Australian Native Plants Society Canberra Region (Inc)

Journal Vol.21 No.8 December 2023

ISSN 1447-1507

Print Post Approved PP100000849

Contents

Front Cover: *Xanthorrhoea glauca* subsp *glauca,* a gift from Barbara Daly; Photo: Ben Walcott

Journal articles

The Journal is a forum for the exchange of members' and others' views and experiences of gardening with propagating and conserving Australian plants.

All contributions, however short, are welcome and may be accompanied by photographs or drawings. The editor reserves the right without exception to edit all articles and include or omit images as appropriate.

Submit photographs as electronic files, such as JPEGs. Set your digital camera to take high resolution photos. Please send images separately and not embedded in a document.

If photos are too large to email, please contact the editor. You could copy your images onto a USB stick and arrange delivery to the editor or send them to the editor via a file sharing service eg Dropbox. If you have any queries please contact the editor.

Send articles and/or photos to:
Journal Editor
e-mail: journal@nativeplantscbr.com.au

Society website: nativeplantscbr.com.au

Printed by Elect Printing, Fyshwick, ACT
electprinting.com.au

Australian Native Plants Society Canberra (ANPSC) 2023 Annual Report (#)

Stephen Saunders, President

ANPSC is one of 8 state-territory affiliates of ANPSA. We are a small non-profit organisation run by volunteers, earning and spending roughly $30,000 annually.

The Society's key purposes are improving the horticulture of Australian native plants, plus preserving these plants and their habitats. Our governing Council has had 9 members through 2023, as against a possible maximum of 11.

The Society had a small operating surplus for 2022–23. Membership numbers are reasonably stable. We held two successful Plant Sales, and ran a full program of Members' Meetings, Wednesday Walks and Field Trips.

Affiliations and Governance

- ANPSC's next Annual Return was to be submitted after the November 2023 AGM.
- We held all Member Meetings for 2023, and all Council Meetings bar one.
- Through 2023, it remained difficult to fill key volunteer slots, both on and off Council. At AGM, the President and just 6 others were returned to Council.

Finances

- Responding to an early 2023 cyber-theft, the Society managed to get all funds restored, and correspondingly tightened its *Financial Arrangements and Delegations*.
- The Society found a new (more economical) Auditor and has made the switch from Accrual to Cash Accounting, as better suits our small organisation.
- The 2022–23 Audit and Financial Statements have been finalised satisfactorily.
- 2022–23 Society operating income ($47K) was slightly up, expenses ($42K) down, as compared with 2021–22. The surplus is somewhat reduced, by one-off adjustments for Cash Accounting.
- A new *Donations Policy* was agreed and posted to our web, shifting the focus away from large or one-off donations, more towards 'Spends and Donations'.
- These 'Spends' are to be made for the benefit of the Society's own activities re Plant Sales and Propagation Group, Memberships, Website and Other Publications.
- We renewed our insurance cover, at slightly higher cost but with a spread — for Association Liability, Accident to Voluntary Workers, and Public Liability.

Memberships

- At end 2023, the total Society 'active subscriptions' are about 240, comparable to end of 2022.
- This figure includes ordinary subscriptions, concessions and life members.
- Subscription numbers are now to be noted regularly and plotted to discern trends.
- It is intended that new members receive a one-page flyer of membership benefits.
- We achieved a full book of Monthly Meetings and Speakers for 2023, promoting some of these speaker presentations as articles on our website or in our Journal.

Activities and Working Groups

- In 2023, we met again with ANBG management, who promised support for our Plant Sales, and offered access to their new Conservatory, opening around May 2024. Our Memorandum of Understanding with the Gardens is due to be renewed mid 2024.
- Under the Canberra Institute of Technology (CIT) agreement, Propagation Group (PROP) activities continued at CIT Bruce and also at member premises in Queanbeyan.
- Fourteen Working Bees were held, usually about a dozen participants. Prop Group conveyed 1400 plants to Autumn Sale, 20% unsold, then 550 in Spring, all sold.
- Prop Group (or other Society) members contribute site repairs, site maintenance, weeding, workshops, cutting materials, potting mixes, and propagation records,
- As an innovation, the Society signed a three-year $10,000 funding agreement with ACT Environment, to survey, map and report on ACT populations of the *Keyacris* grasshopper. Roger Farrow led a spring 2023 program of site visits.

Plant Sale

- An unseasonably hot March Sale offered about 6,000 plants, from Prop Group plus eight Member Growers (##), with about 4,200 (70%) clearance.
- During 2023, the Plant Label and Protected/Threatened Species Label charges to Growers were raised from 14c to 18c, to cover the outsourcing of label printing. At future Sales, our new printing company is to bill the Growers direct.
- In the second half of 2023, new Plant Sale Coordinators volunteered, who successfully conducted our Spring Plant Sale.
- October Sale took the number of Member Growers down to six (##). We offered about 5,000 plants, with keen early attendance and rapid clearance.
- Members had been circularised during 2023 of concerns over Autumn Sale. The intention is to proceed with March 2024, but advertising it as a 'Small Sale'.
- In June 2023, we renewed our ACT Protected/Threatened Species (TS) licence, estimating in a full year we'd sell roughly 300 TS plants across 17 different species.

Wednesday Walks etc

- Regular Wednesday Walks, Daytime Activities Group and Field Trips continued in 2023. These are counted among the key benefits of Society membership.

Website and Other Publications

Website

- Our website's (nativeplantscbr.com.au) main topics did not change in 2023, but more effort was made, to update the Recent Posts on the website.
- Late 2023, our web provider Giraffe has been tasked to develop website improvements that will help create an 'Online Journal' system.
- The website advertises our $30 Plant Book, 4th printing of 5th edition. This is our other major revenue-income source, with supplies still on hand from the 2021 printing.
- 2022–23 Book revenue fell slightly, compared with 2021–22.
- Council agreed in-principle to one more reprint of the existing Plant Book, but also looked at prospects for a new and concise Plant Book.

Other Publications

- The publication, *Where to Buy Native Plants in Canberra* underwent a much-needed revision, which also went live as a Recent Post.
- ANPSC *Bulletin* (monthly via Mailchimp) and *Journal* (quarterly PDF) continued to be circulated separately, as key services to members. Costly hard-copy circulation of the Journal, having fallen to about 60 members, was to cease at the end of 2023.
- Under a long-standing Agreement, RMIT continued to republish ANPSC materials.
- *# Other reports under the Associations Act are as per attached.*
- *## Four growers are family, but each cultivates and operates, under a separate account.*

Attachment — Reports as requested, under the current Associations Act

Section 73 (1) (a) Association Statement of Accounts

Section 73 (1) (b) Association's Auditor Report

These reports were presented to our AGM of November 2023, and will go with our Annual Return to the ACT regulator.

Section 73 (1) (c) (i) Council Members at end of 2022-23, and up to AGM

Stephen Saunders President, Christine Kendrick Secretary, Merelyn Southwell-Keely Treasurer, Garth Chamberlain Minutes Secretary, Gail Ritchie-Knight, Jeanette Jeffery, Tom Jordan, Lena Saboisky, and Glynn Shepherd.

Section 73 (1) (c) (ii) Principal Activities in 2022-23, and any significant Change

By our Constitution, our principal and first three purposes are a forum for the horticulture of native plants, improving native plants as garden subjects, and the conservation of native plants and their habitats.

These are expressed, via our principal activities as above, member meetings, propagation and plant sales, regular walks, daytime activities and field trips, our website presence, and publications. No major changes during 2022–23, or up to AGM.

Section 73 (1) (c) (iii) Net Profit or Loss for 2022-23

As per our Statement of Accounts, nominally, our total Surplus is $15,315. But this reduces to a surplus of $5,315, setting aside the three-year (and required-to-be-acquitted) Keyacris grant from ACT Environment.

Life Membership Award

Nomination of Ben and Rosalind Walcott for Honorary Life Membership of the Australian Native Plants Society, Canberra Region

Membership and offices held

Ben and Ros joined ANPSC in 2003 and have been valuable members of the Society for the past 20 years. They have actively promoted and supported the Society since becoming members and participated in a range of activities. Their enthusiasm and efforts in growing and promoting our native flora in gardens, their interest, participation and forward thinking in the Society's management, and their readiness to give support to members and the Society, speaks highly of their commitment, generosity and kindness.

Both Ben and Ros have held positions on ANPSC's Council. Since 2005, Ros has been Assistant Secretary/Treasurer and a member of Council for 3 terms totalling 10 years, preferring to work behind the scenes. Ros is a valuable team member, someone who has good ideas, contributes to discussions and has excellent writing and editorial skills. Since 2007, Ben has held executive positions totalling 10 years — as Treasurer (2 terms, 6 years) and as President (2 terms, 4 years) most recently in 2019.

Ben has always been available to Council to provide counsel and guidance on Society matters and has generously offered given his time as a mentor. Ben's leadership and wise counsel is very much appreciated and valued.

Ben also supported ANPSC's role in ANPSA, the national body when he nominated and was elected ANPS Canberra Region member of the ANPSA Executive between 2014 and 2019; he was Vice-President for 2 terms and President for one. In addition, both Ben and Ros have attended and participated in a number of the ANPSA Biennial Conferences held around Australia, the last time in Albany WA in 2019.

Ben was Convenor for the 2015 ANPSA Biennial Conference held in Canberra. He chaired and worked as a member of the organising committee* that handled all aspects of organising the event and was also the chair for the talks program held during the conference week. Ros was a member of the organising committee and was responsible for organising the speakers and thank-you gifts; inspecting facilities; handling conference registrations; and planning field trips and excursions.

*The organising committee tasks included: devising the format and content, selecting venues, planning the program, organising fieldtrips and excursions and also talks and speakers, and managing conference registrations and facilities for attendees.

Ros was Bulletin Editor for an extended period from 2005 to 2013, producing 11 issues a year. For the last few years, each month both Ros and Ben have contributed to the Bulletin with their quality 1 page 'Show and Tell' of plants currently flowering, with text provided by Ros and photos provided by Ben.

Ros has been part of our membership team and as needed produced the membership address labels for the Bulletin/Journal/Australian Plants mailouts for 10 years. She was our Membership Secretary for 2017 and 2018. Ben recognised the difficulty the Society was having finding volunteers for certain ongoing tasks and was a great supporter of simplifying and automating our membership system and database. His efforts led to a new membership system, one that is part of the new website.

Discussion and exchange of ideas on growing Australian native plants

Ben and Ros have a unique and beautiful Australian native garden they created together. They have opened their garden many times, not just for members of ANPSC, but also for Open Gardens Australia (between 2006 and 2014) and for more than 40 different societies and hundreds of individuals and for all attendees at the 2015 ANPSA Biennial Conference. This garden shows off our native flora and promotes positive examples of its use in horticulture and Ben and Ros generously share their growing knowledge and experiences with visitors. In 2014, their garden was also selected by Australia Post for display on one of its new stamps.

