



Crowea exalata ssp. magnifolia
image by Maria Hitchcock

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Winter Edition 2019 - 3



Lomandra leucocephala

Photo by Neil Pullar

In This Issue

Office bearers for 2019	p3
President's Message	p3
Editorial	p2
Kariong Plant Fair	p4
Death of Mervyn Hodge	p5
Plant guides for Central Australia	p6
Native bees & Australian stamps	p7
National Conference WA	p8
Dalveen Blue Box	p10
Kunzea revision	p13
Plants suitable for Armidale	p16
Our Pilliga Trip	p17
Submission to Council	p19
FOR YOUR DIARY	p21

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From the Editor: We approach Spring with some trepidation. Dry July has led us into some of the most testing conditions that gardeners in Armidale have faced for decades. The drought is now officially the worst on record. Rain and inflows to water storage areas have been non-existent. Water is having to be carted to Guyra to tide them over until an emergency pipeline being constructed to bring water from Malpas Dam, is completed. In the meantime, Armidale faces the prospect of running out of water as well, and water restrictions are now in force for the first time in over fifty years.

The conditions have challenged our APS group and other gardening organisations in the area. We have cancelled our monthly stall at the Armidale Markets – there is little point selling plants if people have no water available to water them with. The St. Peters Open Garden Scheme has been cancelled this year for the first time ever. Those proposing to enter their gardens in the scheme had no way to maintain their gardens when water is unavailable for those gardens. Plantings at the Arboretum have ceased and those plants that are there are being watered from water obtained from a reliable spring.

I suspect Summer will be a real challenge. As evaporation rates rise, the stress on plants will be greater than ever. With the evolution of climate change and the momentum that it has built up, it seems unlikely that we will return to normal conditions that we have grown up with in our lifetime. We are going to have to evolve and adapt our gardens to match the climate. It is, perhaps, appropriate that we are planning on a seminar in 2020 that will concentrate on succulent native plants that may be better for the evolving conditions.

In the meantime, keep notes on what species are coping with the dry conditions. Note what has “karked” it. All this is new information that can help guide us in our gardening with the new climate.

John Nevin

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President's Message by Barbara Nevin

Here we are at the end of winter but I afraid that our colourful Spring may be meagre this year due to the lack of rain that most of us have been experiencing Our Solstice function this year was a bar-b-q at Dangars Falls.

Whilst there was no water in the falls, we all had a great social gathering to celebrate the start of our longer days so as to be able to get things done We had a great trip to the Pilliga in July that was organised by John Nevin. Everyone had a great time and we wish to thank John for this experience (see article later).

Due to the drought some of our activities have been suspended until we get some really good rain (please see diary for these).

The St Peter's weekend in November has been cancelled for this year and our thanks go to the Caldwell's for their cooperation with our not needing the plants that we had ordered. They said that they were covered so we are pleased with that.

Don't forget our Wattle Day luncheon on 1st September at the Railway Hotel starting at 12md. We will have a lucky door prize and prizes for our Wattle

(Acacia) quiz. If you have any Wattle blooming in your garden please bring some along so that perhaps we can identify it and add it to the arrangements on the table.

Since our last newsletter we heard that one of our life members, Warren Sheather, has been in Nepean Hospital following major surgery. It has been touch and go with him but according to Gloria he has been very, very slowly coming good but will need lots of rehabilitation. We wish him and Gloria all the best.

There will some of you who are members of the Grevillea Study Group who have heard of the death of Merv Hodge who taught us some great grafting habits and also developed some great grevillea hybrids - *Grevillea Coconut Ice* and *Grevillea Superb*, to name a couple. John and I attended his memorial service in Brisbane on 26 July representing our group.

One Easter, many years ago, our group camped in the backyard of the Hodge's home in Logan, near Brisbane. They had a fantastic garden and Merv taught us grafting and introduced us to another grafting guru, Harvey Shaw.

Olwyn made the biggest pot of Spaghetti Bolonaise to feed us all - do any of you remember?

Something for you all to think about for 2020 - We will be having an open Forum in September (like last year) and will be having Attila Kapitany (an Australian Native Succulent expert) as our guest speaker.

A committee will be put together to organise this so please let me or Penelope know if you can give us a hand. See you at the Forum next week.

Barbara

Plant Lovers Fair at Kariong

The annual Plant Lovers Fair will be held at Kariong Mountain High School at Kariong on **Saturday 28/9** 8-4, and **Sunday 29/9** 8-3.

