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Contents

Cover: *Pultenaea scabra* grows throughout Gippsland, the Otways and Grampians. Maree Goods.

Australian Plants

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Gardens for Life

Miriam Ford

Miriam grew up in Queensland and attended the University of Brisbane before going to London where she furthered her training as a research scientist. After her return to Australia she settled in Melbourne where she worked for 20 years in research before retiring to grow plants and a large Australian garden. She joined Australian Plants Society in 1996 and has served in committee and executive roles in her district group, APS Yarra Yarra. She is the current President of APS Vic.

Welcome to this second issue of *Australian Plants* on the ANPSA biennial conference hosted by APS Victoria in Melbourne. Our pre and post conference tours were described in full technicolor in the first issue dispatched for your summer reading in late 2023. There are many ways to interpret our theme of Gardens for Life, many kinds of gardens, gardeners and gardening. Gardens, wild and cultivated, nourish us and our wildlife; we are intimately connected and interdependent. The conference will be held from 30 September to 4 October 2024 in the recently opened venue, The Round, 379-399 Whitehorse Road, Nunawading, Victoria 3131. Nunawading is a suburb of Melbourne, 18 km east of the CBD.

The Round. Miriam Ford.

The Excursions

We begin with Nicky Zanen's description of a favourite destination of Melburnians, the Dandenong Ranges National Park. Here you will have the opportunity to become immersed in the sights and sounds of this special part of the world. A walk in Sherbrooke Forest, the astonishing vocal repertoire of lyrebirds, towering Mountain Ash (*Eucalyptus regnans*), moist earthy smells of the multi-layered dense vegetation followed by visits to two distinctly different gardens, Phillip Johnson's Chelsea Australian Garden at Olinda and the Karwarra Australian Native Botanic Garden.

Miriam Ford goes behind the scenes and describes some of the stories that underpin the amazing Australian Garden at Cranbourne: the Wildlife Crossings project, the team behind the origin and design, the various active Friends Groups, the plant nurseries, one for the gardens and another, the 'Growing Friends', the 'Garden Ambassadors', the 'Raising Rarity' project led by Megan Hirst and Russell Larke and the Orchid Conservation project led by Dr Noushka Reiter.

Caladenia lowanensis and *Thelymitra epipactoides* - two species of the Orchid Conservation project. Maree Goods.

Chris Larkin describes three gardens involved in 'Gardens for Wildlife' in the City of Knox, a south-east Melbourne municipality, two of which (Bev Fox and Chris Larkin) featured in the ABC Gardening Australia program during 2023. Bev's small garden is a wonder of design and colour, a haven for wildlife. The nature strip alone could take a while to explore. Knox Park Primary School shows what can be done with sensitivity to the environment and to enrich the experience and education of all who dwell there. Chris describes the evolution of her large garden and her interest in design. She shows us how a beautiful, peaceful garden and wildlife go together.

Anne Langmaid takes us to the Melton Botanic Garden. She and the Pye team (David and Barbara) with others have spent many hours in this Garden over the years and underpin its creation. She talks about the history and the Eucalypt Arboretum, the first area to be planted in 2011, which she considers was the germination moment for the garden. Melton is a dry area and the planting palette was chosen with this in mind. Anne describes her favourite area as the Western Australian South Australian Garden and really does capture the essence of WA and SA. Anne is the Nursery Manager and the range of plants available for sale is extraordinary, many are difficult to source anywhere else.

Chris Clarke tells us about one of his happy places in Victoria, the Anglesea Heathlands. The Anglesea Heathlands are only 100 kilometers south west of Melbourne and offer a remarkable array of species in a small area, many rare endemics, a wonderland for photographers and those who delight in flora and wildlife. Angair, the Anglesea, Aireys Inlet Society for the Preservation of Flora and Fauna, hosts a wildflower and art weekend each year and people come from far and wide to go on guided walks through the heathland and view the displays.

Presentations/Topics

During the upcoming ANPSA 2024 Conference we will have three days of presentations. Some of these are briefly described.

Gardens for Wildlife (G4W). Chris Larkin muses on designing a garden for wildlife, why is it that so few Australian gardens are Australian – why indeed!? She uses the example of her garden and the research that scaffolded its creation to expand on the theme of creating habitat for wildlife. A number of our presenters will speak to this topic. What is needed to create such a garden, the benefits to health and well-being, for two-leggeds and many legs varieties, the nature of the journey and the ripple effect. Gardens nurture us and our wildlife. Reciprocity in action.

Botanic Gardens and their role in Conservation. Jill Burness has a long history with this topic, great breadth and depth of experience. Botanic Gardens play such a pivotal role and they are leading the way with adaption of our response to climate change. They are places of great beauty for recreation, education and artistic expression and equally as repositories for research, scientific endeavour and conservation.

Floristry with Australian Cut Flowers. Miriam Ford with others speak about the use of Australian Cut Flowers in the Floristry Industry and the push to improve knowledge and understanding of the amazing array and diversity of what could potentially be on offer to florists.

Our disappearing Grasslands. Adrian Marshall and Debbie Reynolds celebrate the extraordinary diversity of our Victorian Grasslands. They describe their concerns regarding their disappearance and speak to what might be done to preserve what remains.

Dam Conversions/Wetland Habitat. Emmaline Bowman, another of our presenters, describes how she strives to create environments that respect Australian flora and fauna in ways that are beneficial and beautiful. She describes her work with conversion of farm dams into rich productive habitat that has supported endangered species and large varieties of pollinators.

Insects and Biodiversity – the implications of Dr Luis Mata's research. Chris Clarke summarizes the wonderful work of Dr Luis Mata, how he and his team have illuminated the role of the seen and not so well seen pollinators and insects responsible for the recycling of biomass that underpins the web of life so crucial to our existence. Their work has revealed that indigenous plants support the greatest diversity of life, and gardens don't have to be large to do this; small courtyards and containers have a role to play.

Native Pantry. Miriam Ford talks about a day at Peppermint Ridge Farm, Tynong North, Victoria where Julie Weatherhead and Anthony Hooper have created a wonderful haven for nature where they grow over 70 species of indigenous species of native food plants. They have been running courses for many years now on how to use Australian edible plants in our day-to-day cooking and thereby restore ancient knowledge of their wonderfully unique and life-enhancing flavours.

Thank you to all who contributed to these pages. We all know that these conferences are very demanding of the host state, that they require teamwork and that friendships will help to balance the many challenges. We hope that this issue inspires you to attend the ANPSA 2024 conference. That you, like us as we strove to decide what to include and how to capture the heart and soul of the themes within Gardens for Life, will emerge enriched, enlightened and heartened by what you learn and experience.

We would love to see you there.

Excursions

Day Tour to the Dandenongs

Nicky Zanen

Nicky has been a member of the SGAP/Australian Plants Society for close on 40 years and has been to almost all the biennial conferences since her introduction to the ASGAP 1995 Conference which was held in Ballarat and ASGAP 2009 held in Geelong when she was involved on the organizing committees. Nicky is a keen traveller and loves exploring all the corners of Australia, has a wide interest in natural history and bird watching, and loves catching up with all the terrific people associated with the different native plant societies.

You have reached the edge of the Dandenong Ranges National Park and are entering a temperate rainforest, dominated by *Eucalyptus regnans*, (Mountain Ash) between 150 and 250 years old. They can grow up to 100 metres high and some are known to live for 500 years. They are the tallest flowering trees in the world and form one of the four layers of vegetation found in the forest. The other layers are trees like wattles, lower shrubs and ground level grasses, herbs, fungi and leaf litter. Each layer supplies food, shelter and nesting materials for different animals. The air is filled with the earthy smell of the forest, and calls of various birds, including the amazing repertoire of the lyrebird. Although the popular Hardy Gully Native Trail is very busy, the area has been described by Rodger Elliot as 'a real Vegetation Ecological Gem and relatively weed free'.

