

# ***NATHALIA BOTANICAL WALK***

## ***A Book of Bush Learning***



***Lyn Loger***

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Lyn Loger ©

Nathalia Printers 2021

Front Cover: Bush Learning Area on the *Nathalia Botanical Walk* - Photo: Lyn Loger

Back Cover: Lyn Loger

Painted Owl sign: Mel Freeman Photo: Di Huber

Many thanks to the Moira Shire for the ongoing support provided in the production of this book.

## Nathalia Wildflower Group



# NATHALIA BOTANICAL WALK

## *A Book of Bush Learning*

### Acknowledgement of Traditional Owners

I acknowledge the traditional custodians of this country throughout the Goulburn and Murray Valleys: the eight clans of the Yorta Yorta Nation: Bangerang, Kailtheban, Kwat Kwat, Moira, Ngurai illiam-wurrung, Ulupna, Wollithiga and Yalaba Yalaba. I acknowledge particularly their continuing connection to this beautiful stretch of land and water by Baala, the Broken Creek, in Nathalia; I pay my respects to them and their cultures and to their Elders, past, present and emerging.

I thank the Yorta Yorta Nation for permission to use nine traditional names in support of the revitalisation of the Yorta Yorta language. These words, listed below, are italicised and written in red throughout the following pages.

*Baala* Broken Creek    *Bana* Possum    *Bayuna* Yellow Box    *Biyala* River Red-gum

*Djarring* Sulphur-crested Cockatoo    *Ganga* Wattle    *Mumiyanga* Bat

*Wigilupka* Kookaburra    *Wowo* Water Rat

Lyn Loger

## **Dedication**

Howie Marshall O.A.M.  
Joan Harding

## **Dedication To the Environment**

*Living here,  
you can come close to  
the ancient singing of the land.*

*The great gums grow,  
as pillars of strength in you,  
stable and strong.*

*You can wander among wildflowers,  
whose delicate beauty  
traces melodies of survival  
over eons of years.*

*A sense of belonging,  
a sense of place,  
is what makes you strong.*

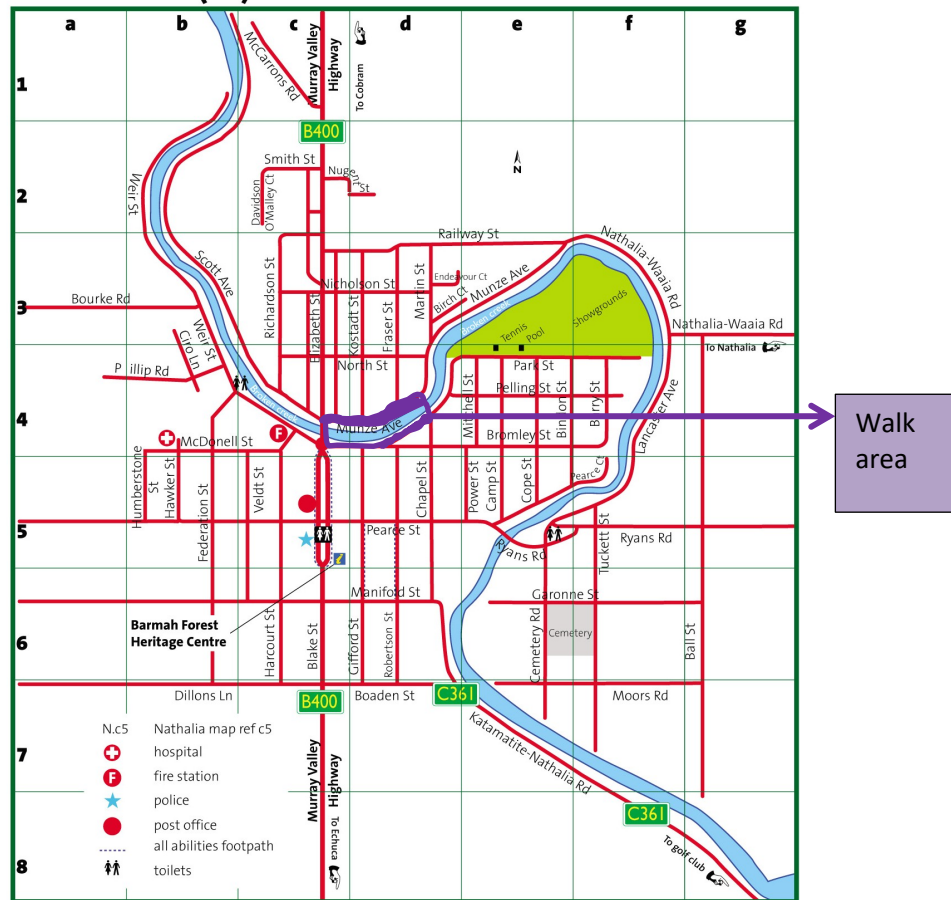
*Lyn Loger 2020*



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## Nathalia (N)



## Aerial view of Nathalia Botanical Walk

**Key: Green Bridges - Left, Nathalia Town Bridge, Right, Squeezy Bridge (pedestrian bridge)**

The walk direction along the levee bank. →

**Car Parking** 

**On-site education area – Bush Learning**

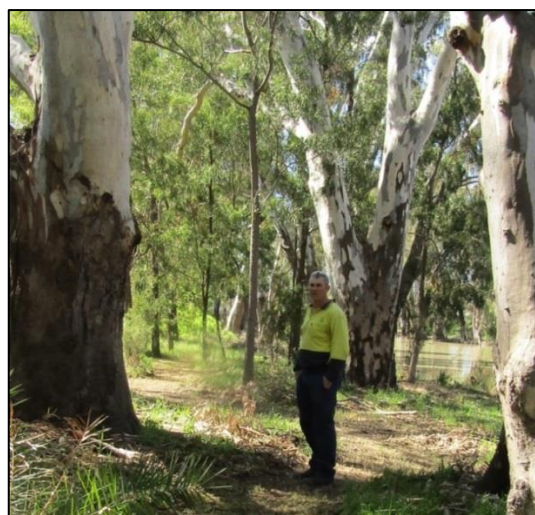


## Nathalia Botanical Walk Bush Learning Area

### On-site Study

On the Muntz Street side of the Nathalia Botanical Walk, there is a wider Bush Learning area beside **Baala**, the Broken Creek. It can be accessed from the levee bank down the CFA earth ramp.

The bush pathways and log seating found here provide an on-site study site for learning about our local environment. The book cover features this area.



*Photo: David Roberts on the bush pathway made out of mulch sourced from the creek clean up.*

The creation of the bush pathways and log seating in this Bush Learning area was the initiative of David Roberts, Moira Shire Team Leader, Parks and Town Maintenance, West Operations. Nathalia is indebted to David and his work crew for making the idea of an outdoor educational study area a practical reality through their hard work.

*Photo right: Laying down the mulch pathways in the Bush Learning area.*



### The Two Log Circles

The log seating for this area was completed just before Easter, 2021. The log circles were cut from two massive branches; both branches had fallen from one of the ancient River Red-gums at this site.



**Eastern log circle**



**Western log circle**



This book is based on the Australian flora identified on the Nathalia Botanical Walk and informed by local research.

The 28 local flora species, from the Nathalia Botanical Walk pamphlet, are listed below.

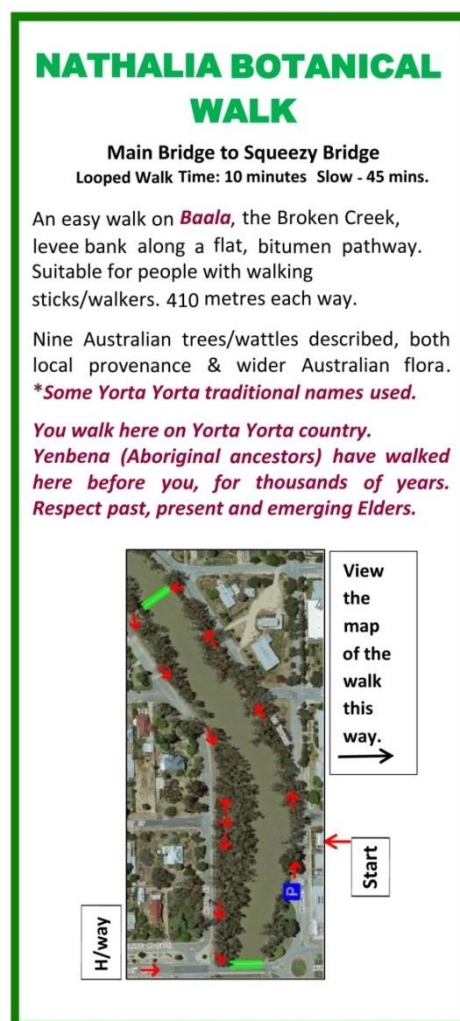
*Yorta Yorta traditional names are italicised and printed in red*

#### Bromley/Church Streets' side

River red-gum *Eucalyptus camaldulensis* *Biyala*  
Cotton Fireweed *Senecio quadridentatus*  
Jersey Cudweed *Laphangium luteoalbum*  
Nodding Saltbush *Einadia nutans*  
Wallaby-grass *Rytidosperma* sp.  
Fuzzy New-holland Daisy *Vittadinia cuneata* var. *cuneata*  
Poong'ort *Carex tereticaulis*  
Gold-dust Wattle *Acacia acinacea*  
Willow Wattle *Acacia salicina*  
Juncus *Juncus amabilis*  
Plains Sedge *Carex bichenoviana*  
Hakea Wattle *Acacia hakeoides*  
Golden Wattle *Acacia pycnantha*  
Knob Sedge *Carex inversa*  
Rough Raspwort *Haloragis aspera*  
Kangaroo Apple *Solanum aviculare*

#### Muntz Ave side - only species not already listed above have been added.

Grey Box *Eucalyptus microcarpa*  
Yellow Box *Eucalyptus melliodora* *Bayuna*  
Lightwood Wattle *Acacia implexa*  
Mallee Wattle *Acacia montana*  
Pittosporum *Pittosporum angustifolium*  
Slender Knotweed *Persicaria decipiens*  
Willow Herb *Epilobium* sp.  
Clovestrip *Ludwigia peploides*  
Tangled Lignum *Duma florulenta*  
Common Cotula *Cotula australis*  
Wedge-leaf Hop-bush *Dodonaea viscosa*

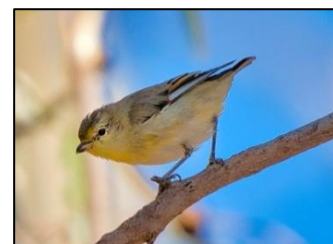


A superb, full colour presentation, inclusive of many macro photos, developed by local photographer, Judy Ormond, can be viewed at the Barmah Forest Heritage & Education Centre. You can also find there a range of: local flora art, cards and district field guides.

**Remember**  
**Victoria's Wildflowers are protected**

Australian **djunda** birds recorded along **Baala**, the Broken Creek.

Australian Raven  
Black Duck    Wood Duck  
Blue-faced Honeyeater  
Southern Boobook Owl  
Brown Goshawk  
Brown-headed Honeyeater  
Crested Pigeon  
Darter  
Dollar Bird  
Dusky Moor Hen    Eastern Swamp Hen  
Eastern Striated Pardalote  
Galah  
Grey Teal  
Grey Thrush  
Kookaburra **Wigilupka**  
Little Black Cormorant    Little Pied Cormorant  
Little Friar Bird    Noisy Friar Bird  
Long-billed Corella  
Magpie  
Mudlark  
Noisy Miner  
Olive-backed Oriole  
Pelican  
Pied Currawong  
Plover  
Red Wattle Bird  
Red-rumped Parrot  
Sacred Kingfisher    Azure Kingfisher  
Sulphur-crested Cockatoo **Djarring**  
Superb Blue Wren  
Tree Martin  
Welcome Swallow  
White-browed Wood Swallow  
White-faced Heron  
White-plumed Honeyeater  
Willie Wagtail  
Yellow Rosella



*Photos Judy Ormond 1;2; Peter Poon 3;4;5;6*



## Introduction

**Website access for the book and visual display: [www.nbbt.org.au](http://www.nbbt.org.au)  
Enter through the NADDCO page**

This *Book of Bush Learning* has been created to align with the *Nathalia Botanical Walk* pamphlet. It has a focus on the on-site study area of the walk, but the local environmental information encompasses the wider levee bank walks around *Baala*, the Broken Creek, in Nathalia. The whole has been presented as an educational resource, to promote an awareness and love of our local environment in Nathalia.

This bush learning has been voluntarily contributed to by enthusiasts in their various fields: Nathalia Wildflower Group members, local artists, both indigenous and non-indigenous, and photographers, supported by Moira Shire environmental officers, along with a wide range of flora and fauna specialists. The use of Yorta Yorta traditional names has been endorsed by the Yorta Yorta Nation.

The material has been provided free of charge for educational purposes. Due acknowledgement is required, where relevant, for information sourced, or photography/artwork/poetry used.

Nathalia Wildflower Group was awarded the 2020 Nathalia Australia Day Award for Art, Culture and/or Environment Project of the Year for its initiative and work in developing the initial *Nathalia Botanical Walk* pamphlet and visual presentation. This book provides an extension to that work.

To develop that initial project, Nathalia Wildflower Group partnered with: NADDCO, Western Moira Tourism (now Nathalia Barmah Business and Tourism) and Moira Shire and received Yorta Yorta Nation support and guidance on the use of Yorta Yorta traditional names. Funding for the initial cleaning up of the old flood debris, along both creek frontages, was provided by Nathalia Bendigo Bank. Media coverage for the pamphlet and articles was provided by Nathalia Printers.

***Photo below: The core Working Group for the pamphlet, representing the partnership of Nathalia Wildflower Group and NADDCO (Nathalia and District Development Corporation).***



***L-R: Judy Ormond, Lyn Loger, Joan Harding, Marie O'Brien Photo: Numurkah Leader***

## JANUARY

**Lightwood Wattle**  
***Acacia implexa***  
Wattle **Ganga**

The Lightwood Wattle is the first to flower for the year. In 2020, in Nathalia, it flowered for the first time half way through January. It can flower twice over the summer months, depending on favourable weather conditions.

Lightwood Wattle can be long-lived, with specimens living up to 80 years, if the conditions are right. It grows to a tree, rather than the usual shrub form for the majority of the wattles. In the Bush Learning area, there is a small grove of Lightwood Wattles, their mature size reduced, because they are growing so close together.

This small grove has occurred, because the original tree has suckered, with small Lightwood Wattles growing nearby. Some of these small trees encircle the eastern log seating area.

Usually, this wattle grows tall and straight, with narrow trunks, as they are in this grove (see the photo, below left). However, some trees can sprawl out with wide trunks and branches low down and easily accessible. See the photo, bottom right, of the Lightwood Wattle, over 20 years old, in my backyard. It shows you that exceptions to the rule can be found.