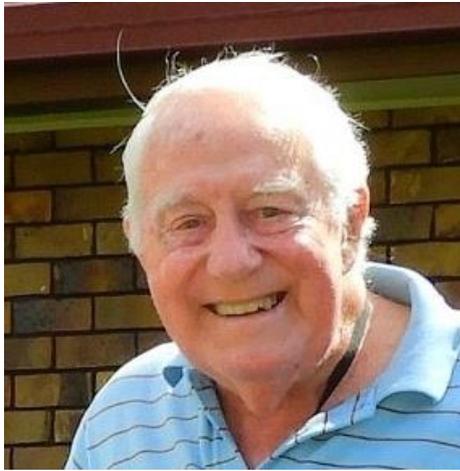
Entrance fee is \$14

The event has been going for many years and caters for gardeners in general with both native and exotic plants available. Phillip Vaughan attends with his array of unusual plants as well as several of the Central Coast and Sydney Native Plant Nurseries.

The event is supported by Gardening Australia and our bearded friend will be running talks, as well as other experts.

Death of Merve Hodge

by John Nevin



We were saddened to learn of the sudden death of Mervyn William Hodge. Merv had been unwell in recent months and was scheduled to have a heart valve replaced in late July. He died in his sleep on 13th July, 2019, a day before he was due to be admitted for his operation.

Merv had been very good to our group over the years. He was prominent in SGAP, later to be APS. He was an executive holder in most positions in his local branch, had been a State President for Queensland and held many positions on the State Executive, and had been Federal President of APS. With Peter Olde and key members of the Grevillea Study Group, he travelled Australia collecting and growing the various Grevilleas from all parts of Australia.

Merv pioneered the grafting of Grevilleas onto eastern rootstocks and this led to gardeners then being able to grow the multitude of Western Australian Grevilleas that previously could not be grown in the eastern states with the summer rainfall. It was in this context that we met Merv and his wife Olwyn. They came to our group to talk about Grevilleas and their care and invited us to their place one Easter. Merv had a north facing sloping five acre block on granite soil at Logan in Brisbane. A dozen or so of us went up there for the visit and camped in their garden.

The experience was life changing for many of us. Merv had an extraordinary garden with beautiful flowering plants from all over Australia. They were meticulously catalogued and his garden had been in the open garden scheme many times. Most of the plants, we had never seen before. Over the weekend, Merv gave a workshop on grafting Grevilleas. We also did the

rounds of many showpiece native gardens of Brisbane. The whole experience was inspirational.

In earlier life, Merv was a gifted athlete sprinter, competing against Hector Hogan who was to compete for Australia in the Olympics. Merv carried the torch for a mile of the 1956 Olympics torch relay around Australia.

In subsequent years, Merv and Olwyn would stop over for the night at our place while en route to the legendary plant sales organised by Peter Olde and the Grevillea Study Group in Sydney. At these sales, Merv would appear with all the experts - Peter Olde, Neil Marriot, Ray Brown – to give their experience growing native plants, especially Grevilleas.

Merv was a gifted photographer, and had over 10,000 photographs of plants. In recent times he adapted to the digital world and was digitising his collection of analogue photos. At his memorial service in Brisbane that Barbara and I attended, his family gave the eulogies and the State President of Qld detailed the enormous contribution that Merv had made to APS.

Merv was a gifted man, meticulous with his growing techniques and he and Olwyn were most generous in sharing with others their experience and knowledge. We shall miss him.

Plant Guides for Central Australia by John Nevin

We have received from the Australian Plants Society, Alice Springs Inc. some information about three flower identification brochures that they have produced. The titles of these are:

1. Central Australian Flora – Forbs and small shrubs
2. Central Australian Flora – Trees, large shrubs, grasses and sedges
3. Flora of the Katherine area.

These are reasonably priced at \$5 each, postage included and can be obtained from the group at Alice Springs or from JB Books, their distributor. Our secretary has copies of them if you would like to inspect before buying. Their address is: Australian Plants Society, Alice Springs Inc.

PO Box 3588, Alice Springs, Northern Territory, 0871

Native Bees on Australian Stamp Issue

Taken from Northern Beaches Newsletter "Caley"



We have been made aware via the media of the possible dangers from pests and diseases from overseas to the European honey bee population here in Australia. These bees are important commercially as pollinators of food crops and prolific producers of honey.

However, native bees, of which there are more than 1500 species found throughout Australia, are important pollinators of the native flora and a vital part of the country's biodiversity. Like many other native species bees face challenges from climate change as well as habitat destruction and fragmentation.

On the 14th May this year Australia Post issued a set of four \$1 postage stamps depicting species from the four main native bee families found here in Australia.