Eucalyptus regnans, Grants on Sherbrooke. Nicky Zanen.

The rainforest is one of three distinctive Australian native precincts that are within easy reach of Melbourne that couldn't be more different.

The second is the Chelsea Australian Garden at Olinda recently constructed in the Dandenong Ranges Botanic

Garden. Phillip Johnson was the designer of the Garden which was the best in show winner at the Chelsea Flower Show in 2013. Within a decade he has replicated the design and had a garden constructed twenty times larger than the 'show' garden in a beautifully carved environment surrounded by rocks, water, winding paths and waterfalls, displaying over 15,000 plants. One can hear the Pobblebonk (frog) calling as well as seeing a variety of birds flitting in between the showy plants.

Billabong in the Chelsea Australian Garden at Olinda. Miriam Ford.

Above: Chelsea Australian Garden at Olinda.
Left. *Pimelea spectabilis*. Miriam Ford

The third is the two hectare Karwarra Australian Native Botanic Garden in Kalorama. The Mt Dandenong and District Horticultural Society set it up over fifty years ago, and it is managed by the local council. Karwarra holds notable collections of plants including the Plant Trust Boronia and Telopea collections. It also has rare and threatened plant collections which include Lasiopetalum, Thomasia, Epacris and Rutaceae, as well as an area of undisturbed bushland and a small nursery.

These gardens are part of the Yarra Ranges Council 'Community Recovery Program – Healing in Our Gardens' initiated after a dreadful storm raged through the Dandenongs in 2021.

All three of these precincts are ideal for relaxation, exploration and inspiration.

The Royal Botanic Gardens Victoria, Cranbourne Garden (RBGC)

Miriam Ford

"It is truly amazing what people create when they work well together." John Arnott, Manager, Horticulture, RBGC.

These gardens have many hidden stories which make this garden great, world renowned and much awarded. One of those stories is evident as you drive into the garden. The roadway is lined on each side with a low fence covered with thick black plastic, and as you proceed you will see not just the speed bumps but some cream grates. These grates are part of a cross road tunnel system with one every 30 metres or so. The slots

Driveway into RBGC showing tunnels. Miriam Ford.

let light through so the critters using the tunnel can see whether they have free passage. Motion sensing thermal camera data has shown that this Wildlife Crossing Project is a great success and is known internationally as the 'go to' approach. As the Australian garden is now an oasis in a sea of housing estates this particular endeavor was initiated because studies had shown that vehicles were using the roads as thoroughfares with no mind to the speed limits. This had dire consequences for the small critters such as bandicoots, swamp rats, snakes, echidnas and lizards, but not anymore. They have footage of koalas and even large wombats using the tunnels on the Web. And, another story, it is the proceeds from the Growing Friends plants sales that helped to fund it.

Southern Brown Bandicoot sculpture. Miriam Ford.

The noted landscape architects TCL (Taylor Cullity Lethlean) designed the garden with Paul Thompson responsible for the planting design. The brief called for a garden that was artistically driven, a poetic interpretation of the landscape and cultural underpinnings. Jill Burness and Warren Worboys were also involved. Carolyn Landon spent many hours interviewing the team members for her book *Of Friends and Gardens* and she describes very evocatively the camaraderie, friendship and deep respect that underpinned the inspired creativity of the final plan.

The garden is 42 km from the Melbourne CBD, en route to Phillip Island and 10 km inland from Frankston. It has high diversity values for flora and fauna and is Boon Wurrung and Bunurong country. The site is 363 hectares in size of which 19 are the Australian Garden. It took 17 years to complete the overall design which came about in 2 stages. Stage 1 from 1994 – 2006 (12 years) and Stage 2 from 2007 – 2012. There are now 200,000 plus visitors each year and this is increasing by 10% each year. There are 50 plus staff with 13 horticulturalists.

There is a very active Friends Group within which are the 'Growing Friends', the 'Fabricators' and 'Friends in Focus'.

And then there is the team of Garden Ambassadors. Their role in the operation of Cranbourne is fundamental to communicating the plant stories; signage can only do so much. They connect with visitors and help to grow knowledge and understanding. There is a highly multicultural community in the surrounding areas who are visiting the garden more now. It is fulfilling the role of a municipal park, a dwelling place.

Growing friends of the RBGC nursery. Miriam Ford.

Even before the garden came into being there was the nursery. Material was sourced across Australia, seeds, cuttings and plants, all were examined for weed potential as the RBGC has a strong conservation ethic. There are now two nurseries in the garden, one for growing plants for the garden itself and the other run by the Growing Friends for plant sales and bringing revenue into the garden. Since its humble beginning, the Growing Friends have raised over $1 million for the gardens.

Another one of the great stories of the garden is the 'Raising Rarity' project spearheaded by Megan Hirst, Royal Botanic Garden Melbourne Garden (RBGM) and Russell Larke Royal Botanic Garden Cranbourne (RBGC).

For several years now there has been a concerted, indeed passionate effort by the horticultural staff at both gardens towards increasing the number of threatened species of Victorian flora in the living collection. Species have been collected from over 50 locations throughout Victoria in order to create insurance populations. The establishment of this ex-situ conservation holding of SE Victoria flora is now leading

to change in the planting palette within the gardens. Species are also being seeded into many of the botanic gardens throughout Victoria to help them establish collections of indigenous threatened species. And, as it happens, when you apply a horticultural approach to a rare species you obtain an attractive garden plant. They have found that, for example, species such as *Craspedia canescens* (Grey Billy Buttons) and *Xerochrysum palustre* (Swamp Everlasting) sold out at the Growing Friends plant sale. Such species are easy to grow and good for school kids to work with. They have run very successful pilot programs with schools where the students have loved the work. This public engagement Plants Grow Here engages a broad range of ages and people, and eventually the nursery industry and commercial partners. And finally, another wonderful story is the Orchid Conservation Program led by Dr Noushka Reiter who will also be presenting her work at the conference and who recently won the prestigious 2023 Eureka Prize for Excellence in Botanical Science.

Credits: Presentations by Kate Cullity, John Arnott, Jill Burness, Meg Hirst and Russell Larke - Youtube Videos from the Botanic Guides Conference, Oct 2022 and Tricia Stewart on Wildlife Crossings (2023), all recorded by Tim Morrow. *Of Friends and Gardens* by Carolyn Landon (2021).

Gardens for Wildlife Day in the City of Knox

Chris Larkin

Chris has been a member of APS Foothills Group for around 30 years. She is currently the leader of this group. Chris has a passion for garden design using Australian plants and has been thinking and writing about it for 25 years for the Garden Design Study Group and more recently the Victorian quarterly newsletter 'Growing Australian'. Her garden has also featured on the ABC program 'Gardening Australia'.

Garden of Bev Fox. Chris Larkin.

The 'Gardens for Wildlife' program started in the City of Knox, a south-east Melbourne municipality, in 2006. It was essentially a citizen led initiative which became a collaborative partnership between Knox Council, Knox Environment Society (KES) and community members. The gardens described are all 'Gardens for Wildlife'.

Bev Fox's verge and her back garden. Chris Larkin.

Bev Fox Garden

Bev's house and garden are on a 0.1 hectare or ¼ acre block with the back garden facing west. The garden was redesigned in 2003 using a landscape gardener friend who installed the hard structure – the shaping of paths, division of space, rock work, stone paving and change of levels. Bev's extensive plant knowledge meant she took charge of the planting design.

Bev's garden is a haven for wildlife. Frogs breed in a small pond, possums have boxes to rest in, and birds use the trees to fly in and out to feed, drink and wash in the many different bird baths. A great diversity of plants, which includes indigenous plants, provides habitat for insects, bugs, beetles, spiders etc.

