



Australian Plants Society

South East NSW Group

Newsletter 192

February 2023

Corymbia maculata Spotted Gum and
Macrozamia communis Burrawang

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Dear Members,

Thank you to all the members who were able to attend the AGM. I am pleased to report that we have added a few new names to the committee.

I would like to welcome Dylan Morrissey, Frances Southon and Leonie Kestel.

Paul Hattersley has decided to step down from the committee as his house is on the market in preparation for move north. We thank him for efforts and wish him well in his new ventures.

The complete committee will be listed at the end of this newsletter. Please feel free to contact us if you have any queries or inspiring ideas.

This newsletter will contain a few reports from the AGM, so I won't go into detail here. I would just like to repeat that we are hoping to have a year filled with interesting activities and a chance to meet with passionate native plant people.

Welcome to those that have recently joined our group. We would love to see you at our meetings so please introduce yourselves.

I hope the tail end of summer is a time when you can get out and enjoy the garden, the bush and our community.

Unfortunately, I still need to remind everyone to not attend any meetings if you feel unwell.

Also, could members please note that I have again been forced to change my email address, as the "mailfence" address I was using for security reasons has proved too restrictive to send messages to more than a couple of people. My current email contact is dianneclark293@gmail.com

All the best,

Di Clark



Congratulations to our 'new' President, Di, shown here admiring a specimen of *Aceratium ferrugineum* after the AGM was completed. Photo Amanda Marsh

Next Meeting

Saturday 4th March 2023,

meet at 10.00 a.m. at the Wharf Rd carpark, Batemans Bay Bridge

This month we are going to visit a slightly different plant community near Batemans Bay. Right beside Cullendulla Beach, the Mangrove Walk is an excellent way to visit these muddy and often submerged areas close up. Raised boardwalks thread through the marine park sanctuary zone of the Cullendulla Creek.

At low tide, Australian white ibises forage in the sand, while large groups of *Mictyris longicarpus* (Soldier Crabs) march back and forth. The track also passes *Casuarina glauca* (Swamp Oak) forest, and endangered ecological community. Signs along the walk provide interesting facts, highlighting features like the unusual dune formations called 'cheniers.' These scenic ridges contain a staggering 7000 years of shoreline changes stored in their sand.

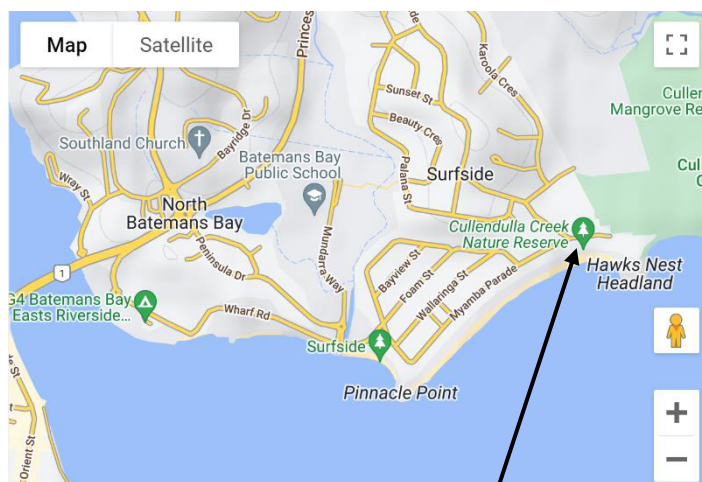
Other interesting facts I have learnt when preparing this note.

- The term mangrove is a description of plants with certain characteristics, not a related group of plants
- **mangrove:** a shrub or small tree growing in salt or [brackish](#) water and often with [pneumatophores](#) or [aerial roots](#). (Plantnet glossary)
- The two genera growing in this area are *Avicennia marina* subsp. *australasica* (Grey Mangrove) and less commonly *Aegiceras corniculatum* (River Mangrove). Both belong to different families, **Avicenniaceae** and **Myrsinaceae** respectively. Every reference had them in a different family so I hope this is correct.

The plan for the day will be to meet at the car park for morning tea at 10am just under the Batemans Bay Bridge on Wharf Road, where there are tables and toilets. This will allow us to have a morning cuppa and car pool if we want to. If you are coming from the South you will need to come over the bridge and turn around in the round about to take a left at Wharf Road. At 10:30am we will head to the Cullendulla Creek Nature Reserve. There is a small parking area on Myamba Pde near the beach. See attached map or look up

<https://www.nationalparks.nsw.gov.au/visit-a-park/parks/cullendulla-creek-nature-reserve/map>

The walk will be a loop that brings us back to the beach and then to the cars. We will then head over to Longbeach for a visit to Square Head Track, which is the other side of Cullendulla Creek. I suggest we have lunch at the picnic area on Sandy Drive. This walk is a fine example of spotted gum and burrawang forest close to suburbia. The wide track is slightly sloping uphill, but easy walking. There are specimens of *Elaeodendron australe* var. *australe* (Red Olive Plum), a small shrub or small tree with red fruit and a stand of *Pellaea falcata* var. *falcata* (Sickle Fern). There are also glimpses of the bay and surrounding islands and a view of Longbeach.



Cullendulla Beach

Parking is available at the end of Myamba Parade in a small carpark or along the parade itself.



Pellaea falcata var. *falcata*

Last Meeting

Annual General Meeting

The AGM held at Eurobodalla Regional Botanic Gardens on February 4th was attended by 36 members, on a lovely sunny day.

President Di welcomed all, noted the following apologies, Denise and Graeme Krake, Mark and Carolyn Noake and Joan Lynch, and also welcomed guests Peter and Margaret Olde from Sydney.

She then presented her report on activities for the past year. The brief report forwarded to NSW Region is recorded below, but for our AGM Di had prepared a powerpoint presentation which highlighted each meeting, which was an excellent way to remind us just how varied our meetings were.

