Toodyay Naturalists' Club Inc.

THE TNC NEWSLETTER

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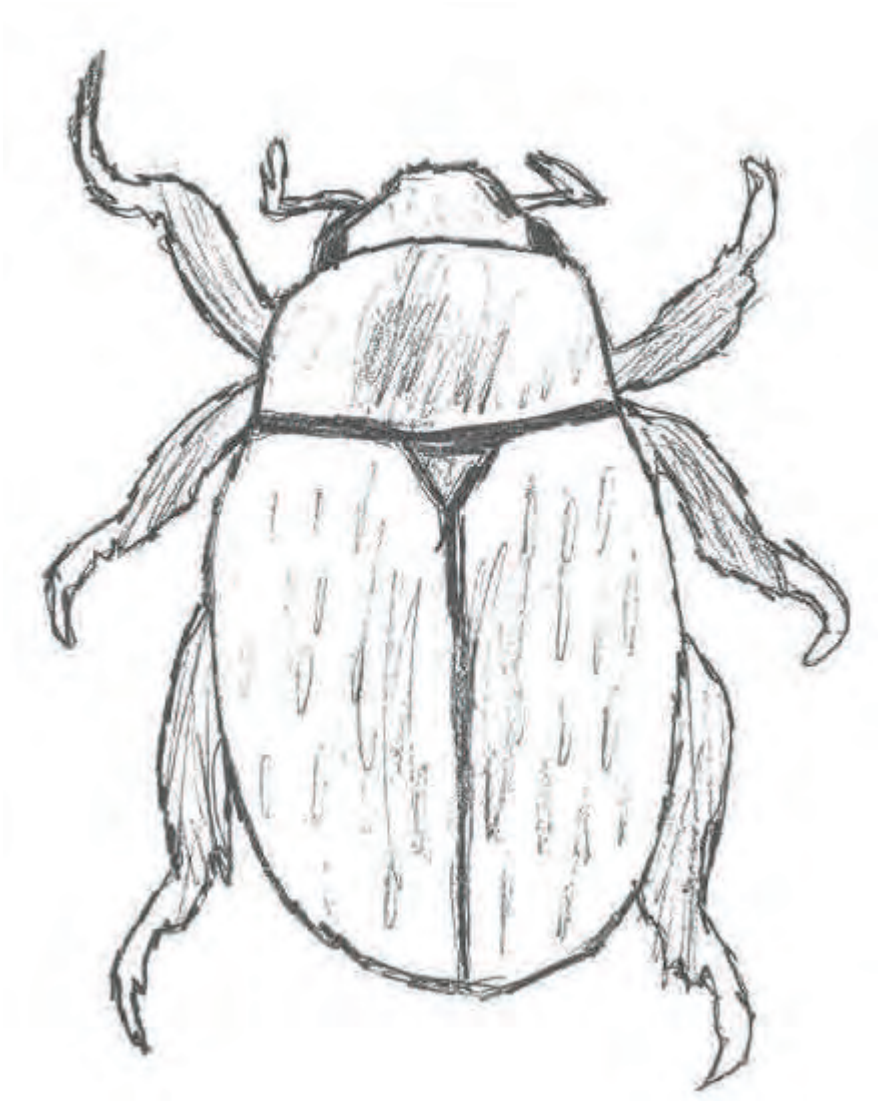


Christmas Beetle by Bonnie (Aged 11) and Rowan Edmonds

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

INSIDE THIS ISSUE

PRESIDENT'S REPORT

by Brian Foley

The year has come to an end for the Club with our Christmas get together at member Sharon's place being our last event, a very well attended evening and a wonderful way to end the year. Thanks to Sharon and all those that attended and brought all the lovely food, a nice way to tune up the body for the festive season.

There were many highlights for the year, excursions, speakers and our interaction with the local Community. Our recent event, being the Toodyay Show, very busy and successful for promoting the Club. Our display at the Environment Matters marquee is always popular with those that come through, from the information, give-aways, and the animals on display, we appreciate being able to discuss what we, at the TNC, are doing to help the local environment.

Our annual raffle raised $782.40; thanks to everyone who spent time outside IGA as the funds raised are very important in keeping the Club afloat.