Although this is not a big garden the experience of being in the very private back garden transports you out of suburbia into a place of ease and tranquillity. A place to unwind and breathe easy. A place for human life as well as wildlife.

Knox Park Primary School

The school, nestled in suburbia, has a large stand of remnant *Eucalyptus cephalocarpa* (Silverleaf stringybark) which is on a state register. Because it borders the bush of Lake Reserve to the north, indigenous plants have been used along the school's fence line to complement and connect with the reserve's plantings. Many different gardens have

Butterfly Garden at Knox Park Primary School. Chris Larkin.

been developed around the school including: Butterfly Garden, Small Bird Habitat and Sensory Garden. The school has lovely artwork on buildings, colourful totems in the garden and interpretive signage. The gardens have been created for the children's enjoyment, wellbeing, cognitive development, learning and appreciation of an Australian environment.

Chris Larkin Garden

This large garden of approximately an acre on a steep north facing hillside was started in 1991 and developed in stages over the next five to six years. It is informally terraced and has several ponds.

Chris aimed to develop an Australian plant garden - wildlife friendly and water wise. How to achieve this has been a lifetime of learning about plants and the relationships between the flora and fauna. This is a stroll garden with curved paths separating garden beds. Chris has a special interest in design and believes strongly you can have a beautiful, peaceful garden where wildlife is one of the key criteria for the decisions you make in the style of garden and choice of plants.

Chris Larkin garden. Chris Larkin.

Melton Botanic Garden

Anne Langmaid

Anne has belonged to the APS Keilor Plains group for 30 years and more recently joined the Melton Bacchus Marsh group. She is currently Nursery Manager of the Melton Botanic Garden and volunteers her time as a 'Gumnut' (volunteer worker) in the Australian garden section.

The seed that this garden grew from began 20 years ago in 2003. A Friends Group was formed and Council was lobbied for support and a site. After a lot of planning, a plan was drawn up for the chosen site. Some seeds take a long time to grow, ripen and germinate. It was in 2011 that the first area, the Eucalyptus Arboretum, began to be planted. There was some limited indigenous planting along Ryans Creek before that, but I consider 2011 the germination moment.

I like the beginning story. Joan Carr, a long-term local APS member donated $100 to purchase the eucalypt seed before there was a site for the Garden. By the time the tubes of eucalypts were ready for planting in the Arboretum area the following autumn, the site was ready too. Not only that but, the excess eucalypts were sold off giving a little money in the Friends' account. I think this is the true meaning of seed capital for a business.

May 2015, First day planting in WASA Garden, David Pye, Jean Partridge, Barbara Pye, Anne Langmaid and Alan Partridge. The houses are 120 metres away and invisible now. Anne Langmaid.

Recently APS Victoria has awarded David and Barbara Pye an Impressa Award for the work they have done in this impressive Botanic Garden.

Melton has a rainfall of only 450mm. The garden is divided into gardens representing areas with similar rainfall. We have Southern African, Californian, Mexican and Mediterranean gardens but most of the garden is Australian. These include Bushfood, Volcanic Plains, Grassland, Eastern Australian Dryland, Eucalyptus Arboretum, WASA (Western Australian South Australian) and areas along Ryans Creek and the two lakes which are indigenous.

My favourite area is the WASA garden, 2.5 acres of sheer delight. Planting began in 2015 and within six months the *Grevillea magnifica* was sending up tall flower spikes. The design took some planning as

it is unusual. Half of the beds are raised with thick river sand mulch. This has allowed us to grow WA plants that are usually considered fussy in Victoria including a wide range of banksias and verticordias. I love the way that I am greeted in the Geraldton bed with the glowing orange cones of *Banksia ashbyi*. This shares a bed with around 100 species including *Diplolaena, Darwinia, Pileanthus* and *Verticordia* and even a couple of young *Nuytsia floribunda*. Then you walk across a little path and you are in Esperance and a whole new palette. If only getting around WA was as easy. In Esperance two tiny ground covers mingling

Geraldton bed. The *Grevillea candelabroides* dominates with smoke bush in the middle and *Halgania*, Copper Cups and Conostylis in the front. Anne Langmaid.

with each other stand out for me: the blue smoke bush - *Conospermum caeruleum*, and the meticulous spotted flowers of *Thomasia pygmaea*. Nearby is a delicate *Plathytheca galiodes* trying to outbling the lechenaultias. Of course, keep an eye out for the Albany daisy, *Actinodium cunninghamii*. We have barely started, as there are still Avon, Mallee, Coolgardie, Nullarbor, South Australian Inland, Eyre York and *Eremophila* beds.

Actinodium cunninghamii. Anne Langmaid.

Eucalyptus rhodantha, one of many spectacular trees in the Arboretum. Anne Langmaid.

Thomasia pygmaea. Anne Langmaid.

The stars of the Dryland Eucalyptus Arboretum are the 100 plus *Eucalyptus* species there but the under planting make it a garden. We concentrate on many of the smaller eucalypts which are suitable for suburban gardens. Many customers carefully choose from the adult tree and can then buy from our nursery. There are booklets available on our website on the Arboretum and WASA.

Avon bed looking towards the Mallee garden. Pinks: *Hypocalymma angustifolia, Boronia crenulata, Grevillea magnifica, Commersonia magniflora, Grevillea magnifica, Hakea* sp. Yellow: *Petrophile ericifolia, Grevillea flexuosa, Verticordia staminosa* and *V. chrysantha, Grevillea eriostachya* and *G. excelsior, Acacia denticulosa* and some purple *Seringia adenogyna*. Anne Langmaid.

Edge of Esperance with Avon across path. Foreground blue is *Orthrosanthos multiflorus* and *Conospermum coerulescens* (blue smoke bush) with pink *Thomasia pygmaea,* yellow are both Petrophiles. Beyond the path are pink *Hypocalymma angustifolia, Boronia crenulata* and *Grevillea magnifica*. Anne Langmaid.

Anglesea Heathlands

Chris Clarke

Chris is Past President of APS Victoria and currently Vice President of Australian Native Plants Society (Australia) (ANPSA). He is a member of the APS Keilor Plains group and has had a passion for our flora for over 50 years. He loves photography and leading field trips to wildflower hot spots.

The Anglesea Heath is a 7,200-hectare area of natural heath, woodland and forest just 100 kilometres south-west of Melbourne, around the coastal town of Anglesea. A remarkable number of plant species occurs in a relatively small area here, more than 700 species or about one quarter of the total Victorian flora. This includes eight species of flora rare or threatened at the national level, and 20 which are rare or threatened at the state level. Two species, the Anglesea grevillea, *Grevillea infecunda* and the Angahook Pink-fingers *Caladenia maritima* are only found here. Only 500 plants of *Caladenia maritima* remain, but sadly it is yet to be protected under the *Flora and Fauna Guarantee Act* 1988.

In 2017 the Anglesea Heathlands were finally included in the Great Otway National Park after many years of campaigning by the local

Grevillea infecunda. Andrew Steward.

Anglesea, Aireys Inlet Society for the Preservation of Flora and Fauna (Angair) members, the Victorian National Parks Association and many others. Each year Angair host a terrific wildflower and art weekend which is worth travelling to see. Angair is a real success story in conservation, not only successfully lobbying for the national park, but running weeding groups, growing indigenous plants, running bird surveys and effective public education campaigns.

For 50 years Angair has campaigned to stop coastal development destroying the coastal flora and fauna and they host a wonderful wildflower show every year in September. You can find out all about that on their web page - as well as heaps more information about the flora, walks and events, birds, and all fauna too. Angair also publish several books and information leaflets including the wonderful *Flowers of Anglesea and Aireys Inlet* edited by Margaret MacDonald. Check them out at: https://www.angair.org.au/

Caladenia maritima. Chris Clarke.

