coast who are committed to the protection and rehabilitation of our remaining natural areas and their ecosystems. For decades Jill Chamberlain has been quietly prominent among their number, an activist working tirelessly in her friendly way with pen (or computer), binoculars, weeding tools, a sharp mind and a gift for understanding and cutting through complex issues.



Jill Chamberlain

Jill has been involved on many fronts, from the Friends of MRBBG to BushCare, the Wildlife Preservation Society including the Wildlife Land Fund, Meals on Wheels, birdwatching, the Mary Cairncross Scenic Reserve, the Wader Study Group, Sunshine Coast Environment Council, Take Action Pumicestone Passage and the University of the Sunshine Coast of which she is an Honorary Senior Fellow. Jill held the positions of Secretary and later President and Vice-President of the Sunshine Coast & Hinterland Branch of the Wildlife Preservation Society of Queensland for more than twenty-five years. She has been a prolific letter writer on matters of environmental concern. Her many effective responses to development applications have been informed by her familiarity with local habitats and natural processes and her skilled grasp of legislation, and have contributed to some better outcomes for the environment as development continues its march across the natural landscapes of the Sunshine Coast.

Jill has attended council meetings (in person and online), and been part of community groups advising councils and developers on environmental issues, most recently with Stockland and the Caloundra South development. She is well known to Council staff through working with them on issues and initiatives such as the annual Wildflower Festival. Her regular bird observations at a variety of local sites over many years have helped to document what is happening to local wildlife.

As you come over the hill at Little Mountain into Caloundra, the Jill Chamberlain Bushland Reserve on the right is a tribute to her work for the local environment. Jill follows in the footsteps of Kathleen McArthur, a long-time Caloundra resident and one of the founders of the Wildlife Preservation Society (with the poet Judith Wright, naturalist David Fleay and Jacaranda Press publisher Brian Clouston). Kathleen is remembered locally in the Kathleen McArthur Conservation Park at Currimundi and was the Sunshine Coast Daily Citizen of the Century. In 2010, Jill received an Order of Australia (OAM) for 'service to wildlife preservation and conservation in Queensland and to the community'.

A cheerful and committed volunteer in a number of organisations, Jill has been part of the fabric of the wider Sunshine Coast community. While now not so actively engaged, Jill continues to take a keen interest in environmental matters, still attends WPSQ meetings and Faunawatch outings and enjoys birdwatching and botanising.

<u>Why trees grow up straight (mostly....)</u> Neil Rankin

Isn't it amazing how straight and tall our flooded gums (and other trees) grow? How do they do this? Trees grow straight up to the light people say, common knowledge! But hang on, doesn't that mean that the light (sun) must be directly above these trees all day? Something doesn't quite add up, so what's going on here?



A stand of straight flooded gums

Charles Darwin, experimenting throughout his life, did some little experiments with his son Francis, growing wheat seedlings to try and understand how plants respond to light. They found that the seedlings when exposed to light from one side bent towards that light. But when they cut off the tips of some of the seedlings they no longer bent! Through a series of simple experiments, they showed that some substance was produced in the tip of the stem and that it travelled down the stem causing it to bend. In more recent times this substance has been identified as a growth hormone called Auxin. This hormone moves in response to gravity so it will end up being more concentrated on the lower side of the stem or root. The small increase in concentration of auxin causes those cells on the lower side of the stem to elongate thus bending the stem up. In root cells higher concentration of the hormone inhibits cell elongation so the root bends down.

Darwin and others also had noted that pot plants and seedlings when laid on their side would bend up and the roots would turn down, so it seems that plants also respond to gravity. Gravity is a constant stimulus compared to a moving sun and is therefore more likely to be responsible for a tree growing straight up and this is generally accepted these days.

But how do plants "sense" gravity? It seems that they have evolved structures that are not too different to the balance organs in our middle ear that allow us to sense which way is up! Certain cells, called statocytes are found in the growing tips of stems and roots. In these cells are tiny starch granules that can move around. Imagine a few rice grains in a glass, as the glass tilts the grains roll across the glass. It's similar to the way the semicircular canals in our inner ear work, telling us which way is up even when our eyes are closed. In the plant cell the movement of tiny granules causes the cell to send a signal to other cells causing them to produce the hormone auxin which causes cell elongation on one side of the stem or root in the region behind the tip, causing it to bend.

So trees grow more or less straight up in response to gravity.

The Alternative Gardner

Paul Horne

The Australian brush, bush or scrub turkey (*Alectura lathami*), from the family Megapodiidae, is a common mound-building bird in eastern Australia. It is the largest representative of that family and is one of three species to inhabit Australia. Despite its name and their superficial similarities, the brush turkey is not even closely related to American turkeys.



Male Brush Turkey

The Australian Brush-turkey inhabits rainforests and wet sclerophyll forests, but can also be found in drier scrubs.

Brush-turkeys feed on insects, seeds and fallen fruits, which are exposed by raking the leaf litter or breaking open rotten logs with their large feet. The majority of food is obtained from the ground, with birds occasionally observed feeding on ripening fruits among tree branches.

