

AUSTRALIAN PLANTS SOCIETY

Southern Highlands Group

...your local native garden club

Happy christmas to all at SHAPS

Southern Highlands

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John Desmond

Newsletter Editor

Trisha Arbib

Communications Officer

Jen Slattery

Committee Members

Marjorie Lobban

Paul Osborne

APS Committee

southernhighlandsaps@gmail.com

[www.austplants.com.au/
Southern-Highlands](http://www.austplants.com.au/Southern-Highlands)



Upcoming Program



Xmas Party

Thursday 8th December 4pm to 6pm. Please note the time.

This will be held in Jonquil Temple's garden at Quill Cottage, 16 Applegate Close, Mittagong. A chance to finally see her lovely garden after previous wet weather cancellations. The garden covers over an acre. It was a bare paddock 20 years ago and has been transformed.

Bring food to share and something to drink. Suggest light party food, nibbles, snacks. Tea and coffee will be provided. It is on rain or shine, as there is a verandah where we can shelter. Bring some cash for the raffle, Barbara's lovely cards (great for Xmas cards), and plants.

Our communications person Jen Slattery has emailed you the details. Keep the date! Partners are welcome.

There will be no meeting in January 2023. A talk and our AGM will be held on Thursday 2nd February 2023. The next committee meeting is at Marjorie's on 19/1/23.

Southern Highlands APS Weekend Gathering

Paul Osborne

This year has been a big one for the NSWAPS having held the national conference at Kiama in September and the Southern Highlands group also had a gathering of members from within the state over a weekend in early November. A schedule of talks and activities was planned for the travellers to the district to enjoy along with the locals.



A perfect start to the weekend, blue skies and the ample verandahs of the Exeter Village Hall to meet up with old friends and make new ones. Photo Paul Osborne

Shire.

Dan is a biologist and is the NSWAPS Conservation Officer who, with others, was contracted by the NSW government in 2015 to survey the diversity of plants in the Shire. He gave

A fine warm Saturday morning at Exeter Hall, along with the CWA's morning tea, gave a welcome start for the 70 or so who assembled to hear Dan Clarke talk about the vegetation of the Wingecarribee



A keen audience filled the room at the Exeter Village Hall to hear Dan speak. Photo Louise Egerton

a comprehensive outline of this large subject, a link to which should be posted on the NSWAPS website.

The work involves dividing a chosen area into 20x20m lots, or quadrants, and recording all they contain. Naturally these just provide a “snapshot” at that time and place and there is so much still unknown about the botany of this vast area. From dry sclerophyll forest, shrubby grasslands, swamps, remnant rainforest and all that is in between, a picture was given of some of the various species and the complexity of the task.

Beyond the minutiae of scientific mapping Dan threaded through his talk his feeling of “enchantment” at certain places - readily understood by an APS audience.

At question time the importance of the vegetation mapping for conservation issues, and the ambiguities involved, were among the things discussed.

A break for lunch, thanks to the Exeter CWA again, gave a chance to relax and mingle.



*Gathering at the Old Rectory before exploring the native plantings.
Photo Paul Osborne*

Thunder and lightning provided a backdrop at times for the afternoon visits to Tanya Excel's garden and later a wildflower walk at Moreton NP. Nearly everyone from Exeter Hall came along to Tanya's and enjoyed a stroll around her large property, the Old Rectory at Moss Vale. She explained her motivation for planting lots of natives, where there was little else but mown lawn space, as the creation of more wildlife habitat. The last

couple of years have been tough for establishing gardens so replacements and adjustments are ongoing.

It was good to have Warren Walker from Wariapendi Nursery there as he had planted out the new gardens. Interestingly he spoke about changes in approach over the years with a greater appreciation now of the complexity of soil profiles and the importance of mixed plant communities, including retaining some “weeds”. Perhaps the constant wet has altered our gardening environments more than we think. Both Warren and Tanya answered many keenly asked questions.

The rain finally came after much early warnings and cut short the day out at Echo Pt., Bundanoon. Most were able to view the lookout and take in some of the many flowers and other attractions before getting away.

Later that evening a well attended dinner was held at the Mittagong RSL Club. Jane Lemann engaged everyone with a talk about Mt Gibraltar, the iconic landmark of the Shire. With her knowledge and enthusiasm Jane outlined both the history of the area and more recent rehabilitation of the natural bushland after many years of work by dedicated locals.



A first glimpse of the view from the lookout at Morton National Park in Bundanoon. Photo Trisha Arbib



Approaching Sarah's Bowral garden. Photo Paul Osborne

showers, the tables were enthusiastically picked over.