The Anglesea heath contains more than 100 orchid species, making it one of the most orchid-rich sites in Australia and I particularly love the sun orchids - here are photos of two of my favourites from the area.

Thelymitra juncifolia. Chris Clarke.

Thelymitra rubra, the Salmon Sun-orchid. Chris Clarke.

Two really interesting looking orchids to be found in spring are *Caleana major*, the Large Duck Orchid, and *Pterostylis unicornis*.

Caleana major. Chris Clarke.

Pterostylis unicornis. Chris Clarke.

The pea family is well represented too with *Dillwynia sericea* and *Daviesia brevifolia* standing out for sheer impact. The beautiful drooping flowers of *Pimelea octophylla*, the Woolly Rice Flower, can also be found.

Daviesia brevifolia. Maree Goods..

Dillwynia sericea. Chris Clarke.

Argentipallium obtusifolium. Chris Clarke.

Pimelea octophylla. Chris Clarke.

References online – ANGAIR, Parks Victoria, VNPA, Flora of Victoria (Royal Botanic Gardens Victoria).

Conference Presentations/Topics

Designing Gardens for Wildlife

Chris Larkin

Does it strike you as strange that in Australia growing an Australian plant garden is a somewhat fringe activity? Most of us live in cities where we are surrounded by exotic gardens. When questions arise about planting for a hotter, drier climate the advice is often to grow Mediterranean or South African plants. We have been enculturated because of the everyday visuals of garden landscapes and the over-representation of exotic plants in publications and the media past and present. In terms of a garden culture, we are still predominantly living in a different world from the land we inhabit. We are not entirely at ease with what mob call 'country', although in fairness Australian plants are appearing more often in our gardens, particularly in outer suburbs of big cities, and there is a greater variety and availability of Australian plants for sale in retail outlets.

Garden of Chris Larkin. Chris Larkin.

I live on a north facing hillside south-east of Melbourne. It's about 0.4 hectare or around one acre in size. I shifted here at the start of 1982 but didn't start gardening until 1991. Luckily I was clear about two things before I started gardening – I wanted an Australian plant garden and I wanted it to attract wildlife to visit or live and even breed and raise their young in the garden. I was on tank water at the time, and this remained the case until 2007.

It seems like stating the obvious to say it should be easier to achieve a garden for wildlife if this is your mission in the first place. What was less clear was how to go about it. Knowing close to nothing about Australian plants or garden design I employed a landscape gardener and member of APS Foothills to get me started with a small section of garden. I joined the same APS Vic group the following year after I'd learned some of those plant names. To understand what to think about in continuing to develop the garden I joined the GDSG (Garden Design Study Group) a couple of years later. I was thinking if I could get a grip on landscape design then my garden wouldn't end up being an unattractive jumble of plants without structure. So now the brief was a beautiful, wildlife friendly waterwise garden - with the emphasis on garden design. Simple? No, but a journey must start somewhere, and my journey had certainly started.

It is interesting to reflect now on what I've gleaned from the many books I have read on gardening with Australian plants. Few have addressed the topic of wildlife gardening. Rodger Elliot's 1994 book *Attracting wildlife to your garden* was unusual in tackling the subject, devoting three chapters to hard and soft landscaping needs of different categories of animals. Elliot even included a few garden plans to get the reader thinking. Presciently he wrote: 'How wonderful it would be if neighbours could create corridors of valuable wildlife habitat which in time would link with native bushland'. This is indeed the aim of 'Gardens for Wildlife'. A much more recent publication by A.B. Bishop, 2018, *Habitat: a practical guide to creating a wildlife-friendly Australian garden* takes a more in-depth look at the subject from the soil up but it is not exclusively promoting the use of Australian plants. It does, however, refer to research which has shown all things being equal local plants, or plants from regions close by, will do a better job.

Blue banded bee approaching *Goodenia ovata*. Chris Clarke.

Most garden design books also give scant reference to attracting wildlife apart from generalised do's and don'ts. Do include plants for food, shelter and nesting, also water and don't use pesticides. Diana Snape's book, *The Australian Garden: designing with Australian plants*, 2002, went further devoting a chapter, written by Danie Odinea, to wildlife. Odinea said just growing Australian plants may not be providing habitat for a range of wildlife. It might attract large bossy birds but not the small ones, and it might not be providing what is needed for a range of other wildlife like insects, frogs, lizards, spiders, bees and bugs and even small mammals. She said we need to slow down and observe what is going on in our gardens by listening and looking. Odinea says: "Native wildlife is an essential part of a balanced ecosystem and should be an inspiring and beautiful component of gardens parks and urban bushland".

A native bee on a flower of *Scaevola aemula*. Maree Goods.

Overseas and here in Australia there is a movement underway to encourage people to develop gardens for wildlife in response to habitat loss and species decline. In Victoria 'Gardens for Wildlife' (G4W) started in the city I live in, Knox, in 2006. I joined the scheme in 2009 eight years after my garden was started.

By that stage my garden was fully developed and semi-mature. It met all the criteria but that doesn't mean there wasn't plenty to learn then and now. My garden has ponds breeding frogs and dragonflies, rocks, sleepers, logs loved by skinks, a range of plants, from ground covers to tall eucalypts,

A Brown Thornbill on a birdbath in the home garden. Chris Clarke.

A Bluetongue Lizard in the garden. Chris Clarke.

flowering and seeding at different times of the year, and it has its fair share of prickly plants to shelter small birds.

As time went by my garden became a stroll garden which I now think is the best design for habitat. It also has health benefits for humans. As you walk or sit surrounded by garden it is an immersive experience embracing you as part of the natural world.

The G4W program provided me with an amazing amount of quite Knox specific information on local bees, butterflies, frogs, possums, and reptiles as well as information on creating a wildlife garden. It challenged me to think more about increasing the range of indigenous plants in the garden because of a greater understanding of the environmental role they play.

The Knox G4W program provides ongoing support to residents. It has influenced the Council's attitude to nature strip planting. Homeowners are now encouraged to grow indigenous species to further extend wildlife corridors. It may also have caused a change in attitude to responsible pet ownership. Residents are now expected to always keep cats on their properties for the benefit of wildlife and the cat's safety.

The real challenge for garden designers, home gardeners and professionals alike, is to make gardening for wildlife a central question at the initial stages of the design. This involves a shift in thinking from one of just considering what the individual wants to the idea of a partnership with nature for the health

Australian Painted Lady in the garden. Maree Goods.

A pond in the garden. Chris Larkin.

and happiness of all. If you are starting a garden on a cleared site, it is easier to think of how to incorporate rain tanks, a cat run if needed, and where to place a water feature. The style of garden you choose is important, generally determined by the hard structure elements of paths, rockwork, retaining walls etc, and so is the selection and placement of plants. In the case of an established garden, reinvention might be possible at any time with a bit of imaginative problem-solving. For instance, you may consider less lawn or no lawn at all but instead develop a stroll garden with paths winding between garden beds which will provide maximum habitat for small birds and insects. This was the journey I took.

Gardening is not a destination but a journey. Gardening for wildlife expands the journey towards a fuller understanding of the natural world we are a part of – the complexity, interdependencies and needs of both plants and animals – and the role gardens can play in nurturing us while supporting wildlife.

Eastern Banjo Frog in the garden. Graham Goods.

Botanic Gardens and their role in conservation

Jill Burness

Jill retired from the Royal Botanic Gardens Victoria in March 2022. She worked as the Landscape Planner and Project Manager for 27 years at the Cranbourne Botanic Gardens. She is currently a Board Member of the Wildlife Art Museum Australia (WAMA).

Cranbourne Botanic Gardens Australian Garden established in May 2006. Jill Burness.

