



Toodyay Naturalists' Club Inc.

THE TNC NEWSLETTER

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PRESIDENT'S REPORT

By Desraé Clarke & Sharon Richards

SATURDAY evening 1st of May 2021 saw Nat's members visit the Gravity Discovery Centre in the Shire of Gingin an excursion for which we patiently waited as it had been organised for March 2020 but postponed because of COVID restrictions.

The evening commenced with very special guest Aboriginal Elder, Dr Noel Nannup, who gave an extraordinary talk on the dependence and respect his peoples, the world's first astronomers, have for the galaxy. The largest planet, Jupiter, is a powerful medium and, together with the spirituality of the skies, it has a profound effect on marriage within the Aboriginal culture. The Aboriginal peoples use cymbals as a means of communication with the spirituality, understanding and love of the ancient world in which they live.

A 'Trash and Treasure' fundraiser was held of the 15th/16th May and was a great assistance to the TNC coffers.

'Good Bugs and Bad Bugs' by entomologist with the Department of Primary Industries and Regional Development (DPIRD), Dr Darryl Hardie, gave a humorous but meaningful presentation on the impact feral plants and diseases have on biodiversity. An emphasis was placed on a rust disease that has been found in all Australian states except Western and South Australia. Darryl encouraged spread of education on early detection of Myrtle Rust should it arrive in WA.

The July Annual General Meeting saw my completion of three years as president of the Club and to welcome the incoming committee ably led by TNC President, Sharon Richards; Wayne Clarke was elected Vice-president, Charmian St. John as Treasurer and Desraé Clarke as Secretary.

It was then a great pleasure to announce Rob Boase as a Co-Patron of the club. Associated with the Club since 1968, Rob has contributed so much over the years with his broad natural history knowledge, given so freely, and as a farmer, his great interest in the protection of the environment.

Rob joins fellow patrons, Dr Neville Marchant AM and John Dell APSM.

Desraé Clarke

FIRSTLY I would like to give great thanks to Desrae for her last 3 years of service as President. Desrae has tirelessly supported our club through both exciting events and and some trying times with the advent of the COVID 19 virus in 2020. I believe we have re-emerged with a great level of energy and enthusiasm and have a fabulous itinerary of guest speakers for 2021 and look forward to what lies in store for the next 12 months.

In August we ventured to Mt Observation about 20 kilometres west of York and were led on an interesting tour of the local flora by our Patron, Neville Marchant. We were joined by a number of people from the York Branch of the Wildflower Society. The weather was kind to us and although there was evidence of recurrent burning which has undermined the biodiversity we enjoyed a lovely array of orchids, carpets of white false boronias and some magnificent Powderbark wandoo. With a short meeting and lunch we are now looking forward to another foray into one of our local reserves, the recently named Rika Ericson on Saturday 18th September.

Sharon Richards

WANDOO LAMENT

by Greg Warburton

Sentinel, guardian, Lord of the Trees,
You are four hundred years of history,
Centuries of drought, fire and storm,
No white man here when you were born.
Roots way down in the ancient laterite,
Immense your girth, lofty your height,
Branches and hollows home for zoology,
You are refuge for an entire ecology.
Oxygen pumping from your crown,
Keeping the salt below the ground,
Your skin in autumn an apricot hue,
Nectar in spring another gift from you.
From seed as small as a sand grain,
To a living thing, sap in your veins,
Shedding, renewing across the seasons,
To destroy you now there is no reason.
But Main Roads are their own master,
They say we can drive our cars faster,
Their machines will snarl and descend,
Bulldozer and mulcher spell your end.
Might and majesty reduced to dust,
Those who care in shock and disgust,
When it is done this death sentence,
Who will it be who pays the penance?
Isn't the cost too much and insane?
To sacrifice you for a passing lane?
So we can speed across asphalt stark,
Where once grew a mighty Powder Bark.

The above poem refers to the Powder Bark behind the text.