Unfortunately a much anticipated walk the next day at Mt Gibraltar and another near Mt Alexandra could not happen due to rain. However a good number of visitors still enjoyed a Sunday morning wander around the beautiful native town gardens at Kris and Sarah's. Southern Highlands members contributed plants for sale as well and, despite the light

So although the weather brought the weekend gathering to an abrupt end it didn't matter as it seemed a good getaway was had by all along with APS activities.

The inaugural Medway Reserve Bioblitz 28/10/22

Marjorie Lobban

Recently, 17 keen bioblitzers assembled outside the entrance to the northern section of Medway Reserve on a thrillingly sunny Friday morning. Under guidance from Jen Slattery we had all downloaded the iNaturalist app (<https://inaturalist.ala.org.au/>) onto our phones. Using this app, fauna and flora observations can be logged and uploaded. From iNaturalist they will then be submitted to the **Atlas of Living Australia**, an important national information and conservation resource.

Jen had previously identified Medway Reserve as containing a useful variety of plant communities that would support intensive investigation and she led the expedition. Although our group did not undertake the formal Bioblitz, surveying the reserve was a valuable introduction to the app and the concepts underlying its use, and our observations will be recorded.

Two important visitors joined the group, Belinda Booth, a recently arrived Environment Officer for Bushcare and Citizen Science at Wingecarribee Shire Council, and Peter Jobson, an Identification Botanist at Mt Annan Botanical Gardens. Peter came armed with a Medway plant list developed by naturalist Louise Atkinson in the mid-nineteenth century, keen to see if and how it matches current observations. He also carried a day plant press to record and capture interesting finds (being in possession of a plant collector’s licence!).



Jen Slattery admiring Grevillea raybrownii

Interesting finds started early. The first specimen was a *Grevillea raybrownii*, not previously known to occur this far south. Score one for Medway and the bioblitz! Peter also suspects that a prostrate *kunzea*, spotted on a rocky platform at our lunch spot, may be a new species.



Sarah recording the prize grevillea

A ground-hugging *Dillwynia trichopoda*, notable for its tiny leaves, also caught Peter’s attention because it was occurring at the very edge of its range. He explained that it is currently being more completely described and classified.



Peter recording a plant



Preparing the day press



Placing the specimen in the press



So many beautiful flowers!



The bush yielded more and more as so many people looked down and looked closely



Comesperma ericinum



Thelymitra -sun orchid



Isopogon anemonifolius



Comesperma volubile



Since it was a fine day we had a picnic lunch on a rocky platform overlooking the gorge created by Medway Creek, with the pine forests of Belanglo visible on the horizon. Inexplicably, there are two garden benches at the lookout which has no track and is accessed by bush bashing. Their presence begs many questions.



Peter pointed out the fine leaves of the Eucalyptus apiculata, an adaptation to the dry conditions on the rock platform

After lunch we completed our circuit of the small area of the reserve we were looking at and returned to our cars. There was a decision to rationalise the photographs to be submitted, but also an enthusiasm to return to the reserve for further observations. Huge thanks to Jen Slattery for initiating and managing the project.

A Trip to Remember: the Warrumbungles, the Pilliga and Mt Kaputar NP

Louise Egerton

Coonabarrabran is a nice town and a great kicking off point for the spectacular Warrumbungles. Best time to go? It has to be spring. And so it was when 12 botany beavers took off on a post-NSW APS conference to find a flowering bonanza. And there was more, we would make our way through the inland forest expanse of the Pilliga region to Narrabri and on to visit Mt Kaputar NP.

At a geologically simplistic level, the flat north-western sandy plains of the Pilliga have been punctured by volcanic eruptions. To its south lie the spires, ridges and domes of the Warrumbungles and to the north-east the plugs, dykes and lava terraces of Mt Kaputar National Park. It is no surprise then that the flora of this part of New South Wales is so exciting.

On the way, we visited Bilby Blooms, a nursery at Binnaway run by Anthony and Annabelle O'Halloran who specialise in some unusual native plants. We marvelled at the exuberant flowers of the hakea bushes on the property and I couldn't believe my luck when Annabelle was able to pluck a tube of *Acacia acinacea* (Gold Dust Wattle) from the laden benches. I had made a note on our recent APS outing to Margaret Hammond's garden in Moss Vale to try and find this species. I knew it wasn't a common one so what were my chances? As we clutched our embarrassment of riches to our chests we realised we'd a long way to go, on a coach, and what would become of our delicate tubestock? Annabelle agreed to hold them as ransom for her partner, Anthony, who climbed on the bus to be our botanist for the trip.

