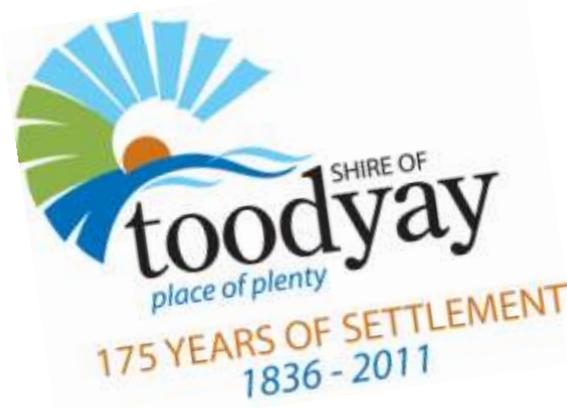


# *Toodyay Naturalists' Club Inc.*

THE TNC NEWSLETTER

Number 5 - August 2011



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GRATITUDE IS EXTENDED TO THE DEPARTMENT OF WATER, NORTHAM, FOR THE PRINTING OF THIS NEWSLETTER..

## **PRESIDENT'S MESSAGE**

*Greg Warburton (Acting President)*

When our previous President, Lee announced at our planning meeting at Don and Eva's in January this year that she was stepping down took me sometime to realize that as Vice-President that I would once again be at the helm of the "Nats". Looking back over the past 12 months as I prepared this report it once again reminded me of how active the Club is. Throughout the year our speakers have taken us to such places as the wilds of New Guinea, the plains of East Africa, on Malleefowl surveys and welcoming dynamic and special guest, Eric McCrum, together with his lovely wife, Margaret, with Eric giving an exciting presentation on 'Mini Beasts'. On excursions we have visited Kanyana Wildlife Hospital, the Bindoon Wildflower Show and various Nature Reserves. We also participated in a tree planting day.

Apart from these regular monthly meetings and events there is on-going project and conservation work that often is not highlighted. A good example of this is the Dawn Atwell Reserve project. It is the result of years of work by members and more recently engagement and support from Worldwide Fund for Nature (WWF) and the Toodyay Shire. The initial surveys conducted by Frank Turnbull identified DRF and began a campaign to have the conservation value of the Reserve recognized. Botanical surveys were continued by Sally Craddock and Jacquie Lucas. With assistance from the Shire a number of members helped with rubbish collection, *Tagasaste* removal and weed control. With the Shire Council agreeing to a conservation vesting and the naming of the Reserve this project took a quantum leap forward. Bethan Lloyd has been a driver of the recent work. With the installation of interpretive signage and a community event on Saturday the 17th of September we will see the Dawn Atwell Nature Reserve made official. It will be a proud moment and a significant achievement for the TNC.

**The Mavis Jeffrey's Reserve activities are another example where the Club has been working** closely with other agencies, in this case DEC, in the monitoring of regeneration, various surveys and the control of *Phytophthora*. I remember one very hot Saturday when members attended a Rapid Bushland Assessment session at the Reserve and the other occasions when members have turned out to inject *Phytophthora* affected trees and to undertake botanical survey work. We acknowledge Desraé for being the shaker and mover for this project.

The Club continues to be represented at the bi-annual Cliffs Iron Community Reference Group meetings at Southern Cross and Mt Jackson/Windarling Peak mine sites. Members have responded to an invitation to have a display at the Southern Cross Agricultural Show early next month to highlight the association of the Club with the CRG and *Tetratheca paynterae*. On the subject of that region Wayne and Desraé represented the TNC at a meeting of the Goldfields Naturalists Club earlier this month.

The Newsletters and Herald articles continue to provide regular and important Natural History news to not only members but the broader community. With Desrae our persuasive editor and contributions from various members it ensures the profile and presence of the Club is maintained and strengthened. It is important the Club continues to have a presence **at events such as the Toodyay Show. Although last year's display was inauspicious we hope 2011 will be more memorable.**

Not all the news is good however. We were all saddened to lose member and friend Bruce Paterson earlier this year. Vicki and I first met Bruce and Nina on a TNC bird survey at Goomalling and became firm friends from that time on. We will miss him greatly.