The “Resin Bee”, *Megachile macleayi*, is a solitary bee of Northern Australia with a penchant for the nectar of legume flowers. It nests within narrow holes in timber which it seals off with gums and resins collected from the plants that it visits.

The Green and Gold “Nomia Bee”, *Lipotriches australica*, is also a solitary bee and is found throughout Eastern Australia. It nests in the ground but males, after feeding and searching for mates, roost together on twigs and stems overnight (just like the Blue banded bees, *Amegilla cingulata*, that we see a lot of).

The “Wasp-mimic Bee”, *Hyleoides concinna*, another solitary bee found in Eastern Australia, feeds on eucalypt flowers and nests in tree stumps or logs. The female secretes a cellophane-like material to line the nest with. This bee gets its name from its black and orange colouring which makes it look like a wasp and so discourages predators.

“Neon Cuckoo Bee”, *Thyreus nitidulus*, once again a solitary bee which is found in both Eastern and Northern Australia. It gets its common name 'Neon' from its bright, metallic blue colouring, and 'Cuckoo', because it lays its eggs on the pollen balls inside the ground nests of Blue-banded bees, *Amegilla cingulata*.

For more information about this postage stamp issue see the Australia Post 'Stamp Bulletin' Issue No.359 / May-June 2019 or the website,

australiapostcollectables.com.au

Press Release July 2019

www.bloomingbiodiversity.com.au

National Wildflower Conference Albany, Western Australia

Sept-Oct 2019

The Wildflower Society of Western Australia is hosting the 2019 Blooming Biodiversity Conference in Albany, Western Australia from 29 September to 4 October. Blooming Biodiversity will celebrate the unique flora that is the global biodiversity hotspot of the South West region of Western Australia.

Keynote speaker, botanist Greg Keighery, said that “the Conference theme is **Know, Grow, Conserve and Enjoy** our Western Australian wildflowers and the program of speakers and excursions has been designed around this”.

The five-day Conference will feature expert speakers on flora in science, history and art. Among them are author and botanist Alex George, ecologist Malcolm French, former Curator of Palaeontology at the WA Museum Ken McNamara, historian Malcolm Trill and horticulturalist Amanda Shade.

Highlights of the Conference will be the A J Swaby public address by Professor Stephen Hopper and in-conference excursions to iconic locations, including Stirling Range and Porongurup National Parks and Greens Pool and the Banksia Farm in Mt Barker, to experience South Western Australian flora in its natural setting.

Pre-and post-Conference Tours will explore the wider South West and Great Southern regions. Beginning or ending in Albany, these optional tours include Western Australia's Wheatbelt and Inland Southern Heaths, the Kwongan heathlands and Darling Scarp forest, the Southern Mallee shrublands and heaths of the southern coast, and the southwest Jarrah, Karri, Tingle, Wandoo and Tuart forests.

Albany is renowned for its spectacular coastline, pristine beaches and national parks, as well as its rich history. "Huge Karri trees grow up to 90 metres in the wettest areas of the South West, while the Albany Pitcher Plant hides away in dense vegetation on the banks of streams and swamps" said Greg Keighery.

Full information and registration details can be found on the Conference website at: www.bloomingbiodiversity.com.au

Contact information:

Greg Keighery is available for media interview by prior arrangement through the Conference Committee contacts below:

ANPSA 'Blooming Biodiversity' 2019 Conference Committee

Wildflower Society of Western Australia Inc enquiry@wildflowersocietywa.org.au

Phone: (08) 9383 7979 - office opening hours: Tuesday and Thursday 10am – 2.30pm

Committee Member: Margaret Matthews (ANPSA President-elect) – 0402 105 649

Committee Member: Geoff Corrick (WSWA President) – 0458 670 614

Blooming Biodiversity Conference Keynote Speaker: Greg Keighery – 9381-4062

How I discovered the Dalveen Blue Box, a rare Eucalyptus species with a sweet fruity smell

by Tim Collins

In 2002, I went on a bushwalk with plant taxonomist David Albrecht, and had a big surprise. He pointed to a plant I thought I knew, and said: “that’s probably a new species.” A new species? How could it be that this plant had not already been scientifically described and named? I was in for another surprise when I learnt there are estimated to be thousands of undescribed plant species in Australia. But just because one botanist says a plant is a new species, it doesn’t mean that everyone else automatically agrees.

As a researcher, I had the opportunity to study one of Australia’s most iconic plant groups – the eucalypts. Herbarium records of an endangered eucalyptus species, the Northern Blue Box (*Eucalyptus magnificata*), showed populations from the Northern Tablelands in New South Wales scattered up to the Granite Belt in southern Queensland.