As with other megapodes, the Australian Brush-turkey incubates its eggs in a large mound. The male usually builds a single large mound of organic matter, approximately 4 m in diameter and 1 m high. Some males have been recorded with more than one mound, but this is not common. Eggs are laid by several females in a single mound with a clutch size of up to 50 eggs. The eggs are incubated for 49 days by the heat given off by the rotting vegetation. The male maintains a constant temperature of 33 - 38°C by digging holes in the mound and inserting his bill to check the heat, then adding and removing vegetable matter as required.

Before the eggs hatch, many fall prey to burrowing predators such as goannas. After hatching, the chicks burrow out of the mound, at which point they are left to fend for themselves. These hatchlings are fully feathered and are able to walk and fend for themselves immediately. Remarkably, they are also able to fly just a few hours after hatching.



Brush-Turkey Chick

The Australian Brush-turkey are the only birds with vertical tail feathers and are fully protected in Queensland.

Reference: https://www.australian.museum/

An invasive fungus – Favolaschia calocera Theresa Bint

This pretty little fungus is *Favolaschia calocera* – also known as orange ping pong bats, orange conch or orange pore fungus. It is a weed fungus - an invasive species thought to have originated in Madagascar or Asia and now found throughout the world.



Ping pong bats fungus (Favolaschia calocera)

A saprophytic (wood-rotting) fungus in the family Mycenaceae, it infests dead plant material and grows in clusters or troops. It's been recorded growing on decaying hardwoods, conifers, bamboo and ferns as well as on untreated timber such as firewood and pallets. It's speculated that F. calocera arrived in Australia in imported timber.

Favolaschia calocera is a bright orange, fan-shaped fungus with a laterally attached stipe (stalk). The cap is 5 - 40 mm across, and has raised bumps which mirror the 'honey-comb like' pores on the under-surface. It is gregarious, meaning it appears in clusters or troops of up to hundreds of sporocarps (fruiting bodies). The spore print is white. The inclusion of the 5 cent piece in the image is a way of indicating scale. Girdling or ring barking, a method used to clear forest, is a deep cut around a tree which will therefore cut off the water supply to the leaves, leading to the quick demise of the tree.



F calocera attacking ring barked tree

Favolaschia calocera can be widespread through a location - on tree trunks, twigs, fallen logs, as well as higher up in a forest canopy. Humans (and animals) are effective vectors for its spread: millions of airborne fungal spores attach to passers-by and promote the invasive species. The spores settle on our hair, skin, clothes, boots, bags and equipment. Weedy fungi such as F. calocera are a problem for our ecology as they can outcompete native species and become dominant. particularly in areas disturbed by human activity - along walking tracks and in national parks, for instance.

It's such a photogenic species - bright colours ranging from orange to chrome yellow, crisp outline, honeycomblike pores - many photographers of Orange Ping Pong Bats would have unwittingly carried its spores on their phones and cameras (and glasses, knives, and backpacks) to the next national park, reserve or area of bushland.

Some look-alikes in the fungi world

Fortunately, not all small and pretty orange fungi are F. calocera! Some possible look-alikes include, from left to right below, Cyptotrama asprata or Golden-scruffy Collybia (image, Theresa Bint), and two images of small gilled fungi (species unknown). A distinguishing feature of F. calocera is the honeycomb appearance of the pores under the cap.



What to do - Arrive Clean, Leave Clean!

You can help to limit the spread of *F. calocera*. Make sure your clothes, shoes and equipment are clean before you enter any bushland site, reserve or national park. Clean your gear afterwards – what can't be washed should be wiped or sprayed with methylated spirits or similar and/or put out in the sunlight. Infested plant material should be solarised (put in a black plastic bag and left out in the sun) for at least 6 weeks. **Record your sightings** of *F. calocera* in iNaturalist.

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Robert Brown, Scottish Botanist (1773-1858) Part 2: From Brown in motion to 'Brownian motion'.

Malcolm Cox

From brush box to cabbage palm and from native mint to geebung, Robert Brown was the first botanist to put scientific names to numerous native Australian plant species when he published his '*Prodromus Florae Novae Hollandiae et Insulae Van-Diemen*' in 1810. His extensive collection was started as naturalist on Matthew Flinders' circumnavigation of Australia in 1801-2.

That would probably count as a life's work for most of us, but not the humble and hard-working Scot who had started a degree in Medicine at the University of Edinburgh. He left that for a short military career as a 'surgeon's mate' but sought any opportunity to study natural history. While working in London, he came to the attention of Sir Joseph Banks, who backed his membership of the Linnaean Society in 1798, then late in 1800 offered him the position of naturalist on Flinders expedition to Australia. After Flinders returned to England, Brown remained in 'New South Wales' until 1805 before returning to complete 'Prodromus' and establish himself as one of the most respected botanists - and scientists - of his time.



Robert Brown by Henry William Pickersgill, 1864

In due course, others gave Brown's name to just a handful of plant species and topographical places in his honour, but it was his use of the microscope that cemented his place in scientific history. The list of his more notable observations and scientific discoveries includes ... 'Brownian motion', cytoplasmic streaming, and pioneering the term 'cell nucleus'.