The past year– the year ahead



Australian Plant Society South East Region NSW 2023 AGM

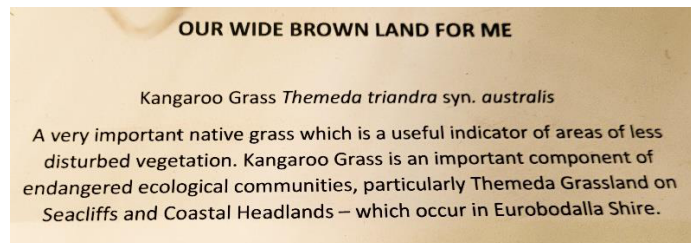
2022 was a year of many changes and weather-related issues. The South East Region group was determined to make the most of the year and to keep our activities simple and accessible. This resulted in the group organising an assortment of speakers and garden visits. We also participated in a BioBlitz activity. It was difficult to persuade members to open their gardens as many people felt overwhelmed by the plant growth and weed growth. As a positive solution to this we were able to call on our

groups expertise and make a study of the weeds growing on a members block and how they were managing the issues.

What we learnt

“Weeds are everywhere, but don’t waste time on plants that don’t have much impact.

Target your energy”.



Steward’s Choice at Eurobodalla Agricultural Show 2023 Exhibit by Lynn Bain



**Champion exhibit at Eurobodalla Agricultural Show 2023 featuring
Corymbia ficifolia forms and *Persoonia pinifolia***

Who says Australian plants can’t feature prominently and compete successfully with flowers from other areas ?

What we learnt Three of our monthly activities involved listening and learning from excellent guest speakers on such subjects as ‘**How Insect pollinators have driven the evolution of flower structure in the Angiosperms**’ by Roger Farrow,

***Pseudolytus* sp Lycid mimic off Mt Agony Rd Murramarang. Photo by Roger Farrow**



‘Recovery from Fire’ by Paul Martin and an orchid wander with Dylan Morrissey. We were also treated to a photography talk to help us document the plants and animals around us.



Sharon Pearson, Up close, photographing orchids. It's great to be young enough to get back up unassisted

***Genoplesium vernale* – East Lynne Midge Orchid**

Distribution

The East Lynne Midge Orchid is currently known from only a narrow belt, approximately 12 km wide, of predominantly Dry Sclerophyll Forest from north Moruya to 24 km north of Ulladulla.

The species occurs primarily on National Park and Forests Corporation NSW estate. Found by Dylan Morrissey at the ERBG.

At other gardens we looked at design and maintenance issues and explored how members dealt with drainage and pest problems. We were also shown their favourite native plants and parts of the garden.

A common theme of many of the events was recovery after fire. Previously this group wanted to help the Eurobodalla Botanic Gardens rebuild after the 2019 fire.

This activity has become known as the Proteaceae Project and we have a working group of 25 members. Plants have been propagated, potted and some planted and we look forward to continuing this work in the year ahead.

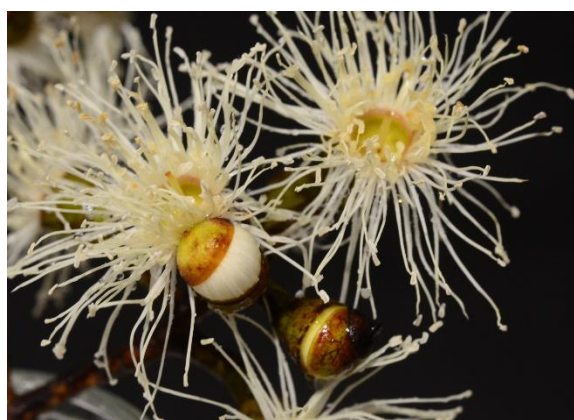


The wet year has been difficult for various reasons but has also helped the bush recover after the fires and drought. Providing an excellent display of wildflowers and healthy plant growth for us all to enjoy.

What we learnt

- Gardens change over time
- Landscaping can help solve problems
- Members love looking at other people's gardens
- Native shrubs will grow bigger over time, old gardens benefit from pruning
- Neighbourhood gardens can blend into each other

In just a few years, Margaret's Narooma garden has thrived, then grown, and grown some more during recent wet years. She is about to embark on some serious pruning.



Renewal. Eucalypt buds, bursting with energy

2023– What we hope for.

New Ideas, being inspired

Gentle climatic conditions

Enjoying native plants and 'plant people'

Treasurer Geoff Gosling detailed our financial transactions for the year, noting that our expenditure somewhat exceeded income, as the committee had agreed to spend some monies on the Proteaceae Garden at ERBG, and also on expenses of some speakers at monthly meetings. Currently, the committee had considered investing in an appropriate projector for use at meetings to avoid having to borrow from others. Geoff noted although much research into suitable equipment has been undertaken, that this decision will be left to the newly elected committee for determination.

Statement for AGM 2022

Item	Debit	Credit	Balance	Debit	Credit	Balance
Opening balance			3513.79			2919.45
Memberships		710.00			750.00	
Donations	300.00					
Life Membership paid	58.00			58.00		
Interest		0.36			0.34	
Gifts to speakers	287.00			30.00		
Stationery				68.00		
Proteaceae patch ERBG	151.74					
Total debits/credits	796.74	710.36		156.00	750.34	
Closing balance			3427.41			3513.79
Petty cash on hand			100.00			100.00
Total at Bank and in Cash			3527.41			3613.79

Membership Report for AGM Feb 2023 Jenny John

Erratic weather conditions and the continuing presence of covid-19 and its variants have challenged our committee and our members this past year. Nevertheless, we have maintained a membership of 89 members who have chosen South East as their Main Group, 38 of those are in a joint membership and we now have 4 student members.

This year we have welcomed:-

Daniel Bateman from Moruya **Robert Goulding** from Mystery Bay
Kylie Lockyer from Long Beach **Craig Marshall** from Bomaderry
Lynne McInnes from Broulee **David and Jacquie Miller** from Catalina
Helen Moon from Corrimal **Sue Nelson** from Malua Bay
Susan Petit from Batehaven **Linton Rousseau** from Albury
Michael & Robin Shihoff (ACT) and **Emily Targett** from Batehaven

If any of those members are here and have not yet received a name badge, will they please see me at the end of the meeting. Unfortunately, that substantial number of new members has been offset by the loss of 10 members to various circumstances.

We also have 25 associate members who have shown sufficient interest in our area to choose SE as an extra group.