But on closer inspection, I discovered there were different ecosystems between populations. *E. magnificata*, for instance, is found on rims of gorges in Oxley Wild Rivers National Park, whereas *E. baueriana* is typically found on riverbanks and flood plains. The question I wanted answered was: are all these populations really *E. magnificata* or have some been misidentified and represent other common species? Or, alternatively, are they new, undescribed rarer species? So when my supervisors, Professor Jeremy Bruhl and Dr Rose Andrew, and I visited the mystery trees near Dalveen in southern Queensland, we knew immediately they were something exciting. They just looked different to everything else we’d seen.

Eucalyptus that smells sweet and fruity

To find out, I’d been sampling eucalyptus (collecting, pressing and drying specimens) and had spent the past two days with my supervisors. With our heads craned back, we stared through binoculars to search the tree canopy at dozens of sites on the Northern Tablelands looking for the buds and fruits that enable eucalypt identification. Not only did these trees at Dalveen look unlike anything else we’d seen on the trip, they also had a different smell.

When we crushed a leaf, the aroma was sweet, mild and fruity, quite unlike the familiar eucalyptus oil. Back at the university, I could compare the different collections. I examined and recorded differences in the

size and shapes of the leaves, buds and fruits. I grew seedlings of my field collections and saw that seedling leaves were also consistently different. And I extracted the mixture of aromatic chemicals in the leaf oils collected during fieldwork. Then, I used a chemistry laboratory technique, called Gas Chromatography Mass Spectrometry, to compare their concentrations with closely related species, such as *E. baueriana* and *E. polyanthemos*.

The results clearly explained why the leaves had a unique scent. That sweet and fruity aroma was due to larger molecules, called sesquiterpenes, which dominated the leaf-oil. There were only traces of the familiar-smelling cineole molecule common to most eucalypts. A new species, or just an uninhibited sex romp? Sequencing the DNA of the tree added another piece to the puzzle. We had collected samples from all of the closely related common species. We had strong evidence from the shape of the leaves, fruits and flower buds suggesting the Dalveen trees were different. But the possibility remained that they were just hybrids.

Eucalyptus trees can be wickedly promiscuous and hybrid trees with similar characteristics are common. In some parts of eastern Australia, for instance, eucalypts naturally form hybrid swarms, the botanical equivalent of a wildly uninhibited sex romp! But the DNA told us the trees from Dalveen were genetically distinct, and with no suggestion of shared ancestry.

Now, with three very different data sets all supporting the same conclusion, it became imperative we publish our findings and describe the new species, which we named *Eucalyptus dalveenica*, or the Dalveen Blue Box. New species have to be named using a universal and internationally accepted naming system. Names and descriptions must be published, and a pressed and dried specimen must be nominated to be the representative that other collections can be compared to.

Most importantly, convincing evidence must be presented that persuades the botanical community the newly named species should be accepted. But naming a new species is only the first step in knowing what it is.

Importantly, naming tells us what it isn't. The trees at Dalveen are not *Eucalyptus magnificata*, nor do they belong to another more common species, *E. baueriana* or *E. conica*. *Eucalyptus dalveenica* is a rare and endangered part of Australia's natural heritage. Taxonomic description of new species (classifying, describing and naming) provides the framework for ongoing accurate identification, species conservation and further study.

We are fortunate to live in a beautiful part of the world, with diverse and unique wildlife. Describing biodiversity and communicating new discoveries develops connections between people and their local environment, leading to a broader understanding of our home.

From The Conversation, [BeatingAroundtheBush theconversation.com](http://BeatingAroundtheBush.theconversation.com)



Tim Collins is well known to our group having given us a talk on his earlier thesis on *Eucalyptus manificata*. He has now moved on and is well into his PhD where he is studying the paper daisies and their relationships across Australia. In the course of this, he has done field work from Tasmania to the Pilbara in Western Australia.

Hopefully, we will soon have names for many of the paper daisies, such as the Glencoe Daisy, that are quite different to *Xerochrysum bracteatum*.

Dalveen Blue Box

Botanical name: *Eucalyptus dalveenica*
Family: *Myrtaceae* Height: up to 15m

Dalveen Blue Box, is a newly described rare tree species from the Granite Belt in southern Queensland.

It has rough bark and broad leaves that have a sweet, fruity smell.



Since it was recognised as a distinct species the local community has planted seedlings at the local school and on private properties to protect this rare plant.