Ben and Ros have created and maintain a website walcottgarden.com to provide the public with information and images on Australian native plants and garden design.

Ben and Ros were instrumental in the creation, development and funding of the Terra Australis Garden, National Arboretum, Canberra, created and opened in 2016. This Australian native plant garden aims to promote Australian native plants and was funded with generous contributions from many of the Australian Plant Societies and individuals, including $25,000 from ANPSC. This has been a project strongly supported by Ben and Ros from the beginning: they have collected the monetary donations, as well as plant donations from nurseries; and together with two gardeners they planted the original garden. They have continued their commitment to the garden, buying plants and supervising their planting and Ros continues to maintain the official list of the garden's plant species.

Ben and Ros have been members of the Friends of ANBG since 2003. Since 2014, they have produced, each fortnight, the *Flowers, Fruit and Foliage* brochure on behalf of the Friends. Ros chooses 15 different plants in the ANBG in flower or with interesting foliage, nuts or fruit; places a numbered stake to mark each plant. Ben photographs them and Ros writes a short description of each plant and includes any other interesting details. Ben produces a digital brochure with map that is made available on the ANBG website and at the Visitor Centre. The brochure provides a self-guided walk for visitors to the ANBG promoting and highlighting plants of current interest.

Ben and Ros are members of the ANPSA and Canberra Garden Design Study Groups. Ros has edited the ANPSA GDSG Newsletter and Ben updated the website with text and images. Ros has also been

leader of the Canberra GDSG, arranging local garden visits and producing reports for the ANPSA GDSG Newsletter. Ben and Ros have had visits with GDSGs in other Regions and attended the Eremophila Study Group conferences in SA and Qld. Ben and Ros are joint leaders of the Native Plants in Containers Study Group and Ros is the Newsletter Editor producing 2 issues a year with contributions from SG members.

Furthering the objects of the Society

ANPSC has been using facilities at ANBG (for monthly member and Council meetings and plant sales) since 2013. Ben was involved in developing and negotiating a Memorandum of Understanding (MOU) with the ANBG that has allowed ANPSC to use meeting and plant sales facilities and storage area in the Dickson Room and under the Visitors Centre in exchange for an annual donation to their research fund.

Ben invariably attends both days of ANPSC's twice-yearly Plant Sales, in his role as Treasurer and as a volunteer for setup and on Sale Day. He has been the Plant Sale Coordinator.

Images are very important as they showcase and inform people of our flora. Ben photographs and provides many quality plant photos for the Bulletin, the Plant Database and for the large photo labels used at the Plant Sales. For many years, Ros was responsible for producing many hundreds of the large photo labels with text that we display at our Plant Sales.

In 2016, Council decided that the current website needed to be redeveloped to better meet our needs and chose a commercial developer, for the task. Ben and Ros were members of the committee who consulted on website structure, content and architecture over many months to create the new website. Once it went 'live' in 2017, Ben immediately took on the role as one of our webmasters who manage and maintain the website and he continues in the role to this day. Ben also chaired the new website committee.

Ben has always had an eye to the future and keeping the Society relevant and able to function with less volunteers and has been instrumental in modernising our processes.

Ben proposed that Council consider updating the Society's logo and replace it with an image more identifiable. As a result, a new, professionally designed logo was sought in 2017 and the current logo adopted in 2019.

Our Plant Database has been a crucial Society asset for many years. In 2019, Council decided that it was no longer fit for purpose and enhancement and chose a commercial developer to create a new online plant database. Again, Ben was a member of a group, who worked to develop the new database, and then moved all the data across. The database is available to anyone via our website and importantly generates the plant labels for the plant sales. Ben continues to be one of the database editors and chairs the PDB committee.

Ben has been a speaker at our monthly meetings and on our native plants at meetings of other Societies and Groups. Ben has on a number of occasions been a speaker at ANBG's Friends Thursday talks — the last time was on 25 May with a talk titled *Gardens and biodiversity.*

In addition to editing and producing the GD Study Group and the Native Plants in Containers Study Group Newsletters, Ros has written an impressive list of interesting and informative articles for the ANPSC Journal, the ANBG Friends Newsletter, the Acacia, Hakea, Correa and Eremophila Study Groups Newsletters, and *Australian Plants* magazine.

Ben and Ros are great ambassadors for the Society and our native flora and we recommend that Ben and Rosalind Walcott be awarded life membership of ANPSC.

Nominated by: Lucinda Royston, Annabelle Greenup, Karen Brien and Roger Farrow

Council approved the nomination and awarded life membership to Ben and Ros Walcott at the November 2023 members' meeting.

Ros and *Ben Walcott;* Photo Gail Ritchie Knight

Our Quarterly Journal goes online-only in 2024

Dear Members

In 2022, we surveyed members as to the frequency and format of our quarterly Journal. As a result, the 2023 Journals have usually been emailed as PDFs, with only about 60 members (25%) opting to continue with the printed Journal.

This is to confirm the advice we circulated for the 2023 AGM. We intend to cease the costly and labour-intensive hard-copy circulation of the Journal after 2023.

In 2024 and following years, to the extent we can produce and compile a Quarterly Journal, it will be circulated online. Of course, members can always print that off, as with other articles on our website.

We've had a printed Journal for years, and many enjoy the tactile sense of reading the Journal at any time. But times change. Lucinda's Bulletin is online, yet full of information and variety that is easily read — a nice member benefit.

Like most things we do, the Journal is only as good as the volunteers who make it happen. Gail has been coordinating the production of the Journal for 11 years now. Also, under the Constitution, 2024 is her final year as a member of Council. At the end of the day, members will need to step up if we're to maintain a viable Journal.

Costs

Revenues from our Plant Sales and Plant Book are stable or declining, and thus far we've chosen not to increase the moderate Membership fees.

Since most members now receive the journal as a PDF, the 2022–23 printing and postage costs have been roughly halved, from $6,000 down to $3,000. We will have no direct production costs under an electronic-only version.

Website

As also advised at the AGM, we've commissioned Giraffe for website improvements that will help us create an 'Online Journal' system. This should afford three benefits — easier and consistent article creation and upload, improved storage/lookup of past articles and internal plus Google searchability of articles.

While this incurs upfront costs, we think it the better investment, than indefinite circulation of a printed Journal.

Council of ANPS Canberra, November 2023

Black Mountain Reserve

Promising a great Spring Show

Words: Jean Egan

On a crisp but sunny morning 19 people joined an approximately 5km walk from the Caswell Drive entrance to Black Mountain. With perfect walking weather, the Mountain showed off to its best, and proved what far-sighted planning it was over 50 years ago to make it into a public park for conservation. The progress was very slow with a wealth of plants to photograph/discuss.

Phyllanthus hirtellus, Photo: Jean Egan

It was interesting to see how the plants changed in abundance and to different genera. On the lower slopes the *Acacia buxifolia* was the dominant *Acacia*, often with *Hardenbergia violacea* twining through it, with a sprinkling of *A. genistifolia*, and an occasional *A. dealbata*. Higher up there were a few *A. gunnii*.

It was the same with the *Eucalyptus*. Lower down the Stringy Barks (*E. macrorhyncha*) and Brittle Gum (*E.mannifera*) were very much in evidence, up on the ridge above 'Tonys Gully' there were many of the Red Box (*E. polyanthemus*).

The other changes were the *Lomandra sp* and *Dianella revoluta*, that were abundant on the lower slopes and only a few further up. Here the *Stypandra glauca* took over and was just beginning to flower with *Grevillea alpina* and *Hakea decurrens* flowering profusely along with many *Caladenia caerulea* and *C. fuscata*.

Two *Leucopogons* had some attention when it was discovered it was very easy to tell the difference between the prickly *L. attenuatus* and *L. virgatus*.

Among other plants recorded were *Stackhoushousia monogyna, Brachyloma daphnoides, Pimelea linifolia, Phyllanthus hirtellus*, *Dillwynia phylicoides* and *D. sericea* to name just a few.

Brachyloma daphnoides, Photo: Jean Egan

Caladenia caerulea, Photo: Rob Gibbon

Of course the orchid enthusiasts were busy with not only the *Caladenias* but also the *Pterostylis nutans* and *Cyrtostylis reniformis* were flowering and advanced buds of many *Thelymitra* spp, *Calochilus platychilus* and *Lyperanthus suaveolens* promising a good Spring showing.

On the final leg of the journey there was a special reward of two plants not previously recorded by the Wed Walkers. A beautiful *Pomaderris intermedia* and an abundance of *Olearia microphylla* stretching down the slope.

Cyrtostylis reniformis, Photo: Rob Gibbon

Corysanthes incurva, Photo: Rob Gibbon

Brachyloma daphnoides, Photo Jean Egan

Phyllanthus sp., Photo: Rob Gibbon

Pomaderris intermedia, Photo Jean Egan

Olearia microphylla, Photo: Jean Egan

Eremophilas in the landscape:

Three trips hunting Eremophila in Qld

ANPSC Members Meeting 12 October 2023

Speaker: Dr Lyndal Thorburn, Leader, Eremophila Study Group

Words:Stephen Saunders, ANPSC President; Photos: Lyndal Thorburn

Lyndal is a life member of ANPS Canberra, a member of APS (Australian Plants Society) NSW South East Region group, and the leader of ANPSA (Australian Native Plants Society Australia) Eremophila Study Group since 2015. A scientist by training if not profession, she's kept her biology interests alive through the ANPSC Propagation Group, ANPSA Study Groups and Citizen Science groups.

She has been involved with NSW Barren Grounds Nature Reserve, Queanbeyan River Corridor Management Committee, and Queanbeyan Landcare. She and partner Tom Jordan now own a South Coast property, regenerating its local flora.

Lyndal's interest in Eremophila (Emu Bush) kindled in 1985, when she and Tom bought a pink *Eremophila maculata* 'Wendy'. They've since grown over 100 varieties in their shady Queanbeyan garden, discovering many are frost hardy and don't need full sun. Said garden has also grown many Eremophilas, for ANPSC plant sales.

She entertained the October audience, with three Eremophila odysseys in Queensland/NSW. Botany at speed as it were — in a Toyota Corolla and sometimes on dirt roads — but also with scientific purpose, to find ways of growing Eremophila from seed, for mine rehabilitation.

Eremophilas

Endemic Eremophila is yet another amazingly diverse native-plant genus. Most of its 250-plus shrub or tree species are restricted to their Western Australian hotspot, in narrow habitats. However, a few dozen occur in eastern Australia.

E. mitchellii, its distribution and form

Evolution has gifted the genus a wonderful variety of growth habits, leaf forms and flower colours.

