



*Toodyay Naturalists' Club Inc.*

## **THE TNC NEWSLETTER**

ISSN 2207-8479

*Number 38 August 2022*



*The Toodyay Naturalists' Club Inc. is grateful to the Wheatbelt NRM for their on-going support in producing the TNC Newsletters*



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natural resource  
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### INSIDE THIS ISSUE

Presidents Report	Page 2
Julimar Conservation And Forest Alliance	Pages 2&3
TNC Trip to Dryandra	Pages 4&5
Houtman Abrolhos Islands	Pages 6&7
The Amazing Mardo	Page 8
Member's Gallery	Pages 9&10
Did You Know - Danjoo Koorliny	Page 11
Environment Matters	Page 12



# President's Report

by Sharon Richards

The club visit to the newly established Dryandra National Park in May was a fabulous experience with innumerate encounters with Echidnas, listening to the haunting call of the Bush Curlew during our Club meeting and, for a few lucky people, a glimpse of a fast-moving Numbat were amongst the highlights. An evening safari to Bana Mia topped off the weekend and provided us all with a great opportunity to meet some rare nocturnal species, with the fleeting visit of a hungry swooping Boobook Owl to complete the night.

Although our focus in the Toodyay Nats is often on land we certainly aren't averse to a little bit of marine history and Dr Howard Gray provided that with his wonderful presentation about the diverse land and sea life and multiple ship wrecks of the Houtman Abrolhos Islands.

Unfortunately COVID precautions postponed the Annual General Meeting organised for July to be shifted to the August date. The AGM saw me continue as president for the forthcoming year with Desraé Clarke as Secretary and Charmian St John continuing as Treasurer. A club member evening followed with a number of extremely interesting presentations and observations.

To conclude I'd like to thank all the Toodyay Naturalists Club Committee for their unerring dedication and to all the Members of the club, thank you, without you there is no TNC. This next year is going to be a challenge as we work towards conserving our local environment to be enjoyed by future generations.

**Critically Endangered Fauna Habitat**

Healthy forest environments like Julimar are key to the survival of many of our smaller marsupial species and a number call Julimar home.

The shy nocturnal woylie or brush tailed bettong (*Bettongia penicillata*) is occasionally seen during the day.

About the size of a quokka, with a greyish coat and tiny forepaws, the woylie is classed as critically endangered.

Infrared photographs of Woylies foraging for food.

**JULIMAR CONSERVATION PARK**

BOLGART

WANDOO DRIVE/POD ROAD

WIND BUSH TOODYAY ROAD

JULIMAR ROAD

TOODYAY

**TOODYAY NATURALISTS CLUB**  
est. 1968

The Toodyay Naturalists Club Inc. acknowledges the First Australians, the Ballardong, Whadjuk and Yued Peoples of the Noongar Nation, as the Traditional Owners of the Julimar Conservation Park and gives respect to their Elders past, present and emerging.

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**Photographic credits:**  
Wandoo (*Eucalyptus wandoo*) by Sharon Richards;  
Woylie (*Bettongia penicillata*) by Rob Boase & Wayne Clarke;  
Carnaby's Black Cockatoos (*Calyptrorhynchus latirostris*) by Charmian St John;  
Spider Orchid (*Caladenia* sp.) by Jacqueline Lucas;  
Sand monitor (*Varanus gouldii*) by Wayne Clarke;  
Red-capped Parrots (*Purpureicephalus spurius*) & Fox banksia (*Banksia sphaerocarpa*) by Melissa Adams.

**Julimar**

**Toodyay's Conservation Park**

Above and Page 3: The Toodyay Naturalists' Club's new brochure on the Julimar Conservation Park

Cover photo: The WA Faunal Emblem - a Numbat, crossing the road in Dryandra National Park.

Photo: Lyn Phillips



# Julimar Conservation And Forest Alliance

## by Sharon Richards

As we work towards establishing Julimar as a National Park we have been gathering historical information that has been gleaned about the vast array of fauna and flora that call Julimar home.

There have been a number of formal surveys by different scientific groups as well as a more recent bioblitz in 2016 supported by the Wheatbelt NRM. These surveys serve to provide a baseline of fauna and flora activity and also help to identify any potential issues, for instance the occurrence of feral animal activity which can be detrimental to the area. Now we need to understand what is currently happening in Julimar in 2022 to gauge any improvement or degradation which may have been occurring.