The Conversation 

And no – it is not named after Dalveen Delany (Strop’s wife) but after a small village up near Tenterfield at the Queensland border. The tree grows as a planting in the grounds of the local school at Dalveen.

Kunzea Revision Carried Out by John Nevin

A major revision of *Kunzea* was carried out recently by H. R. Toelken from the State Herbarium of South Australia and published in the Journal of the Adelaide Botanic Garden 29(2016)71-145.

Clarification of several species has been done and include the naming of the new species at Middle Brother Mountain, now named *Kunzea axillaris*. Warren Sheather had been growing this one for several years. It tends to be a bit frost tender when young and needs water, probably reflecting the environment where it grows.

9. *Kunzea axillaris* Toelken, *sp. nov.*

A speciebus aliis sectionis Pallidiflorarum hujus calycislobis latis brevis (ad 0.5 mm longis) inflorescentiisquetantum elongatis distalibus et bracteis foliiformibusdiffert.

Type: New South Wales, Mt Cairncross, T. & J. Whaite 3537, 7.iii.1981 (holo.: AD98831018; iso.: NSW). *Kunzea* sp. A Joy Thomps. in S.W.L. Jacobs & Pickard (eds), Pl. New South Wales 166 (1981); Peter G. Wilson in G.J. Harden (ed.), Fl. New South Wales 154 (1991); de Lange et al., Austral. Syst. Bot. 23: 311 (2010). *Kunzea* sp. Middle Brother (P.G. Wilson 505) Peter G. Wilson in G.J. Harden (ed.), Fl. New South Wales, ed. 2, 2: 177 (2002).

Erect shrub or tree 2.5–6 (–8) m tall; young branches with raised leaf bases ± decurrent, but not forming flanges, pubescent to tomentose with short and longer spreading antrorse hairs; early bark splitting into corky longitudinal strips with scarcely peeling margins. *Leaves* alternate; *petiole* 0.4–0.7 mm long, appressed; *lamina* linear-elliptic to linear, (3–) 4–6 × 0.5–0.8 mm, acute to pointed, gradually tapering into petiole, straight to slightly recurving, flat to slightly furrowed above, strongly convex below, glabrous except for often appressed antrorse marginal hairs. *Inflorescence* a raceme-like botryum with (1–) 3–5 (–7) flowers, each with a “pedicel” (0.8–) 1–1.5 (–2.4) mm long, distal on branches, with terminal vegetative growth usually continuing while flowering; *retained perules* 2, 3 or absent below inflorescence, narrowly triangular to triangular-elliptic, 0.5–0.8 mm, 1–3-veined, puberulous to glabrous with marginal hairs; *bracts* similar to leaves, persistent; *bracteoles* leaf-like but more delicate, caducous (usually only scars seen on pedicels). *Hypanthium* 2.5–2.8 mm long when flowering (free tube 1–1.2 mm long), obconical, not ridged, glabrous. *Calyx lobes* ovate-triangular, 0.4–0.55 mm long, acute, rarely obtuse, scarcely ridged,

glabrous. *Corolla lobes* broadly obovate, obovate-orbicular, 1–1.2 mm long, white.

Stamens: 30–35 in more than one whorl; *filaments*: 2.5–3 mm long; *anthers* ellipsoidal, 0.3–0.4 mm long, with small subterminal gland. *Ovary*: 3-locular, with style base slightly sunk into upper surface; *placenta*: a narrow elliptic disc with short central attachment, scarcely divided into 2 lobes, each with 2 rows of ovules: *ovules*: 23–25 per locule, subequal, spreading; *style*: 3.5–4 mm long when fruiting, with stigma disc to funnel-shaped with distinct central depression. *Fruit*: a cup-shaped capsule, 2–2.2 mm long, with erect but slightly incurved calyx lobes. *Seeds*: not seen. *Flowering*: January. **Fig.23.**

Distribution and ecology. Recorded from wet sclerophyll eucalyptus forest (e.g. *E. agglomerata*) on various soils but mainly around granite or conglomerate outcrops on slopes of ranges between Taree and Kempsey, New South Wales (NC).

Conservation status. Poorly known species recorded from a few localities in State Forests (2K). *Diagnostic feature*: Distinguished from other species by short, broad calyx lobes, obconical hypanthium, and elongated (raceme-like) leafy inflorescences with terminal vegetative growth, which are typical of species of sect. *Niviferae*. However, *K. axillaris* is placed here, because it differs from species of the latter section by its filaments being all long and erect-spreading, as well as by its long style placing the stigma at the same level as the fully expanded stamens.

Notes. The flowers of this species have, like in *K. truncata*, an obconical hypanthium, which does not become cup-shaped even in the fruiting stage.