As we know Wayne has had his fair share of medical dramas this year with a particularly **close call and major surgery to contend with. It doesn't seem to have slowed him down** much though with TNC business coming through by e-mail as soon as he was home from hospital! We wish him continued recovery.

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## JOHN DELL PSM

### **Toodyay Naturalists' Club Patron**

by Desraé Clarke

John Dell, a Patron of the Toodyay Naturalists' Club since 1994, was recognised for his great contribution, over very many years, to the area of natural history and conservation by the award of the Public Service Medal in the 2011 Queen's Birthday Honours list.

The citation reads: **'For outstanding public service to the advancement of natural history and conservation'**.

John has been an untiring supporter of the Toodyay Naturalists' Club since the mid 1980s; he was appointed patron to our Club July 1994. John currently works with the Terrestrial Ecosystems Branch of the Office of the Environmental Protection Authority and previously with the Western Australian Museum. John has had a life-long interest in the WA Naturalists' Club holding many positions on committee including past President and the Journal Editor for many, many years. I can remember one of the very senior members of the Toodyay Naturalists' Club telling me how John, as a young lad, would ride his bike to a meeting of the WA Nat's Club and this gentleman would give him a lift home.

John was awarded a travel grant in 1985 to study small mammals and to lecture in the Peoples Republic of China by the Australia China Council. In 1988 he was awarded the Australian Natural History Medal and has been a member of the Rottnest Island Board Environment Advisory Committee since its establishment in 2002.



Over the years of John's connection with the Toodyay Nat's Club he has given presentations on a vast array of topics. These have included the plight of nocturnal birds (he brought four magnificent specimens to illustrate his talk), a presentation on small terrestrial mammals including bats, Pygmy possums and the Chuditch. He has always had a great interest in reptiles and his knowledge, which he readily shares, is incredible. On a Toodyay Nat's Club campout in the Avon Valley National Park John led a walk to find geckos and - geckos he found, knowing their tiny hiding places beneath bark, etc!

For thirty years John monitored an isolated gecko population on a small remnant bushland area on a Konnongorring farm. Unfortunately, the area was ravaged by fire and all the animals perished, but this did not deter John from continuing an interest in the area.

John's contribution and knowledge to the advancement of natural history and conservation commands respect by both the scientific fraternity and the general public. The Toodyay Naturalists' Club is indeed proud to have the support and friendship of this worthy recipient of the Public Service Medal 2011.

**CONGRATULATIONS, JOHN!**

## SHIRE RESERVE 5273

by Frank Turnbull

In late 1995 I moved to a property on Julimar Road opposite Reserve 5273. A short time later I joined the Toodyay Naturalists' Club and became involved in Club activities which included surveys of the reserves under control of the Shire of Toodyay. The aim of the surveys was to advise the Shire on the management of these reserves.

To be able to do these surveys it became apparent to me that knowledge of the flora would be advantageous so I started to study literature on the identification of flora. As Reserve 5273 was just over the road from my home I began photographing, taking samples for study and illustration and so began a preliminary list of the flora and fauna of the area. In doing so, I became familiar with the various floral components and associations and decided the reserve should be afforded protection as it was mainly undisturbed and free of exotic weeds. I made enquiries about the status of Reserve 5273 and found that its reason for existence was for camping!

A compelling reason to protect this reserve needed to be found! With the discovery of the gazetted rare flora, the orchid *Thelymitra stellata*, plus the observation of the gazetted rare fauna, the Chuditch (*Dasyurus geoffroii*), the compelling reasons to protect Reserve 5273 were found!



Left :  
*Thelymitra stellata* Lindley  
(Named by John Lindley in  
1840 from specimens collected  
by James Drummond in 1839)

Over several years I compiled a list of some of the Reserve's flora, resulting in 180 species, birds, mammals and reptiles, to give to the Shire with a request to consider changes to the status of the Reserve and

## SHIRE RESERVE 5273 ...cont

by Frank Turnbull

giving the reasons why this should be done; letters of support from the Wildflower Society of W.A. and the Department of Conservation and Land Management (CALM), Mundaring, were included. Previously, CALM was advised of the occurrence of *Thelymitra stellata* and staff members observed these plants in flower.