You may know of them, or want to search them along with his name. While searching, have a look for the plants listed below, all named by Robert Brown; and most are more familiar than you might expect.



Lomatia silaifolia (Sm.) R.Br. (Image: Greg Miller)

A selected H-Z* list of R.Br. plants growing at MRBBG or native to the Sunshine Coast :

- <u>Hoya australis</u> R.Br. ex Trail
- Livistona australis (R.Br.) Mart.
- <u>Lobelia purpurascens</u> R.Br.
- Lomandra multiflora (R.Br.) A.T.Lee
- Lomatia silaifolia (Sm.) R.Br.
- <u>Lophostemon confertus</u> (R.Br.) Peter G.Wilson & J.T.Waterh.

- <u>Mentha satureioides</u> R.Br.
- Myrsine variabilis R.Br.
- <u>Neolitsea dealbata</u> (R.Br.) Merr.
- Oplismenus aemulus (R.Br.) Roem. & Schult.
- Parsonsia straminea (R.Br.) F.Muell.
- <u>Persoonia virgata</u> R.Br.
- <u>Podocarpus elatus</u> R.Br. ex Endl.
- Podocarpus spinulosus (Sm.) R.Br. ex Mirb.
- Pollia crispata (R.Br.) Benth.
- <u>Scaevola aemula</u> R.Br.
- <u>Smilax australis</u> R.Br.
- <u>Sterculia quadrifida</u> R.Br.
- Trochocarpa laurina (Rudge) R.Br.

References:

https://en.wikipedia.org/wiki/List_of_Australian_plant_species_describe d_by_Robert Brown

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Part 1, A-G, was published in the June edition of this newsletter

<u>Wild Flowers of the Botanic Gardens</u> An Exhibition of Photographs by Greg Miller Arts & Ecology Centre, 01 – 11 September, 10am-2pm daily. Admission FREE

Series of Guided Walks to Celebrate Plants

Sat, Sep 3, 10:00 AM Natives for small spaces

Mon, Sep 5, 10:00 AM Flowers, fruit and fun: Native plants for everyday cooking

Wed, Sep 7, 10:00 AM Local Flora Favourites

Thu, Sep 8, 10:00 AM <u>Flowering plants & their fascinating</u> <u>pollinators</u>

> Sign up on SC Council's Website EVENTBRITE

<u>Wild HeART Student Art Prize</u> Arts & Ecology Centre, 16 September - 03 October, 10am-2pm daily. Admission FREE

In conjunction with Council and other community groups, the Friends are sponsoring this exhibition by students ages 5 to 18 years. With some 500 entries from all corners of Queensland to be judged and shortlisted to 40 for display, preparation has been a big success. We now look forward to having many Members bringing their family and friends to appreciate the quality and diversity of the works on display. They will reassure us all that our young folk are 'wildlife-aware' and that our artistic future is in very talented hands.



<u>What's Happening on Site</u>

Ray Dale – MRBBG Site Volunteer Co-Ordinator

We have devoted volunteers working in specific areas such as the Sculpture Garden, Fern Glade and A&E so now we are looking to extend the concept into other areas such as Whipbird, Mossy Log, Ephemeral Wetlands and soon the Birdwing so if you are already a volunteer and interested please let me know.

The maintenance volunteers continue to make the place look pristine from oiling, edging, pressure cleaning to installing new pathways. Sometimes these jobs must seem never ending but there they are every week.



Brian & Gavin giving the black cockatoo a bit of a clean

The Friends in conjunction with the SCC are currently funding and providing labour to extend the concrete pathway into the Creek Walk by another 70 metres. Currently the path is not clear when it reaches the crossover so it is hoped the concrete will give it direction.



Who's working and who's in charge?

The new path through the Whipbird Village is now complete and the area has been given a makeover. The next step is to refurbish the area around the entrance and the eggs. This area is well loved by the kids so it is a constant maintenance zone for volunteers.



Glen working in the Whipbird Village

The Gardens now have a new trainee in Nic Curyer so numbers have been bolstered with appearances by the past trainees Josiah and Blake. These are the best staff numbers we have seen from the SCC and it is already showing dividends. Overall the Gardens are looking as good as ever in preparation of the wildflower season all due to a vigilant SCC staff and a strong committed volunteer workforce.

Friends' Events

Open Management Meetings

2nd Thu, 1pm @ Friends Shed Sept 10 Oct 14

Nov 12

Bushcare 2nd Sat, 7am (subject to weather) Sept 12 Oct 09 Nov 14

Fauna Watch Survey 2nd Wed, 8am Sept 09 Oct 13 Nov 11

Welcome to our new Friends: David Sargeant, Warren Beasley, Sue Flanagan, Suzanne Furness, Lyn Jackson, Sharon Neagle, Michael Heiner, Jo Newman, Pat Atkinson

Information

Mail

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Membership:

A form is available on our Website, or use this link to download - Membership Application Form