The Study Group wondered, could a mass-germination protocol be developed, to enable mine rehab from seed-grown plants, rather than relying on tissue culture and plant hormones?

The first expedition

The first spotting expedition took place in the COVID year of 2021. A 3,500 km lap, taking in Cobar, Carnarvon Gorge and Coonabarabran. The tally was 7 diverse species: tree sized (*E. bignoniiflora, E mitchellii),* shrubs (*E. gilesii* ssp. *gilesii, E. maculata* ssp. *maculata*), and the bramble-like tangles of *E. polyclada*.

E. maculata ssp. *maculata,* red/orange flowers, Nyngan NSW

The research projects

Also in 2021, the Study Group selected University of Queensland as its first research partner. Their job was to analyse the average 'seed fill' of garden Eremophila fruits, as sent in by Group members.

Study Group with AFF, Eremophila 'ploidy' research

In 2022, a much bigger ($1.5m) four-year research project began, bringing in Australian Research Council and Australian Genome Research Facility.

Icing the cake is the complementary research project of 2023, where the Study Group partners with Australian Flora Foundation to study the impact of 'ploidy' on Eremophila germination. 'Ploidy' being the number of sets of homologous chromosomes that make up the genome of a cell.

For practical rehab, 'polyploid' Eremophilas might incur more work than 'diploids', but they might be more resistant to climate change.

Second and third expeditions

The 2022 trip hugged the coast north to Lismore, then inland via Charleville and Cunnamulla. The 2023 trip of 6,000 km was all inland, going top west as far as Windorah, and returning via Bourke. The focus was very much seed collection.

These trips netted 12 more species. Once again, widely variable in their habitats; their tree, shrub or prostrate habits and their flower colours.

Recently described *E. woodiae* is a low shrub with distinctive hairy leaves and light-pink flowers. Another shrub, *E. bowmanii* ssp. *latifolia*, sported grey leaves with mauve or blue flowers. Taller *E. duttonii* offered glossy bright-green leaves, with candy-pink flowers.

Once, Lyndal and Tom followed old records of an Eremophila sighting 30-odd km from a town. Still extant, was their sought-after *E. goodwinnii* ssp. *goodwinnii*.

E. goodwinnii ssp. *goodwinnii* near Cunnammulla, Qld

Lyndal commends the excellent info on the 'Queensland Wetland' website. You could drill down into localities and species, then drill further, to precise GPS locations of species-sightings.

As compared with WA, the eastern Eremophilas have surprisingly broad distributions, appearing to spread down the major river systems towards South Australia.

Eremophilas in the garden

After thousands of kilometres tracking Eremophilas in the wild, Lyndal considers implications for home gardens and gardeners.

E. bowmanii ssp. *latifolia,* close-up of shrub

Even though the genus name roughly means 'desert loving', a little garden shade won't hurt, especially in hotter climates. Not to mention, they might thrive more with added watering.

Also, don't expect the shape and size in the garden, to be the same as in the wild. As is not uncommon with various species of native shrub, don't necessarily expect a long garden life.

The exquisite flower-colour variations, with their unusual dots and speckles, suggest that continued collections could lead to new colour varieties, for cultivars in the home garden.

Recently described *E. woodiae,* its habitat & form

What comes next?

It is remarkable that a volunteer-based flora study group could have this impact: in terms of native-species knowledge and implications for horticulture, but also sizeable and well-connected research projects, aiming for practical benefits to landscape and industry.

With any luck, there will be future instalments for the instruction of the Society and members.

Nitrogen toxicity: Avoid Slow-release Fertilisers with High Urea

Words: Catriona Bate, Leader, Isopogon & Petrophile Study Group

As propagators we all get frustrated when our isopogons and petrophiles die or damp off at the growing on stage. We are probably all aware of the danger of too much phosphorous in fertilisers, but another problem might be too much readily available nitrogen.

Study Group member Alan Lacey (a former industrial chemist) recently alerted us to the problem of nitrogen toxicity in proteaceae resulting from nitrogen in fertilisers being mainly sourced from urea.

He learned the hard way when he lost over a hundred plants in 300 mm pots after using an 'all-purpose including natives' slow-release fertiliser. He found the likely cause was nitrogen toxicity when he checked the chemical content of the fertiliser.

Alan notes that urea is the cheapest source of nitrogen and most likely to be used, especially in cheaper products. Biuret is a common impurity in synthetic urea that is detrimental to plant growth.

Alan's advice is don't trust the blurb on the packaging of slow-release fertilisers — even if they claim to be suitable for natives. Check the 'Analysis' panel. Sure, the phosphorus might be low, but what is the main source of the nitrogen? For example, a typical analysis might list the total nitrogen as 21%, with 1% coming from ammonium nitrogen, 0.5% from organic nitrogen, and 19.5% from urea. This means that 93% was from urea, which is readily available to the plants but alas, too quickly. This product is likely to be more harmful to your isopogons and petrophiles than other products which are not suggested for natives but have lower levels of urea nitrogen.

A release period of 8–9 months is much better than a release period of only three months. Take care using slow-release fertilisers in small pots and avoid them when propagating.

Alan notes that his observations about nitrogen toxicity have been published in various journals and newsletters but have not been taken seriously. Phosphorous toxicity is keenly noted for all native species, but nitrogen toxicity for proteaceae genera has been ignored.

This article was first published in the Isopogon & Petrophile Study Group Newsletter 33, November 2023.

It is a summary of a longer article published on pg 27of the Dec 2020 edition of the Victorian newsletter Growing Australian:

https://nativeplantscbr.com.au/wp-content/uploads/Growing-Australian-Dec-2020.pdf

Ricinocarpos bowmaniis

Words and photos Jeff Ellis

Just prior to COVIDI had the pleasure of a spring just west of the Yathong Nature Reserve in the Mt Hope /Cobar region of NSW. In a patch of mallee there I came across a spectacular plant about 50cm high covered with white flowers that I did not know.

Further research identified it as *Ricinocarpos bowmanii,* aka western wedding bush. Photo taken from near Yathong NSW near Cobar

I had already known of the coastal wedding bush species *Ricinocarpos pinifolius* but not *R. bowmanii*. Recently an afternoon in the Australian National Botanic Gardens (ANBG) re-introduced me to *R. bowmanii* in the somewhat neglected mallee section and reminded me of its beauty.

Photo taken at the ANBG

This led me to go on a couple of expeditions to see more of this species in the wild and I was fortunate to find it near Tumut and Adelong. Adelong has a rather high frequency of a pink flower form.

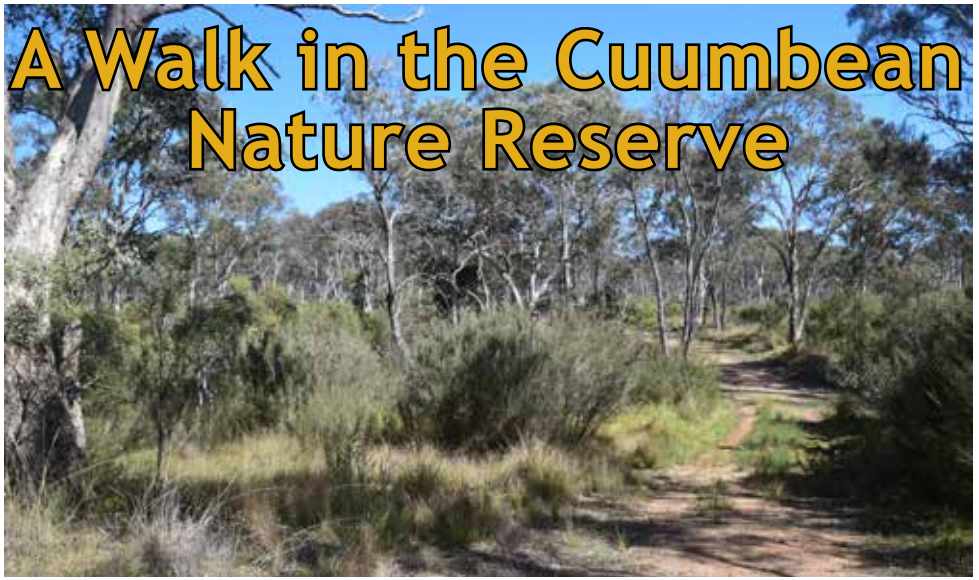
On a more recent trip I found nice specimens of the white form of

Taken at Adelong NSW

this species growing in the Pillaga Scrub. Also volunteers at the Weddin Community Native Nursery in Grenfell NSW informed me that this species grew in that area but is hard to find now due to the scourge of feral goats.

Unlike *R. pinifolius* and a Western Australian species *R. tuberculatus,* which are available in a local Canberra nursery, I have not found a source of *R. bowmanii* nursery stock. Perhaps our readers have more information about growing this attractive species?

A Walk in the Cuumbean Nature Reserve



Words and photos: *Lyndal Thorburn*

Just east of Queanbeyan lies the 709 Ha Cuumbean Nature Reserve. It was gazetted in 2001, and is in two separate parts — the first, which we (Tom Jordan and I) visited in October 2023, runs either side of the Captain's Flat road, between the King's Highway and Wanna Wanna Road.

This section ranges in altitude from 740m to 780m above sea level. Its western side includes the top of the Queanbeyan escarpment, including the end of Old Sydney Road, and the Queanbeyan River Trail passes through it. A separate, second section of the reserve lies either side of Deep Creek, east of the Queanbeyan River (about level with the Gale Precinct and Tempe Crescent) and NNE of Googong Dam — this section does not appear to be accessible by road. It is quite steep and ranges from 580m above sea level to 840m above sea level.

The reserve, which had been cleared and used for grazing up until when it was gazetted, is dry sclerophyll forest dominated by scribbly gum (*Eucalyptus rossii*), red stringybark (*E. macrorhynca*), brittle gum *E. mannifera*) and red box (*E. polyanthemos*). This type of woodland is now listed as endangered under the Threatened Species Conservation Act 1995.

The understorey is quite grassy (*Austradanthonia sp.,* and the lily *Dianella revoluta*) with numerous small herbs: We saw flowering Yam Daisies (*Microseris walteri*), Button Everlasting (*Coronidium scorpioides*), Daphne Heath (*Brachyloma daphnoides*), Common Everlasting (*Chrysocephalum apiculatum*), Common Billy Buttons (*Craspedia variabilis*), Grey Guinea Flower (*Hibbertia obtusifolia*), Trigger Plants (*Stylidium gramminifolium*), Many-flowered Mat-Rush (*Lomandra multiflora*), Creamy Candles (*Stackhousia monogyna*) and Hoary Sunray (*Leuchochrysum albicans*).

We were also delighted to find two orchids — Wax Lip Orchid (*Caladenia major*) and Tiger Orchid (*Diuris sulphurea*) — in flower.

