



*Toodyay Naturalists' Club Inc.*  
**THE TNC NEWSLETTER**  
*Number 13 April 2014*



*The Toodyay Naturalists' Club Inc.  
is indebted to the Wheatbelt NRM  
for their support in producing  
The TNC Newsletter*

**INSIDE THIS ISSUE**

President's Report	Page 2
Red Card for the Red Fox	Page 3
Wood Centipede	Page 4
Pollination Biology at Windarling	Page 5
Fire Regime and the Gouldian Finch	Page 6
Toodyay Tidy Towns update	Page 7
Urbanisation and Pollination	Page 8
How to become a naturalist	Page 9
Photographers Page - Did You Know	Page 10
A beetle and a Devil	Page 11
Environment Matters	Page 12



**wheatbelt**  
natural resource  
management

*Cover photograph - Variegated Dtella (Gehyra variegata)  
peering through a web*

*Photo Georgina Steytler*

# PRESIDENT'S REPORT

With the 2014 January temperatures in the high 30's and low 40's tiny birds were found sitting on our verandah or beneath the car to escape the heat. 12 bird baths and water bowls are scattered around the house giving some relief to the wildlife.

As the 50th Anniversary of the Toodyay Naturalists' Club is 2018 I have thrown open to all members the idea of creating a publication to acknowledge the significant milestone in the Club's history. Interest received from members, our Honorary Life Members and Patrons, has been encouraging.

Very early Saturday 8 February eight Club members cleaned the gardens around the IGA store of weeds and trash as a volunteer fund-raising effort; a ninth member took the fifteen bags collected to the Shire transfer station. Since that date three members did a further cleanup of weeds which were proliferating at an incredible rate.

The first meeting of the year in February welcomed ecologist, Gillian Basnett, speaking on her work in the Kimberly with the Australian Wildlife Conservancy of fire regimes and the Gouldian Finch. Gillian grew up in Canberra where she spent her childhood exploring the bush, coastlines and snowy country. Her specialty is in fire ecology and she has a keen interest in wildlife, particularly birds. Gill spoke on the importance of 'dry season' and 'wet season' fires, the period between fires to allow regrowth and the effects, both positive and negative, of fire regimes. The Gouldian Finch needs the seed of the sorghum grass and will move quite long distances, for a small bird, for this nutrition. Much research has been done on the little finches with radio tracking and capture to monitor nutritional rates. However, with the finches search for seed and high mobility it is not easy to estimate numbers of the flocks but it is suspected, at this point in time, to be a total population approximately 2,500 birds in the Kimberly region.

'Clean-up Australia Day', Sunday 2 March, was recognised by a litter removal along the Toodyay/Perth Road from Morangup Road to Fernie Road, a distance of 4.00kms. This is a Toodyay Nat's registered Adopt-a-Spot area with the Bendigo Bank. However, there were also participants from groups registered with Toodyay Tidy Towns, Morangup Progress Association and the Friends of the River.

The March meeting guest speaker was one of our three patrons, Professor Stephen Davies, speaking on his great love, Magpie Geese. Dr Davies has been interested in these birds for many, many years and, in the 1960's, CSIRO asked his assistance in the newly established rice farming area of Humpty Doo in the Northern Territory. The Magpie Geese, endemic to the sub coastal plains of northern Australia, found the rice to their liking when the country experienced several years of dreadful droughts and their breeding swamps were drained. Rice farming in the area was not successful because of the lack of water.

The April meeting was extremely pleased to have member, Dr Michalie Foley, give a fascinating and in-depth presentation on 'Urbanisation and Pollination; using Genetics in Conservation'. With Google Earth Maps Michalie was able demonstrate increased urban sprawl over the past decade reducing areas of remnant vegetation and placing enormous pressure on the pollinating of plants by birds, but more especially, insects. DNA studies are easier with animals than plants and much time was spent to successfully gain plant DNA material for her work. Michalie worked on *Banksia ilicifolia* (Holly-leafed Banksia) to understand pollen dispersal patterns and genetic diversity of this plant.

At the closure of the month of April an excellent evening of both entertainment and education was enjoyed by members and interested community in a film evening by cinematographer, Leighton De Barros, supported by the Toodyay Naturalists' Club. Leighton has much experience in documentary wildlife and adventure film making. His themes, at this showing, incorporated exploratory work on the life of the Bunbury dolphins, the whales travelling along the West Australian coastline, the Australian Sea Lions on the Abrolhos Islands and the unique sea grass feeders, Dugongs, at Hamelin Bay. Leighton is preparing to film the birth of a Humpback Whale in West Australian waters later in the year.