**This report and request, sent in the name of the Toodyay Naturalists' Club, was acknowledged by the Shire which was to consider the matter. After two years of inaction by the Shire it was asked about this request which resulted in a meeting with a Shire Officer and several members of the Toodyay Naturalists' Club. Although there were promises of action on this matter it was never brought before the Shire Council and two years later I moved from Toodyay to Perth and no longer participated in this quest. I did not expect any action to be taken by the Shire while it was under the influence of the, then, administration. Due to reasons, including environmental concerns, this Council Administration ended and the new Council appears to be willing to consider the original proposal.**

**Thanks to members of the Toodyay Naturalists' Club, who enlisted the support of the World Wildlife Fund (WWF), Reserve 5273 may achieve the protection it deserves.**

Right:  
*Thelymitra stellata* Lindley



**Toodyay's small area of an  
'ecologically bio-diverse hotspot in the south west of Western Australia'**

*by Bethan Lloyd*

The South West Eco-region initiative is a consortium of local, regional and federal representatives. **They are concerned about the 'ad hoc' nature of bio diversity planning and management activities** in what has been recognised internationally as an **'ecologically bio-diverse hotspot in the south west of Western Australia'**. As a result, a prioritised map of zones for conservation has been produced. A section of Toodyay, mostly the area around Julimar and stretching to the north east corner of the Shire is, with areas out to Chittering and Bindoon, included in one of these zones. **WWF (World Wildlife Fund) is the lead organisation in this project and the 'on ground' components are** being implemented by its project officers.

In Toodyay, apart from some private landholdings, three reserves have been identified for some actions to improve management and conservation values. **WWF has been working productively with the Toodyay Naturalists' Club members and the Shire of Toodyay to achieve these outcomes.** All three reserves will have their own management plans.

Reserve 5273, along Julimar Road, will have removal of rubbish , control of weeds, revegetation and the installation of signage, (to inform visitors about the reserve to reduce degrading activities **such as fire wood collecting**), **undertaken; there will be a 'guided walk' around the reserve in the Spring.**

Nearby Malkup Reserve will have actions such as weed control of wild oats and revegetation to help reduce the need for burning; an invertebrate survey of the springs will be carried out to measure the bio diversity of this unique area.

At Reserve 19904, in the Coondle area and owned by Department of Environment and Conservation (DEC), weed control will be undertaken, an informative pamphlet produced, a flora survey undertaken and signage erected to reduce illegal fire wood collection.

The project ends in June 2012 and a lot of the work has already been completed but there may be scope to include other areas if there is interest. For more information contact Bethan Lloyd on 9574 5882 who is the local project officer.





# A CHRISTMAS ISLAND ADVENTURE

By Jennifer and Jack Donegan

This is not an Island you could forget. It is not what you would expect and even though I had done some "homework" it surpassed all my expectations. Our trip was from 28 December 2010 to 6 January 2011 and the forecast was rain!

Jack and I were staying with my girlfriend, Steph, and her family in a lovely area near Territory Park. **Steph's husband, Tim, is the High School Sports Teacher and loves the ocean. He took Jack under his wing** and off they went - fishing off the cliffs, snorkelling in the ocean with the sharks and turtles, climbing the huge trees. The mosquitos were hideous and it rained every day. One morning it cleared for about 2 hours, so we hoped to go on the boat but Customs closed the only ramp. It depends on the weather which ramp is safe to use. .

The birds on the Island were amazing. The Golden Bosun (Tropic Bird) had such a beautiful golden colour and so graceful. Unfortunately, they are very fast and hard to photograph. I tried! The various Boobies (Brown & Red Footed) were plentiful. We saw the Brown Boobies nesting near the ocean at the bottom of a waterfall, a Thrush on its nest at Territory Park and also managed to see the following - Christmas Island Imperial Pigeon, Emerald Doves, Christmas Island White Eyes, Christmas Island Thrush, Goshawk, Kestrels, Egrets, Herons, Crakes, Frigates, Sparrows and, of course, feral chooks! We did not see the hawk owl. Steph had a vehicle with a sunroof and we went spotlighting at night and in the rain! At the Golf Course we saw a Wolf Snake, an introduced reptile. There were lots of flying foxes during the day.