New to that group this year are:- Sue Blundell, Julie & Annie Marlow, Sally Hawkins, Melanie Stafford, Lorraine Bentley, Jane Leten, Corey Young and Valda Corrigan.

I am able to keep track of our Group membership by a monthly download of data from the website that is distributed by the NSW Regional Office administration. I do not know the exact details of the process that transfers data from the website to the spreadsheets that are sent out to the various Groups but I do find sometimes that the SE sheet does not coincide with the previous month's data or the old fashioned record that I keep on index cards. **So, I would like to ask members to log on to the website and check that the contact details listed in their profile are correct and if not, to e-mail me any corrections that need to be made. I will update my records and also notify Regional Office of the necessary amendments.**

If you have any questions relating to membership my contact details are on the last page of the newsletter in the list of Committee members and I am happy to help where I can.

Each report was moved by the presenter, and seconded from the floor. Details are recorded in the minutes. There were no questions from the floor.

At the completion of the AGM, Di called for our **returning officer Mary Harrison** to conduct elections for committee positions for the upcoming year. Mary declared all positions on the committee vacant, and called for nominations for each position.

The following were elected:

President Di Clark
Vice President Dylan Morrissey
Secretary Leonie Kestel
Treasurer Geoff Gosling
Membership Jenny John
General Committee Norm Hulands, John Knight, Sally Power, Frances Southon.

Thus concluded the AGM, and Elected President Di resumed our meeting, introducing the ever popular Show and Tell segment. Members had responded to the call, and a fine selection of plants were on display.

Show and Tell session

With plenty of time until the afternoon talk by Dr. Kevin Mills, there was longer opportunity for members to show off their summer treasures.

Lyndal brought in a range of plants from her Queanbeyan garden. Being leader of the Eremophila Study Group, these plants featured prominently. *Eremophila* 'Big Poly', *E. polyclada* x *bignoniiflora*, with prominent mauve/white flowers is a large shrub, tolerant of dry conditions. She also produced an *E. bignoniiflora* with pink flowers which Tom had grafted. A useful Eremophila for our gardens is *E. 'Crazy Mac'* which is cross between *E. maculata* and *E. glabra*, which is hardy and grows about 1.5m, and a piece of *E. glabra* orange flowered form which is now 30 years old.

Jaminum suavissimum is a slight, twining plant with delightfully perfumed white flowers, preferring plenty of sunshine. It has a habit of twining around other plants, which can be a bit of a problem, and Lyndal wishes she had never planted her one, as it is growing strongly through more desirable plants. Personally I think it is a great garden plant, and can be used in place of the widely planted exotic *Jasminum polyanthum*. Cuttings of firm new growth strike readily, for those interested in producing plants for the upcoming plant swap.

Another climber with quite bad manners is *Pandorea jasminoides* 'Lady Di', a white flowered form of this popular plant. There was also a pink flowered form, which was hybridised by Angus Stewart many years back, and is still widely planted. Flowers are produced in response to rain, so keeping the plants growing with regular watering sees flowers almost year long.

A plant not seen before is *Alyogyne* 'Natalie Anne' a hybrid of *A. huegelii* x *A. hakeifolia*. This is a fast growing shrub, to 2m or more, with large, well displayed lilac pink/mauve flowers through the warmer months. Easy to propagate, it does best in an open sunny site. Marj had another *Alyogyne*, with deep mauve flowers, and there was some discussion as to its name, as it was thought to be *A. huegelii*, but there was some dissention when this was suggested.

Correa lawrenceana var rosea is not common in cultivation, and is found in restricted areas of the Snowy Mountains, in wet sclerophyll forests as a shrub to about 2.5m, although in good garden conditions can get taller. Foliage is dark green, and shiny with a leathery texture. Tubular flowers are usually held singly, from late summer through spring.



Eremophila 'Big Poly', Eremophila Study Group



I might be small, but I make up for this with show.
Banksia occidentalis dwarf Photo Phil Trickett



Correa lawrenceana var rosea
Correa Study Group nl 31

Phil and Catriona can always be relied on to produce some spectacular Proteaceae. **Banksias** included *B. media*, a yellow flowered bushy form from south west WA around Albany, a low growing form of *B. serrata* from Green Cape, and a dwarf form of *B. occidentalis*, 'Little Red' or Red Swamp Banksia which grows only about a metre high, although the usual form is a tall shrub to 4m. Phil has grafted this onto *B. integrifolia* for hardiness, and the plant produces many flower spikes from summer through autumn. The plant grows naturally on the south

coast of WA from around Augusta to Cape Arid. Also grafted on *B. integrifolia* is *B. burdettii*, a largish shrub with orange flowers during summer and autumn. This is found naturally on sand plains north of Perth towards Geraldton. Both these western species do not produce lignotubers, so hard pruning is best avoided.

Of course a **Petrophile** was included, in this case *P. pulchella*, a local species which is fairly widespread but not common. The creamy yellow flowers are borne late spring through summer, on a narrow shrub of 2m or so. Although not commonly grown, **Petrophiles** make interesting architectural statements, and are reasonably reliable in well drained soils.



Grevillea scortechinii

A couple of unusual **Grevilleas** were displayed, the first, endangered *G. beadleana* from granite country of NE NSW, a spreading shrub to 2m., with reddish toothbrush flowers during summer and autumn. Next was another critically endangered plant, *G. scortechinii* ssp *scortechinii*, the Black Grevillea, a prostrate plant from NSW northern tablelands near Guyra. This plant is very rare in cultivation, and again Phil has grafted his plant onto *G. robusta* for hardiness.



Catriona showed a lovely pinkish apricot flowered **Callistemon**, with a hope that someone might recognise its parentage. It is a fairly old plant which has been shy to flower, but as have many bottlebrushes this last season, has finally produced a mass flush. A pity no one offered a suggestion, other than another *C. citrinus* form.

Jo Benyon showed us a spray of a clumping native lily, *Calostemma purpureum* which she has been growing for decades. The plants die down after flowering, and leaves reappear in spring with reddish/purple flowers during summer. Plants produce bulbils when the flowers fade, and these can be collected fresh and sown in a well-drained mix, where they will germinate readily. Jo promised to bring some of these to a future meeting.