Talking about botanic gardens and their role in conservation, it is difficult to know where to begin. People have been experimenting with plants since time immemorial – whether it was for food, medicine or other applications. Botanic gardens, per se, have been established since the early 1500's when small systems gardens were developed in Padua and Pisa, Italy. These two gardens are generally recorded as the commencement of botanic collections that were dedicated specifically to the study of plants.

The discovery of new plant species continues to be a major part of the science and research role of botanic gardens, but the work of twentieth and twenty-first century botanic gardens has become increasingly more focussed on the role of global conservation. New plants continue to be discovered, but at the same time we are losing plant species. The fragility of our planet is becoming more evident with the speed of change that is occurring.

With an estimated one-third of plants around the world threatened with extinction, botanic gardens are racing to protect plants that are on the brink of disaster. In 2000, the International Agenda for Botanic Gardens in Conservation was developed to help guide the conservation work of botanic gardens around the world. One of the strategies outlined by the Agenda was the establishing of ex-situ collections of plants that are listed as rare or endangered. The world's botanic gardens now hold more than four million plant specimens, representing nearly 100,000 species in living collections. Seed banks are also a valuable repository.

In Australia, the work of conservation is being strongly promoted through the Botanic Gardens of Australia and New Zealand (BGANZ). BGANZ is a not for profit peak industry body formed to build and maintain links with relevant national and international bodies to benefit the member gardens. Established in 2004, BGANZ links more than 130 botanic gardens across Australia and New Zealand.

Melbourne Botanic Gardens, established in March 1846, photo taken July 2021. Jill Burness.

As stated by BGANZ, we know that climate change will affect the composition of our living collections and that we need to adapt our response to reduced water use and increased temperatures. One approach is to select plants that we know will tolerate or adapt to changing local environments. Current research is identifying those species that are better suited to our future climate – in specific locations. For example, when planting trees that we hope will grow for 100-200 plus years, we want to ensure their long-term survival by selecting suitable species.

In addition to the major botanic gardens in each State and Territory, there is also a bevy of small regional botanic gardens that are experiencing a surge in interest and support. New regional botanic gardens are being created, often through the initiative of volunteers and community groups. This regional network is like the mycelium of the system. They may be small, but they are essential. These gardens are collecting the plants that are threatened within their local area. When these plants are shared with a number of local botanic gardens, they form a meta-collection. If one collection is damaged, the gene pool is still secure. Areas in Australia that are subject to environmental impacts (such as wildfire, flooding, erosion) can be regenerated with the species that have been safeguarded by this network of botanic gardens.

Grampians Gariwerd Endemic Botanic Garden established in July 2022. Jill Burness.

Botanic gardens continue to be places of great beauty that we enjoy for recreation, education and artistic expression. But they are equally if not more valuable as the repository of research and scientific endeavour to safeguard our knowledge of plants and how they can be conserved.

Neil Marriott and Ben Mackley surveying *Grevillea microstegia* on Mt Cassell, Grampians. Jill Burness.

Floristry with Australian Cut Flowers

Miriam Ford (with other APS Vic members as per the credits)

Floristry with Australian Cut Flowers is one of the topics at ANPSA 2024 and will be presented by Michael Pavlou. His company, Bush, (https://bushflowers.com.au/) is a purely Australian cut flowers retail outlet in Rathdowne St, North Carlton, Melbourne owned by Michael Pavlou and associates. Michael (with Cassandra Hamilton) has recently published a superb book called *Bush Flowers, Australian flowers and foliage for decoration and design*. A review by David Redfern in APS Victoria's quarterly magazine, *Growing Australian* says "this book is quite unique as a guide for using Australian native plants for floristry and floriculture…the chapters cover sourcing materials, tools of the trade, conditioning the flowers, creating arrangements…and an impressive cut flower and cut foliage Plants Library listed under the headings of Focal, Texture, Foliage, Sculptural Elements and Delicate Beauties, Gumnuts and Seedpods." You will see from the images here that the array of flowers and foliage for sale at Bush is extraordinary – there are many species of Ptilotus, Verticordia, unusual Kangaroo Paws ('Masquerade' and 'Lilac') and Isopogons to name a few.

Bush flowers. Miriam Ford.

WildFlowers Australia Ltd (WFA) is the national industry association representing the many members of the wildflower industry – growers, flower wholesalers, exporters and importers, flower and foliage buyers, research and extension specialists and plant growers. The 10th Wildflowers Australian Conference was held at Moama, NSW in August, 2023.

Bush flowers. Miriam Ford.

Bush flowers. Miriam Ford.

The first day featured a variety of presentations on logistics and marketing, flooding and its impact on soils and best irrigation practices,

Bush Flowers on Rathdowne Street, Melbourne. Miriam Ford.

pest and disease management, breeding better soils. The afternoon closing session featured Craig Scott of East Coast Wildflowers, NSW who spoke about the opportunities for growers and urged more to move to growing purely Australian native flowers and to stop calling South African species 'native flowers'. Scott was followed by Neil Marriott who encouraged attendees to recognize and embrace growing a greater range of Australian flowers given the incredible variety available now and their suitability as cut flowers. Among the many flowers Neil showed and recommended for their adaptability to grow on dry sites were *Thryptomene strongylophylla, Kunzea affinis, Pileanthus vernicosus*, many *Grevillea* species including *G. magnifica* and members of the east coast *Veronica* genus. Angus Stewart, in his after-dinner speech, spoke of the progression from sourcing directly from the bush, to cut flower farms to the present day where there is the potential for future expansion of the industry through the breeding of new varieties specifically for cut flower production.

Bush Flowers on Rathdowne Street, Melbourne. Miriam Ford.

A truly impressive array of Australian foliage and seed pods feature in the domestic and international floristry industry and are much sought after. Some examples are Eucalypts (*Eucalyptus pleurocarpa, E. forestiana, E. latens* 'Moon Lagoon'), Acacias (*Acacia baileyana* var. *purpurea*, *A. podalyriifolia, A. cultriformis*), *Adenanthos, Persoonia,* Umbrella Ferns, *Lomandra*, Grass tree leaves (Steel grass), Gymea Lily leaves, *Xylomelum* seed pods, *Banksia* and *Hakea* seed pods. The second day of the Wildflowers Conference consisted of farm bus tours one being Sandy Hill Banksia Farm, Cobram, now owned and run by Michael Pavlou and associates which has as its key crops *Banksia, Eucalyptus, Acacia* and *Hakea*. They are expanding their range into *Isopogon* cultivars and others. We also toured Circle T, Zoe's Little Flower Farm, Gunbower where key crops are *Eucalyptus caesia, E. crenulata, E. erythrocorys, E. kingsmillii* and others (~ 23 species), *Acacia baileyana* var. *purpurea* and *A. podalyriifolia, Banksia praemorsa* and *Hakea francisiana* and *H. laurina.*

Don't be fooled, anyone in the industry will tell you it's hard yakka growing Australian flowers for the floristry industry. It is very labour intensive and the competition is increasing so making a living from it can be difficult. There are an increasing number of growers. Wafex and other large growers have bought up farms and have planted large areas of Banksias and Geraldton Wax in WA. There are sandy soil farms in the Victorian Wimmera, Grampians, along the Murray River, in Gippsland and in South Australia which are planted with wildflowers. An increasing number of smaller growers are entering the industry.

Xerochrysum bracteatum. Marilyn Sprague.

Geraldton Wax hybrids and Cricket Ball Hakea seed pods. Miriam Ford.

Many of you know of Marilyn Sprague and her stunningly impressive garden at Mandurang, Bendigo, Victoria. She provides many bunches of flowers to locals for events and to Australian florists, including Michael's shop, Bush. Marilyn grows a hugely diverse range and grafts many varieties such as Verticordias and Boronias so they can cope with her particular local conditions of clay soils and acidic pH. Marilyn regularly gives talks across the state and has featured on ABC Gardening Australia. She is a superb advertisement for what is possible when you are well informed and know your species. There are flowers available to be picked all year round, many varieties and many colours.