In April, Birdlife Australia organized a number of volunteers, both local and Perth based to survey the area, particularly for birdlife but also taking note of other interesting observations. This was the first of four which are planned to occur throughout the coming year. We know that not all birdlife is resident in Julimar for 12 months of the year and not all flora evident at all times, hence the need for multiple surveys. Most volunteers were not from a professional scientific background but were experts in their own field of observing birdlife and flora and passionate about their subjects.

On the day we had over 30 people present. We met at an area which has been referred to as the camp site, were divided into 6 groups and then drove to and walked our designated areas within Julimar, taking photographs and notes as we went. It was a thoroughly enjoyable morning, and although a little chilly at first, the weather was perfect and the morning very productive.

On meeting together again at lunchtime the campsite was a buzz with the findings and leader, Max, was smiling widely. In total 37 birds had been identified, we understand that the total bird count for Julimar is over 150 so for a single morning this result of 37 was terrific. The most exciting sighting of all was that of the Crested Shrike Tit, a bird formally found regularly in Julimar, but not seen for the previous 20 years. Needless to say this caused great excitement. In addition in excess of 515 wildflowers, trees & fungi, 60 reptiles, 15 amphibians and over 350 invertebrates have been identified; some are still being verified so that number will increase.

As well identifying fauna and flora the groups also took note of the habitat opportunities and a number of previously unidentified larger tree hollows were found and GPS marked. In the future we can hope that they will be used by the bigger birds like the currently endangered Carnaby Cockatoo.

We will be doing this survey again in about 3 months so if you would like to be involved please contact us. You don't need to be a scientific expert; you can provide support by taking photographs, being observant, taking notes, etc. Or if you would prefer, come along for the exercise, Julimar is a great place for a morning stroll.

**Julimar Conservation Park**  
One of the few remaining wandoo, jarrah and marri forests of the wheatbelt, just over 100km from Perth CBD and 20km northwest of Toodyay.

**Julimar covers over 28,000 hectares & provides habitat for different species:**

100 Birds	350 Invertebrates	35 Mammals
15 Amphibians	60 Reptiles	515 Wildflowers, trees & fungi

Seasonally the forest changes. Flowering of the trees attract an array of birds and insects; elusive reptiles appear; mammals become more active and a colourful display of orchids and other wildflowers bring delight.

**Birds in the Park**  
The Carnaby's Black-Cockatoos are most likely to be seen July – February. The male birds have pink eye surrounds. Younger birds have smaller duller cheek patches. They rely on marri and banksia for their food source.

Some of the less common birds that can be found in Julimar include: Crested Shrike-tit, Barking Owl, Red-capped Parrot, Wedge-tailed Eagle, Western Rosella, Redtailed Black-cockatoo, Black-faced Woodswallows and Peregrine Falcon.

**A rich & diverse flora**  
With the autumn and winter rain comes the wildflower season from June to September and Julimar will offer you the opportunity to see many different species including the spectacular White spider orchid pictured.

**PLEASE PROTECT JULIMAR BY NOT INTRODUCING UNWANTED DISEASE, SUCH AS DIEBACK.**  
Clean your shoe soles prior to walking in the forest and keep your vehicles to the designated tracks.

# TNC Trip to Dryandra National Park

by Beth Boase

ON the weekend of the May Federal elections 15 members of the Toodyay Naturalists' Club, plus one friend, had a very enjoyable, relaxing and invigorating weekend at the **Dryandra National Park**. There was almost no mobile reception and no election talk and we had all arranged to vote prior to the weekend.

The Dryandra Woodland has only just very recently been gazetted as a National Park. It comprises of about 28,000 hectares in 17 blocks, the largest being 12,000 hectares. This is extremely exciting as the area is of critical conservation importance, both with its vegetation and its greatly varied wildlife, in particular the Numbat (*Myrmecobius fasciatus*) which is our state's fauna emblem. The weather was perfect, sunny with almost no wind and it was ideal conditions for bushwalking as well as sitting and watching the wildlife and listening to various birdsongs surrounding us.