Caladenia major

Diuris sulphurea

The mid-storey was dominated by peas (*Daviesia mimosoides* and *Dillwynia sericea*), Cassinia (both *C. longifolia* and *C. aculeata*), Heath Milkwort (*Comesperma ericinium*), Five-Corners (*Styphelia tricolor*) and Red-stemmed Wattle (*Acacia rubida*). We were surprised to see Woolly Grevillea (*G. lanigera*).

Dillwynia sp

(*Lomandra multiflora*)

The reserve has a number of wide walking tracks, primarily Link Trail, Swamp Trail and Shed Trail, connected by small narrow tracks which, according to the plan of management, have previously been used for illegal firewood collecting and rubbish dumping.

We were surprised to find a large dam towards the southern end — a legacy of past grazing leases. While we didn't hear any frogs, we did see and hear Yellow-faced Honeyeaters, White-eared Honeyeaters, Black-faced Cuckoo-shrikes, Kookaburras and a number of parrots.

The Plan of Management for the reserve also notes nearby records for Hooded Robins, Speckled Warblers, Diamond Firetail Finches and koalas. I cross-checked with Canberra Nature Mapr (which lists over 1000 sightings of plants, animals, and fungi in the reserve) and, of these, only the the warbler has been recorded there. We did, however, see evidence of both kangaroos and wombats.

Despite having lived in Queanbeyan for a long, long time, this was the first time we had visited the reserve (I believe it must have been a grazing lease when we first moved here). We were impressed by the range of native plants and the absence of weeds (except very near the entrance). It is well worth a visit in spring.

Comesperma ericinum

Leucochrysum sp

Daviesia mimosoides

For more information see the Cuumbean Nature Reserve Plan of Management dated May 2006 on www.environment.nsw.gov.au and the reserve map at https://www.nationalparks.nsw.gov.au/visit-a-park/parks/cuumbeun-nature-reserve

Cuumbeun Nature Reserve

Overview map

Announce Orders of Australia on National Wattle Day, not King's Birthday

Stephen Saunders, President

Native-plants identity Maria Hitchcock OAM, Australian Native Plants Society Australia Life Member and Correa/Waratah expert, runs Cool Natives Nursery just outside Armidale NSW. She led the campaign to have our national floral emblem (*Acacia pycnantha*) and national wattle day (1st September) gazetted.

Now Maria advises ANPS Canberra, that she has written to our republican Prime Minister, suggesting that the mid-year Orders of Australia come out on Wattle Day, and not the King's Birthday, which of course, isn't even his birthday, that's in November.

As she notes, even though the Order of Australia is uniquely Australian, the use of the King's Birthday leads people to assume some royal connection. She knows people who refuse to be nominated for that reason.

'When I received my OAM in June 2018,' she comments, 'several people asked me if I would now become a monarchist.' Actually, she is a long term member of the Australian Republic Movement.

Maria believes most Australians would support her proposal. It will be interesting to see if it gets any traction.

Acacia pycnantha; Photo: Ben Walcott

Plant petrophiles for the Gang-gangs

Words: Catriona Bate ; Photos: Alan & Dianne Page

With the recent listing of the Gang-gang Cockatoo (*Callocephalon fimbriatum)* as endangered, there are renewed efforts to study and protect these small cockatoos. In Canberra, Gang-gangs are dependent on the introduced liquidambars (*Liquidambar styraciflua*) as a source of soft pods, one of the seven main Gang-gang food groups. The other key source of soft pods in their diet is the native species *Petrophile pulchella*, which, however, does not grow naturally in the ACT.

Gang-gangs eat a wide variety of foods which are widely available. Sightings reported to the Isopogon & Petrophile Study Group are of Gang-gangs chewing young or green cones of *Petrophile pulchella* (available January-June) with one male chewing mature cones (available year-round). A recent study of Gang-gang diet (Mulvaney & Booksmythe, 2023) found that Gang-gangs eat bits of the cones on petrophiles, the fruit and seeds inside, and insect larvae inside.

Of the three main locations of sightings in the study (Canberra, Melbourne and the Blue Mountains), *Petrophile pulchella* only occurs in the latter setting where it is a major food source overall and a key part of the soft pod intake.

Some 275 different food items were found in feeding records, however, the bulk of Gang-gang feeding is focused on only twelve main species. Of these, seven are exotic or introduced species, with hawthorn and liquidambar common foods across the Gang-gang's range.

In Canberra, one of the key locations for the sightings included in the study, the ten most common food species were: *Eucalyptus globulus, Liquidamber styraciflua, Pistacia chinensis, Eucalyptus bridgesiana, Cupressus sempervirens, Eucalyptus macrorhyncha, Acacia baileyana, Crataegus* sp., *Cotoneaster glaucophyllus,* and *Eucalyptus sideroxylon.*

The diet of Canberra's birds is unusual in that it has a high eucalypt content. Cotoneaster and other exotic berries, a distinctive part of the Canberra landscape, are another key food source for Gang-gangs. One of the most unusual foods reported was Parsley (*Petroselinum crispum),* eaten by one bird in a Canberra backyard.

Canberra data was used to demonstrate that Gang-gangs are not simply feeding on species in proportion to their occurrence in the city, or simply eating what they encounter. What they eat is in part related to what food items are available at a particular time, but there also seems to be an element of Gang-gang food selection.

For example, gum nuts and buds are available throughout the year but feature in a much greater proportion of feeding events in winter than in spring and summer. The researchers suggest that the species' recent dramatic decline is unlikely to be due to food availability or food quality. In fact, the ACT Gang-gang population appears to be increasing in contrast to the dramatic decline seen elsewhere.

Gang-gangs are able to adjust to new food sources and to what is available locally and seasonally and over time. In the Blue Mountains, they eat walnuts, liquidambar, and *Eucalyptus piperita* with *Petrophile pulchella* the fourth most commonly consumed food. In this location, Gang-gangs were much more likely to be observed feeding on cones (pine or cypress) and pods (liquidambar and petrophile).

Pod feeding was much more common in the Blue Mountains (17%) than the ACT (6%), Melbourne (2%) or overall (7.5%). In fact, Alan and Dianne Page did not even have to leave their Blue Mountains house — they photographed a pair of Gang-gangs feeding on *Petrophile pulchella* through their bedroom window.

As liquidambar is one of the most common food species right across the Gang-gangs' range, the higher proportion of pod feeding recorded in the Blue Mountains presumably reflects the presence of *Petrophile pulchella*.

Urban, peri-urban and rural residential habitats provide important food resources for Gang-gangs moving in and out of these areas. In the ACT, Gang-gangs have a feast of exotic species to eat. However, there are native alternatives and in the food category of soft pods, the key species is *Petrophile pulchella*. Presumably, Gang-gangs would also eat the cones (pods) of other petrophile species if available — *P. sessilis* and *P. pedunculata* are other eastern examples.

Petrophiles are among the recommended food plants in a new approach to habitat restoration for Gang-gangs suggested by Mulvaney & Booksmythe. Instead of just planting (or allowing regeneration of) local native species such as acacias and eucalypts, species should be selected based on the type of food they provide and the time of year and include food from all the main food groups.

In particular, the food should include species that have berries with large seeds, plus Cypress Pine *Callitris* sp. and/or *Petrophile* for its cones or soft pods. *Petrophile pulchella* is most important as a food source in the months February to June (particularly May) when its cones are ripening.

In nature, *Petrophile pulchella* is found from south-eastern Queensland and south along the coast and adjacent tablelands to Jervis Bay in New South Wales, but is easily grown in Canberra. It has bright green, soft foliage with terete, divided leaves and bee-attracting, cream flower heads. This petrophile flowers from October right up to as late as March. In our south coast NSW garden it follows the spring isopogon flush of flowers, the flower heads beginning to appear around November.

One of the toughest of the petrophiles, this species requires reasonable drainage. It will love mounded garden beds and tolerate heavier soils. Petrophile pulchella grows to a height of about 1.5 m up to about 3m in good conditions but in gardens we recommend pruning the fast-growing long canes to size and shape as desired. This species responds well to pruning but be careful not to cut off all the cones — leave them for the Gang-gangs. Tip pruning from an early stage is likely to work best, and time pruning for the second half of the year when the Gang-gangs have had their fill. *Petrophile pulchella* is also suitable for a container with appropriate pruning.

Although not widely available in nurseries, propagation is easy via cuttings or seed. Cuttings should be taken from semi-hard material and dipped in hormone. Roots normally appear within 36 months but be patient if more time is required. Seed can be extracted from ripe cones removed from bushes and left for around three months for the cone scales to open and release the seed. Seed can be sown at any time of the year, but best results occur with spring sowing. The recommended seed raising mix is 50:50 perlite and vermiculite.

Why not provide some food diversity for your local Gang-gangs? Soft pod species like *Petrophile pulchella* or other petrophile species are a good option for gardens, as well as berries like *Persoonia linearis*. What a great way to attract bees and Gang-gangs to your garden.

Mulvaney, M. & Booksmythe, I. (2023) Gang-gang Cockatoo diet as assessed by camera images and written records, *Corella*, 2023, 47: 8-15 https://absa.asn.au/wp-content/uploads/2023/04/4_V47_Pg8-15_GangGangCockatoo_V2.pdf

The role of petrophiles in Gang-gang diet

As we have previously documented, in eastern Australia petrophiles are a source of food for the Gang-gang Cockatoo (*Callocephalon fimbriatum)*. This small cockatoo was listed as endangered in 2022, largely because of a perceived 69% decline in numbers from 1999–2019.

Because the diet of the Gang-gang is not well documented, a new study by Mulvany & Booksmythe investigated thousands of online images and written records to compile over four thousand feeding records. The sources included social media or citizen science platforms such as NatureMapr, iNaturalist or eBird, Facebook, Flickr, Instagram and Twitter as well as records from birdwatching clubs and literature.* Over 90% of the records were collected in the period 2012–2022 but some go back as far as 1910.

The results indicate that Gang-gangs consume a wide range of foods (native and exotic). Foraging is mainly arboreal, occurring in the canopy of woodland assemblages (particularly within eucalypts) and less often within the understory. Their diet is broad and flexible reflecting not only what food items are available at a particular time, but also an element of food selection or preference.

Although 275 different food items were found in feeding records the bulk of Gang-gang feeding is focused on only twelve main species. This handful of food items varies according to availability through the year and also by region. Gang-gangs are found in forests, woodlands and urban areas in cool-temperate south-eastern Australia and the records covered an area from around Sydney south into Victoria.

In the Blue Mountains area of NSW, ten species were the focus of Gang-gang feeding with *Petrophile pulchella* as the fourth most commonly consumed. The top three foods in the Blue Mountains were walnuts, liquidambar and *Eucalyptus piperita*.