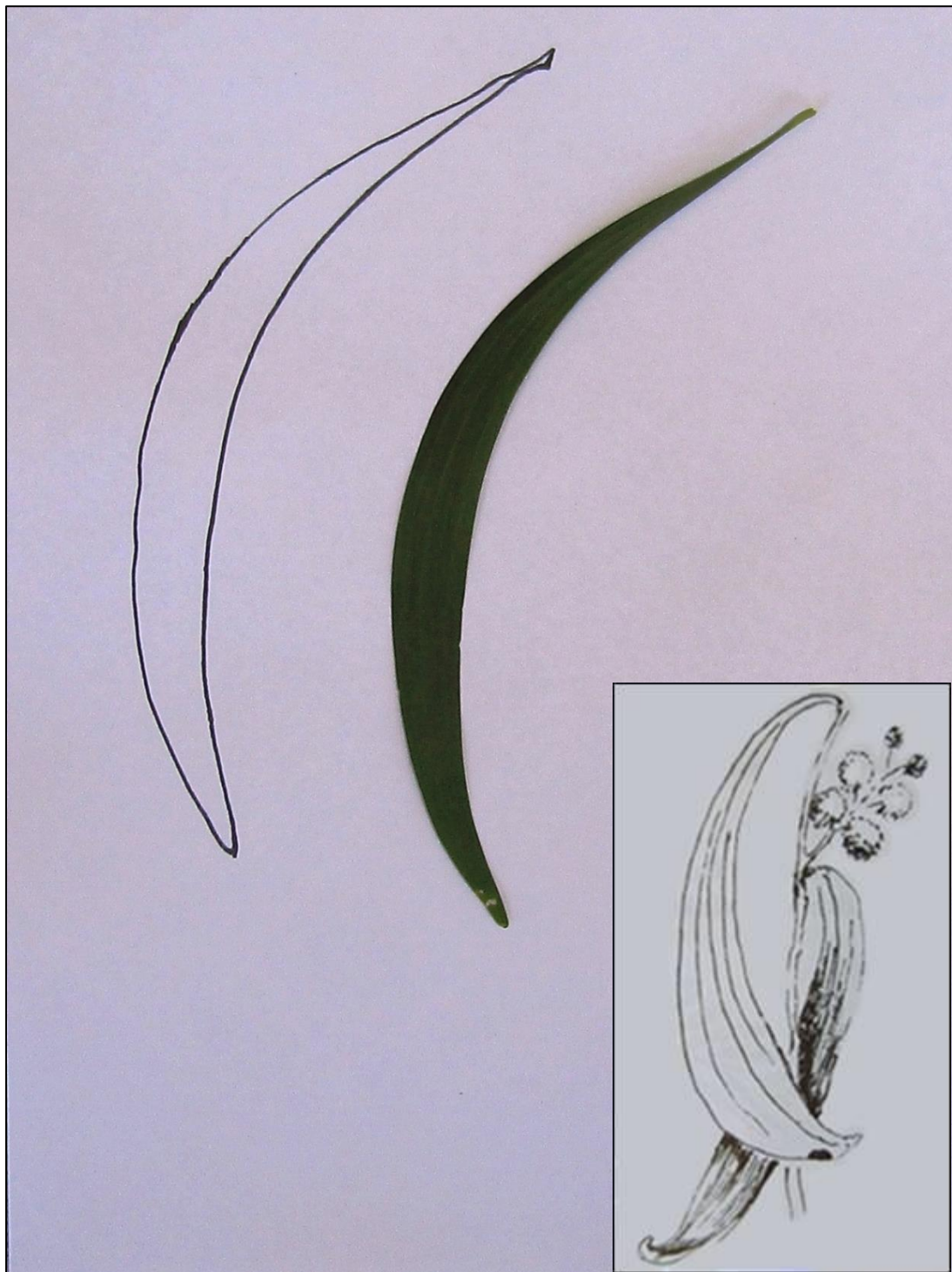


**Photos: Lyn Loger**



**Above left photo: part of the small grove at the eastern boundary of the Bush Learning area of the Nathalia Botanical Walk. Log seating has now been provided in this area.**





**ACTIVITY:** Colour in the distinctive curved shape of the leaf to feel, as well as see, its shape.

The shape of the leaves is very distinctive – it's a good indicator for recognition of the species.

On the lower right is a sketch of a leaf from a Lightwood Wattle by artist, Joan Harding. Joan has picked up the long veining on the leaf. Look at an actual leaf to see if you can spot the veining too. Joan's leaf is slightly differently shaped to the example on the left; this shows you that leaves can fit into the same recognisable pattern, but can also be as individual as we are.

Each wattle, as each plant, is an environmental world in itself; birds, insects, moths and butterflies may rely on its presence. Direct evidence is provided with the use of local photos and research.

**Lightwood Wattle creatures featured:**

1. **Granny's Cloak Moth caterpillar and moth** - Lightwood leaves
2. **Cicada** - Earth and root system
3. **Blue Butterfly and caterpillar** - Blossom and leaf litter beneath the tree

**1. Granny's Cloak Moth**



**Photos: Danielle Loger – January 2020**

You can tell if Granny's Cloak Moth caterpillars are eating the leaves, because they only eat the ends off the leaf. See above centre photo of a caterpillar munching; the left photo shows the full leaf end and the right photo shows the eaten-off leaf end. Can you spot any Granny Moth caterpillar activity on the Lightwood Wattle leaves?

**Granny's Cloak Moth *Speiredonia spectans***

See the fine, thread-like 2 antennae on the moth's head. This shows you that the moth is a female – the male moth has a much wider, fringed antennae – he uses his antennae as a locating device to sense the pheromones, the perfume, emitted by the female for mating.

See what looks like big blue/black eyes on each wing? This is defensive patterning, to make predators think that there are real eyes watching them.

Moth size: A large moth, wingspan about 7-7.5cm.





## 2. Cicada Red Eye Cicada *Psaltoda moerens*

The classic book reference on cicadas is Max S. Moulds, *Australian Cicadas*, 1990, UNSW Press. However, the most up-to-date information is now found on this website: *The Cicadas of Australia*, L.W. Popple <https://dr-pop.net/cicada-list>.



*Photos: Danielle Loger*

At the beginning of 2020, Red Eye Cicadas didn't start emerging until half way through January. In other years they have emerged before Christmas. Towards the end of 2020, they began emerging in November. Listen to them on L. W. Popple's website: <https://soundcloud.com/dr-pop-3/sets/the-cicadas-of-victoria-1>

The varying emergent times show you that the months for plants flowering and for different creatures appearing can shift around a little, depending on what sort of season is being experienced for that year.

*The cicada can be very common in one year and then almost completely absent in another year.*

Ref: The Australian Museum

**\*The cicadas were still calling at the end of April, 2021, as this book was being finished.**





### 3 Butterfly – Double-spotted Line-blue *Nacaduba biocellata*



These are tiny blue butterflies. See the ruler above left, which shows you that the length of the butterfly, the body and wings, fit into a one centimetre length. Note the double spots on the wing, which gives it its Common Name. Each blossom is also only around one centimetre in diameter.

#### ***Close up of one blossom***

In the photos below, a Double-spotted Line-blue caterpillar is on the blossom. Can you pick the caterpillar out?

Caterpillars from this butterfly species were bred out by Lyn and Danielle Loger in 2012.

***Butterfly and caterpillar photos: 16/1/12 Danielle Loger***



**INTERESTING WORDS:** antennae; pheromones; predator

## JANUARY Bird Life

Magpie *Gymnorhina tibicen*

Young magpies are still being fed by their parents, although most can now feed themselves quite well. **Photo: Lyn Loger**

Note how the baby magpie, on the right in the photo, is much greyer than the male parent. Both these magpies are male, they have white neck saddles; the female, in contrast, has grey hatching on the white neck saddle.



**Did You Know?** Magpies, ravens and parrots are considered to be the smartest of all the world's birds.

Both magpies and ravens have learnt how to kill the introduced and poisonous Cane Toad in Queensland. They turn the Cane Toad over and only peck out the non-toxic organs.

Noisy creches of creaking baby Galahs and Long-billed Corellas can be heard and seen in the trees lining the Broken Creek. Sulphur-crested Cockatoos add to the noise factor.

**Galah Photo: Peter Poon**

The Galah *Eolophus roseicapilla*, is a member of the Cockatoo family.

The photo on the right shows two young Long-billed Corellas *Cacatua tenuirostris* in a flowering River Red-gum in the Bush Learning area on the Nathalia Botanical Walk. The bird's crest is up, because of a disturbance underneath the tree.

**Photo: Lyn Loger**

**Did You Know?** Corellas are also part of the Cockatoo bird family.

The Long-billed Corella is considered to be the best talker. It can mimic not only single words, but whole sentences.

**Inset Photo: Di Huber**



**\*All of our local flora and fauna are protected.**



Here is a much younger Long-billed Corella. Note the pale colouring. This young Long-billed Corella was with others in the River Red-gum right next to the Squeezy Bridge on the eastern side.

**Photo: Lyn Loger 6/012021**

After the birds fledge (grow their feathers) they can leave the nest, but they are not yet ready to feed themselves; they will stay in a creche tree with other young corellas until they are old enough to fly off with the parents to find their own food. This Long-billed Corella looked like it was the youngest of the group.

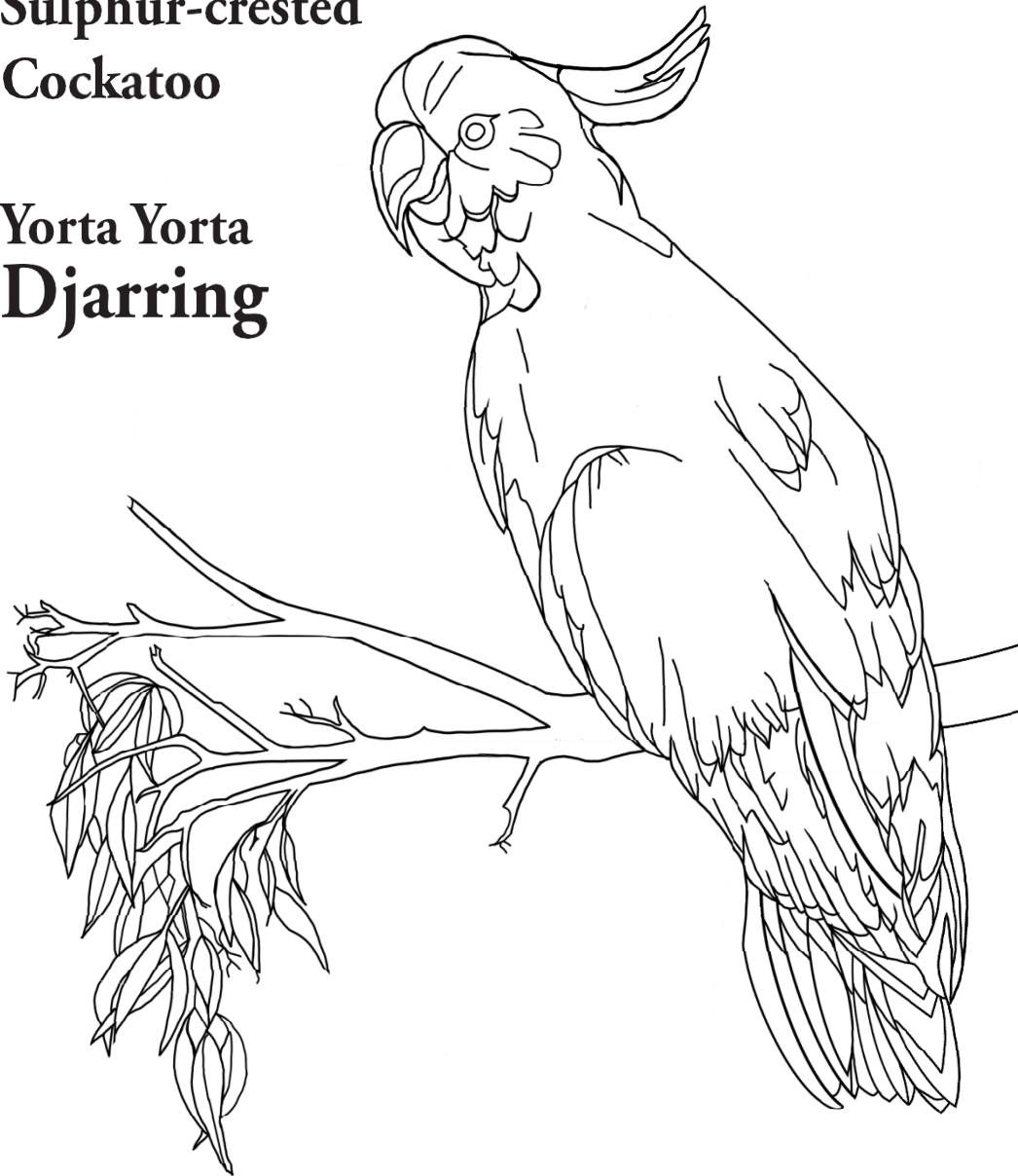


***Sulphur-crested Cockatoos *Cacatua galerita* Photo: Peter Poon***  
***Yorta Yorta Djarring***

**INTERESTING WORDS:** fledge; crèche; fauna; crest

# Sulphur-crested Cockatoo

## Yorta Yorta Djarring



I am covered in white feathers with a yellow crest, grey feet and a \_\_\_\_\_ bill.

I am highly intelligent and can live up to 40 \_\_\_\_\_ in the wild.

I am very \_\_\_\_\_ and have a creaky sounding screech.

Match these words to the sentences: black years loud

Original Artwork by Ann Christy

Ref: *Loving Moira's Natives Colouring Book*, G.R.A.I.N. Store, Moira Shire, Yorta Yorta Nation, 2020



## JANUARY

### Willow Wattle *Acacia salicina* Wattle **Ganga**

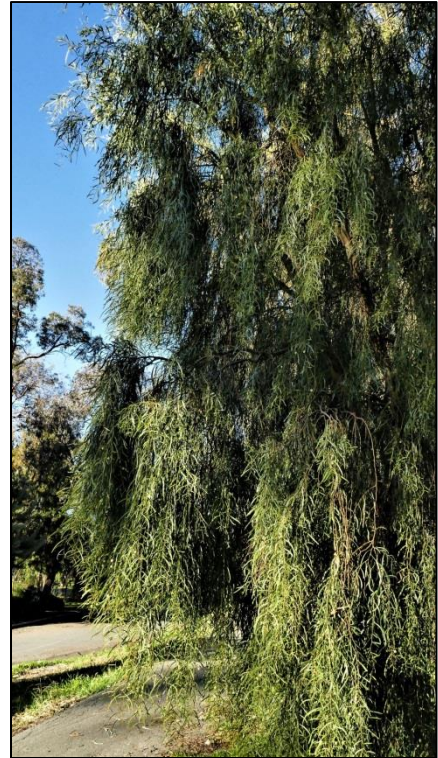
The Willow Wattles *Acacia salicina* along the creek banks now have mature seedpods. The seeds are striking to look at, shiny black, about the size of a flattened pea and held in the seedpod by a bright red funicle (stalk). Look for the seeds/seedpods on the ground and look in the branches of the wattles to see which of our local birds are feasting on them.

#### Did You Know?

*The bark was traditionally used by Aboriginal peoples for tanning skins, medicine and fish poison, while seeds were eaten.*

Ref: [http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/sip\\_willow\\_wattle](http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/sip_willow_wattle)

Photo: Philippa Schapper



#### INTERESTING WORD: funicle

*Right: Yellow Rosella, photographed in the evening, eating seeds. Photo: Lyn Loger*

*Centre: A seed positioned in its stalk. See the bright red funicle (stalk).*

*Photo below: Seeds that fall to the ground can be carried off by the bigger ants.*

Photos: Danielle Loger







***Above: Yellow Rosella artwork by Mel Freeman Below: Photo by Peter Poon***



## FEBRUARY



**Crunch, crunch, crunch!** When you're walking beside or under our River Red-gums over summer, you tread on the bark that they shed. Most of the trees have finished their shedding and reveal the beautiful patterning of the new bark layer.

***Photo right: bark strips nearly ready to fall off.***

Across Australia, there are more than seven hundred species of eucalyptus trees – however, they can be mostly placed into two types: smooth or rough bark trees. Our River Red-gum *Eucalyptus camaldulensis* is a smooth bark and our two Box trees, the Grey Box *Eucalyptus microcarpa* and Yellow Box *Eucalyptus melliodora*, are the rough bark variety.

Smooth bark eucalypts shed their bark during summer, the main growing season for eucalypts. They add another layer of bark at this time, with the outer bark dying off. It is this outer layer which sheds. The specialised word used for this shedding is: decortication.



The shedding bark can also rid the tree of hitchhikers like: fungi, mosses, lichens and unwanted insect life. The shed bark also acts as a protective mulch round the base and provides a slow nutrient release, combined with an insect deterrent.

The rough bark eucalyptus species, on the other hand, retain the dead layer of bark to create an even more fibrous outer layer. Check out our Grey Box and the more shaggy-barked Yellow Box as you walk around the creek.