Jenny Vine stunned the crowd with a large branch of *Rhododendron lochiaie*, which held many red bell shaped flowers. Plants occur naturally high on a couple of mountains in tropical northern Q'land, although they are tolerant in horticulture, growing in Melbourne without complaint. Jenny's plant is quite old, and flowers regularly during summer and autumn. These are slow growing plants, and make ideal container plants, and in the garden grow well in epiphytic orchid mix. There is still some conjecture about the naming of *R. lochiaie*, with *R. notiale* and *R. viriosum* suggested as valid names or synonyms. There was some discussion as to the correct name, but Jenny held out for *R. lochiaie*. Who are we to argue. Jenny also brought in a bunch of late flowering Flannel Flowers, *Actinotus helianthi*, which continue to spread seed, and then seedlings in her garden.

Marjorie Aporthe as always brought armfuls of colour, including differing seedling forms of *Grevillea rhyolitica* which from time to time pop up in her garden. One she is particularly fond of is one she calls *Grevillea* 'Currowan' after their property location, and thinks it might be a cross with a nearby *G. victoriae*. The hybrid plant is never without flowers, but is somewhat bigger than the *Grevillea rhyolitica* 'Deua Flame' which is thought the other parent. Marj also had a fine spray of *Persoonia linearis*, which is a reliable flowering plant through the summer. A number of these occur naturally on her property, and produce many seedlings which she offered to pot up should members like one.



Jo, top and Jenny, lower, show off their treasured plants Photos Amanda Marsh

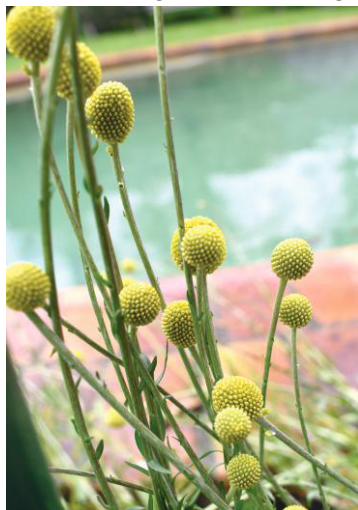
Another for the plant swap maybe. Few seem to grow *Melaleuca hypericifolia* these days, but for a summer show of bright bottlebrush flowers, Marj thinks it is hard to beat. Other Myrtaceae included *Sannantha pluriflora*, *Thryptomene saxicola* and the long flowering *Baeckea denticulata* adorned with arching stems of purple. Smaller plants included *Crowea exalata* 'Coopers Hybrid' which comes into its own late summer with bright pink stars, and which Marj feels is the hardiest and most reliable *Crowea*, *Spyridium coactifolium* with its interesting floral bracts dusting the plant with colour for many months, and the prostrate daisy *Coronidium scorpioides* which lightly suckers and makes a lovely border plant with yellow flowers over some months.



Crowea Coopers Hybrid, growing in Marj's garden

Lesley Vincent added *Acacia binervia* 'Stirling Silver' a sprawling plant which some mentioned might get a big over time, although the spectacular foliage could be encouraged with regular pruning.

Grevillea 'Bush Lemons' has bright yellow flowers held terminally and is a bird favourite, a shrub which grows to around 2.5m and others noted they also found this plant excellent for encouraging birds to their gardens, although it is probably best grafted for



Pycnosorus globosus
Growing Australian Dec 22

hardiness. Another form of *Eremophila maculata*, this one 'Pink Dawn' has prominently displayed flowers which also attract attention from honeyeaters.

Baeckea imbricata is a local plant from coastal areas, and can get to over a metre, but is readily pruned as a small shrub. Be careful though that pruning is done just after flowering to avoid cutting off the growth which will produce next year's blooms. *Pycnosorus globosus* Billy Buttons, or more appropriately Drumsticks for the bright yellow ball flowers held high above the clumping foliage, is a hardy perennial which after flowering dies back to an underground rhizome, and reshoots after winter dormancy.

Peter Olde brought along a couple of unusual plants he thought might be unknown to members.

The first *Cassia brewsteri*, Leichardt Bean is a spreading deciduous tree which has large pinnate leaves and long sprays of

yellow flowers with red markings, followed by spectacular seed pods up to 45cm long. A rainforest tree of north Q'land, the plant is hardy to around Sydney, if protected from cold winds.

His other special, and another from the wet tropics of north Q'land, is *Aceratium ferrugineum*, Flamingo Bells, which is in the *Elaeocarpus* family. A tree up to 10m in its natural environment, Peter suggests this far south it would only get to shrub proportions, and needs protection, semi-shade and extra watering during dry spells. Everything about the plant is spectacular, from the large green leaves with rusty backs, massed flowers of pink bells topped with rusty sepals, and the huge colourful fruits, at first white becoming red when ripe, and supposedly edible, although Peter is yet to test this. His plant has taken some years to produce so bountifully, but recent wet years has seen a terrific response in his rainforest patch. This could be worth growing here as a tub plant.



Aceratium ferrugineum foliage and flowers
Photo Peter Olde

Dave Crawford brought along some local species from their Moruya property. *Acacia implexa*, a small tree, is at its best now, with lemon balls prominent through the dark foliage. Some mentioned that they have trouble with galls

developing on their plants, which may be the result of wasps or fungal attack. *Bursaria spinosa* is grown by few due to its prickly nature, but through summer rewards with masses of perfumed white flowers (don't get too close!) which attract butterflies of many types. In cultivation, plants which are well watered produce smaller spines and longer leaves, whilst in dry conditions the opposite occurs. After flowering, seed is produced in little purse-like pods, (Bursa = purse) and the seed germinate readily if treated with hot water prior to sowing. *Dodonaea triquetra* is also not common in gardens, although it is a reliable garden plant ideal as a screening plant due to its tall, narrow habit. Flowers are not showy, but the green fruit is interesting, being 3 sided rather than 4 as with most *Dodonaea*. Seeds also germinate well following hot water treatment, and cuttings are also reliable. Another candidate for the plant swap?



Bursaria spinosa Photo Don Wood



Lysiosepalum involucrellum
Photo Di Clark

A ring in this company, the W.A plant *Lysiosepalum involucrellum* is a compact shrub, about 60cm x 1m or so, with cupped pinkish mauve flowers held outside the foliage, although upside down as is typical for many plants in the Malvaceae family. Plants grow well in sunny positions, but need good drainage for success. This very reliable and rewarding plant should be more widely grown, and it is odd that it is not.