There wasn't much that Anthony didn't know about the flora of the areas we were about to visit. I was only able to glean a smidgen of knowledge from his encyclopaedic brain but Donna and Eddy from WA seemed to be able to keep up. Once decanted out of the bus the three of them were hard to reinstate in their seats. Their enthusiasm was infectious.

The magnificent land formations of Warrumbungles blew me away. You could easily spend a week here with its extensive walking tracks and gorgeous native flora and fauna. Many of the plants are familiar at the genus level but most of the species are different from our local ones. However, the prevalence of cypress pines (*Callitris*) tells you this is a very different environment to the one we're used to.

These native pines are especially dominant in the Pilliga region. Their straight, lichen-blotched trunks line the Newell Highway as it slices through the forest from Coonabarabran to Narrabri. There are two species—White (*Callitris glaucophylla*) and Black (*C. endlicheri*)—but as we zip past, it's hard to tell the difference, although the bluish green foliage of the White is just distinguishable from the green leaves of the Black. On closer inspection Anthony points out how the trunks of the Black bear many patches of different coloured lichen species while those of the White, only one or two. Another diagnostic feature is the cones: globular in the White; egg-shaped in the Black. Both are termite proof but fire-prone.

On the bus Anthony is reeling off the names of countless wattles in the shrub layer: *A. decora*, *A. deanei*, *A. paradoxa*, *A. buxifolia*. All through the Pilliga, beneath and beside these, lie an abundance of wildflowers. It is a paradox that here on the nutrient-poor

sandstone soils where the pines are legion there is huge diversity whereas in the Warrumbungles and at Mt Kaputar the rich volcanic soils support surprisingly fewer species.

The wet weather made a trip to the summit of Mount Kaputar out of the question but we did visit Sawn Rocks. This towering 'castle' of columnar basalt rises up out of the most glorious native bushland and the views along the track from the car park to the lookout is spell-binding. Here is another place where any nature lover could spend a week and see something new and wondrous every day.

I cannot recommend highly enough a trip to this part of Australia. I am told autumn, too, is lovely but summer would be too hot. We only had a hand-lens view of the delights of these three destinations but it was enough to make me want to go straight back.



The vast Pilliga Forest, the largest stand of native forest in inland Australia.

Fortunately for these three utterly absorbed botanists traffic on many Pilliga tracks is intermittent.



Rusty Spider Flowers, Grevillea floribunda, dangled like earrings everywhere in the bush.



Everywhere you look the Warrumbungles landscape bears witness to its past dramatic volcanic activity.



Sawn Rocks in Mount Kaputar NP where basalt rock has cooled and cracked into vertical columns.



Prostanthera granitica, ironically, grows on sandstone

After the bees the flies and the beetles shall inherit the flowers

John Desmond

At our meeting on 6 October, we heard a fascinating address which outlined a new perspective on pollination for many of us. Roger Farrow, ecologist, insect entomologist and author of three books and over 80 scientific papers during his career at CSIRO, introduced us to the importance of pollinators other than European Honeybees.

Much of our agriculture and garden development is based on a Eurocentric view where honeybees and bumblebees are the dominant pollinators. However Australian plants have followed a different evolutionary path, and apart from the over 1,700 species of native bees there are numerous completely different pollinators.

To illustrate some examples of the variety of pollinators a series of photos were displayed throughout the presentation of insects on various plants. The following photos are by Roger Farrow.



Jewel beetle (Castiarina rufipennis), on a Blackthorn, (Bursaria spinosa)



Burrowing bee (Lasioglossum sp.) on a Mint bush (Prostanthera rhipidium)



Net winged beetle (Porrostoma rhipidium) on a Hakea sp.



False march fly (Pelecorhynchus claripennis) on a Hakea macrocarpa

A major functional difference between bees and other insects is that bees collect pollen to feed their offspring whereas other insects use the flower resources for themselves.

In the Australian environment flies are both widespread and varied. The CSIRO has estimated that there could be up to 30,000 species of flies in Australia but only about 6,400 species have been described so far. Flies, from the order diptera, are a very ancient group of insects, first appearing in the Jurassic and Cretaceous periods where they fed on gymnosperms and evolved slowly as angiosperms developed. Bees had not developed in this period, so all plants relied on flies for pollination. Today flies are very good sources of pollen for *Leptospermums* and dominate in some areas, for instance alpine areas and in winter when it is too cold for bees. They are also important in arid areas. It is possible that certain plants and pollinators developed by way of specialised coevolution, but this would be risky because if the pollinator or the plant declines so will the dependent. In many cases it is more likely that mutualism applies where there are net benefits to both parties but where ecological interactions are varied.