### Did You Know?

*Gum trees get their name from the dark gum that oozes from wounds on the trunk. Trees are often damaged by storms, fires, floods or animals. They make the gum to seal the wounds before borers can get inside. It is one of their main ways of protecting themselves from insect attack.*

Ref: [https://nt.gov.au/\\_\\_data/assets/pdf\\_file/0009/200025/river-redgums.pdf](https://nt.gov.au/__data/assets/pdf_file/0009/200025/river-redgums.pdf)

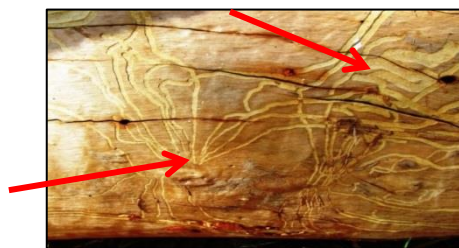
Here's a leaf covered with lerps – hard, white sugary covers for small psyllid insects. The psyllid sucks sugar from the leaf. You might see leaves like this one on your walk.





## Eucalyptus Longhorned Borer 'Witchetty Grub'

The new log seating in this area was made from two massive River Red-gum branches that fell in 2020. The tree that they came from is over 200 years old, so there has been a lot of time for borer activity to take place. With the bark freshly removed, you can see the markings underneath of the larval galleries made as the sapwood was consumed.



**Photo top right:** The central point is where eggs have been deposited and the larvae radiate out from that point under the bark. The wider markings are from late stage larvae. Note the emergence holes. Ref: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7240383/>

**Photo right:** The cut end of the log shows you the rich red colour of the inside of the log; you can see why this tree is named River Red-gum.

**Photos: Lyn Loger**



Witchetty grubs, the larval stage of the Eucalyptus Longhorned Borer, were/are an important component of traditional Aboriginal communities' diet. Yorta Yorta Elder, Hilton Walsh (1923-1997) stated, in his life story:

*I also enjoyed catching witchetty grubs, but more so eating them. They are one of the delicacies that I really do like. A witchetty grub even looks beautiful, like a cake you might present. Sometimes the witchetty grub could have purple stripes, pink stripes, or yellow stripes around it. This is because it is working on the sap wood before it grows to its full life span.*

Ref: *DOUBLE ID LIFE STORY OF HILTON WALSH IN HIS OWN WORDS*, p.102, 2001, Prominent Press, Shepparton

**Photo right: Yorta Yorta Elder Hilton Walsh**

**Photo: Rosalie Simkin**



**Photo bottom right: One of the Australian Eucalyptus Longhorned Borers *Phoracantha semipunctata* Size: 15-23mm**

\*A pinned specimen of this Longhorned Borer was part of the local district insect collection of Howie Marshall.

**Photo below: Witchetty Grub larval stage**



\*As part of the beetle family, this borer does not bite, nor sting.





## FEBRUARY

Peter Poon, avid bird photographer, has been taking superb photos of our local birds. See the photos he has taken of the Sacred Kingfisher, *Todiramphus sanctus* (photo right) and the Azure Kingfisher *Ceyx asureus* (photo below). Both birds can be seen along the Broken Creek.



Interestingly, BirdLife Australia states that: *Although it is a species of kingfisher, Sacred Kingfishers seldom eat fish. Instead, they usually hunt terrestrial prey, mostly taking insects, but they will also eat a wide variety of other small animals, both vertebrate and invertebrate. Their nest is normally a burrow in a termite mound, river bank or hollow branch.*

<https://birdlife.org.au/bird-profile/sacred-kingfisher>

**Did You Know?** There are about 120 species of kingfishers in the world. In Australia, we have 10 native species, with the Kookaburra being the largest.

**According to Greek mythology,** Alkyone, the daughter of the god of the winds, became so distraught when she learned that her husband had been killed in a shipwreck that she threw herself into the sea and was changed into a kingfisher. As a result, ancient Greeks called such birds alkyon or halkyon. The legend also says that such birds built floating nests on the sea, where they so charmed the wind god that he created a period of unusual calm that lasted until the birds' eggs hatched. This legend prompted people to use halcyon both as a noun naming a genus of kingfisher and as an adjective meaning either "of or relating to the kingfisher or its nesting period" or calm. This story is taken from the Merriam-webster dictionary: <https://www.merriam-webster.com/dictionary/halcyon>

**There's also a biblical story about Noah's Ark,** which states that, when it was considered safe for the creatures to be finally released from Noah's Ark, back onto the earth, it was the kingfisher which was released first; as it flew away, it took on the orange colours of the morning sun on its breast feathers and the blue of the sky on its wings.

Kingfishers, based on these legends, came to be associated with peace, calm and good fortune.

**Do words, conversations and stories linger on here too as we walk around the town?**

### WORDS

Words circle in trees  
Fluttered wing beats of sound  
As spent feathers they fall  
Join leaf litter on the ground

Lyn Loger

This earth is enmeshed by  
60,000 years of sound  
Mother Nature cradling the culture  
Voices still a murmur underground



*Sometimes flying above, sometimes on the creek, Pelicans can be sighted. Photo: Judy Ormond*  
**Australian Pelican *Pelecanus conspicillatus***

**Pelican sculptures by the Broken Creek**



*Pelican sculptures created by artist, Bill Kelly, with Art Teacher, Sue Heberle, and students from*  
**Nathalia Secondary College**  
*Photo: Danielle Loger*



## MARCH

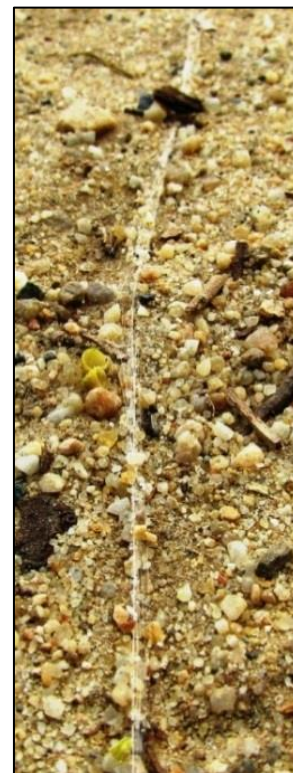


***Photo: March 3<sup>rd</sup> 2020 Danielle Loger***

Along your walk, on the ground ahead, you might see what looks like a thin snake slowly weaving its way across your path. It is actually a colony of Processionary Caterpillars on their search to find a good place in the leaf litter to pupate. They walk nose to tail and leave behind a fine filament trail in the dirt

***Photo right: The silken threads laid down as a filament trail.***

The snake-like appearance is a defence mechanism, to protect them from predators and make them seem much larger than what they really are.



***Photo above: A lead caterpillar with the next caterpillar in line, head to tail.***

If you look about from where they have come, you will probably find a local Golden Wattle *Acacia pycnantha* which has almost all of its leaves stripped bare. At the base of the little tree might be the nest they have now left behind. It looks like a messy, dense spider web. Here they lived during the day, protected by the web, coming out at night to climb the tree and feed on the leaves. (They feed on both the local Lightwood and Golden Wattles.)

***Photo right: Nest site at base of tree***

***Photo: Di Huber***





Don't pick them up; their long fine hairs can irritate your skin or eyes. (This allergic reaction is called urticaria.) Keep your dog away; you don't want your dog sniffing up the hairs. The fine hairs, if ingested by pregnant mares, are reputed to endanger foetal health.

**Photo right: A Golden Wattle with its leaves stripped bare.**  
**Photo: Judy Ormond**



The caterpillars pupate in leaf litter well away from the host tree. The caterpillars make use of surrounding leaf litter material to create individual casings in which to pupate. A silken cocoon lining is spun inside to protect its life stage as a chrysalis.



**Photo left: The outside casing created by one of the caterpillars. The size of the casing is indicated by the index finger beside it.**  
**Photo: Lyn Loger**



**Photo right: Inside cocoon lining and pupa exposed.**

**Photo courtesy of Macleay Museum, University of Sydney**  
<http://lepidoptera.butterflyhouse.com.au/noto/lunifer.html>

**Photo right: Male moth, newly emerged, drying its wings.**  
**Photo: Danielle Loger 21/11/2021**  
**Note the brightly striped body and the feathery antenna.**



The feathery-looking antenna shows you that this moth is a male. Antennae act like a nose, to pick up the pheromones (perfumes) released by the female; using its antennae, it will locate the female for mating.

Moths emerge during spring. The female moths have no mouthparts and so die within a few days, after having laid several hundred eggs on a suitable food tree. They protect their eggs by covering them with scales from their tail. Moth hairs can also cause skin and eye irritation.

Processionary moths *Ochrogaster lunifer* are found across mainland Australia.

**Photo right: Male adult moth.**  
**Wingspan up to 4 cm.**  
**Photo: Danielle Loger 21/11/2021**



## MARCH

What natural controls maintain the balance of nature? Two examples are shown below.

### Birds

Only two birds from here can cope with eating these caterpillars, the Pied Butcherbird and the Black-faced Cuckoo-shrike. Perhaps you have heard the Pied Butcherbird calling out with its beautiful liquid notes? It knows there are these caterpillars around to feed on.



*Pied Butcherbird Cracticus nigrogularis    Black-faced Cuckoo-shrike Coracina novaehollandiae*

*Photos: Judy Ormond*

### The Tachinid Fly

The female Tachinid Fly, in March/April, finds a hole in the silken nest and enters. It lays an egg on the caterpillar's head. During pupation, the caterpillar becomes the living food for the Tachinid Fly larva; the larva turns into a Tachinid Fly, while the Processionary Caterpillar dies. There are over 500 species of Tachinid Flies in Australia and they are all parasitic on other insects, mainly moths and butterflies.

*Tachinid Fly on a Lightwood Wattle tree trunk, observing the Processionary Caterpillars' silken nest below. This fly, shown here in a macro photo, was as big as a Blow Fly*

*Photo: Danielle Loger*



**Interesting words:** larva (plural larvae); pupation; antenna (plural antennae)



## MARCH

There are so many insects, moths and butterflies living out their lives around us, that they can easily escape our notice.

Perhaps you will be the citizen scientist to discover something new? Much of the knowledge about Australia's microfauna has been added to by enthusiastic amateurs. For example, there are over 10,000 species of moths identified in Australia, but there are more yet to be discovered.



**Photo: Danielle Loger**

We certainly need to learn much more about what local flora host plants are used by our Australian moths. A whole micro world of exploration exists right here, waiting for caring people with keen eyes, patience and curiosity. Perhaps it will be your contribution that will add to the knowledge of how best to take care of our precious environment? Read about a new discovery below.

**ACTIVITY:** <https://museums victoria.com.au/article/who-are-the-moth-hunters/>



**Wingspan about 2.5 cm. Photos: Lyn Loger**

**Danielle Loger and I collected the caterpillar from a Willow Wattle, *Acacia salicina*, in our backyard; the moth emerged on March 20th 2020. Moth identification: Peter Marriott**

The beautiful moth above has been identified. It is the Small Strigulated Emerald *Prasinocyma ocyptera*. It is hard to see it in its caterpillar stage; its camouflage is so excellent (Photo: top right). See how perfectly the colour of its green body matches the colour of the leaves of the local Willow Wattle. You need very keen eyes to pick it out; more likely, you might find one suspended from a branch on a fine silk thread, swinging in the breeze. Perhaps it is trying to escape from a predator; perhaps, if fully grown, it wants to lower itself to pupate in the leaf litter below.

Two resources to build your knowledge:

***Moths of Victoria*** is an excellent, comprehensive resource initiated, authored and developed by Peter Marriott and published by the Entomological Society of Victoria. A series of nine small and inexpensive volumes, full of photographs and descriptions, have been produced so far.

**Website:** Don Herbison-Evans and Stella Crossley maintain a web site for you to explore all our Australian Butterflies and Moths: <http://lepidoptera.butterflyhouse.com.au/>



## APRIL

Notice the beautiful local Willow Wattle *Acacia salicina* in full flower as you walk about. You can't miss its graceful sweeping branches, full of yellow blossom. It flowers in autumn/early winter, following on from the Lightwood Wattle *Acacia implexa*, which flowered during the summer months.

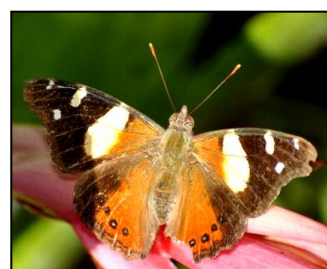
**Photo: Lyn Loger**  
**Wattle *Ganga***



An Australian Admiral *Vanessa itea* was photographed hanging from one of the Willow Wattle blossoms in the Bush Learning area in April 2021.

**Photo far right: The wings outspread.**  
**Photo centre: Note the underwing patterning.**

**Photos: Judy Ormond**



Like everywhere in Australia, we have local wattles that flower across the seasons of the year. Both these wattles are tree forms (Willow Wattle shrub and tree form) and live longer than the smaller shrub wattles. The Lightwood Wattle can live up to 80 years and the Willow Wattle up to 50 years

### **LOCAL WATTLES** *Yorta Yorta* for Wattle is *Ganga*

Fourteen local wattle species have been recorded in the Barmah National Park & Nathalia district. However, there are hundreds of native Australian wattles species to be found across the country. Wattles mainly flower in the spring, but a selection of Australian native wattles flower in the other seasons of the year.

For example, in our district, the Lightwood Wattle *Acacia implexa* flowers in summer, the Willow Wattle *Acacia salicina* flowers in autumn/early winter, the Silver Wattle *Acacia dealbata* can flower in late winter/spring, while most of the rest of our wattles flower during the spring months.

#### **Six of the 14 local wattles grow along the Nathalia Botanical Walk:**

**Gold-dust Wattle** *Acacia acinacea*

**Golden Wattle** *Acacia pycnantha*

**Hakea Wattle** *Acacia hakeoides*

**Lightwood Wattle** *Acacia implexa*

**Mallee Wattle** *Acacia montana*

**Willow Wattle** *Acacia salicina*

Five of the above wattles can be found in the Bush Learning area; Golden Wattle can be found on the other side of the creek on the Nathalia Botanical Walk and on the surrounding walks along the levee banks in Nathalia.



*Photo left:  
Acacia salicina*



*Photo right:  
Acacia implexa.*



*Acacia montana*

**The Six Local Wattles**  
***Yorta Yorta* for Wattle is *Ganga***

*Photos: Lyn Loger/ Judy Ormond*



*Acacia acinacea*



*Left:  
Acacia  
pycnantha*



*Right:  
Acacia  
hakeoides*



## APRIL

On your walks around Nathalia, you might see examples of our two large Ghost Moths: *Abantiades marcidus* and *Trictena atripalpis*. They are also called Rain Moths, because they emerge during the night after a good autumn rain. (There are approximately 120 Ghost Moth species in Australia.)

The larval form of these two Ghost Moths is the Bardi Grub, while the larval form of the Longhorn Borer is the Witchetty Grub (see page 22). The Witchetty Grub lives within the trunk of the tree, while the Bardi Grub lives out its larval stage underneath the earth, feeding on the root system.

**Right photo**  
***Abantiades marcidus***

This moth was photographed beside the Broken Creek in Nathalia - it was 8½ cm long!



**Photo right Judy Ormond**  
***Trictena atripalpis***



**Photo left:**  
**Pupal Casing**



**Bardi Grub photo right:**  
**Judy Ormond**



The large, handsome moths only live for a very short time after emergence; the female lays thousands of creamy yellow eggs and then, soon after, dies. The moths are, according to renowned amateur botanist, Howie Marshall, *A great source of food for owls and frogmouths*; those that last until daytime are soon taken by other birds, such as magpies and ravens.



**Photo: Judy Ormond**

***Howie Marshall and Peter Marriott discuss Bardi Grubs. Peter, author of 'Moths of Victoria' and then President of the Entomological Society of Victoria, visited Nathalia in 2011 for the Bardi Gras.***

The original Bardi Gras event was first held at Nathalia Secondary College in 1990 and initiated by Kaye Whiston and Kathy McDonald; it took its name from the local Bardi Grub. Below is the Bardi Grub Chant enacted by students during that special event held in the Nathalia Community Centre.