John Knight brought along his perennial summer favourite, yellow flowered *Persoonia pinifolia*, plants of which are now 12 years old and about 3m high. Growing in full sun with a northerly aspect, plants require no attention, being happy with what nature provides, flowering for many months and following with grape size bunches of fruits, which fall in great numbers onto the mulched ground below but are yet to produce any babies. It is a pity this plant proves difficult to propagate, as it is a rewarding, long lived plant.

In this same garden is a younger plant, about 4 years old, *Grevillea gilmourii*, which is now bigger than the *Persoonia*, with its large greyish green lobed leaves adorned by pink toothbrush flowers for much of the year. This plant, first collected from Diamond Creek in Deua N.P. in 1995, was brought into cultivation as *G. barklyana* ssp *macleayana*, subsequently reclassified as *G. macleayana*, and finally due to some very pertinent character differences, was renamed last year by Peter Olde as *G. gilmourii*, recognising ecologist Phil Gilmour who collected the type specimen from the same location.

***Grevillea gilmourii*, showing the distinctive lobing of the foliage.**

Photo Mark Noake



As mentioned in a previous newsletter, we are working towards getting more members involved in the satisfying, although sometimes frustrating activity of **propagating plants**. The next couple of months are an ideal time for propagating by cuttings, as the soft spring growth firms to ideal cutting material. Please keep it in mind when you are out gardening or visiting friends with interesting native plants. Seeds too can be germinated over the warmer months, with young plants kept sheltered until cooler weather of autumn. We would love to see everyone trying to propagate some native plants and bring along some spares to share with the group at a planned Plant Swap later this year.

Time to get growing !

FERNS OF THE NSW SOUTH COAST

Dr Kevin Mills



Photo Peter Olde

Dr Kevin Mills is a botanist and ecologist, and has lived in the Illawarra for over 40 years. He has studied the region's flora, especially rainforests, for many years and is currently working on various projects in the region, including studies of all offshore islands on the South Coast, and various rare plant surveys. He is a long-time member of the South Coast Regional Advisory Committee to the NSW National Parks and Wildlife Service, and has presented numerous talks on varying subjects within his broad knowledge of our South Coast flora.

He has authored or co-authored several books on plants including *Native Trees of Central Illawarra*, *Rainforests of the Illawarra District*, and *Native Trees of the NSW South Coast*.

His most recent work is a review and field study of the ferns of the south coast, which he is about to publish as a book on the ferns of the south coast. Kevin is an excellent presenter, able to speak to all levels of botanic understanding, and the results of his study will be the focus of this talk.

Kevin wears many hats, and one of his keen interests is to get people enthused about their local flora. To this end he

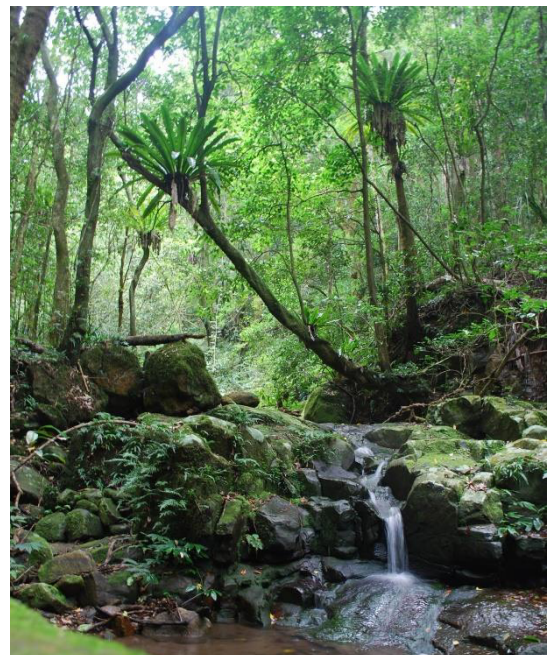
has, for over a decade, produced *BUDAWANGIA* a monthly e-newsletter for all those interested in the native plants of the NSW south coast, which aims to connect those interested in the native flora of the NSW South Coast, to share up to date information on the flora of the region and to broaden the appreciation of the region's native plants. Any member interested in receiving this informative newsletter could contact Kevin by email at kevinmillskma@gmail.com

The following notes were provided by Kevin, and previously reported in Calgaroo, the February 2023 newsletter of APS Parramatta Hills, and is used with permission, with amendments as necessary taken from Kevin's Powerpoint presentation

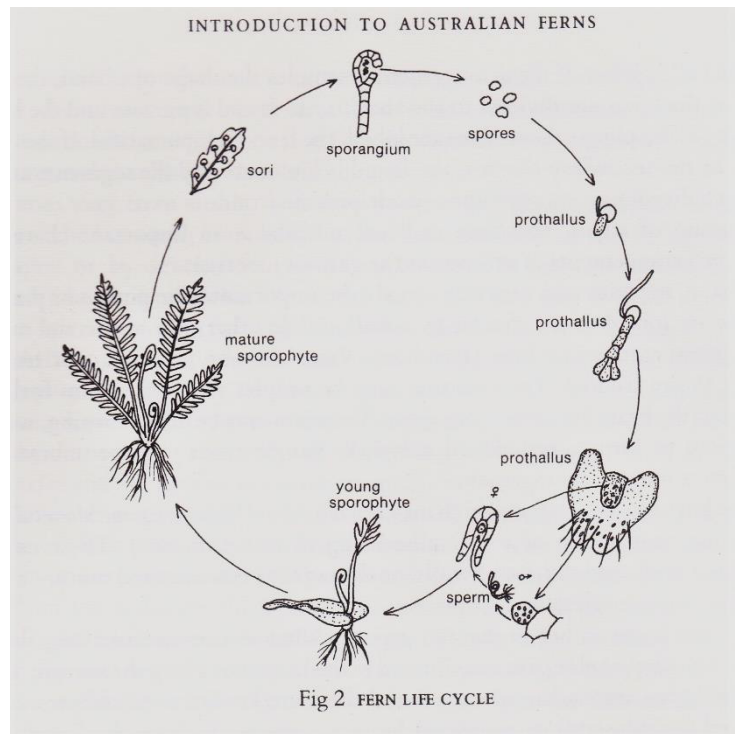
FERNS OF THE SOUTH COAST

Ferns are a distinct group of vascular plants and have been around for about 360 million years. Those early forests of fern ancestors produced the coal that we so rely upon today. The ferns are separated from the other vascular plant groups, conifers and flowering plants, in that they do not produce seeds, but spore. Ferns today range from tiny filmy ferns not much larger than a fingernail to tree ferns over 20 metres tall. The largest fern is said to be the **Norfolk Island Tree Fern** *Cyathea brownii*.