Handscombe's garden (Linda and David) near Warrnambool has a huge range of species, many suitable for cut flowers. Linda says "It's wise to plant a variety of plants to ensure there is something flowering 12 months of the year and also to provide feature flowers, fillers and foliage [silvers, greens, burgundies, variegated, narrow, thick, pinnate, serrated and furry]. Buds and fruits are great fun too. Be brave, plant things for small pretty posies and other things for large and dramatic special occasion arrangements and be proud when you can give a stunning gift of flowers that doesn't include those other 'native' South African Proteas, Leucadendrons and Leucospermums." And she provides some examples: AUTUMN Feature flower: *Banksia ericifolia, B. spinulosa, B. prionotes* [dwarf form available], Filler: *Agonis linearifolia,* Foliage: *Adenanthos sericeus, Gahnia sieberiana, Eucalyptus crenulata*. WINTER Feature flower: *Banksia menziesii* [dwarf form available], Filler: *Thryptomene calycina, Acacia podalyriifolia, Crowea,* Foliage: *Doryanthes, Eucalyptus eximia* [dwarf form available]

Credits: *Bush Flowers* by Cassandra Hamilton and Michael Pavlou; David Redfern Book review, p16 *Growing Australian* No 265, September 2023; Marilyn Sprague's 'Australian Cut Flowers' presentation and Linda Handscombe.

Our disappearing grasslands and the Grassy Plains network

Adrian Marshall and Debbie Reynolds

Adrian Marshall is facilitator of the Grassy Plains Network (GPN) and will present at ANPSA 2024 and Debbie Reynolds is the Trust for Nature Pimelea Conservation Officer with a PhD covering the factors in saving the threatened grassland species Pimelea spinescens. They combine here to give us a snapshot of the grasslands and some of the challenges faced in saving what is left.

The Victorian volcanic plains grasslands were described as fields of gold by the first waves of European settlers. We don't know exactly what plant they were referring to as Yam daisies, *Podolepis*, Button Wrinkleworts and Billy Buttons all have stunningly beautiful yellow flowers.

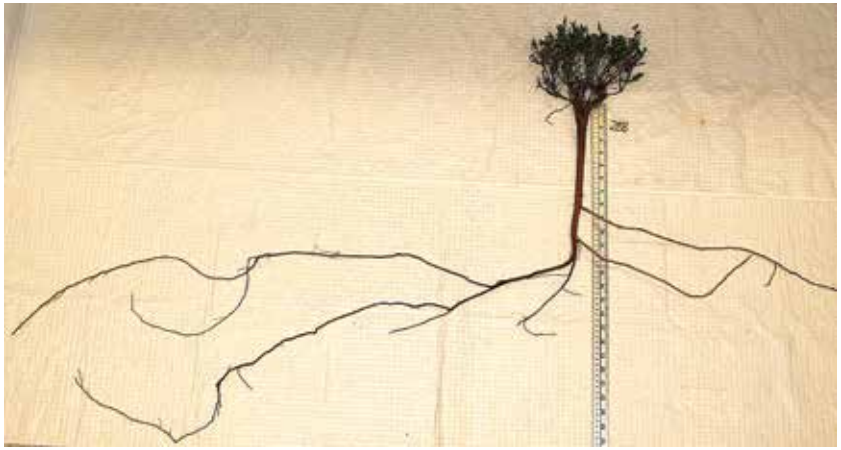
Podolepis species with bees. Debbie Reynolds.

These herbs and forbs thrived in the disturbed soil that was soft from digging marsupials and the First Nations people ate the bulbs and roots of many of species. They often grow deep tap roots occupying a niche that taps the deep soil moisture in an environment that bakes in the summer and copes with frosts over winter.

There are 1,104 herb (forb) species which are native to the volcanic plains. Of these 25% of them were root foods and 16% are now classified rare and threatened as is the whole ecosystem. If we could put back a little bit into our little patch of land – even

Chrysocephalum apiculatum Sunbury. Chris Clarke.

small gardens - we could support the indigenous insects which in turn support birds and reptiles. Providing the right environment and food will help to maintain this fragile and beautiful ecosystem. If your soil is right (clay or even poor soils and woodlands supported the daisies and shrubs) you can help bring back and ensure that we don't lose the species that we have left.



Tap root of *Pimelea spinescens.* Debbie Reynolds.

Diuris fragrantissima.
Extinct in the wild but being reintroduced. Chris Clarke.

Less than 1% of Victoria's grasslands remain in their natural state and grasslands are more under threat and have less state protection than forests, rivers, wetlands and coastal systems. The vast, richly meadowed 'land of sweeping plains' that once stretched from the Yarra/Birrarung to the South Australian border has been almost entirely swept away. Home to endangered creatures such as Growling Grass Frogs, Striped Legless Lizards, Golden Sun Moths and Fat-tailed Dunnarts.

Growling Grass Frog. Chris Clarke.

Grasslands desperately need all the help they can get. And that's where the Grassy Plains Network comes in.

The Grassy Plains Network advocates for the protection of grasslands and works to engage the broad community in grassland conservation. For the last two-and-a-half years GPN has had a paid facilitator position, funded by philanthropy. Suddenly grasslands have had a dedicated and strong voice, backed by the expertise and passion of GPN's 750 plus members, and the Victorian National Parks Association's 70 years of conservation experience.

Advocacy

GPN advocacy activities range from appearing at Senate inquiries and Environmental Effects hearings, to calling-out the many broken promises made by State and Federal governments. Advocacy ranges from arguing at VCAT and the Government Land Standing Advisory Committee to raising issues on TV news about grassland destruction.

GPN are constantly making submissions that argue against inappropriate development, from small "death by a thousand cuts" projects to the vast 7000 ha of the Geelong Strategic Assessment.

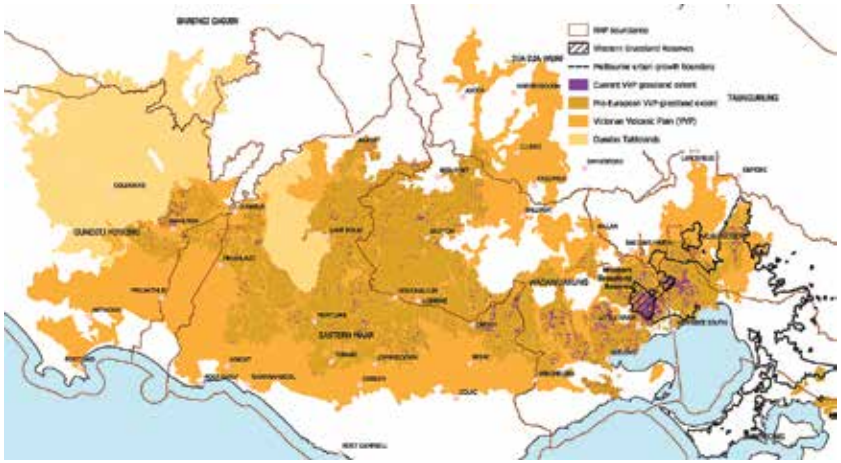
Engagement

Engaging people in activities like online seminars, excursions and events helps build the next generation of people dedicated to conserving our natural wonders. It opens people's eyes to the beauty of our unique, special and resilient grasslands. GPN also have a (roughly) fortnightly online publication that ensures a good public focus on the issues that matter.

So much to do!

There is a failure of oversight by all levels of government and related authorities. Silos, with departments not working together. Poor, or absent management and lack of funding. Ongoing clearing continues with a poor offsetting system rather than avoidance or mitigation.

Ironically some of the most intact grasslands are close to Melbourne and face constant pressure from developers and government – but we are having wins. After years of inaction, we are seeing some good progress by the Government, acquiring the 15,000 ha of the Western Grassland Reserve. GPN is advocating this reserve becomes a new grassland national park.