Etymology. The epithet “axillaris”, Latin, “axillary” refers to the flowers, which appear to be single in the axils of leaves (=leaf-like bracts), but on closer examination one finds the scars of two bracteoles subtending each flower, which makes the inflorescence a leafy botryum as is commonly found in sect. *Niviferae*. *Specimens examined* New South Wales: *D.Binns 170*, Mt Cairncross, 6.viii.1987 (CANB); *D.Binns 301*, Bottlebrush Rd, Kerewong S.F., 1.iii.1988 (CANB, NSW); *J.J.Bruhl 1843 & I.R.Telford*, c. 10 km SW Wavehope, Broken Bago S.F., 12.vi.1999 (AD, CANB, NSW); *P.Burgess NSW124241*, Burrawan S.F., 24.x.1961 (NSW); *E.Cheel NSW124242*, Upper Landsdown, 6.v.1925 (NSW); *A.G.Floyd 917*, Middle Brother, 27.iv.1978 (NE, NSW); *L.Frazer NSW124240*, Comboyne, 7.i.1935 (NSW); *S.J.Griffith NE66481A*, Manning River valley, Wyuma, Killabakh Ck, 29.i.1994 (CANB); *R.Johnstone 2012 & A.E.Orme*, 80 m NW TV tower, Middle Brother, 28.iii.2007 (AD, NSW; K, NE, n.v.); *P.Richards 815*, Forest Hut Rd, Middle Brother, 15.x.1997 (NSW; BRI, MEL, n.v.); *P.G.Wilson 505*, Middle Brother Lookout, 28.i.1990 (AD, NSW; BRI, MO, n.v.).