There are about 130 indigenous species of fern growing in the greater South Coast region, out of a total for New South Wales of about 190 species.



The terms used to describe ferns are distinct from other plants, even though the parts of a fern reflect those of other plants. For example, the stems, branches and leaves of ferns have their own terms, namely **stipe**, **rachis and pinnae**. The creeping root of a fern is a **rhizome** while the unopened frond is called a **crozier (crozier)**, the latter a distinct feature of ferns. **The spore of ferns is produced in structures called sporangia which form distinct patterns below the fertile frond**, where it is protected from the weather. **The arrangement of the sori (an aggregate of sporangia) is an important feature to identify species.**



**Crozier of *Dicksonia antarctica*,
Soft Tree fern**

Tree Ferns

There are four species of tree fern in the region, namely Rough Tree Fern *Cyathea australis*, Straw Tree Fern *Cyathea cooperi*, Prickly Tree Fern *Cyathea leichhardtiana* and Soft Tree Fern *Dicksonia antarctica*.

Cyathea cooperi has commonly been planted in gardens for a long time, and is now well established as an introduced fern. Natural populations are uncommon to rare, and sometimes difficult to identify as natural.



Rough Tree Fern *Cyathea australis*



***Dicksonia antarctica* has a strong regular trunk, and the species often sold in nurseries as a cut stump.**

It is the only tree fern able to regenerate successfully this way. It must of course be the top section with developing fronds !



Soft Tree Fern *Dicksonia antarctica*

Filmy Ferns

These small ferns occur in very moist places and only one species is common, namely Common Filmy Fern *Hymenophyllum cupressiforme*. The other eleven species of filmy fern in the region are restricted to high-altitude rainforest in very wet gullies. Some species grow on the trunks of tree ferns, while others occur on moist rock faces and mossy boulders.



Narrow Filmy Fern *Hymenophyllum rarum*

Common Filmy Fern *Hymenophyllum cupressiforme*



Epiphytes and Lithophytes

Epiphytes are plants that grow on other plants but are not parasitic, using the tree or tree fern as a convenient place to grow but not taking nutrients from the host plant. Lithophytes grow on rock, in the case of ferns most often mossy boulders in rainforest.

Well-known epiphytes include Bird's Nest Fern *Asplenium australasicum*, often grown in gardens, and Elkhorn *Platycerium bifurcatum*, also a common garden plant.

The pendant fern Weeping Spleenwort *Asplenium flaccidum* often grows on the trunks of the Soft Tree Fern *Dicksonia antarctica*.

Hare's Foot Fern *Davallia solida* var. *pyxidata* is mostly a lithophyte associated with sandstone cliffs, but also occurs as an epiphyte in the base of *Asplenium australasicum* high in rainforest trees.



Bird's Nest Fern *Asplenium australasicum*

Weeping Spleenwort *Asplenium flaccidum*



Ground (Terrestrial) Ferns

By far the largest group of ferns is the terrestrial or ground ferns.

These range from quite small species such as Screw Fern *Lindsaea linearis*, found on sandstone, to ferns with fronds over two metres tall, such as Downy Ground Fern *Hypolepis glandulifera* and King Fern *Todea barbara*.

Blechnum is the largest genus in this region, locally containing 14 species since the genus *Doodia* was sunk into *Blechnum*.



Fishbone Water Fern *Blechnum nudum*



Downy Ground Fern *Hypolepis glandulifera*



Blechnum neohollandicum, which most would recognise as *Doodia aspera*

Climbing Ferns

Climbing ferns mainly grow in the ground and climb up tree trunks and over mossy boulders, although sometimes they will grow as epiphytes.

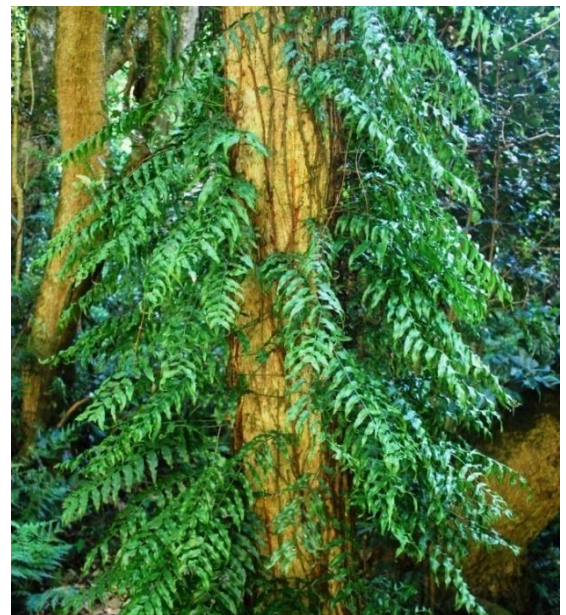
Three common species are

Climbing Fishbone Fern *Arthropteris tenella*,

Fragrant Fern *Dendroconche scandens* (syn. *Microsorium scandens*)

and Kangaroo Fern *Zealandia pustulata* (syn. *Microsorium pustulatum*).

Zealandia pustulata also occurs as an epiphyte in high-altitude rainforest, growing on the mossy branches of trees and the trunks of Soft Tree Fern *Dicksonia antarctica*.



Arthropteris tenella



Left
Pyrosia rupestris is a common widespread fern, found on both rocks and tree trunks



Right,
Fragrant Fern
Dendroconche scandens

Aquatic Ferns

The number of local aquatic ferns, that is those ferns that grow entirely in freshwater, is not high.