MAP of remaining grasslands. GPN.

Button Wrinklewort, *Rutidosis leptorrhynchoides* and an example of a stunning indigenous grassland garden. Debbie Reynolds.

Button Wrinklewort above, could have been part of the fields of gold.

So many of these annuals are now critically endangered due to the lack of recruitment with the essential process of soil disturbance and biomass reduction through fire or herbivory gone. There are few opportunities for a seed to be able to flourish in our remaining remnant grasslands. Our gardens could be their saviours! With the high cultivation, soft soils, and open areas with no weed competition, they are the perfect places to establish and support our amazing and unique indigenous species into the future.

Native Bee on a yam daisy, *Microseris walteri.* Chris Clarke.

Thirty six smaller Conservation Areas in Melbourne's growth corridors have been promised for a decade and are supposed to protect the best of the city's biodiversity – but still they are being overlooked.

Why not join the Grassy Plains Network and help in this worthwhile campaign - https://grassyplains.net.au/

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VAGO. (2020). Protecting Critically Endangered Grasslands. Victorian Auditor General's Office: Melbourne.

CES. (2022). Strategic Audit of the Implementation of Melbourne Strategic Assessment Conservation Outcomes 2022 Report. Commissioner for Environmental Sustainability: Melbourne.

Dam conversions

Emmaline Bowman

Emmaline is the director and founder of STEM Landscape Architecture and Design. She has a Bachelor of Design and a Masters in Landscape Architecture. She strives in creating environments that respect Australian flora and fauna in ways that are not only beneficial but beautiful.

Water has always been a point of fascination for me, being the lifeblood of ecosystems, vital for all lifeforms survival and balance. Yet, I believe it remains one of the most neglected resources.

I grew up on a large farm, where my parents farmed beef and dairy along with various crops. We have a creek that runs through the whole property and my father revegetated it using the seeds of the remnant existing eucalypts. As a child I would have explorations to the creek,

overturning rocks, and logs to look at all the critters and bring things home to pet and observe but always returning them back afterwards. I also had a fish tank, and it was through the combination of the natural environment and the fish tank that I discovered the importance of balance within ecosystems and what it takes to build and sustain them. I learnt about caring for water, using plants to filter the water, soils and gravel for beneficial bacteria, fish species to provide nutrients and providing a light source for the growth of the plants and species within. With this combination along with the help of mechanical filtration I could create a small underwater ecosystem, healthy enough to support the life forms I placed within, but if I was to take away something that destroyed the balance, this small environment would crash.

From this knowledge I used similar principles in ponds and then transferred this knowledge to larger bodies of water and then farm dams. These dams would still operate holding water to support livestock and for the farm but rehabilitated in a way to improve water conditions and provide habitat to wildlife. I have been very fortunate to work with people who believe in the same ideologies, that by owning land that we should also ensure parts of the property maintain habitat for local species, and in turn supporting these species will help maintain the health of the land, aid in local conservation and provide clean water to livestock and wildlife.

Moriac before. Emmaline Bowman.

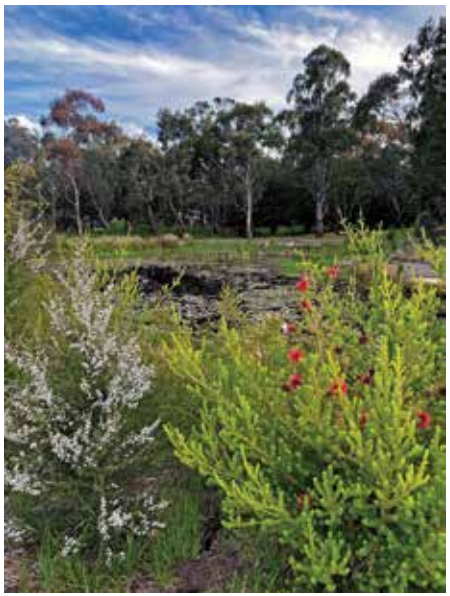
I have come to find my favourite work is when we get to work on farms and especially dams. They are wild, draw so much wildlife, and can be so transformative. Outside of my work, I have had people say, “What is the difference? It’s still a dam and it’s still supporting life”, and they do. The difference is when a dam is clay lined it can only support a limited amount of plant species. This also means that the diversity of insect and animal species are limited to the habitat within this dam. Another major factor is water clarity, most dams will present with murky, muddy water, because of the clay particles, and this greatly affects the lifeforms within. I always say, have you ever seen a clay lined waterbody in the environment?

Moriac after. Emmaline Bowman.

I derive most of my answers from nature. In natural water systems, sediments slowly build up, leaving a silty sandy substrate which is a perfect medium for plants. I reshape the original

Paraparap dam construction. Emmaline Bowman.

Paraparap dam. Emmaline Bowman.



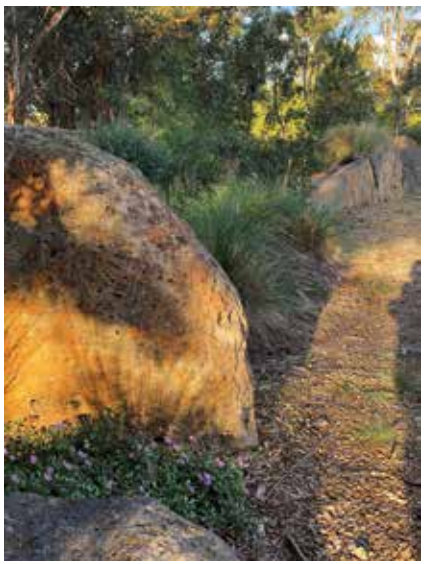
Leptospermum and *Kunzea* planted at Paraparap Dam. Emmaline Bowman.

circular form of the dam to be more organic, creating ledges on the embankments of the dams, with shallow medium and deep sections throughout, so I can add soil to the shallow zones to plant, which in turn buffers the clay bank and stops the clay from dirtying the water. The soil I add is a mixture of existing topsoil mixed in with sand. The heavy planting on the ledges also enables the embankments to stabilise and prevent soil erosion, thus helping to filter water flowing in from the land. The medium and deep-water zones are highly important too, as these areas regulate the water temperatures, maintaining cooler water and increase oxygen content along with the help of the plants. I also select plant species that are local to the area because we want to ensure we create habitat for local species and hopefully encourage more species to move in that may have disappeared due to dwindling habitat.

Kyneton construction. Emmaline Bowman.

We have had many successes, providing habitat for frog species and increased water quality to support a myriad of insects that have very high quality water needs. Endangered Growling Grass Frogs have moved into rehabilitated dams, one property has recorded seven different species of frogs, and elsewhere, introduced Southern Pygmy Perch have bred. Threatened species of plants like *Xerochrysum palustre* have been planted and established well.

These systems are also beautiful and the people that own them incorporate small decks so they can sit down to observe, the wildlife and the calming effect these spaces can offer.



Kyneton plants. Emmaline Bowman.

Growling Grass Frog. Emmaline Bowman.

Insects and Biodiversity – the implications of Dr Luis Mata research

Chris Clarke

Dr Luis Mata is presenting at ANPSA 2024 on the role of insects and biodiversity in our gardens. Luis is an ecologist and entomologist with an interest in complex systems, urban environments, citizen science, and science communication. This article looks at some of his research covering insect and plant relationships in Melbourne's parks and the implications for creating wildlife gardens even in small gardens and spaces.

Luis' work for Melbourne City Council in documenting the insects of our parks and gardens has been fascinating, documenting over 560 species of insects and the particular plant species that host them. A link is here http://biodiversity.melbourne.vic.gov.au/insects/#/

Green Grass Dart, *Ocybadistes walker* in the home garden. Chris Clarke.