We were based at the **Lions' Dryandra Woodland Village** where there are several historic cottages for hire surrounded by bushland looking onto large open grassland being grazed each day by *Western grey kangaroos*. One time we managed to count at least 53 kangaroos in this area. The cottages are from when the area had a timber cutting industry. This was for the *Eucalyptus astringens* (Brown Mallet) as its bark was used mainly for the leather tanning industry. Also some of the timber was used later on for fence posts however a high proportion of it was left to rot and the termites demolishing it now providing a plentiful food for Numbats and Echidnas (*Tachyglossus aculeatus*). There was a lot of *Eucalyptus wandoo* (Wandoo) growing in amongst the timber they wanted so it was also cut down and just left. As this timber is not attacked by termites the logs remain there providing beneficial shelter for the smaller animals. On our walks, sometimes in small groups, sometimes single or in pairs, we found so many interesting discoveries and were totally mesmerised. One tree in particular, *Santalum murrayanum*, the Bitter Quandong, was seen by several in various areas and was quite spectacular especially with its weeping habit, delicate leaves and numerous green fruit hanging down.

Most members had a cottage, some sharing with others. A couple of us had our own self contained camping set up close to the cottages. Our May meeting was held late Saturday afternoon on the verandah of one cottage, overlooking the kangaroos. There was a nest box high up on the verandah and we were all thrilled to see a young Brushtail Possum (*Trichosurus vulpecula*) stick its head out a couple of times and look at us. Apparently later on he came right out and had a bit of a wander around. Also during the meeting we were all thrilled to hear *Stone Curlews* calling.

Everyone was booked in to the Barna Mia Nocturnal Animal Sanctuary on the Saturday evening. After some slides and a talk from our guide we went through into the two fully fenced four hectare predator-proof enclosures with special red filtered lights turned on. The animals are not concerned at all by the red lights and in a few selected spots we sat on log seats, some stood, and we watched as the animals came in for a small feed from the handler. The food is only a small proportion of what they require each day.

We were out in the enclosure for about one and a half hours and it was so thrilling and entertaining to watch animals that most of us have never seen up so close before come right up to our feet. The Bilbies (*Macrotis lagotis*) were not out that evening but we were all thrilled to see, at close range, Boodies (also called *Burrowing Bettongs*), *Woylies*, *Marlas* and *Quendas* as well as a couple of intruding *Brushtail Possums*. An inquisitive *Barn Owl* flew close by to check out what was happening as well as a Boobook Owl in a nearby tree. The *Marlas* in particular were very interesting. They are also called Western-barred Bandicoots and are slightly smaller than the other small mammal species. *Marlas* became extinct on the mainland by the early 1990's only surviving now on some offshore islands of Northwest WA as well as in predator-proof enclosures such as at Barna Mia.

There has been a lot of wildlife devastation in the not too distant past, particularly by foxes and cats but there has been a concerted attempt to control these predators through the Western Shield Wildlife Recovery Programme which is already showing some success. The breeding programme at Barna Mia is also helping as many of these animals will be eventually introduced back into the park in special areas secure from predators, as much as possible.

An excellent map was available from the camp office with many interesting details including numerous walk trails which many of us tried as well as roads. We drove around the park, separately one vehicle at a time, and then only very slowly, so as not to disturb the animals. At night *Woylies* and *Tammar Wallabies* can be seen.

...cont. Page 5



## Trip to Dryandra National Park (...cont)

As the Numbats are daytime animals they may be seen but are very elusive and shy and now busy setting up their winter abodes. Five of us, Bridget, Jacquie, Sharon, Lyn and Maggie, each managed to see a Numbat but not close enough, or quick enough to get a good clear photo. Apparently spring time is the best time to spot them as they are out foraging for food for their young.

Numerous Echidnas however were out in force during the daytime and seen by many of us crossing roads. This was another reason for the very slow rate of driving. One that we saw curled itself up defensively into a typical spiky ball and enjoyed getting its photo taken very close up. As soon as we drove off it scuttled off very quickly across to the other side of the road. Rob also had a *Yellow Footed Antichinus* come up to him while he was alone in the bush behind the camp and it sat there while he managed to take a photo. It was the first one he has actually seen in the wild.

There were many bird species recorded, in particular *Rufous Tree-creepers* in action, *Boobooks* and *Curlews* calling. Also a *Carpet Python* inhabits the caretakers' garden area. One member was very lucky to see it capture its once-a-month feed by waiting curled up at the base of the bird bath. When a *Twenty-eight Parrot* came in for a drink and a bit of a bathe the Python uncurled up the bird bath stand and caught the parrot from behind, swallowing it in one large gulp.