Photo: Greg Warburton

Wrangel Island - A Trip to the Russian Arctic - Part Two - Don and Eva Smith

The Arctic Squirrel is a member of the rodent family and lives in the Arctic regions of Russia and the United States of America. The snout of the Arctic Squirrel is short and it has small rounded ears. Its cylindrical-shaped body, of 33cm to 50cm in length, weighs between 524 and 1500grams with a male larger than the female. It has short, powerful limbs and the feet have soft pads but sharp claws.

The Arctic Squirrel lives in a burrow. It hibernates for eight months of the year in its hibernating burrow that is up to 2.5 metres deep; it is the longest hibernating period of any animal although it may wake and emerge for short periods. During hibernation the squirrel's heart rate slows and its core body temperature falls to as low as -2.9°C with it almost ceasing to breathe; it has the lowest recorded temperature in any animal. The male wakes before the female.

The mating season lasts for two weeks with the female receptive for only 12 hours. A litter consists of five to ten pups born blind, hairless and toothless and weigh 10gms; they are nursed for 35 days. Maternal responsibilities are often shared with close female relatives.

The Arctic Squirrel is omnivorous. In summer it eats largely fruit for a fat increase of 30% to 40% ready for hibernation. The male squirrel stores grass and nuts inside a hibernation chamber and relies on this cache of food when it reemerges before the female squirrel.

The Humpback Whale (*Megaptera novaeangiline*) is one of 12 species of Baleen Whale, a species that has a 'filter-feeding' system inside the mouth. The whale opens its mouth and takes in water while submerged then pushes it out to filter krill, its food source; it also feeds on small fish and plankton.

The Humpback is up to 18 metres in length and can weigh up to 40 tons with the female Humpback larger than the male. Its flipper can be up to five metres and is recognised as the largest flippers of the whale species. The tail can be five and a half metres in width. The Whale's head has large knobs, known as tubercles, with each tubercle having a single hair believed to be used as a motion sensor.

The whale is black on the upper side (dorsal side) and mottled black and white on the belly. The shape and colour pattern of the dorsal fins and flukes are unique to each animal and used by scientists as markings of identification. Humpbacks roam all over the world and travel up to 5,000 kilometres each year between breeding and feeding zones.

The male Humpback is known for its songs that are thought to encourage a mate. Each pod has its own song in the 80 to 4,000 kHz range. A mother and her calf communicate up to 70db less volume that is possibly used to communicate to stay out of the way of killer whales.

Breeding is every two to three years with the gestation period of 12 months. The young are 'live born' and three to four and a half metres in length and weigh approximately 900 kilograms. The mother's rich milk is 45% to 60% fat with the young drinking up to 600 litres per day. The young whale nurses for 12 months and continues to grow for 10 years. Whales live for approximately 50 years.

The Brown Bear

The Brown Bear (*Ursus arctos*) from the coastal areas has the main food source of salmon. It lives on the Alaskan coast and maintains a home range of about 24 square kilometres. It is omnivorous as it feeds on tender shoots, berries, grasses, acorns and nuts and also birds and bird's eggs; it will dig after small mammals and feeds on salmon returning to spawn. A coastal bear can stand at 2.75m tall and weigh up to 750kg.

The Brown Bear (*Ursus arctos horribilis*) from inland areas is currently considered a Brown Bear subspecies; it feeds on berries, etc. It is a more aggressive creature and can take down large-hoofed mammals caught in deep snow or otherwise disabled and will attack humans without warning. It is an excellent swimmer. The inland Brown Bear can reach a shoulder height of 150cm, a length of 100cm to 280cm and weigh from 80 to 600kg.

The Brown Bear will dig its own den or use caves far from human disturbance. Females experience delayed implantation to the blastocyst stage with implantation in the uterus taking place in about five months with a gestation period of six to eight weeks; one to four cubs are born between January and March.

Wrangel Island... cont.

The young huddle next to the lactating female until she awakens in late spring to nurse the cubs for one to two years.

Both bear species are known as the Grizzly Bear and can live up to 25 years.

Puffins - members of the Auk Family

The Tufted Puffin (*Fratercula cirrhata*) is 38cm long, has a 63.5cm wing span and weighs 720 gm and the Horned Puffin (*Fratercula coriculata*) is 38cm long, 58cm wing span, 620 gm weight. Both have a life span of 20 years.