The first newsletter for the year was ready for distribution in the last week of April with much appreciation given to Wheatbelt Natural Resource Management for the printing of this edition.

*Desraé Clarke*



## RED CARD FOR THE RED FOX

by Greg Warburton

**The European Red Fox, *Vulpes vulpes***, was introduced into Australia in the 1850's. Today it is found in all parts of the continent except the tropical north. Introduced into Tasmania in more recent times its status in that state is unknown. The fox is listed as a key threatening process under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act).

Foxes favour lightly wooded country but have adapted well to arid landscapes, alpine areas and urban environments. They are well established in agricultural regions like our Wheatbelt. Mostly a nocturnal animal, foxes can also be seen during the daylight hours. They are regular breeders producing a litter of four kittens during August/September. Although primarily carnivorous foxes will readily eat insects and other invertebrates, vegetables and fruit. They commonly raid orchards and gardens to devour grapes and melons etc. Along with feral cats, foxes pose one of the greatest single threats to native Australian wildlife especially small mammals. The decline and extinction of several species of native marsupials has been attributed to fox predation. Foxes are also a major threat to agriculture by preying on new born lambs. In addition to the threat from predation foxes are known to carry diseases such as rabies, distemper and mange. Major campaigns to control foxes have been conducted in Western Australia notably "Western Shield" and "Red Card for Red Fox"

What is Red card for Red Fox? It is a community based, feral animal control program that operates across the agricultural region of Western Australia. Each year local community groups, sporting clubs, local governments and individual land holders come together to run a co-ordinated control program across their local patch during the autumn months.



*Continued Page 4*



## RED CARD FOR THE RED FOX

...cont

The theory behind the program is that the best results can be achieved by co-ordinating control activities at the same time across the landscape. In that way areas where feral animals are removed are not reinfested by animals moving in from neighbouring territories.

The largest part of the Red Card program is the community baiting programs. Each year local groups co-ordinate their baiting so that the maximum impact can be achieved. Baiting is carried out in autumn as this is generally lambing time in the south west and many foxes are on the move searching for food following the long summer.

Red Card also supports community groups to conduct fox shooting programs. Over recent years local company Stockbrands has sponsored the fox shots and donated \$5 to the Royal Flying Doctor Service for every fox killed through registered Red Card Fox Shoots. So far, \$101,000 has been donated to the RFDS through this sponsorship.

The program is supported by the Australian and Western Australian Governments through regional natural resource management groups including Wheatbelt NRM, South West Catchment Councils and South Coast NRM.

State Coordinator for the RCRF program is Club member Jacqui Lucas. She has had a busy time over the past few months as RCRF events have been taking place.

In conjunction with the program Wheatbelt NRM have been providing incentive funding for community groups to enhance the success of their RCRF events. Several groups took advantage of this funding which could be spent on event catering and prizes etc. One of the most impressive prizes on offer was at the Westonia Fox Shoot organised by NRM Stacey Geier. A Magnamount spot light valued at nearly \$500 was presented to the winning team. All up the event accounted for 68 foxes, 236 Rabbits and 9 feral cats.

Local Toodyay wildlife enthusiast Georgie Troup organised a fox shoot on the first weekend in April on farms around Bolgart which dispatched 36 foxes and 3 cats. After a BBQ breakfast prizes were presented and we all went home happy in the thought that there were significantly less of these feral predators in our landscape.

All up RCRF this year has tallied over 2,000 Foxes, the same amount of Rabbits and over 200 cats. Let's hope next year will be as successful.

## WOOD CENTIPEDE



Commonly known as a wood centipede, it belonging to the genus *Allothereua*. They are fast running little predators and can bite, though rarely inclined to do so. They often can be found under peeling bark or among fallen branches. I don't know much about them but can say they often turn up in pitfall traps in Kings Park and right through the south-west out to the Goldfields.

(Data supplied by Patron John Dell APSM).