We all thoroughly enjoyed our time at Dryandra National Park with the perfect weather, numerous sightings and the unbelievably great experience at Barna Mia with so many wonderful and interesting mammals at our feet. Even though many of us have been to Dryandra before, plus Rob and I often camp at Congelin campsite on the edge of Dryandra when travelling to or from the lower south coast, it was certainly a unique experience and wonderful company



*Above left: Wandoo left on the ground provides great habitat for a range of creatures.*

*Above right: Woylies feeding at Barna Mia (infra-red photo).*

*Left: Santalum murrayanum, the Bitter Quandong. This plant belongs to the sandalwood family; the Noongar name is coolyar.*

*Photos: Rob Boase*

*(further photos can be found on page 9)*

# Houtman Abrolhos Islands

*A presentation by Howard Gray*

Dr Howard Gray, a self-described “Abrologist” from when he first researched and explored the Houtman Abrolhos Islands in 1980, gave an exciting presentation in June to the Nat’s members entitled, “*Are these Australia’s richest islands -rich in nature, rich in history, rich in resources*”.

He has shared his expertise as a natural and human historian by writing many award winning books, by being a science educator and also, as an enthusiastic promoter of Western Australian maritime history.

These successful publications encompass Christmas Island, the Geraldton fishing cooperative, the Batavia saga, rock lobster fishing, a fictional account of one of the passengers on the ill-fated Batavia, Jambinbirri-Champion Bay: Geraldton, and the spice trade of the Dutch East India Company. His latest book is about the Abrolhos archipelago itself.

As well, Howard is accomplished diver, keen photographer, lecturer and tour guide. He is happy to impart his vast knowledge of, and fascination with, our diverse coastal heritage.



*Above: Prior to landing on Rat Island*

*Photo: Howard Gray*



# Houtman Abrolhos Islands



*Above: The magnificent Sea Eagle*

*Below: Two males with a female Sea Lion*

*Photos: Howard Gray*



# The Amazing Mardo

by Rob Boase

WHILE Beth and I were not fortunate enough to sight a Numbat at the recent TNC excursion to Dryandra National Park, I was privileged to sight and photograph this Mardo (*Antechinus flavipes* ssp. *leucogaster*) and also known as the Yellow Footed Antechinus [*See photo Page 9*]. As this was the first one I had seen in the wild it was especially exciting for me!

The Mardo is a member of the marsupial family and therefore has a pouch for the young although it is quite a rudimentary one. They are a small mouse size animal with a body length of 90-160 mm with a tail a similar length and weigh between 20 and 75 grams. Unfortunately their superficial resemblance to the introduced house mouse has caused many Mardos to be killed by mistake. Antechinus are included in the Dasyuridae family and are related to Phascogales, Dunnarts, Chuditch and even the Tasmanian Devil! Mardos are mainly carnivores and their main diet is invertebrates like insects and spiders but they also eat small animals like lizards, frogs and even mice. Also the diet can include eggs, fruit and nectar. Mardos can hunt during the day or night depending when food is most available. The Mardos usually build a community nest in the hollow of a tree but occasionally have been found nesting in houses and sheds.

The Mardo is an amazing animal and one that certainly lives life in the fast lane! All males die before they are 12 months old and most females rarely survive to breed a second year. Their life cycle is one of the most finely tuned to the environment in the animal world. Prior to breeding both males and females can spend long and deep periods in torpor when food or climate is not suitable. This is where they can slow their breathing, lower their heart-rate and temperature and be almost in a state of temporary hibernation. This attribute also allows them to survive in their hollows after a fire when food is short and there is no ground cover to protect them from predators. Even while pregnant, females can alter their metabolism to match food availability and climatic conditions to ensure healthy young.

Mating in the *Antechinus* world is a frenzied and complicated social affair! The breeding season is late winter early spring and all females in a population come on heat at the same time, triggering a mating frenzy among the males. Over the next couple of weeks the males mate with as many females as possible for up to 12-14 hours per mating. During this time the males gradually lose weight and eventually succumb to exhaustion or disease and die within the frantic fortnight. One thought regarding the reason for this mass die off is that the competition for food is immediately halved leaving more for the gestating females. The fertilization does not take place immediately as the female stores the sperm in her oviducts for up to 2 weeks. This ensures only the strongest sperm survive to go on to fertilise the eggs. Up to 14 baby Mardos can be born a month later, often with a number of different fathers. The babies are not much bigger than a grain of wheat when born and each one crawls and attaches to one of the mother's teats inside the very open pouch. They remain reliant on the mother for about the next 3 months until they collectively weigh about 4 times more than her! By the time of weaning the mother is exhausted and usually dies, although sometimes a mother will live to breed another season.