### **The Bardi Grub Chant**

Deep in the earth,  
Dark and secure,  
Deep in the earth  
We lie.

Where the roots of the gums,  
Hold the red gums secure,  
On them for food  
We rely.

We tunnel our way,  
Without light,  
Without day,  
We tunnel our way  
To your world.

Though your footsteps may tread,  
Overhead, overhead,  
Deep in the earth  
We stay curled.

The cattle may graze,  
For days, for days,  
But our secret ways  
Are our own.

The Murray may flood,  
Earth changing to mud,  
Still we make our way  
Upward alone.

When the autumn rain falls,  
Over all,  
Over all,  
We break out of our tunnels  
To light,

We fly after rain,  
A soft moth again,  
We feather the forest  
With flight.

*Lyn Loger*

***Pencil Drawing by  
Anne Timm***



The book cover below features the re-enactment of the Bardi Gras, this time as a component of the 2011 NADDCO Easter Market held in the main street of Nathalia. A whole range of participants and community members were featured on the stunning cover designed by graphic designer, Dennis Murphy. Judy Ormond was our event photographer. The 10 Years' milestone was reached in 2021.



**Bottom right of the photo:** Ashley Gamble was the Ghost Moth and Martha Craig the Bardi Grub.

**ACTIVITY:** Draw, then mark in, the beautiful grey and white patterning of the Ghost Moth's wings. or make a mask and pattern it with the beautiful markings.

Why are the wings marked in such a way? What purpose do they serve? Which tree has a tree trunk that has markings similar in colour and design to that of the Ghost Moth?

All around you, life cycles are beginning and ending.

**Photo below left:** What seemed to be a fat-bodied spider is really a female Wolf Spider carrying her young on her back.

**Photo below right:** The little spiders disperse.



**Photos:** Heather Henderson





## MAY

Autumn will be over very soon, but we perhaps have until early winter to enjoy sighting our local fungi. The rain we have received has provided a good display, both on the ground and extruding from the trunk of trees beside the Broken Creek.

***The photo on the right is an example of a White Punk Fungus *Laetiporus portentosus*; it was on the trunk of a River Red-gum and one of a group on the same tree.***

In 1984, Dr. Jim Willis A.M., who lived for some of his time as a youth in Nathalia (when his father was the ANZ bank manager here), wrote the following words as the foreword to *A Field Companion to Australian Fungi* 1985, by Bruce Fuhrer:

*No study among living organisms is more intriguing or rewarding than that of the fungi – a vast assemblage of flowerless plants whose larger species alone are at least as numerous as those of all the flowering kinds...*



**Did You Know?** The first book that Jim Willis wrote in 1941 was on Victorian Fungi. Here is another nature kingdom for you to look for as you go on your walk and to appreciate the Nathalia connections to this renowned botanist: Dr. James Hamlyn Willis A.M. 1910-1995.



***Photos taken on the creek banks of *Baala*, the Broken Creek***

Bruce Fuhrer, in his book, tells us that: *Although fungi are included in the plant kingdom, they differ fundamentally from our usual idea of plants. Fungi lack chlorophyll (the compound that gives plants their characteristic green colour) and are unable to manufacture their own food, so are obliged to use dead or living organic matter as food.*

\*Jim Willis was the Senior Botanist at the Royal Botanic Gardens Melbourne in 1947; he wrote the two volume Handbook to *Plants in Victoria* J. H. Willis, Vol. 1 1962; Vol. 2 1972. He was awarded a Doctorate for this work and later received the Member of the Order of Australia: Dr. Jim Willis A. M. His handbook was the standard reference to Victoria's plants for three decades.

**Ref:** <http://adb.anu.edu.au/biography/willis-james-hamlyn-jim-21444>



## MAY

How many birds do you see on your walk? The bird list for **Baala**, the Broken Creek, is a long one. Jan Atkin, Joan Harding, Judy Ormond and Peter Poon take lots of notice of birds on the creek. See page nine for the list of birds that have been recorded. Jan maintains a daily record.

Some birds are migratory and so will only be seen at certain months of the year.

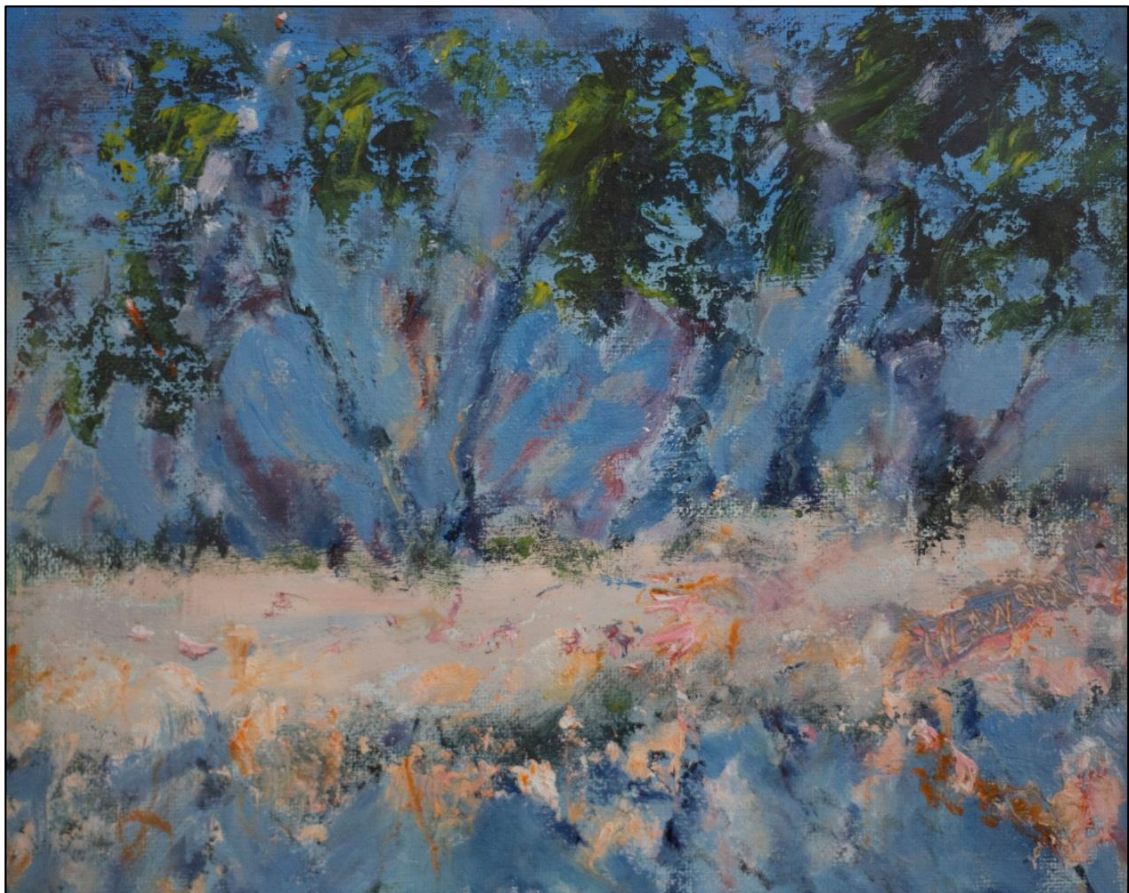


**Australian Raven** *Corvus coronoides*  
**Photo: Peter Poon**

One of these is the Pied Currawong, a handsome big bird looking a bit like a raven. It winters here in Nathalia, having flown down from the alpine areas. You will hear the loud swinging notes of its call.



**Pied Currawong** *Strepera graculina*  
**Photo: Judy Ormond**



**Painting of the Broken Creek, by Marj Lawson**

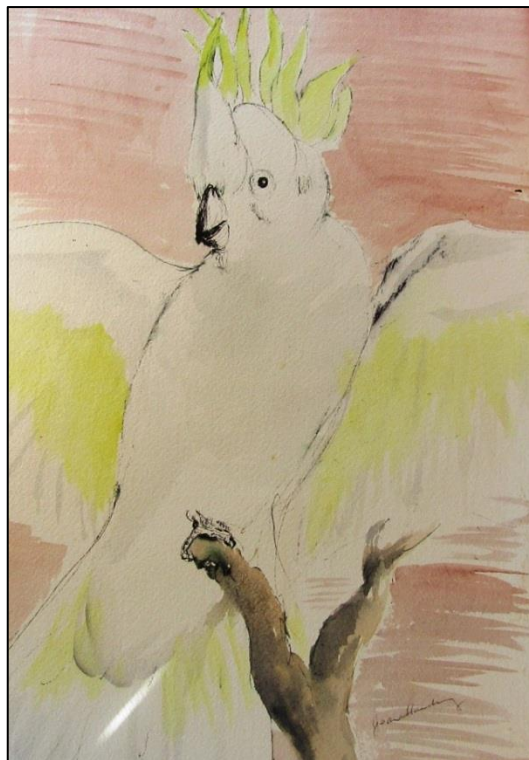
Cockatoos and Long-billed Corellas make an amazing sound and sight show in Nathalia, morning and evening. They shift around the galahs that have roosted for decades in tall gums by the Nathalia town bridge. There are a wide range of strong feelings for and against their presence – they are certainly not birds that you can ignore.

Here is a shape poem – the words crafted to represent the shape of a great wave. The cockatoos appeared like this one evening, as they came in over Nathalia to roost in the Broken Creek gums

### Evening Cockatoos

A towering white tsunami masses across the blue sky  
a fluttering tumult of cockatoos  
their cries crash down  
noisy breakers  
shattering  
the air.

Lyn Loger



**Sulphur-crested Cockatoo *Djarring***  
Watercolour by Joan Harding

**ACTIVITY** Create a shape poem of your own.

Get involved as a citizen scientist: <https://australian.museum/get-involved/citizen-science/>



**Red Wattlebird Photo: Peter Poon**

**Red Wattlebird** A noisy, large honeyeater is the Red Wattlebird, *Anthochaera carunculata*. See the red, fleshy, flap of skin, the 'wattle', on its throat. This red colour shows you that it is a mature bird. It feeds on nectar and some insects. It has a raspy cry, which includes cough-like sounds. It aggressively defends its territory from other birds. It is found right across the southern areas of Australia.





**Dusky Moorhen *Gallinula tenebrosa* Photo: Peter Poon**

*The Dusky Moorhen, a wetland bird, can be found from Indonesia to New Guinea and Australia.*

**Breeding:** During breeding season, the Dusky Moorhen forms breeding groups of two to seven birds, with all members defending territory, building nests and looking after young. The shallow platform nests are made of reeds and other water plants over water, among reeds or on floating platforms in open water. Two or more females will lay their eggs in the same nest and all members of the group help to incubate the eggs and feed the young. Ref: <https://birdlife.org.au/bird-profile/dusky-moorhen>

**Meadow Argus** Up on the creek frontage, flitting through the grasses, you might see a Meadow Argus butterfly, *Junonia villida calybe*. This butterfly is found right across Australia.



**Meadow Argus Butterfly Photo: Judy Ormond**

## JUNE

### Our local grasses

We have such a mix of weed grasses and clovers invading our creek sides and roadsides, that it is probably hard for you to recognise our local grasses. They are an elemental part of our landscape, often overlooked. Here are two local grasses that you can easily identify on your walks. When you are able to name parts of our local flora, you establish links that connect yourself more closely to your environment.

A name adds value, it creates a presence in the mind, it establishes a relationship. It is a sure way to build, through such small steps, an awareness that can blossom into a love of the environment

**Wallaby Grass *Rytidosperma* sp. (sp. = species)**

In our local area, we have a number of Wallaby Grass species. See the white, fluffy seed head of one of them in the photo at the top of the page. You will spot many such plants beside the levee pathways as you walk by the Broken Creek.

A single seed is a delightfully aesthetic structure. It will blow away with the slightest breeze, carrying with it the potential for new growth. Look at the structure of the seed. How does its design features assist with transportation by other means?



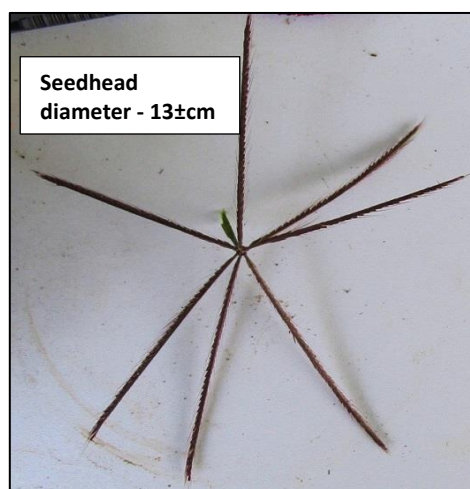
**A single seed photographed from a seedhead.  
Photos this page: Lyn Loger**

### **Photo right: Windmill-grass seedhead. *Chloris truncata***

The seed head of this grass will be easily seen as you walk along. The seed head is heavy with russet brown seed now, soon the seed will drop and the windmill-shaped structure will appear beige in colour.

Wallaby Grass, Windmill Grass – these are called the Common Names for these two plants. However, plants also have scientific, or botanical names. *Rytidosperma* sp. and *Chloris truncata*, respectively, in this case.

**Interesting Words:** Start with learning the Common Names. The scientific names have also been provided, so that if you want to look them up, you can do so easily. \*The website **VicFlora** has a search capacity that makes publicly available the whole of the 4 volumes of the renowned, *Flora of Victoria* by N.G. Walsh and T.J. Entwisle. Look at the **images** section to visually check out the plant.





N.G. Walsh is Neville Walsh, now retired (2021) Senior Conservation Botanist from the Royal Botanic Gardens Victoria and a good friend of Nathalia Wildflower Group. Neville has checked identifications in our published three field guides and he also identified about 300 local plants for our local flora expert, Howie Marshall O.A.M. The Nathalia district has been very privileged, over many years, to have been provided with such expert guidance.

You may not know that: *Our native grasslands and grassy woodlands are amongst the most threatened ecosystems in Australia.... Today, less than 0.5 per cent of the original cover of grasslands and grassy woodlands remains in Victoria.* (Lunt 1991) *Roadside Survey of Native Grasslands in Moira Shire* Compiled by Damien Cook 1997.

**Our roadside and creek side local vegetation is precious.**

**ACTIVITY** Why do you think that the Common Name of one of our grasses is Wallaby Grass?

***Photos below: The Swamp Wallaby (Black Wallaby) *Wallabia bicolor* photographed along the Nathalia Botanical Walk and swimming across **Baala**, the Broken Creek.***



***Photos: Judy Ormond***



## JUNE

**Our Megafauna** are big animals of an area or geological period. *They evolved millions of years after the dinosaurs became extinct.* Ref: Museum of Victoria

<https://museums victoria.com.au/article/australias-megafauna/>

As you walk beside the creek, think back in time, to the Pleistocene Period (often referred to as the Ice Age) to what creatures lived here and right across Australia. The Pleistocene Period is accepted as extending from 2.5 million years ago to about 11,700 years in the past.

*Drawing of Diprotodon based on an Australian Museum model.* Lyn Loger

Ref: <https://australian.museum/learn/australia-over-time/megafauna/>



**Diprotodon:** One of the megafauna was *Diprotodon opatum*, the largest known marsupial in the world to have ever lived. Approximately 3 metres long and 2 metres high at the shoulder, it looked like a giant wombat, but could weigh close to 3000 kg. Think of the size of a hippopotamus to visualize its bulk. The females were smaller. As a marsupial (*marsupium* is the Latin word for pouch), she had a pouch, but the entrance was at the back. The Diprotodon's closest relations in our time are the wombat, which also has a backward facing pouch, and the koala.

The Diprotodon was a herbivore; it foraged on the vegetation found in open forests and grasslands. Imagine it lumbering along, snatching at the grasses with its longer two front teeth. *Diprotodon* is made up from Greek words meaning 'two forward teeth': *di* is two, *proto* is first and *odon*, tooth.

The remains of hundreds of individuals have been found across Australia. A celebrated fossil site is Lake Callabonna, in South Australia.