*Photograph by Wayne Clarke*

**POLLINATION BIOLOGY AT WINDARLING IRONSTONE RIDGE**  
*School of Environmental Science, Murdoch University 2010/2012*  
*In association with*  
*Cliffs Natural Resources (Asia Pacific Iron Ore)*

*Tetratheca paynterae* has been named in honour of the Toodyay lady who discovered the plant in the Mt Jackson/Windarling ironstone ridge area, Mrs Ray Paynter. Mrs Paynter is one of the four foundation members of the Toodyay Naturalists' Club (TNC) established in 1968 and she continues to reside in Toodyay.

In 2010 a survey was undertaken by a team from the School of Environmental Science, Murdoch University, on pollination biology of the *Tetratheca paynterae* and a second rare and endangered plant, *Ricinocarpus brevis*. As it is the *Tetratheca* that is of main interest to the TNC, the following data pertains to that particular plant.

It was found that 19 bee species have been identified in the area marked for the study but only five of those 19 species visited the *Tetratheca*. Over the initial year of 2010 it was found that the bees were carrying *Tetratheca* pollen only but in July 2011 one visit was recorded. Bees visiting plants are dependent on a suitable temperature with it being over 20°C at midday; Cliffs Mining staff provides the weather data. In that period daily temperatures were very low.

However, in October of 2010/2011 temperatures were more suitable resulting in an increase of visitations to the plants by the native bees.

Observations of plants began at 8.30am till 3.30pm for various periods in October 2010, July and October in 2011.

Bees were examined for their pollen load and identified, if possible, or taken to the WA Museum for identification.

It was interesting to note that the bees preferred to gather pollen on the outer shoots of the plant away from the dense interior. In October bees were captured several hundred metres from the ridge carrying pollens from a variety of plant species but also a small amount from the *Tetratheca*.

It was concluded that the project was successful with weather temperature playing a major part in the visitation by native bees.



*Above left: A native bee photographed on the petal of a *Tetratheca paynterae* flower. The delicate flowers are in stark contrast to the banded ironstone ridge in the Yilgarn where they are found - and the only place they are found.*

*Photograph by Mark Gerlach*

*Above right: The *tetratheca*, known as Paynter's *Tetratheca*, with the ironstone ridge showing its colour behind the stems on the left.*

*Photograph by Phil Dadd*

# *FIRE REGIME and the FATE of the GOULDIAN FINCH*

*by Gillian Basnett*

Gillian Basnett grew up in Canberra where she spent her childhood exploring the bush, coastlines and snowy country. She has a Bachelor of Science in Resource and Environmental Management from the Australian National University and a Master of Environmental Science and a Master of Environmental Science - Research from University of Wollongong. Gillian's specialty is in fire ecology. She also has a keen interest in wildlife, particularly birds.

Gill has worked for a range of both government and non-government organizations including NSW National Parks and Wildlife Service, NSW Rural Fire Service, Australian Wildlife Conservancy, WA Department of Parks and Wildlife, Bamford Consulting Ecologists and Millennium Kids.

Following her great list of educational achievements Gill completed her Masters thesis 'developing models to predict the impacts of fuel reduction burning on habitat complexity, ground-dwelling mammals and understory birds'.

The importance of fire and regeneration of plants included the difference between the 'early dry season' fires and the 'late dry season' fires. Intervals between fires are necessary to allow the regeneration of plants which may be from seed, re-sprouting plants, lignotubers, etc. For instance, Spinifex needs at least three

years between fires to grow properly. Some plants are completely killed.

It would be appreciated that small animals are greatly affected by fire but the large monitors, lizards and raptors benefit from the death of other creatures.

Survival of the Gouldian Finch depends on the main food source of the seed from the grass, Sorghum. It is a highly migratory little bird and the loss of its food source causes it to move further afield. It appears the numbers of the Gouldian Finch in the wild have decreased dramatically over the past decades but it is difficult to estimate exact numbers as they are migratory. At this point in time, it is estimated numbers to be approximately 2,500 birds. Gillian's team have been radio-tracking the birds for movement and trapping to check nutritional status.



*Above: Gill at the conclusion of her talk, with a Gouldian Finch on the screen behind her.*

## TOODYAY TIDY TOWNS UPDATE

by Beth Frayne

Toodyay has entered the Tidy Towns Sustainable Communities competition again, registering as a 2014 participant on 9 February. A total of 71 communities have registered, 11 in our Central Wheatbelt and Goldfields Region. Jo Gray (TTSC's most senior judge) and Gail Dodd are our Regional Judges this year. We have started work on updating the TTT Action Plan and will be drafting our Submission over the next few weeks.