A 2018 program is on our website so please review. Our first meeting, in February, is a Members Night to start off the year. The later events may be changed so keep reviewing this. Easter is planned to have a camp-out at the Helena Aurora Ranges. This is only suitable for those who are set up being self-contained but does not preclude those who will stay at Southern Cross and travel out to the site.

During our off time we will still be manning the Drummond House each Saturday and would be pleased to see any of those who still need a naturalist discussion.

I wish to thank all the Committee for their help during the year and wish members all the best for the Christmas Season.

Above: Harry (aged four) was quite fascinated with Sharon's dogs at the Christmas Get-together

WALKING IN A VERNON HILLS RESERVE

by Sharon Richards

AFTER meeting for a chat and morning coffee it was a committed seven Warburton Wanderers that ventured to the reserve in Vernon Hills, yet to be named, north of Wandoo Circle in Toodyay. The short drive was a taste of what was to come! Running down Pindi Place Greg's trusty Landrover went from the horizontal to nigh on vertical as we motored down the slope. All in the back become much better acquainted with those sitting in the front as we slid into a cosy pile.

With chivalry foremost in his mind Greg produced the most often-used tool of 'tradies' in Australia - a trusty milk-crate - we all shimmied our way out the back door. The not so gently upwards sloping track was revealed behind us - before us was a more inviting undulating path.

Left: Club members walking the 'more inviting' track.

Photo: Wayne Clarke

Although late in the season a wonderful array of wildflowers was noted from the vibrant blue of the Leschenaultia to the multitude of Pink Fountain Triggerplants, *Stylidium brunonianum*, swaying in the breeze with a few of the delicate and miniscule bright orange Drosera dotted around. These were under a canopy of some beautiful young and very old wandoo together with some marri.

Above: A beautiful pink Verticordia in the reserve.
Photo: Sharon Richards

Above: Views from the reserve.
Photo: Wayne Clarke

VERNON HILLS RESERVE … cont.

As we followed the western edge of the reserve some less pleasant objects caught our attention - a number of car and truck tyres strewn around amongst the bush! As we continued the infamous Toodyay tyre dump was revealed. The mountain of nearly 60,000 tyres had previously been covered by soil but the lower edge showed signs of tyres protruding through to the surface.

Left: A tyre rears its ugly head.
Photo: Wayne Clarke

Walking back and following the track towards Wandoo Circle the sound of the local birds was evident with the ever present Galahs, Ringnecks, the occasional call of the Red-capped Parrot, the Golden Bronze-cuckoo and the Grey Shrike-thrush to name but a few.

Returning towards the firebreak the landscape was clearly changing and the omnipresent Xanthorrhoea began to raise its fronds across the steepening slopes. The expansive views towards the north and east are amongst the best in Toodyay and more than worth the effort of the walk.

Photographers were rewarded with a stunning collection of pink Boronia, Cone Flower, Isopogon and multiple small circles of Tetratheca. As the walk progressed a few hardy stalwarts continued on the fire break track down the slope whilst others made their way back to base to reward the ever sleeping guard dogs and, of course, commence the organisation of a scrumptious lunch.

The walkers followed the track first down a steep slope, which was edged by more beautiful flowers, different colours of Verticordia and more Tetratheca then, as the road sloped upwards coming in closer to Acacia Road and under more huge Wandoos there was evidence on the scared trunks of the Toodyay fire of 2009.

The yet unnamed reserve may be small in size but certainly delivers a wonderful array of wildflowers and spectacular surrounding views. It is a hidden treasure and well worth the effort to visit. However, walkers need to be prepared for the steep slopes both in and out of this jewel.

Below left: Bob the red-tail *Below right: Basil the ring-tail*
Photos by Wayne Clarke at the 2017 Toodyay Agricultural Show

CHRISTMAS BEETLES

by Bonnie Edmonds (aged 11)

"Christmas Beetle" is a name commonly applied to the Australian and South African beetle genus *Anoplognathus*. They are called Christmas beetles because they are abundant in both urban and rural areas close to Christmas. This is because it is at the end of spring and start of summer when the larvae hatches after taking roughly a year to develop underground.

The Christmas beetle comes from the Scarab family and there are around 35 endemic species, with the most common ones including *Anoplognathus chloropyrus* and *Anoplognathus montanus* (all golden-brown coloured beetles). The Christmas beetle is found all across Australia usually in woodland habitats because of the rich soil and tree supply. Christmas beetles are also found in many Australian deserts.