As well as varied species there are different methods of pollination. For instance peas from the fabaceae family are pollinated by the bees weight rather than feeding processes. Buzz pollination where pollen is released by vibrations can only be performed by native bees and many species of *Hibbertias* need this method.

Beetles with shiny bodies pick up sticky pollen grains, while other beetles have bristles to trap pollen. Most beetles are clumsy flyers so prefer big flowers or large compound flowers, and some have a powerful sense of smell. Different plants can have quite different odours, ranging from sickly sweet to pungent, carrion, or stale urine. Many of the functions of the different odours is unknown.

Insects also visit flowers for mating and brood sites and some predatory flies use flowers as a vantage point to attract prey. Some plants emit pheromones and pollinators attempt pseudo copulation.

Another aspect of the process is colour, where bees tend to prefer blue plants, flies yellow and white and birds red. As anyone who visits the bush when grevilleas are in bloom can attest, Australia has more bird pollinated plants than most other countries.

The talk at this meeting provided many of us with a new perspective on plant pollination and the enormous variety of species and pollination methods which can apply across the plant kingdom. As a small real world example of pollination, tomatoes are generally wind pollinated in the wild. However in a greenhouse environment there may be no wind and so the buzz pollination of native bees is a substitute.

Given this background it is possible to contemplate a different approach to commercial pollination than total reliance on European honeybees. The current concerns regarding the possible spread of varroa mite would clearly have severe short term consequences, but if the populations of European honeybees decline some native bees could possibly evolve to replace them as pollinators and in some cases various fly species could have real potential for commercial pollination.

Over the Hedge with Erica and Kim

Erica Rink and Kim Zegenhagen



How is your garden faring during wet weather?

An email was sent to members on 21/10/22 asking the above question. We received terrific responses from the following members, to whom we are very grateful.

Thank you, Trish Arbib, Chris Bourne, Louise Egerton, Marlene Murray, Jane Pye, Pam Tippet, and Helen Worrall.

Some trends and common issues became apparent when we read the emails.

Let's start with the bad news. That way we finish on a high.

Hakeas have been known to develop black spot and suddenly die.

Several people have mentioned that if **Westringia** becomes waterlogged they will quickly rot and perish.

Box eucalypts are dying along creek beds in the Joadja region. This "dieback" seemed to start at the end of the drought when trees made lots of new leaves but then failed to thrive. Does anyone know if this is drought or wet related?

Isopogons have been a noticeable casualty. They were never a problem to grow until the extended rain.

Eucalyptus pauciflora (a variety of snow gum) has suffered greatly (see photo below left). These trees survived the drought but not the soaking rain.



Grevilleas are both a happy and sad story dependent upon position in the garden. See sad grevillea photo above right. The last two years have shown they need a well-drained position.

Here is some good news:

Waratahs if in a well-drained position will thrive. Do not plant these where they will become waterlogged.



Banksias are a success story for some. See the beautiful photo of *Banksia blechnifolia*. Note: growing on a slope.

Melaleucas, **Callistemons** and **Leptospermums** have all done generally well.



Tree ferns and ferns have loved the wet conditions. Just make sure they are not too well drained so they will survive a future drought.

Kangaroo Paws (*Anigozanthos*) have surprised some members. For a plant from WA which thrives in sandy soil they have done remarkably well when planted in well drained locations. When planted in areas where they become waterlogged, they have no hope of survival.

Some members commented that wildflowers have been amazing, particularly *Ajuga australis* and native violets.

Don't give up when plants die under current conditions. It may be necessary to follow the advice of Clarence Slockee on Gardening Australia. Clarence recommended adding sand to the soil. Another good tip is to elevate your plant slightly and surround it with rocks to prevent soil run off.



And there's more

Some lovely feedback on Coles Bowral planter boxes from Sarah Cains. Photos Sarah.



Checking it out. Another day there were two wattle birds in there feasting on the callistemons!



People love the plants! This young mum told me she was drawn to sit there to feed her baby because of the plants.

In that concrete desert, this is something of a triumph!

Many thanks
to all
contributors

I'd like to thank Paul Osborne, Marjorie Lobban, Louise Egerton, John Desmond, Roger Farrow, Erica Rink, Kim Zegenhagen and Sarah Cains for their contributions to this newsletter. This is original writing and photography by our members. Fantastic.