The most common aquatics are Ferny Azolla *Azolla pinnata* and Pacific Azolla *Azolla rubra*, often seen covering a small dam or detention basin in a floating red carpet.

The invasive weed Salvinia *Salvinia x molesta*, one of the world's worst aquatic weeds, occurs occasionally in dams and ponds.

Ferny Azolla *Azolla pinnata*



Fern Allies

Fern allies are closely related to true ferns, with links back to the origin of the ferns. These plants produce spore as do the ferns, but in this case, the spore is contained in a 'cone' (at least most of the local species do). Additionally, the fern allies do not produce fronds, but have small, closely-packed leaves.

One common species is Swamp Selaginella, *Selaginella uliginosa*, which occurs abundantly across the sandstone country. Carpets of small red plants are common along bush tracks in heath and woodland; the plants are green in the shade.

The other local fern allies are much more restricted in their distribution.



Swamp Selaginella, *Selaginella uliginosa*



Slender Clubmoss *Lycopodiella lateralis*

Sandstone Species



Typical sandstone country, with ferns
Todea barbara and *Blechnum cartilagineum*

the sandstone country.

Umbrella Fern *Sticherus flabellatus*



Screw fern, *Lindsaea linearis*, so named for the fronds which twist.

Schizaea bifida is an oddity, with fronds of combs held high on slender stems

It is worth mentioning that the extensive sandstone country of the Sydney Basin supports a distinct group of ferns. These species have evolved to survive in a somewhat harsh environment, at least for ferns. The often dry and nutrient-poor soils of the sandstone and the prevalence of bushfire steered the evolution of these species. Most species readily grow back after drought or wildfire, mostly by retaining an underground root system that can reshoot after the fire, despite the complete loss of their aerial parts.

Common species on the sandstone include species of *Sticherus* and *Gleichenia*, each genus contains three species in this region, most of which are very common throughout

Pouched Coral Fern *Gleichenia dicarpa*



Naturalised Ferns

A few species of fern have escaped our gardens and become naturalised, that is reproducing in the wild without human assistance.

The main species is Fishbone Fern *Nephrolepis cordifolia*, which was widely cultivated as an easy to grow native fern, but as we now know, is a difficult pest plant to eradicate. Its natural habitat is rainforest and open forests of the northern NSW coast from around Grafton.

Two other species have been increasing in distribution and abundance in recent years. Green Cliff Break *Pellaea viridis* is widespread but still uncommon, while Holly Fern *Cyrtomium falcatum* is increasing its distribution along the coast and is now quite common north of Batemans Bay.

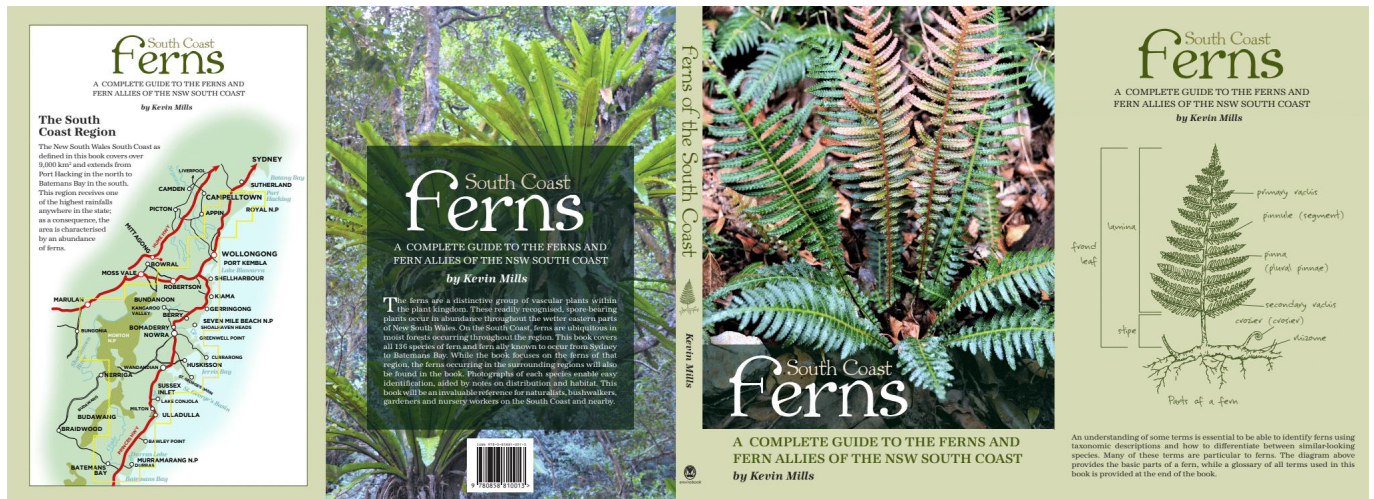
Fishbone Fern *Nephrolepis cordifolia**



Holly Fern *Cyrtomium falcatum**



Kevin will soon be releasing a book on the ferns of the Illawarra and Shoalhaven regions. It will cover almost all of the ferns found from south of Sydney to the Batemans Bay region.



Astroloma no more Words and Photos by Roger Farrow

This article first appeared in the Canberra Region APS journal, December 2022

Plant names are a dynamic field of research as taxonomists pursue the study of the identity of plant species through classical morphological studies but increasingly by means of molecular relationships.

We have seen the endemic family **Epacridaceae** subsumed in to the worldwide **Ericaceae**, the heathers, as the sub-family **Epacridoideae**. Now we have a further revision of the genus **Styphelia** in the Ericaceae and what it includes and excludes in the tribe Styphelieae (Darren Crayn et al: *Australian Systematic Botany* 2020: **33**:137–168.

The tribe Styphelieae includes a number of familiar genera like **Astroloma** and **Leucopogon**, as well as **Styphelia**.

Modern molecular studies from 2016 onwards have confirmed that the genera *Astroloma*, *Leucopogon* and *Styphelia* are polyphyletic and that the best way to resolve this, according to Crayn et al was to move all the 12 species of *Astroloma* into *Styphelia* plus 92 species of *Leucopogon*, with 76 of 128 from WA.