It is unsurprising that this petrophile does not make the overall list of most commonly consumed foods in this study given it does not grow in Greater Melbourne or the ACT where most records came from. Still, *Petrophile pulchella* represents an important part of one of the key food groups for Gang-gangs.

This is the food group classified as soft pods (mainly *Liquidambar styraciflua* and *Petrophile pulchella)*. The seven main food groups are, in order of frequency: eucalypt nuts and flowers, berries with relatively large seeds but a small pulp mass; green cones (pine or cyprus); green wattle pods; **soft pods**; nuts; and invertebrates (mainly sawfly larvae and lerps).

* The study acknowledges that this is a biased sample, as images tend to be from locations where Gang-gangs are most readily encountered (urban and peri-urban) and are less likely to include records from remote areas or from tall trees where birds are difficult to see and photograph. The images may also over-represent males, as their bright red head makes them more visible and photogenic.

Gang-gangs were much more likely to be observed feeding on cones (pine or cypress) and pods (liquidambar and petrophile) in the Blue Mountains than in the other areas, particularly in Melbourne. In particular, pod feeding was much more common in the Blue Mountains (17%) than the ACT (6%), Melbourne (2%) or overall (7.5%). In fact, Alan & Dianne Page did not even have to leave their Blue Mountains house — they photographed a pair of Gang-gangs feeding on *Petrophile pulchella* through their bedroom window.

As liquidambar was one of the most common food items right across the Gang-gangs' range, the higher proportion of pod feeding recorded in the Blue Mountains presumably reflects the presence of *Petrophile pulchella*.

From the study, Gang-gang pod eating included bits of the pod (i.e the petrophile cone), the fruit and seeds inside, and insect larvae inside. Images of Gang-gangs biting bark or with bark in their beaks were not considered to constitute a feeding record as Gang-gangs bite beak-sized chunks of bark to line the base of tree hollows in which they are nesting.

Sightings reported to the study group were of Gang-gangs chewing young or green cones although one male was chewing mature cones on a dead plant. In the study, pod eating was most common in the months February to June (particularly May). This corresponds to the ripening period for liquidambar as well as *Petrophile pulchella*. This petrophile flowers from October right up to as late as March.

Gang-gangs feed in small groups of up to 25 individuals with large flocks of feeding Gang-gangs (15 or more birds) only rarely reported (3% of total sightings). Large feeding flocks can occur at any time of year but reach a peak in May and more generally in the late autumn–early winter period. Larger flocks recorded tended to be feeding on particular food species/ species groupings at particular times of the year.

The Gang-gang flock feeding on petrophiles in autumn 2022 reported to this study group is an example, Peter Olde passing on the observation from Justin and Phoenix Greener that they were actively engaged in chewing the young cones and were not attending any other plants growing in the area, which is within the boundary of Nattai National Park.

With regard to Gang-gang habitat restoration efforts, a more strategic approach informed by this diet information is suggested. Rather than just planting or allowing the regeneration of local native trees, shrubs and ground layer plants, (especially acacias and eucalypts), particular species should be selected based on the type of food they provide and the time of year. In addition, restoration should include food from all the main food groups including those that have berries with large seeds, plus Cypress Pine *Callitris* sp. and/or *Petrophile* for its cones or soft pods.

The study notes that there is an introduced population of Gang-gangs on Kangaroo Island, South Australia. They were recorded eating white cedar there in September–October.

It would be interesting to see if this population finds the cones or 'pods' of *Petrophile multisecta* which occurs only on Kangaroo Island. This species would provide a source of food in the autumn-winter months. However, as this species only reaches a height of 60 cm or so, and Gang-gangs are predominantly canopy feeders only occasionally feeding on low shrubs, *Petrophile multisecta* may not selected by Gang-gangs.

Mulvaney, M. & Booksmythe, I. (2023) Gang-gang Cockatoo diet as assessed by camera images and written records, *Corella*, 2023, 47: 8-15 https://absa.asn.au/wp-content/uploads/2023/04/4_V47_Pg8-15_GangGangCockatoo_V2.pdf

View across 'East Coast' from the central path with Daintree pine, Basalt outcrops and *Acacia Fimbriata;* Photo: Ben Walcott September 2023, Terra Australis Garden

Update on the Terra Australis Garden

View across water feature with *Callistemon subulatus* 'Brogo Overflow' November 2023

Words Ros Walcott; Photos Ben Walcott

The Terra Australis (TA) Garden, opened in 2019 as one of the Gallery of Gardens at the National Arboretum in Canberra, was developed by the Australian Native Plants Society Australia (ANPSA), as a stylised representation of the Australian geography and its diverse flora. Designed by Lawrie Smith, the garden celebrates the varying Australian landscape through landform, rock form and plant species, to showcase a more formal garden using native plants.

Now the TA Garden is growing bushy, in some cases almost too bushy! As you can see from these recent photos taken in September and November 2023, the garden is packed with plants in flower.

The wattles have bloomed magnificently this year, *Acacia acinacea* Gold Dust Wattle, *A. covenyi* Bluebush, *A. fimbriata* Fringed Wattle, *A. howittii* 'Canberry Honey Bun' and *A. verniciflua* Varnish Wattle.

The two *Myoporum floribundum* have grown and flowered, despite being stepped on, crushed by a stone and blown horizontal by the wind.

New plantings of *Eremophila maculata* 'Passionate Lady', *Calothamnus quadrifidus* Pencil Form and *Callistemon subulatus* 'Brogo Overflow' have been established and are in flower.

The maintenance staff at the Arboretum are doing a sterling job of pruning, watering and fertilizing the garden. They also have some strategic plans to limit children climbing on the water feature and disturbing the rocks. They have planted *Kunzea ambigua*, Tick Bush, between the water feature and the path. These bushes will grow up to 3m high with aromatic leaves and honey-scented white flowers to form an impenetrable barrier (we hope).

T he guide ropes installed by the Arboretum staff are also helpful in keeping the public off the water feature and out of the gardens.

View north along 'WA Coast', October 2019

View north along 'East Coast' ,October 2019

Bare water feature, October 2019

View south when the garden first opened, October 31 2019

View south with *Callistemon* 'White Anzac', *Myoporum floribundum* and *Scaevola* 'Mauve Clusters', October 2023

View north with *Anigozanthus* and *Eucalyptus leucoxylon* 'Rosea', November 2023

Morphology Matters

Notes on a presentation to ANPS Canberra by John Knight 2023

What is Morphology?

This is derived from Greek (*morphe*) referring to form, and (*logos*) to research or study, and in relation to plants, is the study of external features and characters which we can recognise and differentiate. From this we shape our notions of where a particular plant sits within the structure of plants worldwide.

By studying these various characters we can make choices as to what a particular plant might be, and observing these readily discernible features we can learn to recognise them then identify a plant. Note that the terms used to describe characters are understood by all botanists and plants people worldwide.

And why is this important? Plants have been recognised for thousands of years based on their usefulness. Ancient civilisations based classification on uses, such as food, medicine and even poison.

The Greek philosopher **Theophrastus** (c.371–287 BCE) classified about 480 plants based on their growth forms, such as trees, shrubs, herbs, and also noted differences in reproductive structures. Whilst such classifications worked for centuries, explorers were beginning to return to Europe from far flung corners with vast collections of new plants, unknown to modern science, and therefore needing sorting into workable groupings.

17th century plantsman, England's **John Ray** produced in 1690 the publication *Synopsis methodica* which laid down rules for a modern system of nomenclature. It was he who first used the term botany (from the Greek *botane* = plant) to describe the subject of his life's work. He introduced the concept of species and developed the first natural system based on overall similarities. His 1703 edition of *Methodicus plantarum* included 18,000 taxa.

Polynomial tag

Plantago foliis ovato-lanceolatis pubescentibus spica cylindrica scapo tereti, tells us that this plant is a plantain, with ovate lanceolate leaves becoming softly hairy, with cylindrical flower head and a rounded stem. Whilst such a description might be acceptable when only a relatively small number of plants needed description, this system was proving unwieldy when applied to the many thousands of plants now arriving from around the world. A new, more efficient system was needed.

Plantago lanceolata Pinterest

Recognised as the father of modern taxonomy, Carl von Linne (Linnaeus) published the first of his works in 1737. *Systema Naturae* detailed his concept of sexual classification based on floral structure, as depicted in the photo.

Literally, the System of Nature through three kingdoms of nature, according to classes, orders, genera and species, with characters, differences, synonyms, places. (Wikipedia)

In 1753, Linnaeus published *Species plantarum* which described 6000 plants known to European science, basing the work of the sexual parts of plants.

Part of this work describes plants with 5 stamens and one ovary, ***Heliotropium europeum***, *foliis ovatus integerrimis tomentosis rugosis, spicis conjugatis,* saying this Heliotropium has ovate leaves which are entire and wrinkled, with flowers connected in spikes. It is worth noting that Linnaeus placed the specific epithet europeum in the margins of the page, as it was intended that this would enable easier indexing of the work.

Taxonomy derives from the Greek ***taxis***, meaning arrangement, and ***nomia***, the method or distribution, from the verb *nemein* to manage, and its root *nem*, to assign, and is the science of classification.

Quidquid latine dictum sit, altum videtur, or 'Anything said in Latin sounds profound'. Latin is the universal language of science for the very good reason that it is considered a 'dead language', meaning no new names or slang are used or created or changed through the years.

Image Wikipedia

Eutaxia obovata (Eu = well, taxis = arranged) refers to the orderly arrangement of the leaves

So even if we may find the descriptions difficult, or profound, there is a very valid reason to maintain the tradition.

Taxonomic classification provides a standardised and universally accepted system for organising plant diversity.

Phenotypic classification (plant morphology) has several advantages for those interested in plants. These include simplicity, ease of observation and accessibilty. It is particularly useful for observing plants in the wild, to assist with recognition, or in the laboratory for identification. Phenotypic traits may be influenced by environmental factors, and as such leaves may be smaller or larger than typical, but the floral structure does not alter.

Taxonomic classification groups plants in Families, e.g. Proteaceae which have common characteristics suggesting they may have evolved from a common ancestor. Genera with similar traits are grouped in families, whilst similar species are grouped in genera. The basic requirement of biological classification is showing a true genetic relationship.

Naming of Australian Plants. It is worth noting that the first published work on Australian plants, ***Flora Australiensis*** was the result of many years work by English Botanist, George Bentham. Although he never visited Australia, he had access to all the herbarium collections held in Europe, and he was encouraged by Joseph Hooker of Kew.

He also received all the collections of Australia's first permanent taxonomist, Ferdinand Mueller. Published in 7 volumes, from 1863 to 1878, the work provided identification keys for 8,125 species, and was the first completed flora of any large continental area. The Flora is based on morpholgical characters, but is arranged according to perceived evolutionary history.