Before the end of its time on earth, Diprotodon co-existed with Aboriginal communities across Australia. Possibly Dreamtime stories and rock paintings record it – there is some speculation that the bunyip references its existence.

Diprotodon was named by famed English naturalist, Sir Richard Owen, in 1838, from fossil bones found in New South Wales by Sir Thomas Mitchell. Sir Richard Owen had a remarkable gift for interpreting fossils. He was the one who coined the word 'dinosauria', based on the two Greek words: *deinos* (terrible) and *sauros* (lizard) which made the word, 'terrible reptile or lizard'.

You can see, from the scientific labelling of plants, animals and periods of time in this book, that new words were/are continually being created from other languages: Greek and Latin in particular. A knowledge of such languages makes for a much easier understanding of scientific labelling.

A quiet walk allows one to think in many dimensions – it's good to allow your mind to wander along new pathways of thought - to open your thinking to what lies around you and what has gone before.

Perhaps you can agree with the paradoxical statement that: *The only permanent thing is change?*



## JULY

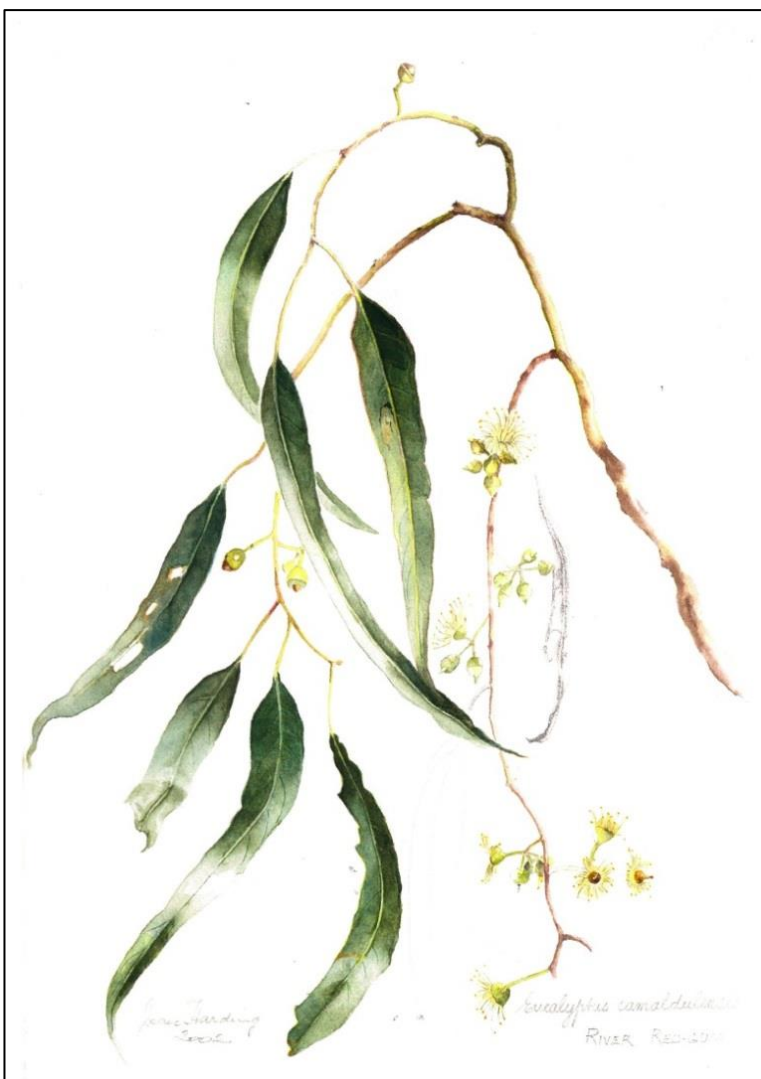
The megafauna date back 44,000 years, but even more ancient are the eucalypt trees that you pass by on your walk. Around here, beside the Broken Creek in the town area, we have the River Red-gum, Grey Box and Yellow Box.

Botanists have identified about 900 species of eucalypt in Australia. Eucalypt means: **eu** well and **calyptos** covered.

Professor Ladige, from Melbourne University, has been studying our iconic eucalypt *and its extraordinarily ancient history*, for over 50 years.

*The eucalypt goes right back to when Australia was part of the super continent, Gondwana. Fossils of flowers, leaves, fruits have been found dating 52 million years ago.... However - sequencing of the eucalypt genome of the rose gum (Eucalypt grandis) from N.S.W. and Queensland, indicates that the group goes back even further, 109 million years. This is the time ... when dinosaurs roamed the land.*

<https://www.abc.net.au/news/science/2018-01-26/eucalyptus-trees-an-iconic-australian/9330782?nw=0>



**Watercolour painting of River Red-gum by Joan Harding**

**Be stilled as you walk:**

*Hear the silver sounds,  
Windsong sung in ancient trees,  
Let your busy thoughts fall away,  
Become  
Just a shower of leaves.*

*Lyn Loger*

## JULY

Three wattles are now in flower (2020): the N.S.W Cootamundra Wattle (see a big bank of it opposite Nathalia Primary School) and two local wattles: Gold-dust Wattle *Acacia acinacea* and Hakea Wattle *Acacia hakeoides*. Wattle **Ganga**

Gold-dust Wattle is a dance of slender branches, with long fingers of golden blossoms to delight the eye.

**Photo: Gold-dust Wattle. Note the graceful arrangement of the branches and the long fingers of wattle blossom.**



Two Hakea Wattles can be seen coming into bloom in the Bush Learning area on Muntz Avenue; there are two also on the opposite creek bank, on the Bromley Street side. **Photo right centre**

Signs of coming spring are strong: a small, broken bird's egg found on the levee bank, magpies stealing bristles from doormats, ducks with ducklings, etc. Walking along the levee banks keeps you closely in touch with the changing seasons and that deeper sense of time.

**Photo: Hakea Wattle: For identification - note the blunt end of the leaf and the straight parallel sides of the leaf.**



**Photo: Lyn Loger**

We have 6 of our local wattles on the short *Nathalia Botanical Walk* in the town – three more are still to come into flower: the Mallee Wattle, *Acacia montana*, and the Golden Wattle, *Acacia pycnantha*, while one, the Lightwood Wattle, *Acacia implexa*, will flower over summer.

The Golden Wattle was the wattle badly affected in places by the munchings of the Processionary Caterpillar written about in March. It has recovered, for the most part.

Why not collect a free pamphlet on the *Nathalia Botanical Walk* and enjoy the short looped walk it describes between the main bridge and the Squeazy Pedestrian Bridge? The pamphlet provides a sequence of photos and text as a guide to a self-directed walk. Learn more by accessing Judy Ormond's photographic display of all the listed local flora plants on the website: **[www.nbbt.org.au](http://www.nbbt.org.au)** -access through the NADDCO page - or visit the Barmah Forest Heritage & Education Centre for a viewing.

You can pick up a pamphlet from: the Barmah Forest Heritage & Education Centre, the Nathalia Library or Nathalia Printers.



## JULY

Acknowledgement of our Aboriginal heritage is expressed beautifully in a plaque displayed in the foyer of St. Mary's Secondary College.

**Photo: Plaque at St. Mary's Secondary College**

As you walk on the levee bank past Nathalia Primary School, this acknowledgement is shown by the three flags flying: the Aboriginal Flag, the Torres Strait Islander flag and the Australian Flag.

At Nathalia Community Early Learning Centre, the entrance wall display celebrates this heritage (see photo below).



At St. Francis Primary School, a whole wall features the artwork of Yorta Yorta artist, Troy Firebrace.



*In 2020 Troy worked with senior school students to design the concept, after students researched animals and Aboriginal traditions from the local Nathalia area. His design included the students' suggestion to include the significance of the river and water, showing the importance for Yorta Yorta country. The river connects symbolism from our St. Francis school and represents the link we share to creation and to one another. It represents the sense of family that is formed.*

*The top half of the mural is designed in a crosshatch pattern, filled with traditional colours (browns, ochre, etc.) paying respects to the old ways of country and living off the land. This also acts as the top half of the Aboriginal flag.*

*The circle in the middle is the meeting place for everyone to come together and be one with everything. The yellow also connects part of the Aboriginal flag which is forming as part of the mural. At the bottom of the mural, the black roots represent the red gum trees that emerge off the high banks into the river, giving life to all creation.*

Ref: Red Gum Courier 19/3/2021 Troy Firebrace/Matt Knight Principal.

At Nathalia Secondary College, artwork by Yorta Yorta artist, Roxanne Atkinson, is featured on an outside wall.





The official Plan of Land below was drawn up in 1876 for Henry Kostadt (Kostadt Street was named after him). The plan encompasses the current Nathalia Botanical Walk area. The creek was then labelled as **Baala** Creek. Ref: Authorised Surveyor's Report sourced by local historian, Lyn Franklin



## AUGUST

So much to see now as you walk the levee banks – so many indications of the coming spring. The Golden Wattle, *Acacia pycnantha*, is now coming into bloom – it can be a small shrub or a medium tree and, while a local wattle for us, can be found growing across Australia.

Wattle **Ganga**



In fact, the Golden Wattle is Australia's national floral emblem - It became so in 1988, Australia's Bicentenary Year.

- *It displays Australia's colours, green and gold and is a symbol of unity.*
- *In recent times, the symbol has been used...for remembrance and reflection. On national days of mourning, Australians are invited to wear a sprig of wattle.*
- *A single wattle flower is the emblem of the Order of Australia*  
(Ref: Australian Government site Department of the Prime Minister and Cabinet)

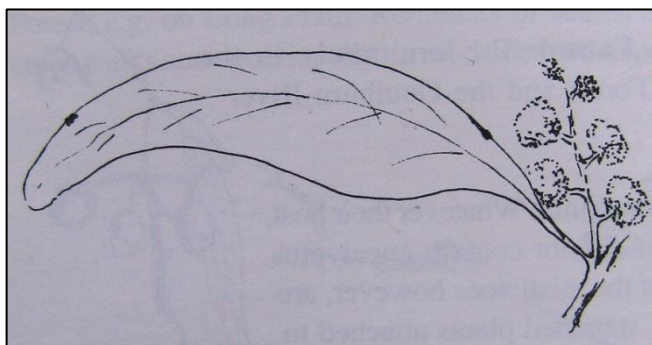
In Nathalia, the Golden Wattle was used for the logo for Nathalia Secondary College's last two Reunions, the first in 2009, the second, the 100 Years' Reunion, held in 2019.

***Joan Harding, local artist and past student, painted the artwork used as the logo by the school.***

Joan also donated the original watercolour painting of the Golden Wattle to the school.



See Joan's drawing of the leaf from the first field guide produced by Nathalia Wildflower Group, *Flora of the Nathalia District & Barmah Forest. 1999*. The leaf can be seen to be quite different in shape to those wattles already introduced in these articles; it can be 3.5 cm wide, up to 15 cm in length and often pendulous. The Golden Wattle is easily picked out from the other wattles in bloom.



**Where can you see Australia's floral emblem, the Golden Wattle?** In the Nathalia township, there are two down along the Broken Creek bank on the Nathalia Botanical Walk (on the Bromley Street side) and more along the creek bank at the end of Martin Street. Once you pick one out, you will be able to recognise it wherever you go.

\*It was the Golden Wattle that was ravaged by the processionary caterpillars in March 2020. The wattles, for the most part, survived that time around, but it is not always the case



# Wattle

## Yorta Yorta Ganga



Australia's floral emblem is the \_\_\_\_\_ Wattle.

There are 950 species of wattle found in \_\_\_\_\_.

I have a range of different flowers, but the most  
common is bright \_\_\_\_\_ in colour.

match these words to the sentences - | Golden | yellow Australia

Original artwork by Joan Harding

Ref: *Loving Moira's Natives* Colouring Book G.R.A.I.N. Store, Moira Shire, Yorta Yorta Nation 2020

## AUGUST

### Bird Life

Welcome Swallows (Australia's most widespread swallow) flit about on the creek in Nathalia. The colours of the birds are superb – striking metallic blue/black wings with rust coloured head markings and creamy, light grey breast; note the distinctive forked tail. Watch out for them and enjoy this heralding of spring. The swallows wintered north for the cold weather. Welcome Swallow *Hirundo neoxena*

**Photos: Danielle Loger**



**Photo: 13/08/2020 Beside the Broken Creek in Nathalia. Baby kookaburra with parent bird.**

**The Yorta Yorta traditional name for Kookaburra is *Wigilupka***

**Laughing Kookaburra *Dacelo novaeguineae***

*and then there's the laugh of a kookaburra to hold in your hand.*

*Lyn Loger*



**Kookaburra**

**Yorta Yorta  
Wigilupka**



I am one of the largest members of the Kingfisher family and most recognised from my \_\_\_\_\_ call.  
I mostly feed on insects and worms but may also eat small \_\_\_\_\_, mammals, frogs and reptiles.

match these words to the sentences  
snakes | laughing |

Original artwork by Mel Freeman

Ref: *Loving Moira's Natives* G.R.A.I.N. Store, Moira Shire, Yorta Yorta Nation 2020

## AUGUST

It's a beautiful time to enjoy a walk beside the creek with the wattles out in bloom.

**What creatures are the wattles trying to attract as pollinators, with their stunning displays and perfume, so the setting of seed will follow?** \*I am indebted for the following factual information to the authors of this excellent research article: **Reference:** *Pollination ecology of Acacias*, Graham M. Stone, Nigel E. Raine, Matthew Prescott and Pat G. Willmer, CSIRO 25<sup>th</sup> March 2003

There is so much activity happening on each wattle tree. Why not break your walk for a few minutes to see what is going on?

**Did You Know?** Floral rewards to pollinators are of two types – pollen and nectar - our wattles' flower heads offer pollen, with the most important pollinators being solitary and social bees.

**What about butterflies?** Butterflies are nectar feeders. Wattles can be an important food source for the larvae of butterflies, for example, the caterpillars of the tiny Blue Butterflies: the Wattle Blue and the Double-spotted Line Blue, and as you now know, for the Processionary Caterpillar, which can strip the leaves of the Golden and Implexa Wattles.

There is always an exception or two to a rule and the Golden Wattle *Acacia pycnantha* provides such an example - it exudes extra floral nectar attractors on its phyllodes (leaves). Little birds, such as: Silver-eyes, Thornbills and White-plumed Honeyeaters, when accessing the nectar, brush the surrounding flower heads and pollen rubs off onto them; in that way, they carry pollen to other Golden Wattles. Bees and some butterflies have also been observed sipping the nectar.

**3 Nectaries shown as small bumps on the bottom edge of the leaf. Photos: Lyn Loger**



**Did you know?** The Golden Wattle attracts security guards. The nectaries also attract ant guards – in South Australia (the specific data collected in this research) they exude the nectar two weeks before the wattle flowers open to attract aggressive bull ants and jumping jack ants to the flower site. Perhaps their presence acts to deter the destructive behaviour of birds like the Eastern Rosella, birds that can break off the flowering heads. (You will have noticed many examples of the River Red-gum leafy twigs, clustered with buds, lying about on the asphalt levee bank walkways over the past months, snapped off by cockatoos, corellas and galahs.)

***An ant visitor at one of the nectaries.***





Golden Wattle has a pervasive perfume in flower; it also attracts flies, hoverflies and wasps; it's such a celebration of diversity.

***Hoverfly photo***

**Did You Know?** Diversity and global numbers of insects are under threat across the world. Ray Besserdin, writing for the *Victorian Entomologist: A Call to Change*, Vol. 50 No 4, August 2020, states: *...populations are vanishing globally at about 6% annually – according to David Attenborough, it's the greatest species extinction since the dinosaurs.*



In Australia, we are still too data deficient on the identification of all our insect species for exact estimations to be made, but this *Call to Change* certainly positions us, in no uncertain terms, to reflect on what we are doing wrong and to act, starting with each person in his/her own backyard..

**INTERESTING WORDS:** pollinator; nectar; diversity



***Kangaroo and wattle by Linden Lancaster***

In the June section, the Swamp Wallaby (Black Wallaby) was featured, plus Diprotodon, one of Australia's now extinct megafauna. Some megafauna still live on in Australia; the Red Kangaroo and the Eastern Grey Kangaroo are two examples. The Red Kangaroo is now extinct in our area.