Walpole, last year's overall TT winner in W.A., was successful in the Australian Tidy Towns titles, winning the Dame Phyllis Frost Litter Prevention and the Environmental Innovation and Protection awards. Sheffield, Tasmania, won the overall national title.

The TTTC has met twice this year already, and has streamlined its ways of working to 'avoid burnout' as recommended by the TTSC Judges last year. The *Toodyay Tidy Talk* newsletter and the Herald will still keep the TT message to the fore. Our Supporters are still on board, and we even have a new one: Avon Valley Railway, training young women as miniature train drivers! Have you noticed the new street trees (planted by the Shire)? And two more much needed stainless steel cigarette butt bins (supplied by our local Bendigo Bank Branch) will soon be installed near the IGA.

In February, the IGA Garden received some loving attention from a band of Nats early risers. Members cleaned the gardens of weeds and trash resulting in a collection of 15 bags! Plants that had overgrown on the footpath were very sensitively trimmed to prevent damage and aid growth.



*Left: Some of the TNC vollies and their 15 bag litter and prunings haul! (Photo: B. Frayne's camera)*

One of the sad observations of this exercise was the amount of cigarette butts left in the garden area when there are bins available for their disposal. Also there are many 'unofficial walkways' through the garden which has damaged and destroyed plants. However, the plants that have managed to survive this onslaught are growing well as there are hardy native plants such as the *Darwinia citriodora* and *Eremophila* species in the gardens. The Club was very grateful for the significant donation received from Dean, the owner of Toodyay IGA. Nats members have since conducted another weeding blitz.

On Clean Up Australia Day, 2 March, the Nats successfully managed its Morangup Nature Reserve Registered Site, with support from TTTC, TFOR and other groups and private individuals. The 17 vollies collected 56 bags of litter and other large items along a 4 km section of the Toodyay Road near the Reserve. The group then enjoyed morning tea at the Clarkes' residence afterwards. The Toodyay District High School did its bit on Clean Up Schools Day on Friday, 28 February.

*Right: Members prepare for the event. (Photo: Greg Warburton)*

TTTC Chairman Greg Warburton is still spearheading the 'new signage of all types' campaign, with the help from TTT Committee members. TTTC has asked the Shire to remove any old Shire and Town boundary signs that are still in place and suggested that one of each type of sign should be given to the Toodyay Historical Society, as an archival record. See Greg's Entry Statement model, featuring the Avon River, on view in the Toodyay Community Bank Branch. Comments are welcome.



*Continued on Page 12*

## *Urbanisation and Pollination - Using Genetics in Conservation* *by Dr Michalie Foley*

Member and guest speaker, Dr Michalie Foley, gave her presentation titled, 'Urbanisation and Pollination Using Genetics in Conservation'. With Google Earth Maps Michalie was able demonstrate increased urban sprawl over the past decade reducing areas of remnant vegetation and placing enormous pressure on the pollinating of plants by birds, but more especially, insects. DNA studies are easier with animals than plants and much time was spent to successfully gain plant DNA material.

Michalie worked on *Banksia ilicifolia* (Holly-leaved Banksia) to understand pollen dispersal patterns and genetic diversity of this plant. It is found in two vastly different areas being south of Jurien to Lancelin where the land is dry with minimal below ground water and a second area in the lower south west of the State where the water table is much higher and available. The two areas are genetically distinct with overlap in the centre.

Pollen flow in small urban bushland areas was predominantly from neighbouring trees while the larger natural populations pollen come from trees over ten metres away which has led to seed in the small population being more related. This has not really had an effect on seedling health except when the seedlings were put under drought stress the seedlings from the larger populations survived a little longer than those from the small populations.



*Above: Banksia ilicifolia, the very attractive plant used in Michalie's study. Growing to 12 metres in height, it is found from north of Lancelin to Perth and south to Esperance, with a distinct overlap between ranges. The variation in range also produced a variation in colour.*



*Left: Michalie talking to Desrae on a TNC outing to Dryandra Woodlands, both rugged up against the cold.*



# HOW TO BECOME A NATURALIST

*by Georgina Steytler*

Chris and I recently went to Sicily on an archaeological adventure. Amidst a spring garden of wild poppies and daisies lay the marbled ruins of a once great coastal city of Selinunte. At its peak, around 400BC, it was home to around 30,000 Greeks. Whilst our tour group gasped and spluttered in awe, Chris took a photo. In the background is the crowning glory of Selinunte - the magnificent Doric columns of the Temple of Hera, which tower over the ancient acropolis from their perch atop a hill like sentinels that refuse to abandon their post. In the foreground is me, slightly hunched over, with my back to the temple, desperately trying to photograph a bright green lizard sitting on a rock.