Two Families of Australian plants were discussed, showing the characters which place plants within these families.

What determines that a plant belongs to the Proteaceae family?

The Family is named after the Sea God, Proteus, noted for his ability to change shape. Protea is the name of a South African genus of this family, which is one of the most primitive in the world.

Flowers of all members of the Proteaceae family have the following in common: absence of either sepals or petals, usually the sepals, and 4 petal-like structures

and 4 stamens, each stamen in front of a petal (tepal) and often attached to it, as demonstrated by the *Grevillea arenaria* flower.

A series of slides described the various characters by which the different Proteaceae genera could be distinguished, including ***Lambertia, Banksia, Grevillea, Hakea, Isopogon, Petrophile, Persoonia, Symphionema, Telopea, Stenocarpus, Lomatia, Conospermum***.

What determines that a plant belongs to the Rutaceae family?

The Family name derives from the European herb Rue, ***Ruta graveolens***, commonly known as the Herb of Grace, renowned for its perceived medicinal

qualities, although it is rarely used today due to its bitterness.

With 43 genera and about 500 species occurring in Australia, all members of the Family have the following in common: plants have glands containing aromatic oils, flowers are regular and perfect, with a calyx of 4 or 5 sepals, and corolla of 4 or 5 petals. Stamens equal to, or twice as many as the petals, as shown in the photo of ***Leionema lamprophyllum***, and the superior ovary has 4 or 5 carpels.

Most plants of this family which are grown in our gardens come from the tribe Boroniaea, and slides highlighting the various genera demonstrated the key characters by which they can be identified. The genera included ***Zieria, Boronia*** and the recently recognised ***Cyanothamnus,*** the so called Blue Boronias, ***Correa, Geleznowia, Diplolaena, Philotheca*** and the closely related ***Eriostemon, Asterolasia, Phebalium, Leionema, Nematolepis*** and ***Crowea.***

Being able to recognise the physical features of plants, and with these clues then identifying what a plant is, or might be, is a learned skill which makes growing plants challenging but rewarding. This knowledge also makes our bush rambles, such as undertaken by the Wednesday Walkers, so much more satisfying.

So despite the move towards using DNA sequencing to determine genetic relationships, which requires serious laboratory equipment and techniques, I believe we are well served by understanding the various physical clues and features which allow us to say that **Morphology Matters**!

Strategic and coordinated nature conservation and revegetation in and around Queanbeyan: what, why, where, who and how?

Prepared by Queanbeyan Landcare, August 2023, focusing on Queanbeyan City and adjacent lands, in the context of the wider landscape, not the wider QPRC LGA.

1.Summary

To maximise nature conservation outcomes, this paper argues for a more strategic and collaborative approach to nature conservation across Queanbeyan and adjacent areas, bolstering the current situation of positive but too often uncoordinated efforts by multiple groups. The aim is to enable shared information, lessons and resources, and greater clarity for organisations and volunteers as to the purposes and priorities of revegetation and landscape rehabilitation efforts.
In the absence of a full vegetation and biodiversity survey, it is suggested that, in the near term, sharing and updating existing knowledge could inform discussion and identification of priorities between interested groups.

2.Background

There has been a marked increase in native revegetation efforts in and around Queanbeyan in recent years, flowing from the re-invigorated activities of Queanbeyan Landcare Inc (QLC), QPRC planting programs, initiatives on private lands near the city, and most lately via promotion of a 'micro-forests' within the city. (The trend in and extent of native vegetation management on most private lands within and adjacent to the city is not well known.) Set against this encouraging trend, there has been ongoing loss, fragmentation and degradation of native vegetation and wildlife habitat due to housing and transport developments, weed infestation and user impacts. Major housing and transport developments have occurred since the latest (2008) biodiversity survey.

Current projects include: (i) QLC/QPRC plantings and maintenance along the Queanbeyan River near the old cemetery, the outdoor classroom near Glebe Park, Mt Jerrabomberra-Stringybark Ridge, Bicentennial Park, maintenance of Buttles Creek, ongoing plantings at Fernleigh Estate, and the National Tree Day 2023 600m^2 planting at Barracks Creek; (ii) QPRC tree plantings for urban cooling, in various locations across the city; (iii) developer and public agencies' revegetation adjacent to housing, transport, etc development; (iv) private land initiatives outside the city, from small projects to the larger Wandiyali Restoration Trust initiative, and (v) the proposed 'micro-forest' at Blackall Park.

(Details of many of the >35 current and past projects by QLC, its predecessor groups and partners are described under Projects at https://www.queanbeyanlandcare.org.au/, many of which have sought to create corridors and connectivity at a larger scale.)

It is not apparent that these various activities equal a coordinated approach to the creation, protection or maintenance of native vegetation and associated wildlife habitat and 2 recreational/scenic amenity. Without being critical at all, many projects are located opportunistically, where a site and resources happen to be available. It is well established that a landscape-scale approach to nature conservation is optimal, to identify priority areas, use resources efficiently and to create and maintain connectivity for wildlife movement and survival. This is known as connectivity conservation, or 'managing the matrix', and involves connected patches, 'stepping stones' to connect areas, and corridors of vegetation.

While individual projects have merits and should be encouraged, the current, apparently ad hoc approach will not achieve the more-than-the-sum-of-parts outcomes that are possible. The potential gains include better conservation outcomes, efficiency in deploying resources (finance, equipment, labour), information and lesson sharing, improved public education and engagement, clarity around aims, and provision of recreational and scenic amenity.

If a more strategic, landscape-scale approach was to be pursued, the following identifies factors to be considered in understanding what is involved, and in deciding why revegetation and vegetation management projects would be considered, where they should be placed, who might be involved, and how that can happen.

3. What is involved?

Planting is only part of it. A revegetation project typically involves (i) research and planning to decide where to undertake the project and what the aim and activities are, ideally within a strategic collaborative framework; (ii) arranging the necessary resources and approvals; (iii) undertaking works including site preparation and planting; (iv) acquitting any grant reporting or other obligations, and (v) ongoing maintenance of the site (weeding, stakes and tree guard removal, rubbish removal, supplementary planting).

Experience across many projects suggests than (v) above is often the most problematic over the long term, within the stretched resources of both volunteer groups and public agencies. The 'Friends of' model has proven very successful in some places, for example at Bicentennial Park, but in other cases ongoing maintenance has been difficult to maintain. Different sites and planting designs can result in greater or lesser maintenance needs.

4. Why do it?

Individual revegetation and restoration projects will have different aims, sometimes singular but often aiming to fulfil more than one purpose. Being clear about the purpose serves to

better define the most suitable areas for attention, the planting regimes, engaging participants, and designing maintenance. Conversely, being clear about what a project will not achieve is also important. The various purposes of revegetation and rehabilitation are:

1. **Biodiversity conservation:** the reintroduction of plants species and vegetation associations for their own conservation value, and as habitat for wildlife (mammals, marsupials, birds, reptiles, invertebrates, aquatic species). This involves clarity about 3 what vegetation association and species were/are native to the area, whether they can be reintroduced or whether analogous species are used, and what wildlife species are being targeted and what their habitat requirements are. Some projects target specific animal or plant species (eg, Aprasia, Rutidosis), although often with wider conservation benefits. Other projects are broader in their focus, aiming the recreate natural areas and habitat for multiple species. Revegetation is often the principal focus, but biodiversity conservation also entails habitat enhancement (nest boxes, logs, rocks, refuge tiles), weed removal, feral animal control and population monitoring.
2. **Erosion control:** the use of vegetation to stabilise the land surface and prevent soil erosion, and of constructed/protected wetlands to control downstream sediment movement and improve water quality, all with potential biodiversity benefits.
3. **Exotic species control/elimination:** out-competing or discouraging weeds by re-establishing native vegetation, and weeding/spraying in revegetated areas. (Feral animal control is not discussed here but is a live issue in the district including cats, foxes, deer, pigs. European wasps and a number of exotic bird species.)
4. **Carbon sequestration:** capturing carbon in vegetation and soil as a measure to reduce greenhouse gas concentrations in the atmosphere. In urban projects, this is an admirable goal but the amounts of carbon sequestered in urban projects is, in the context of overall emissions, very marginal compared to larger opportunities in non-urban areas, and difficult to measure.
5. **Urban heat management:** (urban cooling), being the use of vegetation to ameliorate increased temperatures already occurring and being exacerbated by climate change. Moderating heatwaves is a key goal, with heatwaves causing more human fatalities than any other natural hazard in Australia. Most often thought of in terms of trees providing shades, urban heat management also involves other vegetation (shrubs, grasses), built shade structures, building design and operation, and minimisation of impervious surfaces. Priority areas are those where tree cover and other vegetation are lacking, and where significant areas are exposed, hard surfaces.
6. **Recreational and scenic amenity:** to provide, improve or allow for outdoor recreational access (walking, nature observation, gatherings, etc), and/or to provide visual screening, noise abatement and/or pleasant views.

5. Where to revegetate or manage?

It is important to consider the context of individual plantings. Broadly, we can identify different parts of the landscapes within which revegetation and rehabilitation might occur, in terms of land use, original vegetation, present vegetation, landscape condition, human-built or altered landscapes, and human uses, influencing what is possible and what natural habitats are being enhanced or the values of which are trying to be replicated.

1. Urban environments with little or no native vegetation excepting small patches in backyards or in public parks and unused areas. Of limited conservation value but some potential for provision of for example bird habitat or public education. More potential where sites are may be valuable as 'stepping stones' between larger vegetated areas.

   (Note: it is apparent that many households lack easy access to guidance should they wish to utilise locally-suited native plants in their properties. This is a need that could be easily addressed using existing knowledge.)

2. Urban reserves or other public lands within the city containing significant native vegetation or the potential for native plantings: some offering connectivity to ex-urban areas, others more isolated. Of varied conservation value or potential depending on other use demands, proximity to other areas of native vegetation, and logistics of planting and maintenance. A prime local example is Bicentennial Park, which combines native vegetation connected to other areas, and a valued recreational resource. Another example is Barracks Creek where existing creek side vegetation was enhanced by a QPRC planting several years ago, and further planted in July 2023.
3. The Queanbeyan River corridor and links to the Molonglo River corridor and remnant vegetation and riparian patches along major creeks (eg. Buttles and Barracks Creeks in the city, Jerrabomberra Creek reaching further into surrounding lands). Where space and existing use permits, these offer significant conservation value though existing or potential native vegetation, for habitat, wildlife movement corridors, water quality and aquatic biodiversity.
4. More extensive areas of natural or reasonably intact vegetation managed at least in part for conservation on public lands close to the city, including the Queanbeyan Grasslands, Mt Jerrabomberra and Cuumbeun Nature Reserve.
5. Larger open space public areas dedicated to other uses (eg. sporting) near the city, and on privately owned lands: conservation value varies from very low to significant.