## SEPTEMBER

Winter is over and the wattles are in full bloom! Over the coming weeks, don't miss out on walks along the Broken Creek levee banks; bright sunlight, warmth and golden blossom can't help but lift your spirits. Yorta Yorta for wattle is *ganga*.

Introduced honeybees and our native solitary bees are the main pollinators for our wattles. It is too cold here in winter for us to have hives of native, non-stinging bees; they are only found in the frost-free, warmer parts of Australia. However, we do have a range of solitary bees and Judy Ormond, Danielle Loger and I have photographed some of them in our backyards and in the bush.

Most of us only know about the honeybees introduced to Australia in 1822 (European honeybee *Apis mellifera*). These honeybees became essential pollinators for agricultural crops and the production of commercial quantities of honey.

Over the years, however, the following native solitary bees have been identified in this area: the Blue Banded Bee, The Chequered Cuckoo Bee, the Nomia Bee the Leafcutter Bee, the Resin Bee, the Carpenter Bee and the Masked Bee.

Look up the Aussie Bee site (Bees in Your Area) to learn about our Australian Bees. It is full of excellent colour photos for easy identification of different species. It has a state by state location grid listing the bees you might find in Victoria.  
<https://www.aussiebee.com.au/beesinyourarea.html>

A *Bees and Beekeeping Colouring Book*, by Kim Carter and Ruby Wyatt-Carter is a newly published and local, educational colouring book, available through the G.R.A.I.N. Store in Nathalia.

**Did You Know?** Australia has over 1700 species of native bees.

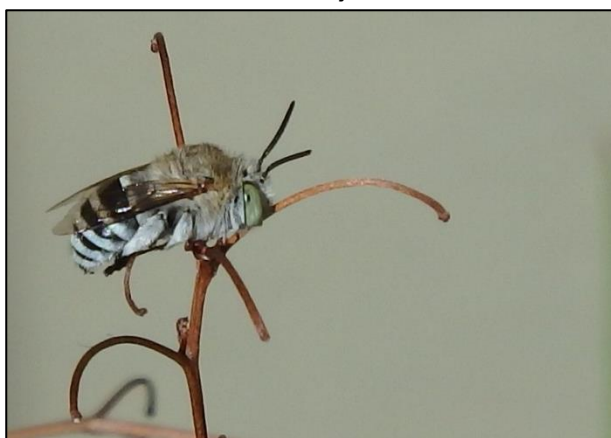
See the photos below of the beautiful Blue Banded Bee; the Chequered Cuckoo Bee has a symbiotic lifespan relationship with this bee. (Symbiosis is the interconnected lifespans of two different organisms – in this case it is a parasitic symbiosis, because the Chequered Cuckoo Bee invades and uses the nesting burrow of the Blue Banded Bee.)

The Blue Banded Bee is called a buzz pollinator, because its loud vibrating buzz, as it clasps onto the flower, makes the pollen fly out so that it can be collected.

The male Blue Banded Bee isn't allowed into the female's burrow; he hangs suspended on a plant stem, by his mandibles (jaws) during the night time when he is asleep! His jaws lock, to keep him safe from falling.

\*You can download a copy of the Aussie Bee Guide to Blue Banded Bees on the Aussie Bee website.

**Photos: Judy Ormond**





**The stunning Chequered Cuckoo Bee** is just that – a cuckoo in its behaviour.

*Photos: Danielle Loger*



**The Leafcutter Bee** cuts round sections out of leaves to place as dividing partitions for its tunnel- each section holds an egg. The circles it cuts are graduated to suit the tunnel it uses. Look for its tell-

tale circular cut outs on leaves, both in your backyard or on your walks; once known, you will always recognise when a Leafcutter Bee is around.



**Left: Leafcutter Bee cutting out the circle size that it wants.**

**Photo: Judy Ormond**  
**Right: Leaf Cutter Bee circular cut out.**



There is still so much for us to learn about our environment – perhaps it will be you who might find out something new as a Citizen Scientist – why not become an explorer?

**Nomia Bees:** Judy photographed bees on the Gold-dust Wattle and Aussie Bee experts identified the bees as Nomia Bees. Lyn had bright blue and black bees around her pond on the local flora, Purple Loosestrife, and they were found to be the Chequered Cuckoo Bee. What could you discover, if you look carefully at the insect activity which lies all around you?

**Nomia Bees clustered on a Gold-dust Wattle twig. Photo: Judy Ormond**



**INTERESTING WORDS:** environment; solitary; citizen scientist

## SEPTEMBER

It's the time of frogs! As you walk along the levee bank you might hear them in surrounding dams, or in the drains beside houses. In a drain, the Pobblebonk's deep call –**bonk**– booms out, as it echoes up from below.

**Photo right: Pobblebonk Frog**



White, foamy, bubble masses of frog spawn can be found now in dams and still water bodies, usually under some protective cover, like overhanging vegetation. Little black spots in the maturing eggs can be seen, as the tadpoles grow. In most species, they soon grow big enough to wriggle free and start their journey towards turning into a frog. The Pobblebonk tadpoles, however, can take a year to achieve the metamorphosis into a frog.

**Photo centre right: Frog spawn**



In our Nathalia area, the frogs we have are: the Pobblebonk Frog, or Eastern Banjo Frog, *Limnodynastes dumerilii*, the Peron's Tree Frog, *Litoria peronii*, the Spotted Marsh frog *Limnodynastes tasmaniensis* and the Plains Froglet *Crinia parinsignifera*, while In Barmah, they also have the Barking Marsh Frog *Limodynastes fletcheri* and yes, it does sound like a dog barking.

**Photo right: Peron's Tree Frog**

**The inset photo shows clearly the cross marking in the eye – a distinctive indicator for this tree frog.**



**Photos: Judy Ormond**

In 2017, the Bardi Gras theme was the Local Frogs. A children's story book, written in Yorta Yorta and English, was created, under the guidance of Yorta Yorta Elder, Aunty Sharon Atkinson, and enacted by Nathalia Primary School students. The story was based on the Dreamtime story of *Tiddalik the Frog*. The book title is: **Po-bonk-I Bunyma Bapalwa** Po-bonk Creates a Flood.

More frogs listed for this area can be found in the Goulburn Broken Catchment Management's excellent identification guide book, *Broken Boosey and Whroo Goldfields, Reptiles and Frogs*, 2011, compiled by Janice Mentiplay-Smith. These books are available from the GBCMA office in Shepparton. A CD recording of the frog calls, for ease of identification, accompanies the book. As well, check out the excellent website, **Frogs of Australia Frogs of Victoria** and you will be able to hear and see further images of the frogs listed above and access a clear identification guide.

**Poisons entering our water sources are reducing our frog population – make sure you do your part to help keep our frogs healthy and maintain a clean environment for future generations.**

**\*Frogs are an important indicator of the health of our environment.**





*Pobblebonk Frog Artwork by Aunty Sharon Atkinson 2017*

Free downloads: Audio file children's story in Yorta Yorta and English, plus text file: **Pobonk-l Bunyma Bapalwa** Po-bonk Creates a Flood. The website provides access also to the Yorta Yorta audio enabled dictionary: [www.wcclp.com.au](http://www.wcclp.com.au)

*Giant frog construction for the 2017 Bardi Gras below: Gordon Dowell*



*Aunty Sharon Atkinson sitting next to Po-bonk the Frog. Photo Julie Millowick  
Photo from the FRRR book: 'Art Resides Here' 2019.*



*Local Frogs' poster by Di Huber*

*Painting of Peron's Tree Frog by Mel Freeman*





## OCTOBER

**Bayuna** Yellow Box

*Eucalyptus melliodora* in flower in 2020.

**Did You Know?** A Yellow Box (one of only two trees) survived the bombing of Hiroshima in Japan on August 6<sup>th</sup> 1945. It was only about 740m from the epicentre! That tree is a substantial tree, measuring 2.50m in its girth in 2016. (Martin Miklanek) The following web page provides you with photos of how the tree looked, still growing, in 2016. [https://www.monumentaltrees.com/en/jpn/chugoku/hiroshima/12997\\_hiroshima\\_castle/25073/](https://www.monumentaltrees.com/en/jpn/chugoku/hiroshima/12997_hiroshima_castle/25073/)

and/or access: *Images - Hiroshima and the Yellow Box tree.*

Yellow Box and River Red-gum flower most strongly every 2 years and both do so in the same year. This Yellow Box in Nathalia flowered profusely in 2020 and the River Red-gums followed on, in the summer months. **Photo: Lyn Loger**

**Bayuna**, the Yellow Box in Muntz Avenue flowering in 2020. This tree is in Muntz Avenue; the levee pathway continues westward to Squeezy Bridge and then on into the main town area of Nathalia.



Yellow Box is a distinctive eucalypt, with scruffy, yellowish to dark rusty brown bark on its trunk. A magnificent Yellow Box, pictured above, just coming into flower, can be seen in Muntz Avenue; the tree is growing at the base of the levee bank, not far from the turn off to North Street. Stop walking for a few moments and take in its splendour. It's worth a special trip, just to view it

**Did You Know?** Yellow Box honey is perhaps the best known of Victorian honeys. When pure, it does not crystalize easily, whereas Red Gum honey crystalizes in a very short time...and sets very hard. <https://amazingbees.com.au/australian-nectar-sources.html>

**Flowering times for our local eucalypts:** (Flowering times as sourced from the VicFlora website.)

River Red-gum: *Eucalyptus camaldulensis* summer

Grey Box *Eucalyptus microcarpa* : autumn

Black Box *Eucalyptus largiflorens* : spring to autumn

Yellow Box *Eucalyptus melliodora*: July – February

White Box *Eucalyptus albens* : August – February

It is just June, the coldest month in winter, which is not included.

**Yellow Box Flowers**  
**Photo: Danielle Loger**

**Did You Know?** Eucalyptus flowers have no petals; flowers are made up of multitudes of stamens.



## OCTOBER Some Fascinating Facts

- Eucalyptus leaves contain high levels of cineole (eucalyptol); it's their secret weapon against predators. Only the Koala, Ringtail and Common Brushtail Possums and some insects can eat the leaves.
- Eucalyptus essential oil has been used in Aboriginal medicine for centuries.
- Denis Conisden and John White, surgeons on the First Fleet in 1788, distilled some eucalyptus oil from gum leaves and used it to treat convicts under their care.
- Baron Ferdinand von Mueller, director of the Royal Botanic Gardens and founder of the National Herbarium in 1853, promoted the use of eucalyptus oil as a disinfectant to Joseph Bosisto, a Melbourne chemist. You can still buy Bosisto's Eucalyptus oil today!

***Bottle of Bosisto's eucalyptus oil purchased in 2021***



It is rare for us to see Koalas in Nathalia. You can see them if you travel to Ulupna Island, not far away, just out from Strathmerton. However, both Ringtail and Common Brushtail Possums are found along the creek banks in Nathalia and surrounding areas.

***Koala photographed at Ulupna Island  
Photo: Judy Ormond***



**INTERESTING WORDS:** epicentre; girth; crystalize

**ACTIVITY:** Sample some Yellow Box Honey on a slice of bread and butter.

***Photo right: Common Brushtail Possum in its nesting hollow.  
Photo: Averil Kennedy***



***Photo below left: Lifelike and life size Ringtail Possum puppet featured in the 2020 Bardi Gras.  
Photo: Lyn Loger***



***Photo right:  
Common  
Brushtail  
Possum  
Photo: Judy  
Ormond***



***Yorta Yorta  
for  
Possum  
Bana***



## OCTOBER

A camp of Fruit Bats could easily be seen, during the warmer months, on the *Nathalia Botanical Walk*.

**Photo right:** *Little Red Flying-fox*  
*Pteropus scapulatus*

The place where they hang is called a roost site. They sleep here during the day and fly out to feed at night.



Bats are usually put into two groups: megabats (large) and microbats (small). Fruit bats are megabats, while microbats are insectivorous. Fruit bats are also called flying foxes, because their long snouts make their faces look like a fox. **Yorta Yorta = Mumiyanga**

Bats are all mammals (warm blooded and give birth to live young) and the only mammals that can truly fly. Their wings are modified hands. All of our 81 species of bats in Australia are native species.

**What eats Bats?** Hawks and eagles will take Fruit Bats as their prey, while: owls, magpies, Pied Butcher Birds, Currawongs and snakes will eat microbats. Cats and foxes kill bats too.

People are probably their greatest threat; we clear away their habitat and use up their natural resources.

Bats are active at night and most bat species hide unseen in roost sites during the day; there are thirteen small insectivorous species of microbats in the Riverine area. Ref: *Fragments for the Future – Wildlife in the Victorian Riverina*.

**Photo right:** *Mother bat cradling her pup (baby).*  
*Note how the bats closely wrap their wings around themselves, like a cloak.*

**Photos:** Judy Ormond

Bats use up a lot of energy flying at night. *Microbats have been observed eating up to 1000 insects an hour! ... Bats are some of the most important controllers of nocturnal insects in the world. They may be extremely important in limiting the extent of insect-borne diseases, like Ross River Fever.*



*Fruit bats use night vision and sense of smell to find their way at night, whereas microbats use echolocation. Bats make up 26% of our native mammal fauna. Australia-wide data Ref: Ausbats website. 1998 Riverine area estimate: 45%!*

The Little Red Flying-fox *Pteropus scapulatus* (pictured right) lives on: fruit, nectar and pollen. Their favourite food is eucalypt blossom pollen and nectar. They pollinate and disperse the seeds of many tree species and play a critical role in maintaining the health of our environment. Megabats are major pollinators of our eucalypt trees.

**What are the risks of contracting diseases from flying foxes?**

*Flying foxes in Australia are known to carry two infections which can pose a serious risk to human health - Australian bat lyssavirus and Hendra virus. Human infections with these viruses are very rare and when there is no handling or direct contact with flying foxes, there is negligible public health risk.*



**What are the risks of contracting Australian bat lyssavirus from a flying fox?** Australian bat lyssavirus can only be transmitted to humans when infected flying fox saliva comes into contact with human tissue through an open wound or mucus membrane e.g. eyes, nose and mouth. Therefore it is very important that flying foxes are not handled. **Humans are not exposed to the virus if flying foxes fly overhead or feed or roost in gardens. Nor is it spread through droppings or urine, or if one lives, plays or walks near their colonies.** Information supplied: 1<sup>st</sup> July 2020

**Is there a health risk to my dog or cat if it catches a flying fox?** Occasionally, cats and dogs catch flying foxes. No cat or dog is known to have contracted Australian bat lyssavirus from a flying fox. The best available evidence suggests that there is no need to vaccinate pets against Australian Bat Lyssavirus. The above health advice has been quoted from the website:

<https://www.health.nsw.gov.au/environment/factsheets/Pages/flying-foxes-questions.aspx>

Bats are gentle, fascinating, furry creatures; however, if you are bitten or scratched by any bat, you should wash the area for 10 minutes and seek medical help immediately. **Do not handle bats, either alive or dead.** Contact your nearest Wildlife Rescue operator, who will be trained and equipped to deal with the situation.

**Photo right: Grey-headed Flying-fox *Pteropus poliocephalus***

**Photo: GBCMA Numurkah Information Sign on Bats**

Both megabat species have been sighted in Nathalia.

**Conservation Status:** Little Red Flying-fox – least concern

Grey-headed Flying-fox – vulnerable

A great site for you to learn more about Australia's bats is: <https://www.ausbats.org.au/> A superb teacher/student kit *The Bat Pack* can also be downloaded on this site.

In Numurkah, an excellent information board: *Flying Foxes Our Megabat Mammals*, is located in the town area, by the Broken Creek. The creek banks here 'are home to' both megabat species.

**You can do your part to help out in the care of bats** – use wildlife friendly netting for fruit trees, keep cats in at night time, build bat boxes, become involved with local flora tree plantings.





**Microbats**  
**Yorta Yorta**  
**Mumiyanga**



I love eating insects, especially from summer to autumn, so I can fatten up for a cold \_\_\_\_\_.