Right: Christmas Island Red Crab



Left: Male Frigate Bird

The blowholes were amazing. The colours of them were grey and the foliage that surrounds, green. We saw a few crabs with their eggs on their bodies trying to get over the jagged edges. We travelled to Dolly Beach on a 4wd track and then a 40minute walk on slippery boards and mud through pandanus trees. It was worth the walk. The rubbish on the beach really is in volumes, from thongs to lighters. The boys fished off the rocks and we swam in a rock pool. Tim caught a Giant Trevally for lunch, which was cooked on the open fire **and enjoyed on Jack's makeshift table. We had an invasion of Robber Crabs as they wanted the pumpkin scones in the esky.** There were signs of turtles being on the beach. The coconuts were growing and the green leaves were everywhere on the hillside.

Steph managed to entice me to go snorkelling. The reef shoes made walking over the sharp rock easy, then down the ocean floor went. What an amazing sight under the sea. So many colours, sizes, shapes and **the numbers of fish were astonishing. We went out a bit further to the "drop off"** – very scary as it was a beautiful blue but it went straight down and you could not see the bottom.

The main migration of the red crab had already been. We managed to rise on two mornings very early at 4.30 and travel down to the beach. We were hoping to see the dancing act of the crab in the water releasing the eggs. Our first morning spent looking at all the crabs near the water but to no avail. The next morning, we sighted one. It raised its nippers in the air (for only about 2 seconds), danced side to side and as the waves rolled in, a wave of black eggs was dispersed. It was very quick. Wow! Another amazing act of Mother Nature. We were on the way to another close beach but as we approached a puddle a crab decided it could not wait and danced and dispersed its eggs there! My girlfriend put the eggs into the ocean – she even did a little dance herself!

It was hard to adjust to hearing all the movement of the crabs around you. You had to watch where you were putting your next step. Sometimes, unfortunately you might sink as the crab holes were camouflaged really well and down you would go. The colours of the crabs were a sea of red against the green leaves and brown earth. The sounds of them skittling off on the forest floor were amazing as you cannot comprehend the number of them.



Above: Female Christmas Island Frigate Bird



Left:  
Brown Booby

Right: Blue-tailed Skink



Left: Every picture tells a story...  
this IS the size of the Robber Crab



Above: The rugged wharf area, with the main town and shopping area behind.



Above: Red-footed Booby

# MALLEEFOWL - A MOUND BUILDER

*By Don and Eva Smith*

The Malleefowl (*Leipoa ocellata*) is a megapod meaning big feet.

22 Megapod species exist worldwide, 3 of which are in Australia - the Brush-turkey, found on the East coast, the Orange-footed Scrub-fowl, in the far north and the Malleefowl in the arid regions, the only arid region megapod in the world. These iconic birds once lived throughout the Wheatbelt of Western Australia as well as arid regions within Australia.

The Malleefowl is a particularly difficult bird to observe due to its superb colouring; the plumage of greys and browns blend into the mottled light of the dense low woodlands they inhabit. The birds weigh approximately 1.5 to 2.5kg with the males being generally heavier.

As the Malleefowl is a ground dwelling bird (although they are excellent flyers) it feeds on insects, fungi, fruits, seeds and especially lerps. Lerps are very important in the diet of females prior to egg laying. Malleefowl do not need surface water to survive. They have a life span of 20 to 30 years and are almost totally monogamous. Meeting other Malleefowl will invariably lead to aggressive behaviour.

Malleefowl nests are large heaps of soil approximately 3.7metres in diameter and 60 to 90 cm high and estimated to weigh 3400 kg. These mounds consist of sand, loam, gravel and small rocks. Malleefowl may build a new mound or use an existing mound. The reasons for their selection are unknown - it is probably due to availability of leaf litter, ground moisture and ground cover.