The tenure/ownership and other uses of project locations, whether existing or possible future ones, is key to determining what is appropriate or possible to be encouraged or undertaken and for who might undertake vegetation management.

Across these, there is the question of original vegetation and thus what is

being sought to recreate or approximate. This is complicated by sparse records of pre-European occupation land condition, and of the long-term stewardship of vegetation, land and water by Ngunnawal and Ngambri peoples through fire and other practices, which would not have been uniform across the whole landscape but rather a complex of management practices for different purposes across of the landscape. Many areas have been significantly altered by the cessation of First Nations fire management and introduction of grazing, logging and other uses.

In sumary, much of the lower elevation areas in the region was originally Box-Gum Grassy Woodlands, Native Temperate Grasslands (both Endangered Ecological Communities), and mixtures of these, merging to Eucalyptus-dominated Dry Schlerophyll Forest on higher ridges and ranges, with areas of shrublands (such as Kunzea-dominated slopes) and riparian vegetation corridors and associated small wetlands. The 2008 biodiversity study mapped vegetation in detail for the older, smaller QCC area. Many grassland areas are dominated by introduced pasture species. Across all these, species and vegetation alliances vary with soil type, slope and aspect. In many semi-natural areas, there may be diminished tree cover, or regrown and thicker tree cover, varying extents of weed infestation, and lasting impacts of past land use. In terms of wildlife habitat, key issues are a lack of larger, older hollow-bearing trees, lack of refuge or cover for smaller animals and birds, scarcity of food-bearing (eg. flowering, fruiting, seeds) plant species, simplified and otherwise degraded grass, forb and shrub layers, and fragmentation and isolation between patches of native vegetation. Revegetation and rehabilitation projects may aim to connect areas, recreate presumed original vegetation, or to create 'novel ecosystems' using a variety of native plants and other measures to enhance wildlife habitat and/or achieve other aims.

Existing and potential projects exist within a variety of scales: (i) within the city, including both small private property scales (ie. backyards) and smaller and larger public lands); (ii) the city-wide scale; (iii) the city-to-surrounding natural and semi-natural areas scale; and (iv) connections with larger natural areas in the wider landscape, including large scale initiatives such as the Great Eastern Ranges project (eg. https://ger.org.au/). Coordination across these scales is important. Encouragement of native planting in backyards may complement small scale revegetation on within-city public lands (parks, roadsides), especially toward the edge of the city where they connect to larger natural areas. An example is QLC's West Queanbeyan set of projects linked to Mount Jerrabomberra, and on to wider connectivity via Gale Precinct to the Queanbeyan River corridor, Googong Foreshores, Cuumbeun Nature Reserve and beyond (https://www.queanbeyanlandcare.org.au/west-queanbeyan-story).

Existing information: A number of vegetation and ecological studies and mapping exercises exist already that indicate areas of conservation value and connectivity, however these are dated and/or partial. Earlier examples are the detailed 1993 Barrer report and 1997 NPWS/Craven report. More recently, the 2008 Biodiversity Study Findings Report of the Queanbeyan LGA (not the larger QPRC area), and a 2014 Biodiversity Study South Jerrabomberra (a several others of the Tralee area) map multiple conservation values. The QPRC Regional LEP 2022 maps areas where decisions 'must consider' biodiversity, but is at a coarse scale. Broader state and regional scale vegetation and habitat mapping exist and provide a wider connectivity perspective, however are generally of too coarse a resolution to inform local project design. Apart from some excluded areas (some covered by later, specific studies), the 2008 study identifies vegetation types, conservation value, endangered or vulnerable species and communities, and existing or potential 'biolinks' or connectivity areas. Some of the mapped areas have been affected by subsequent development, fire or other impacts, however the data and maps are still very useful. There is also a substantial body of local knowledge and expertise held by long term Landcare and other volunteers.

6. Who does what?

Australia's decades of experience with Landcare and other ecological rehabilitation initiatives have produced a wealth of experience, and many lessons on what different people and organisations can offer. QLC and its predecessor groups and partners have similarly learned many local lessons over the years. Different people have their own skills, capabilities and preferences, ranging from strenuous preparation work, planting and weeding, to public education and social media promotion, to administration and grant-getting. Our various nature 6 conservation groups all have their particular priorities and interests. QPRC manages large areas of public land and has dedicated staff and other resources.

In the Queanbeyan district, key players needed to be involved in any effort to coordinate and plan for the future include: Queanbeyan Landcare, QPRC, Molonglo Conservation, Upper Murrumbidgee Catchment Network, NSW National Parks Service, and the micro-forest group. Including ACT Landcare and Friends of Grasslands would be valuable to consider cross NSW-ACT border issues. (Noting that may projects involve collaboration with other organisations, volunteers, etc.)

7. How: where to from here?

If the argument for greater levels of clarity and coordination are considered valid, three options are available to take this further:

1. Given partial and dated information, await updated and detailed vegetation and habitat mapping, to identify current natural and semi-natural areas of likely conservation significance and future areas of priority for protection, revegetation and management. QPRC intends to commission an LGA-wide biodiversity study, resources permitting. This would be a significant costs and delay but would provide a much more substantial evidence base. (Such a study could also consider values other than biodiversity, however this would be an even larger and more expensive undertaking.)

2. At a less detailed level, a broad-brush assessment of the city and surrounds, and a joint discussion of priorities and plans. This could consolidate and qualitatively update existing information sources noted above, using local expertise and experience. This would be arguably sufficient to inform a broad set of priorities and identification of opportunities for the future, based on identifying existing and proposed projects against conservation value, endangered species and ecological communities, and biolinks/connectivity. Most simply, consolidation of information, and a series of meetings, facilitated over a few months.

3. Continue with largely uncoordinated project.

Option (3) would not enhance nature conservation. While strongly supporting a substantial biodiversity study at option (1) above, QLC proposes that, until that becomes possible, option (2) is worth pursuing as a near term strategy.

What's in flower over the years at Banmani; Photos: Gail Ritchie Knight

ANPSA Biennial Conference 2024 Melbourne

Gardens for life

Australian Plants Society Victoria (APS Vic) will host the biennial national conference of the Australian Native Plants Society (Australia) (ANPSA) on 30 September to 4 October 2024.

The theme for the conference is *Gardens for Life*. It will be held at The Round in Nunawading, Melbourne.

The garden theme for the conference fits well with the public gardens in and around Melbourne that we will be visiting. Holding the conference in Melbourne also simplifies travel for interstate and international attendees.

The Venue

The Round is a Performing arts and cultural centre in Nunawading, 379–399 Whitehouse Rd, Nunawading Victoria 3131. Nunawading is a suburb of Melbourne, 8km east of the CBD.
Website: https://www.theround.com.au
Phone: (03) 9262 6555.

The Round, a beautiful venue set in extensive parkland is a stand-out, it ticks all the boxes. It was built, a $78 million project undertaken by the City of Whitehorse, over the last few years and opened in October 2023.

Conference topics

Held at The Round, Nunawading, the conference topics include Gardens for Wildlife and Habitat, Restoration and Revegetation of Wetlands, Grasslands and Verges, Care for the Rare, Insects and Biodiversity, Garden Design, Indigenous Food Plants and many more.

Tours before and after the conference will go to Victoria's best wildflower areas and day excursions will feature new botanic gardens, private gardens and wild areas:

Grampians Wimmera Tour includes Woorndoo grasslands, Grampians/ Gariwerd National Park, Mt Arapiles, Little Desert and several private gardens

Great Ocean Road Otways Tour includes Kevin Hoffman Walk, Anglesea heathlands, the Otway Coast, Otways National Park, and several public and private gardens.

Gippsland Wilsons Promomtory Tour includes Wilsons Promontory, Phillip Island, Morwell National Park, Traralgon Railway Reservoir Conservation Reserve, Edward Hunter Heritage Bush Reserve — Moe and several private gardens.

Important Dates:

Mid February 2024 — Early bird conference registration & booking(s) for pre and post Conference Tours.

1st July 2024 — closing of early bird registration (bookings will still be taken for the Conference but at full regular price).

31st July 2024 — closing of bookings for pre and post Conference Tours.

For details visit: apsvic.org.au/anpsa-biennial-conference-2024/

Register your interest and receive updates at apsvic.org.au/anpsa-biennial-conference-2024

Contact Details:
Email: anpsa@apsvic.org.au

Tuggeranong Hill Nature Reserve

Words by Christine Kendrick

Luckily there wasn't much traffic on the Monaro Highway on a Wednesday morning at the beginning of November. So turning into the parking area of the walk on Tuggeranong Hill Nature Reserve was quite easy — thank goodness for continuing our later 9:30am start.

According to our records we haven't visited the Reserve since 2003 which I can hardly believe. We did an oval circuit of the Reserve and at one stage strayed to the Theodore side of a small hill which we soon discovered was a mistake and so went back over the hill via a little gully which was easier to walk up.

The Reserve looked quite dry for Spring but we did discover some nice plants in flower. Our first find was *Cryptandra amara* sp. Florious. In fact as the day progressed we also discovered *Cryptandra amara* and *Cryptandra speciosa* subsp. *speciosa*.

A little further on we found some *Calytrix tetragona* in full flower and more later on — an addition to the list. Another addition to the list was *Dillwynia sericea* also in flower.

Calytrix tetragona, Photo: Brigitta Wimmer

Several plants were added to the list during the day as well as some name changes. We had morning tea on some rocks towards the top of the slope with a good view across the highway to Melrose Nature Reserve.

Surprisingly we found a few Sun Orchids, *Thelymitra* sp. in bud in a couple of areas — another addition to the list. We also saw an outstanding group of *Dodonaea viscosa* ssp. *angustissima* in seed.

Just before lunch we jumped the fence and I later discovered we had crossed into Rob Roy Nature Reserve and lunched under some large *Eucalyptus bridgesiana* among

Dodonaea viscccosa ssp angustissima, Photo: Christine Kendrick

rocks and a clump of Blue Bells *Wahlenbergia* sp.

Xerochrysum viscosum was in flower everywhere. Although the area we walked is small we ended up spending most of the day looking at plants and finished just past 2pm. Thanks to those who helped with IDs and name changes.

Wahlenbergia sp , Photo: Brigitta Wimmer

Lunchtime, Photo: Brigitta Wimmer

Exposing Australia's online trade in pest plants

Members who are concerned about the spread of exotic weed species will be interested in the following article:

Words: Stephen Saunders

Do you buy plants online? You might be breaking the law without even knowing it. We found hundreds of different invasive plants and prohibited weeds advertised on a popular online marketplace. For the first time, our research has exposed the frequent, high volume trade in pest plants across Australia.