That's when I knew I had a problem, if you can call an overwhelming love of our natural world a problem, that is.

Where others saw intricately mosaic-ed floors and carved marble statues, I saw the bobbing heads of sun-baking dragons, hyraxes scampering along crumbling walls, frogs croaking from crusader moats and hoopoes flitting from pillar to rock.

It wasn't always so. 15 years ago, I was a lawyer working in a private law firm where only two things mattered: billable hours and making a good impression with potential clients at Jazz and Shiraz evenings at the Kings Park Tennis Club. I was making good money and had a good job. I was, therefore 'a success' in the eyes of many. But I was not happy. Around that time I was diagnosed with major depression and spent two weeks at the Perth Clinic reassessing, among other things, what it took to be happy.

The realisation that happiness could come from learning to appreciate the natural world did not come straight away. It took a visit from a friend who did guided tours in the Amazon rainforest to open my eyes to the amazing world around us. He noticed everything and asked lots of questions. One day he asked, "What is that bird?" I looked over at a large bird on a flower. I took a guess. "It's a honeyeater". He said "it looks like a wattlebird to me". I looked again - and saw the two big red wattles dangling from the sides of its head. That's one to the Peruvian, zero to the Australian. Next came the trees. He would point to a tree and ask what it was called. I would look at it and take a guess. If it had red sap, I said it was a 'red gum', if it looked white-trunked, I said it was a 'white gum', if it looked pink, I said it was a salmon gum. It was the 'river gums' that proved to be the final straw. He accused me of making up the names. Though I may have been right about some of them, the reality is that I knew so little of my own country it shamed me.

In order to make up for it, I enrolled us in some free local bird walks which were run by BirdLife Australia around Perth. Since then, I have never looked back. Like so many others, once you have your eyes opened, it's impossible to shut them again.

And it's seriously contagious. By the end of our tour, other members of the tour group were finding me turtles and frogs and birds as if they too had had their eyes opened to the world beyond the ruins.



*Left: Another amazing photo from Georgina.*

*To see the full range of her talent, visit her website -*

***[www.wildandendangered.com.au](http://www.wildandendangered.com.au)***

*The collection is truly amazing, and expanding all the time.*

*The TNC is privileged to have such a talented photographer in its ranks.*

## PHOTOGRAPHER'S PAGE



*Top left: Native sawfly wasp larvae, by Kerry and Don McNeil (see story on back page).*

*Top right: Black-gloved wallaby by Desrae Clarke*

*Centre left: Gould's monitor about to drink the remains of some water left for the birds - or is he? by Wayne Clarke*

*Centre right: bobtail sloughing its skin, by Wayne Clarke*

*Left: Western Thornbills on a bird bath, by Sharon Richards*

## DID YOU KNOW...

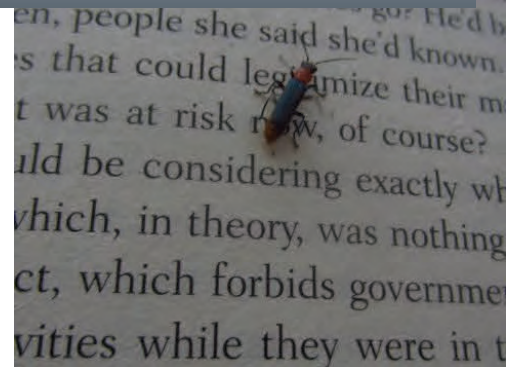
**that in 2018, the Toodyay Naturalists' Club will be celebrating its Golden Jubilee?**

## VIV'S BEETLE

by Andras Szito, Taxonomist/Curator, Plant Biosecurity/Entomology  
Department of Agriculture and Food, Western Australia



Viv's photograph at left is the *Hypattalus* sp. The photograph at right shows just how small the creature is - against the page of a book. This is always important when having these creatures identified.