In addition, many undescribed species of *Leucopogon* belong to this grouping.

The consequence of this revision is that our local *Astroloma humifusum* becomes *Styphelia humifusum*. Among the local species of **Leucopogon**, the following become *Styphelia*, namely, *S. ericoides*, *S. esquamayus*, *S. fletcheri*, *S. fraseri*, *S. juniperinus* and *S. muticus*.

The following local species of *Leucopogon* remain in that genus, namely, *L. gelidus*, *L. lanceolatus*, *L. microphyllus* and *L. virgatus*.

This situation presents a conundrum for our members in terms of how far we should go updating the names of plants encountered on Wednesday Walks and Field trips. We have already adopted the changes for **Helichrysum** species moving to **Coronidium** and grasses like **Austrodanthonia** going to **Rytidosperma** so I suppose we have to bite the bullet and amend our current lists.

(The same conditions will also affect our bush ramblings, so maybe there is a need for a member to put up their hand to keep on top of all the changes.)



Styphelia (Astroloma) humifusum



Styphelia triflora



Styphelia (Leucopogon) fraseri

In my Garden

Plants have thrived over the past couple of years, and now I find that the bugs are having a field day as well, particularly as the weather has become drier and warmer. Scale is one of those persistent problems that commonly affect plants, and this year seem to be getting worse. With all the little birds around at present, thornbills, finches, silvereyes and flycatchers, surely they can see the problem and do something about it. Maybe there is just too much other sources of food. Soft scale is affecting many plants in the Myrtaceae family, with the resultant honeydew from their exudations causing ugly sooty mould to spread onto the foliage. Worst affected is *Sannantha pluriflora*, but adjacent tea trees are coming under attack as well. These plants are quite large, about 3 - 4m tall, so spraying with Neem oil, or some other ecologically suitable product is not practical. What does one do ?

There are of course systemic insecticides. But are these safe? Systemic insecticides are absorbed into plant tissue, and sap sucking insects ingest the chemical as they feed. End of story. Not necessarily.

What is the active ingredient in the chemical, and does it have unexpected consequences? When still working at ERBG, using **Confidor tablets** buried in the soil around affected plants soon saw the scale infestations cleared, and all was good with the world. However, in recent years Confidor was banned in many European countries, and in 2021 ceased production in Australia. It is still available for purchase here, both in store and on-line, and interestingly, will continue to be available until stock is exhausted. Big business calling the shots ?

The active ingredient in Confidor is a neo-nicotinoid, **IMIDACLOPRID**, which effectively causes hormonal changes to the insect metabolism so they stop feeding and show no interest in breeding, therefore quickly reducing populations. Since 1994, this was seen as an ideal control measure, with little if any effect on non-target species, including us and our pets. Around 2015 there was a strong push to have it banned, as bee populations were shown to be affected. The active ingredient was shown to be present in flower tissue and pollen, and the bees feeding on such plants also stopped feeding and breeding, with a dramatic fall in populations across Europe, and the USA where research was ongoing. So it seems prudent to cease the use of Confidor, as the withholding period within plants can be many months. Therefore only using it when flowers are not present is not really solving a problem.

Neem oil, produced from the seed kernels of the Neem Tree, *Azadirachtin indica*, a commonly grown tree found naturally in South East Asia and especially India, is a useful product for controlling scale. It works by smothering, as would other horticultural oils, but it has many other useful properties which make it a superior choice. However, it does not have that desirable feature of being absorbed into plant tissue, and using it to control scale needs a much more thorough coverage of both upper and under foliage to be successful. So, there is a dilemma. I cannot adequately cover the larger plants, so the scale will continue to thrive.

There is another option. **Bugs for Bugs** supplies **Green Lacewing insects**, both adults and eggs to help control a range of sucking insects. These voracious predator insects only live for about a month, feeding on nectar, pollen and honeydew, competing with ants for this sweet food. Adults are about 15mm long, with large lacey wings. Females lay up to 600 eggs, each sitting on slender filament. Larvae are the good guys, sucking the life out of any insect they happen upon. At around 2mm long on hatching, the larvae moult 3 times, reaching 8mm long before pupating. Emerging females begin egg laying after just 1 week. So our prayers might be answered, and it is quite likely that Green Lacewings are already present in our garden, but in too low numbers to adequately control the annoying and damaging scale populations.

A garden pack of Lacewings, containing 500 eggs, 6 release boxes and 2 yellow sticky strips is available on-line for \$41-25. Could be an inexpensive gift for the gardener who has it all, all the bugs that is.



Acacia elongata scale infestation

Weeds, weeds and more weeds

This month we look at a couple of plants which despite vigilance, still manage to thrive. The genus **Phyllanthus**, previously included in the Family Euphorbiaceae, but now in its own Phyllanthaceae, includes another aggressive weedy species, which was for a time confused with native species. The Genus comprises about 600 species worldwide, with up to 60 species recognised as native plants, around 16 species of which are found in NSW. Plants are mostly monoecious, meaning plants have both male and female flowers.

Our weedy plant is *Phyllanthus tenellus* var *tenellus*, native to Madagascar and parts of Africa, and western Indian Ocean Islands. It is named Mascarene Island Leaf Flower, for it common on the Mascarene Islands, however we know it as Hen and Chicken for its reproductive abilities.

This weed of disturbed sites, including any garden bed or pot plant, is a small, usually single stemmed herb to about 50 to 75mm, depending on the degree of shade. Plants can grow up to 2m in well-watered shady sites, but when growing in tough environments, such as a gravel drive in full sun, might only reach 50mm, but still flower and produce regular crops of seed. Flowers are so tiny as to be inconspicuous, but they are obviously fertile, as copious tiny seed is set before the plants are noticed. And they germinate within days, ready to complete the cycle again and again.

The epithet **tenellus** refers to the plant as being weak, listless. Not so in my garden. Hand removal seems the only satisfactory solution, but one needs to hold the plant close to its base to ensure the tenacious roots are removed, as the stem will break readily to keep the plant in the soil.

There is about 50 stems of the weedy plant shown in the photo, each quite happy to leave progeny for another generation. Plants are said to flower mostly in summer, but I have continual crops throughout the year.



Maybe I need to be more diligent.

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