The bird makes a crater-like hole in the top of the mound. Normally the crater is dug out by the end of April. They firstly rake / scratch the leaf litter into long lines. This is then left until the first rains occur and when the leaf litter is wet the pair of birds fill the crater with wet leaf litter, usually around June / August. Once the litter is thoroughly wet the birds then cover it with soil, which then begins the composting process, i.e. generating heat to allow the egg-laying to begin.



Above A Malleefowl mound. (Note the 'chooks' on the left in the photo are not Malleefowl)

## **MALLEEFOWL - A MOUND BUILDER... cont**

The birds have a means of measuring the mound temperature; this sensor is probably in the beak or perhaps in the tongue. The beak is pushed into the soil, then by scratching more or less soil onto the litter they regulate the egg chamber temperature to within 2 degrees i.e. 32 – 34 degrees. The process of temperature control is extremely labour intensive with both birds working on the mound.

Egg-laying commences late September through to early January. When the male bird decides that the mound temperature is satisfactory, the female is allowed to lay. The male will force the female to lay the egg in the bush if he feels that the mound temperature is not correct. The process of laying is labour intensive often requiring large quantities of soil to be removed and replaced after each egg is laid. It has been estimated that up to 850 kg of soil is moved as each egg is laid. This process of digging out to lay the egg is shared despite the female carrying a large egg. The observed time taken to complete the process is approximately 8.5 hours.

The incubation period of eggs is over a long period of 60 to 90 days; this allows the chicks to be very well developed before hatching with the hatching taking place over some months. The eggs are quite large and weight can vary dramatically from 100ml – **245ml; however, they weigh approximately 10% of the bird's body weight.** Over the breeding season the female lays 150 – 250% of her body weight in eggs.

Malleefowl eggs differ from most others in that they do not have an air sack to allow the chick to breathe just prior to hatching. To compensate for this Malleefowl eggs have a very thin porous shell which allows the carbon dioxide to be passed out through the shell walls and oxygen taken in (diffusion process). The chick absorbs some of the egg shell to increase its calcium uptake. This allows the chick to become stronger and better developed to dig its way out of the mound when it hatches.

Eggs are laid at intervals of approximately 6 to 7 days. A total of 1 to 28 eggs may be laid however an average 14 to 20 eggs being normal. The numbers laid and the time intervals between them depend on the seasonal conditions. Very poor rainfall can mean that there is no breeding activity at all. It is critical that the eggs are laid blunt end upwards. Malleefowl eggs contain significantly higher quantities of yolk to those of other birds (48% to 52%) to maintain the embryo throughout the prolonged incubation period. Some yolk also serves as food reserve for the days after hatching.



When chicks hatch they do so feet first which allows them to emerge from the egg quickly and helps them drain fluid from their lungs and commence breathing as soon as they emerge. Upon hatching they have a long resting period. The resting period allows plumage to dry and lose the sheaths that enclose their feathers. The chicks dig upwards taking rest periods as they proceed. As the chick approaches the surface it stops and listens for about 5 minutes just before breaking out, perhaps to listen for predators. They then leave the soil abruptly, flapping their wings and using their now well exercised legs to run into the nearest thicket or cover. They can flutter / fly to low branches within 2 hours of coming to the surface.

These chicks are now totally on their own - the parents have no contact nor give them any assistance in any way. The only way they receive any assistance is if the parent birds accidentally dig them out as they are about to surface. Subsequently the survival rate is thought to be low, in the order of 2%.

The future for the Malleefowl is poor due to feral predators, loss of habitat and fire. Wildfires are particularly bad for the Malleefowl especially in the more marginal areas of their range. The time taken for these marginal areas to recover will be approximately 40 to 60 years.

It would be fair to say that the Malleefowl is facing an uphill struggle for survival.



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

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## **PRESIDENT'S MESSAGE**

*from Page 2*

Although a long time in the making the promised new logo finally arrived earlier this year to a positive reception from members. The combination of a Chuditch and *Grevillea flexuosa* in the logo is an attempt to represent the Club's broader interests as well as feature species of special significance to the Club and the Toodyay area. The previous logo served the Club well for about 20 years and will not be forgotten.