Puffins are pelagic sea birds that breed in large colonies on coastal cliffs, nesting in clefts in rocks or burrows that are dug with the feet and beak and lined with vegetation. With the colourful beaks and a black and white body the Puffin is sometimes referred to as 'the parrot'



The Snowshoe Hare (*Lepus americanus*) of 34 to 50cm in length and weighing 1.4 to 1.5 kilograms occurs in Alaska and Canada and south into the USA. It is found on tundra in dense brush cover in coniferous forest in open fields, swamps etc.

Its long, broad hind foot measures 12 to 15cm and the soles of the feet are densely furred with stiff hairs on the hind feet forming 'snow shoes'. In colour it is a grizzled rusty or greyish brown in summer but in winter the body is completely white except for black eye lids and black tips on the ears. It is a solitary animal and does not hibernate but hides during the day foraging at dawn and dusk. It can swim quite well and runs at speeds of up to 43 kilometres an hour.

The Caribou or Reindeer (*Rangifer tarandus*) female is 162cm to 205cm in height and 80 to 120 kilograms. The height of the male is 180cm to 214cm and its weight is 159 to 182 kilograms.

The hooves of the Caribou adapt to the season. In the winter months the large crescent-shaped, cloven hooves develop for walking in snow or swamps. The pads shrink and 'tighten up' exposing the rim of the hoof which cuts into the ice and crushed snow to keep the animal from slipping.

The altered hooves serve as shovels when digging for food under snow that is known as 'cratering' giving access through the snow to the lichen; the lichen is known as Reindeer Lichen and the stable diet of the Caribou. In summer, when the tundra is wet and soft, the foot pads become sponge-like and give extra traction.

... cont. page 6

Wrangel Island... cont.

Scientific studies have been made on the eyesight of the Caribou and have shown that the animal can see objects such as urine and fur, objects that blend into background with human eyesight. Its eye colour changes to gold in summer and blue in winter with the latter change improving vision during times of continuous darkness.



Above: A Caribou or Reindeer

The Moose (*Alces alces*) is a mammal that has a large number of sub-species in several countries.

The outer coat of brown to reddish-brown has coarse, hollow insulating guard hairs while the undercoat is soft and woolly. The coat is shed once a year.

The height of the Moose is from 1.8 to 2.1 metres and it weighs from 270 to 725 kilograms.

Only the males grow antlers that can be up to 1.5 metre across and weigh up to 35 kilograms. Antlers begin to grow in spring and reach the maximum spread in summer; they are shed in winter.

The Moose has exceptional hearing that can hear sounds of over 1.6 kilometres distant but this species has poor vision. It forages during the day and will eat up to 40 kilograms of plant material.



NEW CO-PATRON

*Left: Our new Co-Patron, Robert Boase and his wife Beth. Rob and Beth are pictured here, when Rob was the recipient of the **Individual Landcarer Award** in the 2017 Western Australian Landcare Awards.*

Photo: TNC Archives.

Toodyay Naturalists' Club outing with Doug Blandford on 7th April 2021

by Charmian St John

ON a bright, clear, crisp Saturday morning, we met at Karen and John Hansen's property with its panoramic view across the valley and surrounding hills, for our discussions about all things geological in the considerably varied topography of the Toodyay region.

Welcome to the wonderful world of the science of landscape evolution: Doug Blandford's title of his handout for our foray into his world. Foray, as in attempt to understand/experience something different and not an assault, although the unfamiliar terminology was a bit hard to follow.

First, with the aid of his handout, Doug explained that we were standing on the south-western region of the Yilgarn Craton, a convoluted, folded, composite of terranes on the uppermost of the earth's crust and occupying 26% of Western Australia. It was formed about 2.8 billion years ago in the Archean eon, which has an age range from 2.5 to 3.8 billion years, and without recent volcanic activity represents some of the oldest crustal units on Earth. Detrital zircon crystals found in the Murchison region of this Craton have been dated to 4.1 billion years old which takes them into the Hadean Eon, or what is known as "early Earth".