State and Territory governments are adopting our automated surveillance approach to help regulate the online trade in plants and other wildlife. Biosecurity officers can receive automatic alerts for suspected illegal trade, rather than manually monitoring websites or relying on reports from the public.

Read the full article on *The Conversation* written by **Jacob Maher and Phill Cassey,** September 8, 2023:

https://theconversation.com/exposing-australias-online-trade-in-pest-plants-weve-found-thousands-of-illegal-advertisements-212647

Water hyacinth is considered the world's worst water weed.

Late Spring in Sutton

After lunch; Photo: Lucinda Royston

Words, Gail Ritchie Knight

Late October, 12 Wednesday Walkers met at my property south of the village of Sutton, NSW. My husband and I manage 50 hectares bordered by the Yass River and Sutton Road. It is predominantly undulating dry sclerophyll woodland with an extensive understory of *Kunzea ericoides* and *Cassinia hewsoniae*.

We wandered over a significant portion of the property. However, this was no power walk! Many of us continued to stop and photograph or conduct lengthy ID discussions of over 50 plants. We even added about 9 more to the 140 or so already on the plant list.

Being very dry for some time now, We haven't had much of our usual spring show. *Wurmbea dioica* (Early Nancies) and *Caladenia major* (Wax-lip orchids) were pathetic (but it wasn't their fault — they did try) and I've not seen any *Pterostylis* sp (Greenhoods) at all this year.

However *Diuris sulphurea* (Tiger Orchids), *Thelymitra pauciflora* (Slender Sun Orchids) and *Caladenia ustulata* (Brown Caps) did have a show of some sorts. We even found the leaves only of a possible *Eriochilus cucullatus* (Parson's Bands). We've had so many of them in previous years.

Diuris sulphurea, Photo: Derek Corrigan

Morning tea was on the western side of the property at the highest point — a bit rocky and sloping rather steeply, but the septuagenarains et al managed quite comfortably amongst the *Eucalyptus mannifera*.

The vegetation on the western side of the hill is very dry, while back up on the plateau looking eastwards the grass cover is substantial. Walking back down there is a significant stand of *Cassinia hewsoniae* with a dense stand of Eucalypts including *E. mannifera, rossii, macrorhyncha* and especially *goniocalyx* as a backdrop.

Thelymitra pauciflora, Photo: Derek Corrigan

Caladenia cucullata; Photo: Derek Corrigan

We continued eastwards, finding more *Thelymitra pauciflora* and *Hibbertia obtusifolia* (Hoary Guinea flower). But another pea *Gompholobium huegelii* (Pale Wedge pea) was a stunner, not shy at all.

Gompholobium hueglii, Photo: Gail Ritchie Knight

Calochilus platychilus; Photo: Derek Corrigan

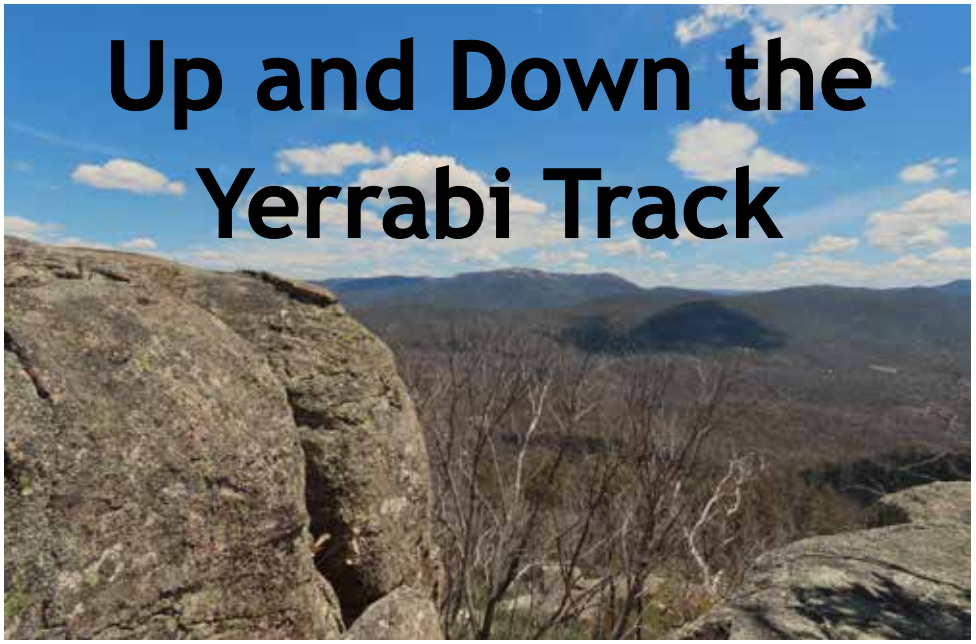
Poranthera microphylla, Photo: Christine Kendrick

However we were looking in particular for *Hibbertia porcata* the guinea flower that Roger Farrow discovered two years ago on my property. Not many observations had been recorded then, but I have since found quite a number. And on this walk we found even more! I am stoked. It is such a lovely, happy prostrate plant.

Despite the dry conditions that has caused quite a mortality rate, the survivors were doing magnificently. It was indeed a very enjoyable day.

Hibbertia porcata showing the stamens standing upright, a unique feature of *H. porcata*; Photo: Peter Chandler

Up and Down the Yerrabi Track



Words: Jo Walker
Photos: Gail Ritchie Knight

Yerrabi Track begins at Boboyan Road as a gently sloping track down to a large area of swampy grassland. At the far side of the swamp the climb along a fairly steep track led us through a forested area until we reached Boboyan Trig and granite outcrops. The vegetation is low there and there are magnificent views of Bimberi Wilderness and mountain ranges.

At the beginning of the walk we passed through a dry forest of Broad-leaved Peppermint Gums (*Eucalyptus dives*) and Mountain Gums (*E. dalrympleana*).

Not a lot was in flower, but *Olearia erubescens* plants were putting on a good display of white flowers. And there were quite a few spiny *Discaria pubescens* shrubs carrying white buds and a few tiny flowers.

Olearia erubescens

The swampy grassland area was mostly a green swathe of sedges and grasses with a few Buttercups (*Ranunculus lappaceus*) and Bulbine Lilies (*Bulbine bulbosa*) providing spots of yellow. There were quite a few *Trachymene humilis* nestling along the side of the track but none in flower yet.

On the far side of the grasslands, as we began the ascent through the forest, we encountered several patches of *Clematis aristata* climbing through shrubs to display their large cream flowers.

At the highest point of the walk near the trig there was a flowering carpet of blue *Veronica perfoliata* alongside an equally attractive display of furry reddish seed pods covering the *Oxylobium ellipticum* with a few *Pelargonium australe* scattered amongst them.

Yerrabi Track is a quite strenuous walk — but well worth the effort.

Caladenia moschata

Euphrasia collina ssp *paludosa*

Veronica perfoliata

Diuris semilunulata

[Ed: one participant experienced some dizziness on the descent. She hadn't listened to her body's signals ie maintain an adequate degree of hydration. Thankfully she heeded Fiona's wise counsel and agreed that a flask of tea at lunchtime was not enough. Drinking the good ol' H_2O did the trick and off she continued, feeling much better.

Colourful Flowers — Agressive Birds

Words: Rainer Rehwinkel

As much as we love our showy red- or orange-flowering eucalypts, banksias, bottlebrushes and grevilleas in our home gardens, we need to treat these plants with a great deal of restraint when using them in our gardens and urban landscapes.

It is generally now accepted that some native gardens and urban landscapes have too many bright red or orange flowering plants and this has skewed the birdlife we see in our gardens. It is an increasingly common phenomenon — more and more, our gardens and urban landscapes are being dominated by large aggressive honey-eating birds, including the Red Wattlebird, Noisy Miner and Rainbow Lorikeet.

These birds are increasing, to the detriment of the smaller honeyeaters, and a diverse range of small insectivores like fairywrens, thornbills, scrubwrens, fantails, flycatchers and robins. Any long-time gardener will have noticed the decline in small birds and an increase in those larger, aggressive birds.

A general recommendation is to choose natives with yellow, white cream, pink, mauve, purple or blue, flowers. As many readers will appreciate, there are even some native plants with green or brownish flowers. If you must have showy red or orange flowered natives, two or three orange or red grevilleas or banksias per garden are probably OK too, as long as you have other less showy plants that will attract the smaller nectarivores (including insects) and the insectivorous birds. It's a matter of constraint.

BirdLife Australia has some observations on this matter, particularly regarding showy grevilleas, but the same applies to red bottlebrushes, red or orange banksias, and red-flowering eucalypts. Follow this link:

https://www.birdsinbackyards.net/content/article/Gardening-Grevilleas

Tim Lowe covers the subject of aggressive, sugar-loving Australian birds in his book *Where Song Began*, see:

https://timlow.com/where-song-began/

Grevillea juniperina 'Molonglo';
Photo: Gail Ritchie Knight

Australian Native Plants Society, Canberra Region Inc.

The aims of the Society are to foster the recognition, conservation and cultivation of Australian native plants.

Meetings are held at 7.30pm on the second Thursday of each month, February to December, in Canberra. Visitors are always welcome.

Day and weekend field trips to locations of outstanding botanical interest are organised on a regular basis.

The Society publishes a Bulletin in all months except January, and this quarterly Journal in March, June, September and December.

Website: nativeplantscbr.com.au

Membership Fees

Single or family memberships are the same price.

Membership includes Bulletin and Journal — $35 ($18*)

* Concession rates apply to pensioners (Centrelink), full-time students and unemployed.

Membership Secretary: Karen Brien
membership@nativeplantscbr.com.au

Council

President
Stephen Saunders
0402 593 077
president@nativeplantscbr.com.au

Vice President
Vacant

Secretary
Vacant
secretary@nativeplantscbr.com.au

Treasurer
Vacant
treasurer@nativeplantscbr.com.au

Minutes Secretary
Garth Chamberlain

Other Council Members
Jeanette Jeffrey
Tom Jordan
Gail Ritchie Knight
Lena Saboisky
Glynn Shepherd

Immediate Past President
Lucinda Royston

Other useful contacts

Bulletin Editor
Lucinda Royston
bulletin@nativeplantscbr.com.au

Study Group Liaison Officer
Roger Farrow
studygroups@nativeplantscbr.com.au

Booksales
Murray Dadds
0404 870 447
daddsm43@gmail.com

Public Officer
(for Associations Incorporation Act purposes)
Stephen Saunders
41 Boronia Grove
O'Connor ACT 2906
0402 593 077
stephen@saunders.net

All Society correspondence to
The Secretary
ANPS Canberra Region (Inc)
GPO Box 1570
Canberra ACT 2601

Back cover: *Brachychiton* 'Griffith Pink': Photo: Ben Walcott

www.nativeplantscbr.com.au