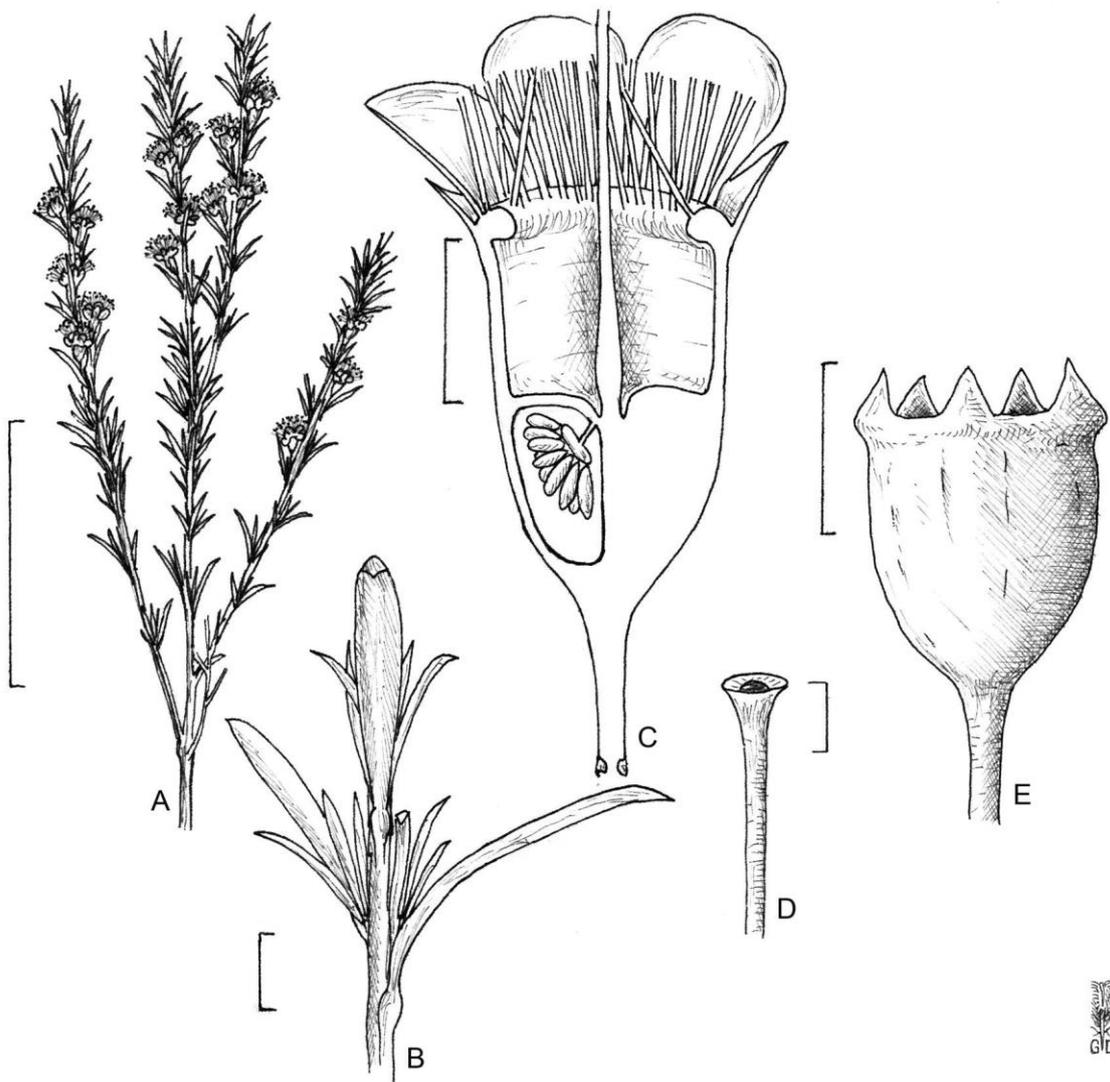


Fig. 23. *K. axillaris*: **A** flowering branch; **B** short shoots in axils of cauline leaves; **C** half flower; **D** funnel-shaped stigma; **E** fruit. — Scale bars: **A** 3 cm; **B, C, E** 1 mm; **D** 0.5 mm. — **A–D** *L.Frazer NSW124240*; **E** *A.G.Floyd NE35790*.



Photo
from
APS
website

Kunzea
axillaris

Plants suitable for Armidale

Elwyn Hegarty recently suggested that the group have available some solid advice for newcomers to Armidale. We are asking for members to put together four lists, detailed below and forward them to the Secretary for the Committee to consider for a final list.

1. 10 flowering medium sized shrubs, and when they flower.
 2. 10 frost-resistant/tolerant small flowering shrubs.
 3. 10 medium sized Acacias, in a range of flowering times, plus their life expectancy and special problems such as borers or suckering.
 4. 10 medium sized Eucalyptus or other trees, suitable for smaller gardens.
- So, put your thinking caps on – give us the benefit of your experience and forward your suggestions to the Secretary.

We would hope to provide Armidale Regional Council with this advice to assist in water conservation for Armidale.



Just a reminder of the **Murray-Darling Basin** which is in so much trouble.

The rivers were a puzzle to early explorers as those rivers on the western side of the Great Dividing Range went inland, raising the possibility that they may empty into an inland sea.

Our Pilliga Trip **by Barbara Nevin**

Because of John and my previous trips to the Pilliga to suss out what was to be seen, it was decided to explore the northern part of the bush as this area had received some rain in recent times. On the weekend 20/21 July, a group of 17 members and group friends met at Narrabri to venture down the roads that John had selected

When we were out before, a few of the causeway crossings were covered with sand and that made those crossings a little difficult. Fortunately for us this time, the Park Rangers had been out and cleared them all (our thanks to those people). Any of you who came with us on our last visit to the Pilliga will remember that we did get stuck in a sand trap and had to dig ourselves out. Thank goodness for former member Thelma Denis that she had carpet squares in her boot to come to our rescue. We were able to use these for the driving wheels to gain traction .

We had a very full day with multiple stops of our convoy to examine those plants in flower. When John was out by himself a week earlier he had tied pink ribbon around trees to indicate good stopping places. Unfortunately someone had removed a few of those. Anyway we saw a good lot and most of the bushes were covered in bud so it should be a good showing in Spring, especially if they get some rain.

Late that afternoon we pushed on to Binnaway where we stayed at the Binnaway Barracks, converted railway workers accommodation. It is great for a largish group with private rooms, his and her bathrooms, linen provided and a continental breakfast, all for only \$40 per head. We even took over the attached flat that was great and would be ideal for a couple visiting the area.

The next morning we made a beeline to 563 Manna Springs where Anthony and Annabelle O'Halloran have set up their Bilby Blooms Nursery. We were treated very well with a lovely morning tea and a guided tour of their enormous garden. They have developed a cut flower business that services four florists in Dubbo and have an incredible array of Hakeas, Eucalyptus, Grevilleas and other flowering shrubs. No visit would be complete without the pleasure of buying some of their very special plants. We obliged. After this off to Baradine where the Pilliga Forest Discovery Centre was visited. This is a well set up centre that displays the forestry history of the area and the

natural history as well. After this, we drove on to the Sculpture Walk where we had lunch.