The 2010 AGM was a special event which saw the launch of the TNC History Book with no less than all three of our Patrons in attendance. One of whom is John Dell who has been our Patron for many years and a great supporter of the Club. We were all very pleased to here of him being recently awarded a Public Service Medal and of course mentioned in the Queen's Birthday Honours list. We all congratulate John on this richly deserved Award. He is one of the greatest Naturalists' and Conservationists this State has produced.

It has once again been a year of achievement and I thank all members for their support of the Toodyay Naturalists' Club and praise the committee for the hours of often behind the scenes work. I wish the incoming President and Committee well and thank them and members for their support this year. I thank Lee's Francis for her work and contribution as President during her somewhat shortened but very valued term.

As the Club approaches its 50th Anniversary there is much to look forward to and a rich history to acknowledge.  
*Greg (Acting President TNC)*

## **ENVIRONMENTAL OFFICER'S ANNUAL REPORT**

The Avon Nature Conservation Advisory Committee (ANCAC) has, with its three monthly meetings, covered a lot of area of the Avon Region with a number of recommendations in the Toodyay area. Secretary, Bob Huston had found mulch in Drummond Reserve (not from the area of the Reserve) dumped by Western Power workers who were replacing poles in that area. He approached the workers asking them if the mulch could be removed from the Reserve - and it was.

A group beneath the umbrella of ANCAC has been formed to continue the support of the work being done in the Avon Gorge to reduce the feral animal population. The group is comprised of a Toodyay Shire Council member, surrounding landowners of the Avon River in the gorge, Land Conservation District Committee (LCDC), **members of the Toodyay Naturalists' Club and Friends of the River, Paruna Wildlife Sanctuary of the Wildlife Conservancy**, with administration under the Department of Environment and Conservation (DEC). Much research is being done especially with the control of feral pigs and goats with various cage types and baiting.

Following the devastating arson fire on December 29th 2010 that burnt much of the Morangup Nature Reserve it was surprising to see the regeneration of acacias, very tall melaleucas, grass trees and even a large Marri. However, the very old well on the roadside had been desecrated.

**The Mavis Jeffery 'A' Class Nature Reserve regeneration since the December 29th 2009 fire is progressing well.** There has been monitoring of the Reserve under the guidance of DEC and Dr Geoff Barrett but unfortunately the winter monitoring has not been completed and I am looking for assistance with that before the end of August. Club members have also been working with the Wildlife Officer, Cathy Page, in the treatment of trees on the Reserve for *Phytophthora cinnamomi* for which the Department is extremely grateful!

Work is progressing well in the Shire Reserve 5273. Cr Bethan Lloyd, and Carla **Swift, WWF, have been the great 'push' towards a most satisfactory result following** the years of initial study of the flora and fauna done by our member, Frank Turnbull. The Reserve is now awaiting the confirmation of its naming that has been accepted by the Shire, by the Geographic Names Committee.

Protection of the *Tetratheca paynterae* in the areas of Mt Jackson and Windarling is still an on-going issue with, not only the impact of mining, but weather also plays an incredible part in its survival. However, there is strength for its protection (and several other threatened plants in the mined area) by attendance at the Community Reference Group Meetings by environmental personnel (employed by Cliffs Mining), community members, The Western Australian Wildflower Society (a **VERY strong voice!**) and the **Toodyay Naturalists' Club. Wayne and I are going to the Yilgarn Agricultural Show on September 2nd to hold up the banner of the Nat's Club and the Tetratheca paynterae.** If there are any other members who would like to attend it would strengthen that support.

Earlier this month Wayne and I spent a wonderful evening with the Goldfields Naturalist Club, in Kalgoorlie; Secretary of the group is Janette Boase, a former **President of the Toodyay Nats'. It was a great evening as Kalgoorlie is within the Great Western Woodlands and the group have frequent excursions and are also very involved in the Malleefowl Survey. We were given a copy of the Great Western Woodlands information brochure which will be given to our Nats' library for members to peruse as we hope to get a speaker on the area at one of our meetings.**

Desraé Clarke