I use my tail or wings to catch large insects and carry them to my \_\_\_\_\_ site.

My \_\_\_\_\_ are used, rather than my eyes, for seeing. By producing a sound, I listen to see how long it takes to bounce back from my surrounds, telling me how \_\_\_\_\_ the object is.

Match these words to the sentences: feeding winter close ears

Original artwork by Ann Christy

Ref: *Loving Moira's Natives* G.R.A.I.N. Store, Moira Shire, Yorta Yorta Nation 2020

*The photo artwork below was created by Di Huber as a creative writing stimulus.*



## OCTOBER

### Our Magpie - A Very Brainy Bird

Research has shown that magpies can recognise 100 different people. As magpies will live their whole life in the same area - up to 20-25 years – if you live there too, **they know about you! Do you know about them?**

**Photo: Male parent feeding a young magpie.**



Males have white neck saddle markings, as this parent bird does. The young bird being fed is also a male. Females have grey hatching marks on the white neck saddle.

**Photo right: A young female, with the tail feathers not fully formed.**

**Photos: Lyn Loger**

**Magpies are great mimics.** They can mimic over 30 other sounds, from other birds to dogs barking and noises made by emergency vehicles.

Spring means nesting time, with magpies bringing up their young nestlings/ fledglings. Some adults will swoop you to protect their territory. However, only about 8-10% of magpies will swoop you, with 90% of these being males. They have good memories, so don't annoy them. They also recognise friendly behaviour and might bring their young to meet you, if you have such a relationship.



**Do you think you need to help a bird to survive?** Check out your assumptions first – for example, try a site like this: <https://audubonportland.org/our-work/rehabilitate-wildlife/found-a-wild-animal/baby-birds/> Ring our local Bohollow Wildlife Service for advice. They are best placed to look after injured birds and all our local wildlife. Bohollow Wildlife Shelter 24 hours rescue service. Debbie Fowler 0418328671 and Kirsty Ramadan 0447636953. [https://www.bohollowwildlife.com/contact\\_us](https://www.bohollowwildlife.com/contact_us) Why not record their contact information for possible future use?

**If you are feeding magpies.** Make sure you look up what is acceptable to offer. We can harm magpies with unthinking kindness or potentially disrupt the balance of bird life in our area, when we feed one species.

**Do you know where Australia's song birds come from?** Genetic studies have shown that all the world's songbirds...can be traced back to Australia. Tim Low, renowned Australian biologist, ornithologist and author, revealed this knowledge to the world in 2014, in his book, *Where Song Began: Australia's Birds and How They Changed the World*. The book has received multiple awards. It's a wonderful must read for anyone interested in birds.

**INTERESTING WORD:** Ornithologist - Greek *ornis* = bird and *logos* = science.



## NOVEMBER

This week it's more like *Listenabout on Your Walkabout*. Have you heard a strident zinging sound up in the gum trees? It's the calling of tiny male cicadas. The large cicada, the identified Red Eye Cicada *Psaltoda moerens*, emerges closer to Christmas, but this featured tiny one has emerged now.

**Photo: Danielle Loger**



Ben Goonan, consultant ecologist and naturalist, (without being sent the necessary recorded call for identification purposes), suggested three possibilities: the closest seemed to be the Pygmy Yellowtail *Plerapsalta incipiens* previously known as *Cicadetta Murrayensis*.

Ref: <https://dr-pop.net/incipiens-349.htm>

Ben suggests that there could be 10 cicada species in this area. The two other small cicadas mapped for this area, that he recommended, are: the Murray Acacia Cicada and the Southern Mountain Squeaker. He advised use of this website: <https://dr-pop.net/cicada.htm>

As you can see, there's still a lot to learn in our district. Is that identification I picked right? Why not volunteer as a local environmental explorer? Right here in Nathalia, there is exciting discovery work you can do as a citizen scientist. Recordings are needed of all our local cicada calls, so that we can learn about how many cicada species we have. Perhaps it will be you who adds to our ecological knowledge; the more we know, the better we can take care of our environment.

**Photo right:** Three tiny cicada casings found attached to the trunks of the River Red-gums at Uncle Bob's Park. It is easy to see them there, where there is no undergrowth to complicate your viewing. These casings were 1½-2cm in length.



Cicadas are the loudest noise producing insects on the planet – luckily, we don't have the noisiest Australian species, the Green Grocer, in our district. Only the male cicada sings, as a mating ritual. Singing in a group is also a protective device to avoid being eaten by birds.

Cicadas live on live sap, so it is difficult to keep them as pets. They won't harm you in any way.

**Did You Know?** Cicadas may live for up to 7 years in the ground, before they emerge. They have 3 stages in their life: egg, nymph cicada and cicada. When you walk around in the bush, underneath your feet, up to 10 – 40cm down, there could be nymph cicadas feeding on sap from the roots of trees. For the majority of their life, we walk on their ceiling.

## NOVEMBER

If you look across to the little park area opposite Mitre 10's Hardware, you will see the bright red flowers of the Illawarra Flame Tree *Brachychiton acerifolius*. It's a stunning sight.

It was planted by the CWA (Country Women's Association) in 1954 in honour of Queen Elizabeth II's visit to Australia and her coronation in 1953. This little park is actually a CWA park, although not named as such. Ref: Margaret Cobbledick

**Photo: Judy Ormond**



This tree was photographed in flower for our *Nathalia Botanical Walk* pamphlet, launched in 2019. Pick up a free pamphlet from Nathalia Printers or the Barmah Forest Heritage & Education Centre and explore the short walk, while identifying some of the shrubs and trees. With some botanical knowledge, you could spot the 28 species of local flora listed on the back panel of the pamphlet.

The Illawarra Flame Tree is an Australian native from the sub-tropical areas of Eastern Australia. There's a Cold Chisel song called *Flame Trees* – there's a line sung by Jimmy Barnes about: *...the Flame Trees that blind the weary driver*.

These trees have an ancient history in Australia. According to Russell Barrett, a systematic botanist at the Royal Botanic Garden Sydney, the inner bark of flame trees was used by Aboriginal Australians for making string, fishing nets and traps, as well as being a food resource.

*The large seeds are rich in protein and taste rather like raw peanuts*, Russell says. *They were commonly cooked before they were eaten to ensure that all the irritating hairs were burnt off.*

Ref: <https://www.australiangeographic.com.au/topics/science-environment/2019/03/everything-you-need-to-know-about-our-iconic-illawarra-flame-trees/>

**Cicada Update** Last week you could hear the tiny cicadas – now our large cicada has emerged: the Red Eye Cicada *Psaltoda moerens*. The call is very distinctive - usually, it creates a long sequenced loop of calling stations, high up and spanning the creek side trees. Sometimes, it's only located in one area, it depends on how many have emerged. Listen as you walk - hear what is happening in your area. \*Cicadas can still be heard in Nathalia until about the end of April.

### Did you Know?

- The Cicada shells of *Cryptotympana atrata* (a cicada found in China and Korea) are used in traditional Chinese medicine and called Chan Tui. This usage has a medicinal history of more than 1500 years. <https://www.chineseherbsinfo.com/chan-tui/>
- A number of communities around the world eat cicadas.
- Aristotle, a famous Greek philosopher, (384 – 322 BC) was fond of eating cicadas.
- Cicadas have an ancient heritage; they are symbolic of resurrection and immortality.
- *Cicadas are being used as a yard stick to measure climate change. Some northern Australian species are now found in Victoria.* <https://www.backyardbuddies.org.au/backyard-buddies/cicadas>



## NOVEMBER

Here is a children's story written about the magnificent River Red-gum tree in the Bush Learning area of the Nathalia Botanical Walk. A massive branch fell down during a storm in 2020 and another branch followed it a few months later. The characters featured in the story are the nocturnal creatures featured in that year's Bardi Gras. The art work is based on, and/or created by, Mel Freeman and Di Huber, with photography by Philippa Schapper.



**\*Remember, when walking in any bush setting, you must always be aware of possible falling branches. The branches that fell here have now become the log seating circles.**

### Mother Red-gum and Rakali, the Water Rat

Mother Red-gum is a magnificent gum tree, over 200 years old, growing beside the Broken Creek in Nathalia. Her best friend is Rakali the Water Rat. Rakali lives in her mud burrow in the creek bank, underneath the old tree.

One summer's night, very hot, very still, a great storm blew up. Thunder rolled, lightning flashed, rain pelted down. The wind moaned through Mother Red-gum's branches and her great limbs shook.

CRA—A—A—CK! THUD!

CR--- E---.....AK

CRA—A—A—CK! THUD!

Two of Mother Red-gum's massive branches hit the earth.

Rakali shivered in fear – her fur stood on end, her whiskers twitched. Finally, she slept, safe in her burrow. She woke up to a great sighing and sorrowing of leaves. She crept out onto the thick, wet leaf litter on the ground. The rain fell down as tears from Mother Red-gum.

*Mother Red-gum – what's wrong?*

*Rakali, oh Rakali! Two of my limbs have broken off in the storm. I feel two big holes in my trunk, a dark emptiness. I am no longer majestic, but ugly, and her tears rained down on Rakali's head.*

Rakali trembled. What could she do to ease her friend's pain? The two great holes gaped at her and the two great branches lay still on the wet earth, never again to sway in the breeze. She thought and thought all day.

That night, she silently swam along the creek, up and down, carrying her news to all.



It caused:

Such chittering and chattering,  
Climbing and gliding,  
Flying and trying,  
Then all was still.

Much later, Mother Red-gum  
called: *Rakali, oh Rakali, look,  
LOOK!*

Rakali, still sleepy from her long  
night's work, climbed up on a  
fallen branch to see:

Boobook the Owl in one of the  
tree hollows, Blossom the  
Possum in the other.

*Mother Red-gum, said Rakali.  
They were not holes in your  
trunk, but hollows. You have a  
bigger family of friends now.  
You are not less, but more,  
majestic.*

*Rakali, you are so clever and  
kind, said Mother Red-gum. You  
are such a good friend.*

And the family of friends live  
happily there, even now.  
Perhaps you will hear them, or  
see them, as you pass by.

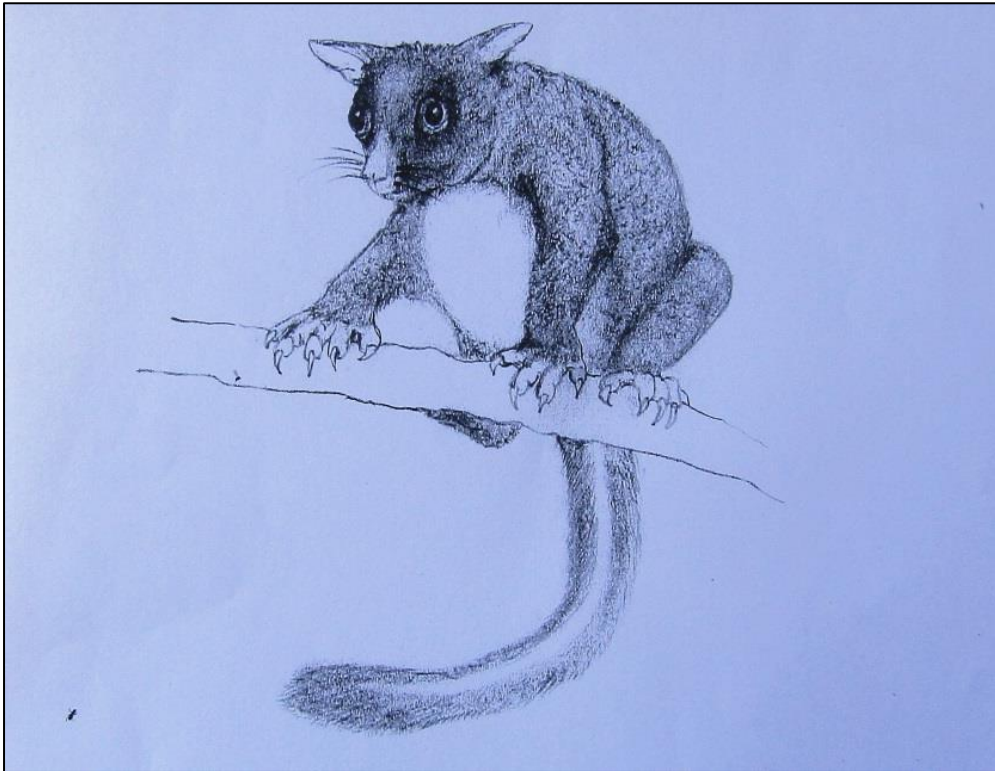
*Lyn Loger*

\*If you sit on the logs in the log  
circles, you sit on the fallen  
branches that caused Mother  
Red-gum such distress.

***Photo of 'Mother Red-gum' the  
River Red-gum that grows in  
the Bush Learning area and is  
the tree written about in the  
story.***

***Photo: Philippa Schapper***





*Common Brushtail Possum Artwork: Mel Freeman Possum **Bana***

*Common Brushtail Possum Photo: Judy Ormond*



NOVEMBER

# Possum Yorta Yorta Bana

I am nocturnal which means I am most active at \_\_\_\_\_.

I am a \_\_\_\_\_ and carry my young in a pouch, but also sometimes on my back.

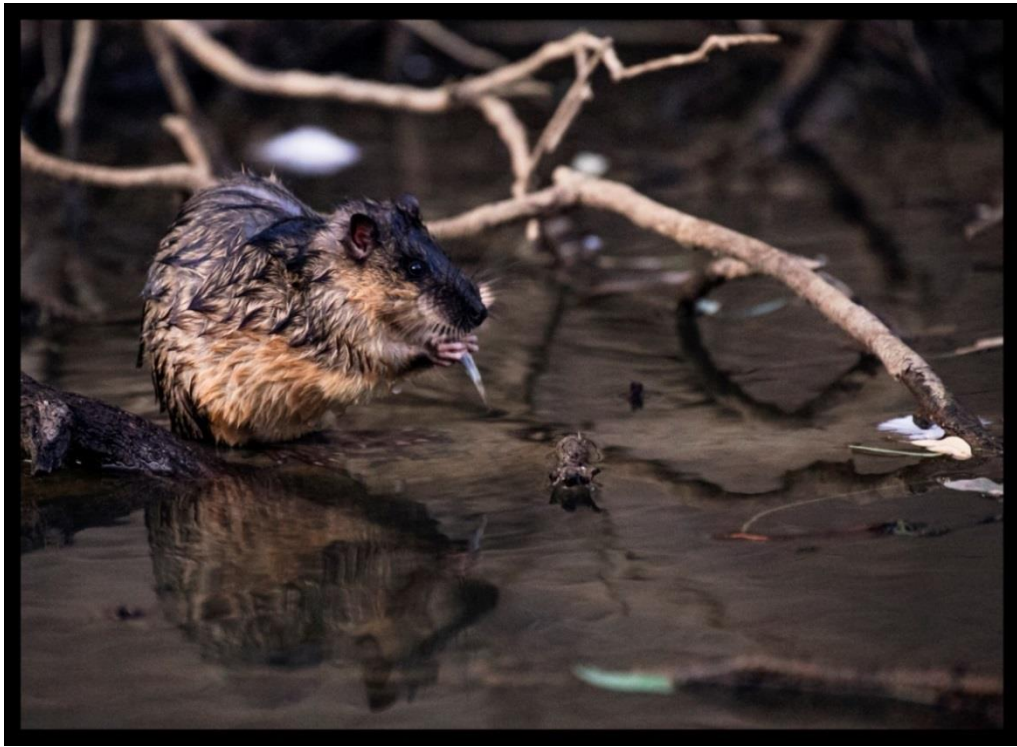
match these words to the sentences -  
| night | marsupial |



Artwork by Mel Freeman

Ref: *Loving Moira's Natives* G.R.A.I.N. Store, Moira Shire, Yorta Yorta Nation 2020