Adult Christmas beetles often feed on the leaves of eucalyptus trees and can cause severe damage when weather conditions result in an emergence of a larger number of Christmas beetles. This means Christmas beetles can defoliate entire eucalyptus trees in large numbers. Adult Christmas beetles also feed on dung and nectar, and have been known to also feed from peppercorn trees. It is not uncommon for Christmas beetles to not feed at all but still survive. The larvae of Christmas beetles live and develop in the soil for approximately a year as curl grubs where they eat decaying organic matter or plant roots. The average life cycle of a Christmas beetle is from one to two years.

A Christmas beetle is roughly 20-30mm long and has a sort of metallic shine to its shell. This is so it can blend in with its habitat and the Australian surroundings. The metallic shine found on its shell is found across most scarab and beetle families. Most Christmas beetles appear as a sort of yellowy-brown gold colour but it can differ depending on its surroundings. Christmas beetles can be found in large clusters when mating with the males pushing each other off the females.

In summary Christmas beetles;

- have a life cycle of 1-2 years.
- are 20-30mm long (roughly the size of a watch face)
- have a diet of eucalyptus leaves, dung and nectar
- develop as larvae underground eating plant roots for roughly a year
- are a member of the scarab family
- live in woodland and desert habitats
- appearance is a metallic brown gold colour

are called Christmas beetles because of the hatching of the larvae at the start of the Christmas season.

Christmas beetles are, in conclusion, incredible creatures and I hope by writing this report I have helped you to see even more of their hidden beauty.

See cover drawing

"Never Say Die"
A Cautionary Ecological Tale
by Sarah Dudley

Frenchman's Cap, a stunningly beautiful yet challenging, often snow-covered peak, isn't far from Queenstown in western Tasmania. This mountain is surrounded by stretches of boggy button grass plains and cool temperate rainforest dominated by myrtle beech (*Nothofagus cunninghami*). Interspersed one finds Pandanus, Leatherwood, Sassafras, and Antarctic Tree fern. The forest floor of slowly decomposing fallen trees is covered in low light-tolerant species such as mosses and ferns with an accompanying typical understorey of Horizontal Waratah and Native Laurel. A rich biodiversity – all well adapted and in harmony with the environment.

Above: Frenchman's Cap, Tasmania

Photo by Sarah Dudley

Not far away to the west is another mountain that, in its heyday, was, one would assume, as beautiful: Mt Lyell, the backdrop to Queenstown. As any visitor to Strahan will note (as the only road forces one to pass through a scene of ecological devastation), after an initial flurry of gold mining in the early 1890s, rich copper ores with a high sulphur content were discovered and mined in this area. To extract the copper, wood was used to heat the ore. Sulphur-based oxides were formed and being water soluble these formed acids. The hills were methodically

stripped of their vegetation to supply wood for the furnaces, soil erosion prevailed (the average rainfall for the area is close to 2,500 mm per annum) and the crushed rock and tailings (estimated to be 100 million tonnes) leached into the Queen River. These tailings are predicted to leach out for hundreds of years to come. The Queen River flows into the King River – which flows into Macquarie Harbour; the acidity killing all life in its wake. The pollutants to this day affect users of Macquarie Harbour – including the new trout and salmon farms!

Left: The road down to Queenstown.
Photo: Sarah Dudley

However the Tasmanian West Coast Range of Mountains demonstrate Nature's 'never-say-die' indomitable spirit. It has survived glaciation, meteorite landings and more recently, man's continuing thirst for mammon. The old, such as surrounds Frenchman's Cap, cannot be recreated, but the new species beginning to reclaim the current wasteland environment reflect a new mix of pioneering plants. On my recent visit I saw established and flowering Epacris species and pockets of silver wattle (*Acacia dealbata*). Sadly, both Gorse and Blackberries, two of Tasmania's worst weeds, have also capitalised on the lack of competition and are rampant in some areas, together with garden escapees such as Rhododendron.