A Fiddler Beetle on a *Melaleuca lanceolata*. Chris Clarke.

We tend to be conscious of the daytime flying pollinators but invertebrates play a critical role in many other ways and are the key to biodiversity in any environment or garden. Luis found that over 50% of insects are transferring biomass, releasing the energy from the plants and fungi by becoming a nutritious food source for other animal groups. Insects are converting plants into a high protein meal. (An interesting side note is that even honeyeaters need a high percentage of insects in their diet for protein). Over 40% of all recorded insect species are capable of regulating the populations of potential insect pests. Nearly 25% of the recorded insects are potential pollinators. 20% of all recorded species in his study are capable of recycling nutrients from dead or decomposing organic material back into the soil.

Poa labillardierei, Merri Creek. Chris Clarke.

Enchylaena tomentosa. Maree Goods.

Which plants host the most insects?

The Little Things that Run the City is a great read and takes us to which specific plants host the most insects. Luis shows the critical importance of plants that feed insects at the larvae stage. Our indigenous grasses were the top performers as insect hosts with *Poa labillardierei*, the Large Tussock Grass, the outright winner hosting 103 species, *Rytidosperma* sp. Wallaby Grass (71 species) and *Themeda triandra*, Kangaroo Grass, (62) were in the top four. Two local Saltbushes *Chenopodium parabolicum* (82) and *Enchylaena tomentosum* (35) rated highly. Local shrubs *Goodenia ovata* (45) and *Acacia acinacea* (54) were top ten. The local small trees *Bursaria spinosa* (56), A*cacia mearnsii* (55) were also top ten and the best performing large trees were spotted gum *Corymbia maculata* (57) and Ironbark *Eucalyptus sideroxylon* (43 species) – both trees from further north but widely planted. Lawns had the lowest biodiversity of any environment.

Bursaria spinosa. Chris Clarke.

Dainty Swallowtail *on Acacia mearnsii.* Chris Clarke.

Recommendations and our gardens

Luis goes on to make wide recommendations regarding planting in Melbourne's parks to improve biodiversity including creating more midstorey plantings critical for insects, adding indigenous grasslands to more parks and conserving areas where rare insects are found. The report also recommends specific planting for attracting specific pollinators – for example 15 species of native bees were found and the plants recommended for attracting them are Gold-dust Wattle *Acacia acinacea,* Varnish Wattle *Acacia verniciflua,* Fragrant Saltbush *Chenopodium parabolicum,* Rock Correa *Correa glabra, Correa reflexa, Corymbia maculata* and *Goodenia ovata.*

Acacia acinacea. Chris Clarke.

Goodenia ovata. Rodger Elliot.

In his blog Luis also recommends plants for Blue Banded Bees, everyone's current favourite - flax-lilies (genus *Dianella*), Hop Goodenia (*Goodenia ovata*), Showy Isotome (*Isotoma axillaris*), Small Crowea (*Crowea exalata*), Bulbine Lily (*Bulbine bulbosa*), and bluebells (genus *Wahlenbergia*).

The implications for our own gardens if we want to increase biodiversity and provide gardens for wildlife are planting more indigenous grasses and indigenous shrubs, providing a multi-layered garden with a midstorey where we can, using a large variety of plant species and replacing lawns where we can. The addition of water, logs and rocks also increases habitat for insects and birdlife.

Gardens for insects and biodiversity don't need to be large – a small courtyard garden or containers on a balcony can be wonderful habitat for insects. Ponds can be created in large containers and hanging baskets can incorporate species such as the highly rated insect magnet *Goodenia ovata*. The Australian Plants for Containers Study Group is a good place to start if you want to create diverse gardens in small spaces. https://anpsa.org.au/study_group/australian-plants-for-containers/

Rhodanthe Sunray Snow in a pot. Ben Walcott.

We can all do our bit for insects by using no insecticides and no insect zapping devices. As our cities become larger and insect populations are increasingly threatened our gardens, our parks and even our balconies and courtyards can become important refuges for essential invertebrates.

References

The Little Things that Run the City – Melbourne City Council - Dr Luis Mata and several authors.

Indigenous plants bring culture, beauty, and beneficial insects into our parks and gardens – Dr Luis Mata - Blog.

Native Pantry

Miriam Ford

Julie Weatherhead has been on a mission for many years. With her husband Anthony Hooper they have created a wonderful haven for nature and indigenous food plants on their large property in Tynong North, Victoria. The Farm offers many enjoyable ways of learning more about our own unique cuisine, how to grow and use a veritable cornucopia of plants and use them daily for nourishment. To quote Julie – "we should be proud to develop our own unique cuisine built around

Australian Native Food Garden. Miriam Ford.

these wonderful flavours...they have high levels of mineral, vitamins, antioxidants, antimicrobial effects with resulting health benefits, why not use them every day?"

Julie begins the cookery class with a bit of history, building a rich picture of a deep and abiding passion for nature, history and respect for country. She told us about the property where they have lived for over 30 years now which was purchased from her parents, then the beautifully restored 1920s schoolhouse that was rescued from demolition that is now used for the classes, then onto the plants, their flavours and health-giving benefits.

She said that she (and husband, Anthony Hooper) had experimented with over 70 different species before arriving at the selection that works well on their property. These include Lemon and Anise Myrtle (*Backhousia citriodora, Syzygium anisata*), Mountain Pepper (*Tasmannia lanceolata*), Strawberry Gum (*Eucalyptus olida*), Native Oregano and Thyme (*Prostanthera rotundifolia, P. incisa*), Finger Lime (*Microcitrus australasica*), Warrigal Greens (*Tetragonia tetragonoides*), River Mint (*Mentha australia*) and Native Celery (*Apium annum*) among many others. These were the species we used in our cooking.

First there is a trip around the garden to harvest the produce required for the selection of recipes on the menu for the day which included Warrigal Green Pesto, Native Spinach and Cheese Pastries, Lemon Myrtle Anzacs, Strawberry Gum/Apple/Strawberry Muffins, Native Ice Cream (with Strawberry Gum infused sugar) and others. Then into the kitchen to learn how to prepare said ingredients. There are many easy ways to add nutritious native foods into everyday cooking once you know how and these classes certainly give you that knowledge. Warrigal Greens make a wonderful pesto but you must blanch the leaves first and then squeeze out excess water before using.

Lemon Myrtle Anzacs. Miriam Ford.

Similarly fresh leaves such as Lemon Myrtle need to be finely chopped (although dried material can also be used), Mountain Pepper infused olive oil offers such zing to a salad. We ate what we prepared and were treated to some great sour dough made that day by Julie. Another cooking class to attend in the future.

Strawberry Gum sugar for icecream and muffins. Miriam Ford.

Fortunately, we were also able to purchase plants to grow in our gardens from their native nursery after the conclusion of the class. I highly recommend Julie's book to you *Australian Native Food Harvest*, 2nd edition – a guide for the passionate cook and gardener. Visit their website https://peppermintridgefarm.au/ for more information on the farm and the various offerings which, in addition to the cooking classes, include a Tour and Taste immersive experience, a consultation service for individuals and schools to create a native foods pantry for home and school and the already mentioned plant nursery. Native Pantry Cooking Class at Peppermint Ridge Farm was a day to remember. Joyous and Fun.

Australian Native Plants Society (Australia) and member societies

Australian Native Plants Society (Australia) Inc. (ANPSA)
President: John Aitken
Secretary: Rhonda Daniels secretary@anpsa.org.au
Website: anpsa.org.au

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The Australian Native Plants Society, Canberra Region Inc.
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GPO Box 1570 Canberra ACT 2601
Website: nativeplantscbr.com.au

Society for Growing Australian Plants (Queensland Region) Inc.
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Website: www.npq.org.au

Australian Plants Society, S.A. Region Inc.
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