The above beetle belongs to the beetle family of Melyridae and within this is genus *Hypattalus*. There are at least 6 different species in the genus. Adults and larvae are predators though adults sometimes consume pollen and nectar too. Many Melyridae beetles possess glands on their pronotum (the dorsal section of the prothorax which is the division of an insect's body nearest the head) and abdomen producing distasteful chemicals.

## MOUNTAIN or THORNY DEVIL

This small, colourful little reptile of approximately 11cms SVL (snout vent length) favours arid areas of Australia; however, there are pockets in the Shire of Toodyay in which this beautiful creature resides having been found in Wongamine and Rugged Hills Reserves, Vernon Hills and Majestic Heights. Although it has been found in the Shire of Toodyay it would be classified as 'uncommon' in this area. Taxonomists have stated there may be second specie.

The Mountain Devil has a squat body covered with large, thorn-like spikes with patchy colouring of darkish red-brown, fawn and yellow; as it moves the colours may change slightly to match the substrate. The body scalation is heterogeneous (the scales are of mixed size or form) and is covered with conical spines with the largest on the flanks, one over each eye and a pair on the large hump on the nape of the neck known as a 'nuchal' hump.

They are sun-loving, diurnal dragons and do not appear to seek the shade from midday sun as many lizards are apt to do. It has a unique rocking motion as it moves but will also abruptly cease the movement, then recommence again to move slowly forward again.

This little reptile has a broad fleshy tongue for catching a select few types of ants and will stand in the vicinity of, or over, an ant trail to consume thousands daily. The female is slightly larger than the male and lays a clutch varying from three to ten eggs in September/December in a burrow of about 30cms in depth; the eggs take several months to hatch.

As has been proven again and again, reporting of sightings is extremely important, together with a photograph, if possible, for absolute confirmation. *Photographs below courtesy of Vicki Warburton.*



# ENVIRONMENT MATTERS

## *... Tidy Towns - Continued from Page 7*

Toodyay Bendigo Bank Branch Board Executive Officer Shelley Kingston spoke on Toodyay's Adopt a Spot programme to an attentive audience of over 200 people at the recent Bendigo Bank State Conference, 20 March. The Power Point presentation was a wonderful representation of this unique community collaborative initiative. Most of the Adopt-a-Spot signs are now in place, acknowledging which community group has a particular Spot. Watch out in the Herald and around town for news of another brilliant new idea from our Toodyay Community Bank Branch re a one-off community clean up of the Northam-

### ***What are they?***

The Club received the following enquiry recently.

“We have had these caterpillars on the tree for two weeks. They have grown twice in size. They don't seem to eat anything. Are they benign little critters or should we get rid of them?”

*Kerry and Don McNeil*

We posed the question to our Patron, John Dell, and received the following answer.

The grubs in the photograph [page 10] have been identified as the larvae of a native sawfly wasp. They feed at night by dispersing among the leaves of the host tree. During the day they gather into a group like in the picture. The whole group moves together and they keep in touch by the tail of the ones in front tapping the heads of the ones behind.

When they have reached the last larvae stage the group descends to the ground and they pupate in soft soli. The adult wasp emerges usually in autumn and the female uses the sawlike apparatus on the ovipositor to cut a channel into a leaf and deposit the eggs. Many species are host specific on a single species or a group of species. The larvae are usually called spitfires in reference to their ability to spit a yukky fluid as a defence mechanism.

They are native and although they eat some leaves on trees are usually not a problem. It is nice to have them around.

The Toodyay Naturalists' Club Inc. would like to thank Dean Carter and the Toodyay IGA for their generosity, and the Toodyay and Districts Community Bank for their on-going support and commitment to our community.

### ***THE TOODYAY NATURALISTS' CLUB INC.***

**PRESIDENT:** Desraé Clarke 6364 3609  
**VICE-PRESIDENT:** Robyn Taylor 9574 2578  
**SECRETARY:** Wayne Clarke 6364 3609  
**TREASURER:** Beth Frayne 9574 5971  
**OBSERVATIONS OFFICER:** Vacant  
**PROJECT OFFICER:** Greg Warburton 9574 5445  
**ADDRESS:** Post Office Box 328, Toodyay. 6566  
**EDITOR:** Desraé Clarke  
**email:** [info@toodyaynats.org.au](mailto:info@toodyaynats.org.au)

Format by Wayne Clarke  
Website [www.toodyaynats.org.au](http://www.toodyaynats.org.au)