Like most of our Australian wildlife the Mardo faces multiple threats to its survival. Cats, foxes, land clearing, urban sprawl and now climate change putting their future survival in jeopardy. It would not take much of a seasonal change to interrupt the peak supply of insects at the time most needed in the Mardo's breeding cycle. Let's hope that the Mardo's amazing ability to survive and adapt to adverse conditions in the past will continue as they encounter the fresh threats of the future.



## Members Gallery



Above: Mardo or Yellow-footed Antechinus (*Antechinus flavipes ssp. leucogaster*) Photo: Rob Boase

Below: A Common Brush-tailed Possum (*Trichosurus vulpecula*) was an observer at our meeting  
Photo: Sharon Richards





# Members Gallery



*Left: Banksia sphaerocarpa - the Fox banksia.*

*Photo: Jacquie Lucas*

*Right: Dryandra's white kangaroo.*

*Photo: Bridget Leggett*



*Left: A Stone Curlew makes an appearance*

*Photo: Sharon Richards*



# Danjoo Koorliny

## Walking Together - Towards 2029 and Beyond



## DID YOU KNOW...

... Danjoo Koorliny - Walking Together - is a large-scale, long-term, systems-change project designed and led by Aboriginal leaders to help us all walk together towards 2029 (200 years of colonisation in Perth) and beyond.

Co-directors of Danjoo Koorliny are Dr Noel Nannup OAM, Dr Richard Walley OAM, Professor Emeritus Colleen Hayward AM and Carol Innes AM.

Friday August 5th saw 50 plus attendees of the WA Landcare Network (WALN) *Annual Network Gathering* welcomed to Oral Maguire's Beverley property where there has been amazing revegetation over the past decade of a degraded landscape from clearing and extensive excavation of gravel. It was a wonderful day of camaraderie with a walk taken to an area to plant endemic species. Three young Rangers were excited to be part of the Caring for Country education.

Wayne and I felt honoured to attend the get-together, to meet up with Noel and Oral again and the many interesting visitors including politicians, Darren West and Shane Love who both mixed freely to meet and talk with those who are so passionate in Caring for Country.

It was a wonderful and fulfilling day.

*Photo above: Darren West wore a blue suit (left of middle) but was not adverse to getting his hands (and suit) dirty. Led by Oral Maguire, Darren and 60 other volunteers joined in the planting, followed by time around the campfire yarning.*

*Seated next to Darren are Noel, then TNC Members Wayne and Desrae Clarke*

*Photo: Eddy Wajon*

# ENVIRONMENT MATTERS



Highlights from the TNC AGM and Members Night held 20 August 2022...

Left: A Western Pygmy Possum on the 'high-wire' at the Warburton's place, A well positioned sensor camera catches the action.

Photo: Greg Warburton

Below: A display of native plants flowering late spring in Bob Frayne's Garden. Toodyay

Photo: Desraé Clarke

## Spring flowering native plants...

- Acacia acuminta* (Raspberry Jam Wattle)
- Acacia denticulosa* (Sandpaper Wattle)
- Acacia hemiteles* (Tan Wattle)
- Calothamnus quadrifidus* (One-sided Bottlebrush)(Grey form)
- Eremophila eriocalyx* (Desert Pride) (buds)
- Eremophila glabra ssp carnosa*
- Eremophila maculata* 'apricot'
- Eremophila oppositifolia* 'Weeooka' (Purple)
- Eremophila oppositifolia* (Cream)
- Eremophila sp Beverley* (Priority 1)
- Eremophila youngii*
- Eucalyptus lehmanii* (Bushy Yate) Bud&fruit
- Hibbertia subvaginata*
- Hypocalymma xanthopetalum* (Golden Flowered Myrtle)
- Santalum spicatum* (Sandalwood) (Fruit)



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(next to the Bendigo Bank ATM).      **Opening hours:** Saturday 10am - 12noon

**WILDCARE HELPLINE 9474 9055**

*Member of the WA Landcare Network*

TNC News August 2022