So the 'Queenstown Desert' was created and the pioneering species indicate this clearly. The bare, eroded yellow, cream and white rocks call out for native species to colonise them, but of course these require a soil to support them…… Whilst little snapshots of green are creeping up a few of Mt Lyell's valleys, according to geologists and biologists, it is estimated it took 800,000 years for the reestablishment of the temperate rainforest in the nearby Mt Darwin meteorite site…… Will Mt Lyell ever recover to the same extent from the impacts of mining? Once mined: Gone forever. A cautionary tale for West Australians……

An acquaintance with Paynter's Tetratheca - at Wyening

by Beth Frayne

On 15 September 2017, Linda Rooney and I journeyed to Wyening Farm just north of Bolgart, for morning tea on the Wyening Mission House verandah. The event was a fund-raiser for the farm owners, with botanist Bob Dixon as the guest speaker. After Bob's talk, we were privileged to view the original sandstone and brick Mission cellar, perched on a hill above a small creek.

Speaker Bob Dixon specialised in advising the public on growing native plants in their home gardens. On his retirement a few years ago, after 35 years at King's Park and Botanic Gardens, he was the Manager of Biodiversity and Extensions, having managed the Kings Park Bushland scarp restoration project and developed environmental weed control systems. He was also the popular mentor of the volunteer group Kings Park Master Gardeners. Bob has an interest in native plants in the wheatbelt area and shared his extensive knowledge with examples from his garden in Perth. Specimens of kangaroo paws, verticordias, orchids, eremophilas and many others were passed around the tables.

One flowering spray of great interest to me was a specimen of *Tetratheca paynterae*. Although I don't know if this example was actually the subspecies '*paynterae* ms' (Declared Rare Flora), if it was, then the following is of interest, due to its association with one of our Honorary Life Members, Mrs. Ray Paynter. Quoting Desraé's profile of Ray in the TNC History book (2010, p. 101): "During 1988 and 1990, [Ray] assisted Dr Kingsley Dixon, Research Officer with the Kings Park Board, with field trips on rare and endangered species and collected specimens for Dr Neville Marchant of the WA Herbarium. This resulted in the extension of many plants' 'known range'. *Tetratheca paynterae*, a previously unknown plant, was named for Ray in August 1990. She also assisted J. Alford with fieldwork on the *Tetratheca*. *Chamelaucium paynterae* was also named in her honour."

In 2014-2016, Kings Park and Botanic Garden ran a special project 'Translocation of the threatened banded ironstone species Tetratheca paynterae ssp. paynterae ms'

With funding from Cliffs Asia Pacific Iron Ore Pty Ltd, the area of study was a Mine Site, 160km north of Southern Cross. The Project Description is interesting:

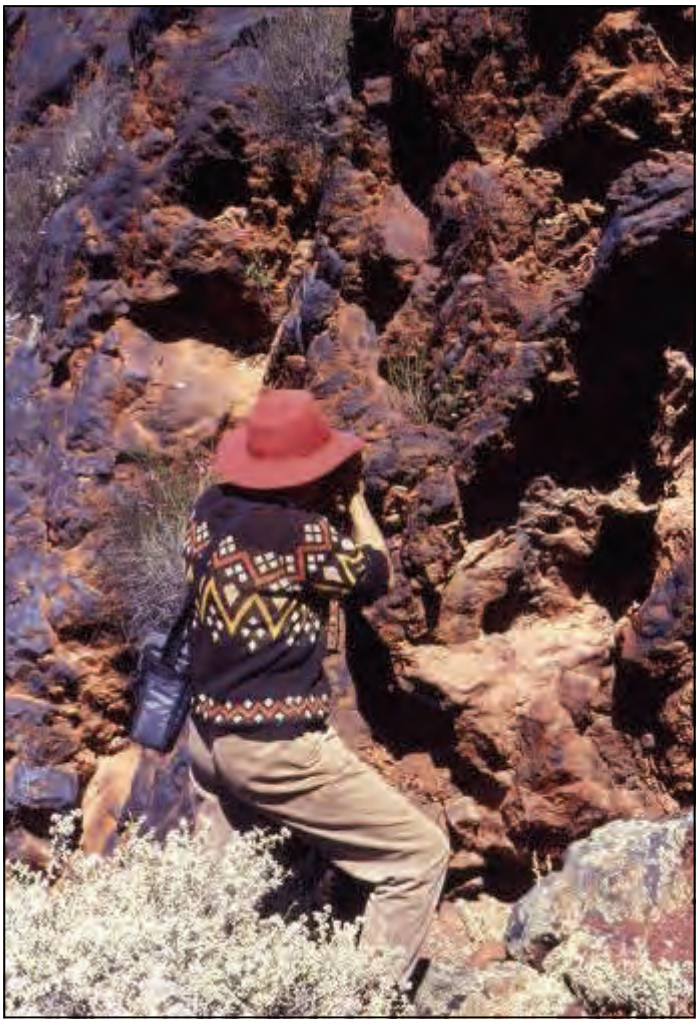
"*Tetratheca paynterae subsp. paynterae* ms was first collected in 1989 and despite further surveys, this species is restricted to one geographic area in the Windarling Range, a banded ironstone ridge north of Southern Cross. Several thousand plants occur on this ridge, which is currently mined for iron ore. As part of the conservation of *Tetratheca paynterae subsp. paynterae ms*, a research program initially focussed on understanding the population genetics and seed biology of this banded ironstone endemic, which will be used to inform the current translocation research program aimed at determining the drivers and conditions of plant establishment. Translocation research is being conducted by trialling different translocation methods to determine the conditions necessary for successful plant establishment. These include:

Determining micro-habitat characteristics that may influence seedling growth and establishment; identifying translocation techniques for successful establishment; and Assessing the feasibility of establishing plants on re-created substrates as habitat."

(https://www.bgpa.wa.gov.au/about-us/conservation/research/species-recovery/tetratheca-conservation).

Paynter's Tetratheca (cont)

Photos clockwise from left: Bob Dixon at Wyening; specimen of Tetratheca paynterae (photos: Beth Frayne); Ray Paynter photographing Tetratheca paynterae, taken September 1994; monolith at Windarling Range near the type location, Tetratheca paynterae (photos: Wayne Clarke)



PHOTOGRAPHERS PAGE

Above: Varied sittella at nest in Dawn Atwell Reserve
Photo: Jennifer Donegan

Above: Carpet python in a jarrah tree, Dawn Atwell Reserve
Photo: Lou Kidd

Left: A Wheatbelt Stone Gecko (Diplodactylus granariensis), found on the verandah of the home of John and Karen Hansen.
Photo: John Hansen

Right: Leschenaultia biloba, one of the spectacular variety of plant species found following a hazard-reduction burn in the Dawn Atwell Reserve, Julimar Road.

Photo: Desraé Clarke

EMYLEE'S MOTORBIKE FROG RESCUE

by Desraé Clarke

Below: A motorbike frog. Note: nuptial spur and tympanum);
Right: pictured in rescuer Emylee's hand.
Photos: Shelley Kingston

FROGS do not do very well in the home swimming pools. Emylee has been saving Motorbike Frogs by scooping them out of the water to find more in the pool the following day.

A lovely image was taken of a little rescued frog sitting comfortably on her fingers. The second excellent photo distinctly shows the nuptial spur, on the right front foot, and the ear hole (tympanum), the dark patch behind the eye. It can also be noted the tiny suction pads on the ends of the toes that allow the creature to fix to smooth surfaces like tree trunks.

DID YOU KNOW...

'Bird Island in Antarctic Waters,' written and illustrated by Professor David F. Parmelee of the Minnesota University, describes his find of three ticks on a Grey-headed Albatross chick in the summer month of December.

David was rather surprised thinking that it may be a new discovery. However, he was informed by the leader of the British team of scientists on the Island at the time, Peter Prince, that ticks had been reported before on Bird Island although Peter had never seen one despite his many, many visits to the area.

The species found by David belong to the genus *Ixodes* with those parasitising the Grey-headed Albatross known by some authors as *Ixodes uriae.*

This dispels any ideas that ticks are mainly found in hot, dry areas.

by Desraé Clarke

ENVIRONMENT MATTERS

Above: Officers from the Department of Water and Environmental Regulation (DWER) taking soil samples from the illegal tyre dump in Vernon Hills, discovered and subsequently closed in the early 1990s.
The current land owner has made a commitment to re-cover the exposed tyres with spoil to ensure the potential fire hazard is mitigated. *Photo: Wayne Clarke*

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