After lunch, the easy three Km walk had an interesting array of plants. Sculptures with an Aboriginal emphasis were arrayed along the way. The walk itself goes along a ridge above a creek bed and then return via the creek bank. After the walk most people headed for home.

Some people left us during the day to pursue other activities. John and I finished off with a rushed trip to the Pilliga Pottery Centre to pick up a piece of pottery that we had left there to be refired. We arrived too late to partake of their lovely afternoon teas but as we had visited it on our previous trip we were not too unhappy. Well worth a visit if you are out that way. A very full weekend with lots to see. Thank you John for organising this weekend, we all had a great time.



Annabelle O'Halloran with one of their dogs who is learning the rules of cricket – he puts his paw up when you say "How's that?"



One of the flowering plants in their garden at Bilby Blooms – the possum banksia *Banksia baueri* from Western Australia

Submission to ARC for a Sustainability Program

Comments on EcoARC, Council's Greenprint for sustainability

The strategy is very comprehensive and colourful with appropriate wording and jargon – this makes some of it rather incomprehensible to the layman who may be unfamiliar with the acronyms used. I was disappointed that there was not more definite tactics outlined.

Air: Working on decreasing use of wood burning heaters is critical to cleaning up our environment. This requires a lot of education and regulation to the point of banning their use in new buildings and penalising continued use in existing buildings with incentives to change to more appropriate means of heating. It is also important for maintaining diversity and to the sustainability of our environment that dead timber is allowed to remain in our paddocks/bush.

Biodiversity: Armidale has a very limited range of bird species, being overrun with Currawongs which prey on our smaller native birds. This is largely due to the planting of berry carrying bushes in previous years which provide excessive food. This has allowed breeding to large numbers and also encourages the Currawongs to overwinter in the area. This situation will continue to worsen with the warming associated with Climate Change. There needs to be education, and incentives for the community to destroy these berry plants and to replace them with native plants more suited to our native bird populations. Appropriate vegetation could be a requirement in new developments and Council can lead the way by improving the public spaces.

The public also needs to be made aware that the feeding of any of our major predatory birds, Currawongs, Kookaburras, Butcher Birds, either deliberately or by carelessness is devastating for our smaller birds.

Another critical factor is the depredations caused by the free roaming cats which prey on our birds and other fauna. Cats make wonderful pets but they must be confined to indoors or to constructed play areas in the garden. There are several fine examples on these on private property in Armidale. There are a number of centres in Australia and in New Zealand which have made it illegal to allow your cat to roam free, and this edict is also supported by PETA. Armidale should make a stand.

Living: This as written has many (15) laudable goals, but no indication of any plans for their achievement. As such it weakens any credibility that anything will be done. Could you condense these to 3 or 4 concrete aims each with some simple dot points about what you ARE GOING TO DO in the next 12 months.

Waste: Armidale has a good system for the sorting and collection of waste. The next step needed is a Processing Plant to utilise this waste, and that from other regional centres. This should be a priority for the newly developing Industrial Area.

Water: There seems to have been a lot of complacency about our water supply and now suddenly we have severe water restrictions.

We need to encourage householders to have water tanks and to utilise their greywater for gardens. New dwellings could be obliged to have these facilities. New developments could be forced to set up communal areas for rain water and grey water collection and availability. This has been done elsewhere. There could be penalties for sporting clubs who allow irrigation of fields to continue until and after surrounding areas are water logged with runoff. Council should set an example.

This submission was put together by Penelope Sinclair for the group. We would hope to supplement it with some recommendations regarding the type of plants to be suggested for gardens for newcomers to Armidale.

John Nevin

FOR YOUR DIARY

Saturday 17th August 2 pm Forum. Denise Friedman “Koalas & Native Plants”

Sunday 1st September 12 md Wattle Day Luncheon at Railway Hotel

Friday 6th September 9.30 am Working Bee at Arboretum

Saturday 21st September Visit to the garden of Lyn Walker & Richard Bird at
“Heatherbrae”, Black Mountain. Meet on site at 9.30 am for morning tea.

For those interested, lunch afterwards at the Wicklow.

Friday 4th October 9.30 am Arboretum Working Bee

Friday 4th October 2 pm Committee Meeting at Carol Fullalove’s.

Saturday/Sunday 19/20 October Weekend visit to Barrington Tops.

Overnight in Gloucester. More details to come.

Friday 1st November 9.30 am Arboretum Working Bee

Saturday 16th November 2 pm Annual General Meeting

Several members will narrate how they became interested in Australian Plants

Saturday 7th December 11 am Christmas Party – venue to be announced

Friday 13th December 2 pm Tree Group New Committee Planning Meeting
for 2020.