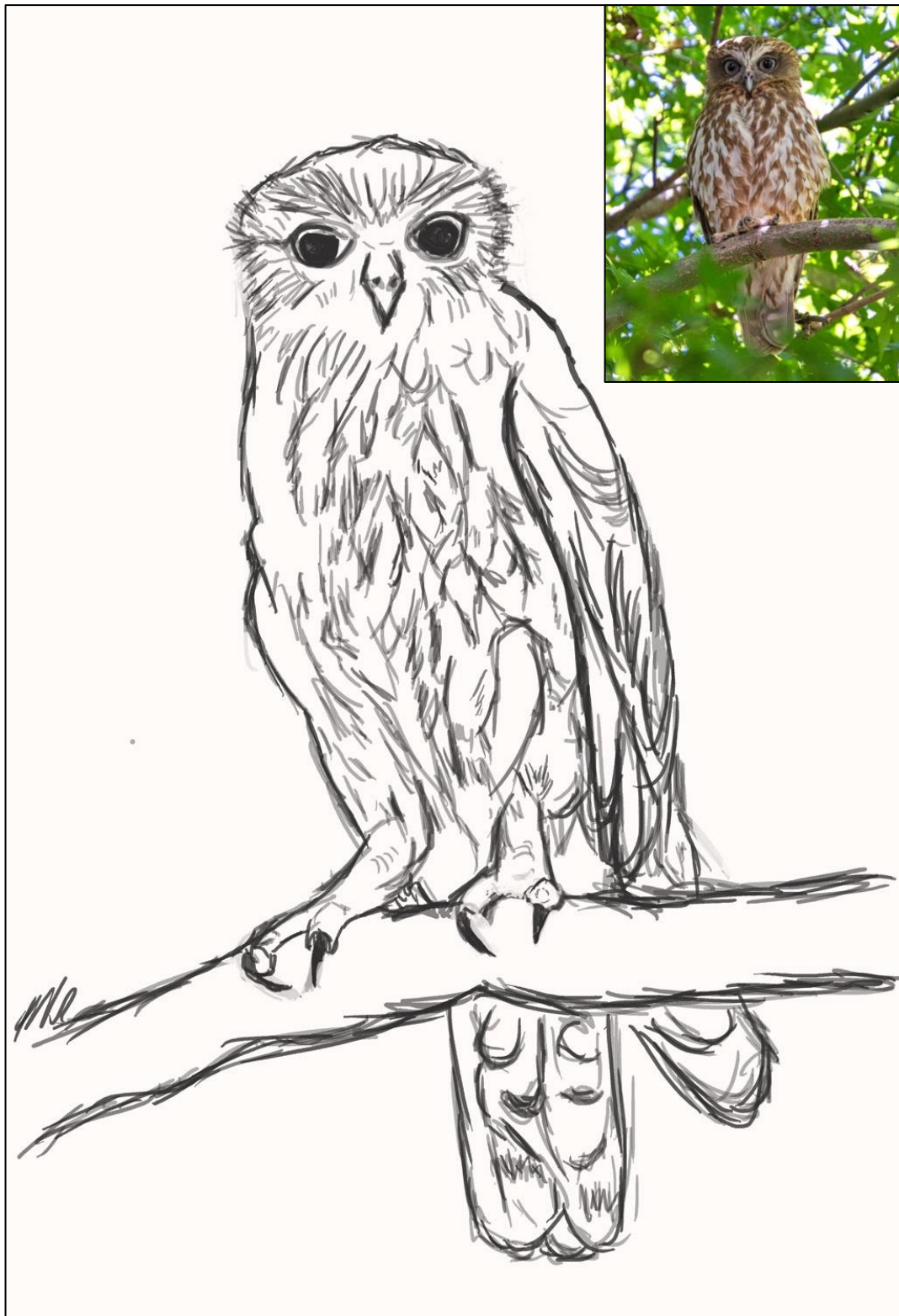


*Rakali Water Rat - Photo by Di Huber*  
*The Yorta Yorta traditional name for the Water Rat is **Wowo***



*Artwork: Linda Gallus 'Wahtookey 1' from Tammy Muir's 'The Adventures of Barmah Billy' children's book 2009.*  
*Linda Gallus was an art teacher at Nathalia Secondary College.*

## NOVEMBER



*Southern Boobook drawing: Di Huber Inset Photo: Peter Poon*



## DECEMBER

It's fitting to finish with **Biyala**, the magnificent River Red-gum *Eucalyptus camaldulensis*.

According to Jacobs, some trees could reach 500 – 1000 years. Ref: Jacobs, M.R. (1955) *Growth Habits of the Eucalypts*. Forestry and Timber Bureau, Canberra.

**Photo taken in the Bush Learning area on the Nathalia Botanical Walk 2021**

**Photo: Lyn Loger**

River Red-gums are the dominant tree in the Barmah-Millewa National Park, with World Heritage listed Wetlands; it's the largest, River Red-gum forest in the world.

When the gums drop their limbs, the break sites can evolve into hollows, becoming homes for many bush creatures; the threatened Superb Parrot is one of them.



River Red-gums have been, and are, an essential part of the world of living for both indigenous and non-indigenous Australians. Some historical and cultural examples are evidenced today by: canoe and shield trees, ring trees and birthing trees, the practice of 'smoking', burning eucalyptus leaves for spiritual cleansing, still used as part of the current *Welcome to Country* provided by Elders, eucalyptus oil used for medicinal use and the wood used to create a range of traditional implements.

In the book, *Koorie Plants Koorie People*, p.14, this quote is provided from a squatter on the Murray in the 1840's, Peter Beveridge: *Their canoes are made from the bark of the redgum tree; bark of other trees is used but merely for temporary use, as none but the former will stand the weather without curling up or splitting*. Ref: *Aborigines of Victoria and the Riverina*, P. Beveridge, 1889.

Since colonisation, the deep red wood has been a favourite of wood turners, with products made from its timber famous around the world. The wood's use in construction supported the early development of our railway lines and wharves, underpinned the farming industry, warmed our homes and provided countless timber industry jobs. River Red-gums are of major importance as a source of honey and eucalyptus oil.

River Red-gums are a continual subject matter for artists, photographers and writers. May Gibbs much-loved children's story, *Snugglypot and Cuddlepip*, (1946) is an Australian classic. Locally, the River Red-gum inspires many creatives. For example, there's Tammy Muir's: *The Adventures of Barmah Billy*, set in the Barmah Forest and illustrated by Linda Gallus. Marj Lawson's final painting of the Broken Creek is unforgettable. Art teacher, Glenda Cornell, past Nathalia resident, continues to inspire other artists as artist/teacher. Currently, the Barmah Forest Heritage & Education Centre's entrance window features Estelle Chalker's superb River Red-gum photo. The love of our local trees is a core element, both of Joan Harding's body of art work and Linden Lancaster's textile art, while photographer, Judy Ormond, features them constantly. The list could go on and on.





***Biyala***, an ancient River Red-gum in Barmah National Park. Photo: Estelle Chalker

As you walk beside such magnificent trees, acknowledge their long ancestry, value their antiquity and unique beauty and remember how much they have contributed to, how much they are a part of, our Australian lifestyle.



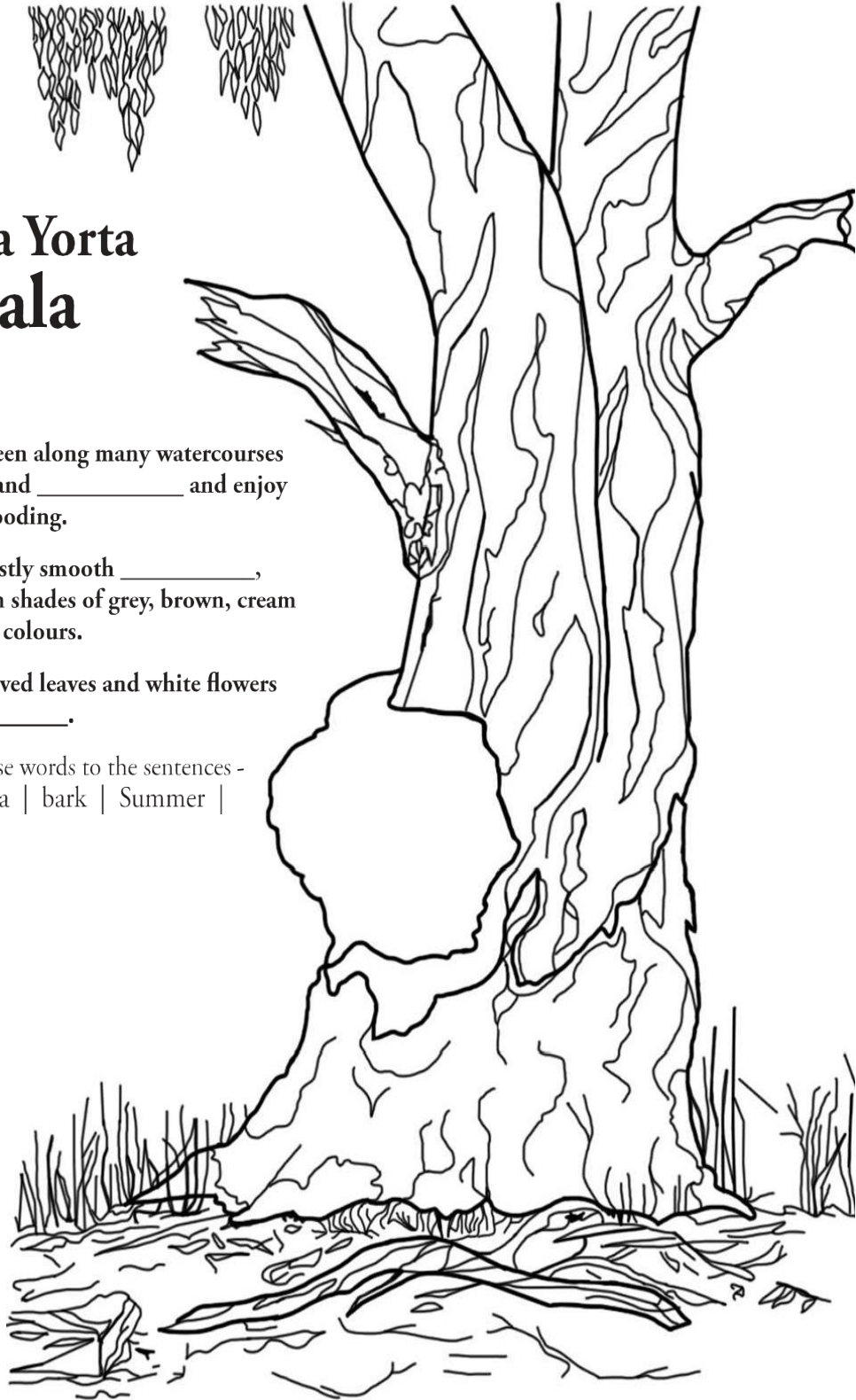
# Yorta Yorta Biyala

I can be seen along many watercourses  
across inland \_\_\_\_\_ and enjoy  
regular flooding.

I have mostly smooth \_\_\_\_\_,  
mottled in shades of grey, brown, cream  
and other colours.

I have curved leaves and white flowers  
in \_\_\_\_\_.

match these words to the sentences -  
| Australia | bark | Summer |



Original artwork by Mel Freeman

Ref: *Loving Moira's Natives* G.R.A.I.N. Store, Moira Shire, Yorta Yorta Nation 2020

## Two photos to show the development of the Bush Learning area

Funding for the Creek Clean-up was provided by Nathalia Bendigo Bank



*Photo: Lyn Loger*

See the photo above, an inaccessible area to walkers before the creek-side clean up. The photo below shows the same area, but from down by the creek, with the pathway created. The project started in November 2018 and was completed to the stage below by September, 2019, with the log circles set down in March 2021.

It is hoped that this area will become a valued outdoor bush learning resource for students and teachers from the five schools in Nathalia and the two Pre-schools, along with visitors to Nathalia.



*Photo: Judy Ormond*



## STAGE ONE

### Cleaning up the creek frontages on the walk area.

The funding was provided by Nathalia Bendigo Bank.

The partnership which organised the clean-up operations, November, 2018

**L-R: Peter Mortimer, Judy Ormond, Lyn Loger, Jane White, David Roberts**



Some of the Broken Creek clean-up crew.

**Photo right L-R: Col James, Peter Mortimer and Stephen Williams 7th May 2019**



**Below left: The mulcher in action – the mulch was used to make the paths in the Bush Learning area.**



**Photos: Judy Ormond**



**Photo left: Artist Mel Freeman painted the owl for the sign.**

**Photo right: The pathways are cleared, one east and one west of the CFA earth ramp off Muntz Avenue.**





## STAGE TWO

The Nathalia Botanical Walk pamphlet is launched. Tuesday, September 17<sup>th</sup> 2019



**Cr Kevin Bourke**  
**Moira Shire**



**Lyn Loger**  
**Project Co-ordinator**



**Roland Huber**  
**Nathalia Barmah**  
**Business and Tourism**



**Julia Arho**  
**Bendigo Bank**

Funding for the printing of the pamphlet was provided by  
Western Moira Tourism



**Photos: Judy Ormond**





## Contributors to, participants in, *Nathalia Botanical Walk*



*U3A Walkers' Group*

*Photos:  
Lyn Loger  
Judy Ormond*



*Duke of Edinburgh Award  
Justin Watson 'Clean up the Creek'*

## *Nathalia Wildflower Group receiving the Nathalia Australia Day Award in 2020*



*Photo: Numurkah Leader*

*L-R: Philippa Schapper, Joan Harding, Lyn Loger, Ann Christy, Judy Ormond, Linden Lancaster*



*Some members of Nathalia Nightwatch CWA branch trial out the walk.*

## ACKNOWLEDGEMENTS REFERENCES RESOURCE MATERIAL

**Red Gum Courier** This book is based on the series of 23 articles written by Lyn Loger and published by the Red Gum Courier in 2020/21.

**Nathalia Botanical Walk Pamphlet and Video Presentation. Pamphlet:** Lyn Loger, Judy Ormond, Marie O'Brien and Joan Harding **Video presentation of local flora:** Judy Ormond

**Local Flora List** Lyn Loger and Judy Ormond **Local Birds' List** Jan Atkin and Joan Harding

**Organisations** Nathalia Wildflower Group; NADDCO (Nathalia and District Development Corporation); Bardi Gras Group; Moira Shire; Nathalia Barmah Business & Tourism; Yorta Yorta Nation; G.R.A.I.N. Store; Nathalia Printers; Nathalia Educational Venues: Nathalia Secondary College, St. Francis Primary School, St. Mary's Secondary College, Nathalia Community Early Learning Centre

**Artwork** Joan Harding, Mel Freeman, Linda Gallus, Bill (William) Kelly, Sue Heberle & Nathalia Secondary College students, Anne Timm, Ann Christy, Ruby Wyatt-Carter, Gordon Dowell, Linden Lancaster, Dennis Murphy, Aunty Sharon Atkinson, Roxanne Atkinson, Jakara Wise, Troy Firebrace, Marj Lawson

**Photography** Judy Ormond, Di Huber, Danielle Loger, Peter Poon, Julie Millowick, Rosalie Simkin, Lyn Loger, Heather Henderson, Estelle Chalker, Averil Kennedy, Philippa Schapper, GBCMA., Macleay Museum, University of Sydney

### Publications and specialist assistance

Dr. Martin Steinbauer FRES, Associate Professor, Latrobe University, Melbourne. Processionary Caterpillar research papers 2009/2018

Don Herbison-Evans, webmaster of <http://lepidoptera.butterflyhouse.com.au/larvae.html>

Janice Mentiplay-Smith, GBCMA, Conservation Management Network Coordinator

Peter Marriott, author, *Moths of Victoria*, Victorian Entomologist, An ongoing series of 9 books.

Patrick Ward, Botanist

Ben Goonan, Ecological Consultant, Naturalist (Cicadas)

Bethan McKay Environmental Services Technical Officer, Moira Shire

Jane White, Environmental Sustainability Officer, Moira Shire

Aerial photo of *Nathalia Botanical Walk* - Jane White

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***Baala***, the Broken Creek, looking from the pedestrian Squezy Bridge towards the Nathalia Bridge.