The surface of the Yilgarn Craton has been altered by weathering, erosion and sedimentation hence the rolling hills not mountain peaks and then a shift to a hotter, wetter climate increased the chemical weathering and hence breakdown of the landscape, with the formation of laterite and bauxite. A subdued and gentle uplift of the western part of the Craton resulted in river systems being rejuvenated. This in turn resulted in steeper drainage systems, increased erosion and sedimentation and with increasing aridity the development of more saline inland waterways.

So, what does this mean for us? 20 million years ago, it has been postulated that the ground level here was about 500 metres above us and we are now surrounded by complex rock and landscape weathering profiles.

In preparation Doug had wandered over the properties of our host and their neighbour collecting rock samples and inspecting the topography and outcropping rocks. He highlighted the relationship of soil depth with the height of the trees diminishing towards the hill tops. Interesting rock formations with vertical stress jointing await his further inspection.

We were invited to examine rock samples he had found. Four were metaquartzite (massive, bedded, with muscovite and weathering); orthoquartzite – iron staining; pisolitic ferricrete – laterite; weathering mottled saprolite; saprolite–indurated; example of weathering; gabrioc dolorite – very high in iron; quartz–biotite–feldspar gneiss – rich in calcium; massive laterite with variable pisolite composition. Got that!

I now call most of the rock on our property, No.4 – weathering metaquartzite. It's so much easier!

Local Toodyay rock with its sheet like structure is sometimes referred to as schist, but it is more accurately termed a thinly bedded metaquartzite. The true schists in the Toodyay area contain abundant mica crystals and are ancient fine-grained sedimentary rocks that have undergone heat and pressure that alters the structure, arrangement and shape of the material making up the rock (metamorphosed). Sedimentary and igneous rocks can all undergo this process. The rocks at any location break down to form the parent material of soils, so "Soils ain't soils": who would have thought that the slogan of the gardening company represented such a sophisticated geological concept?

We moved to a hillock on the ridge where weathered lateritic rocks protect the surface soils from erosion. One smaller rock was expertly split to reveal its pebbly nature: a rock made up of pisoids (Hellenic for pea) is pisolite, hence pea gravel. Doug explained that as we are on the western side of the continental divide, for the Archean Shield, when the laterite breaks down, rain will wash the soil and pebbles down the valley where it may combine with other sediment and be reformed into further rocks or it may make its way to the coastal plain or to the ocean.

After a break for a cuppa and cake, we headed to a cutting made into the ridge to create flat land on which to build the house. Here we examined the regolith profile, which, starting at the top, comprised a thin surface horizon of young topsoil with a lag gravel layer on the surface, covered by bark, leaf litter and twigs, then a zone of highly weathered lateritic duricrust which had been formed by chemical weathering of the country rock about 50 million years ago. It was interesting to note the presence of pedastalling along the upper edge of this regolith profile. Here we saw how individual pieces of lag gravel and small pebbles and stones intercepted raindrops and protected this edge from erosion. *Cont. Page 8*

Club outing with Doug Blandford (cont)

Under this top 6 cm was a layer of weathered and transported soil - a laterite/ferricrete layer about 60 cm deep - the exposed feeder root zone to where water drains. Tap roots chase water through fractures and may go down 60 metres. Locally, removal of top soil ruins water retention.

Below is the saprolitic horizon, also a zone of intense chemical weathering of the bedrock. These saprolitic zones are dominated by kaolin clay minerals which results in reduced soil permeability to water. This highly weathered saprolitic zone is very hard and nutritionally barren for plants. Because of the clay structure, kaolin clays do not expand when wet so they are not generally a source of water for vegetation. Clay pits at Hoddy Wells are proposed to extend to 20 metres deep, but here, it is only exposed to 2 metres but it may extend much deeper with more excavation.

Lastly, underlying all this is the Archeon basement, the bedrock comprising migmatite and gneiss and we are back to where it started, an incomprehensibly long time ago. Within a kilometre this bedrock is quartzite/granite underscoring the complexity of the local geology.

Now there was a lot of discussion about mafic and felsic igneous rocks: the first, volcanic - basalt or dolerite from magma incursions from time-to-time eons ago, and the second 70% or more silicate - basically granite. Mafic rocks are rich in iron and magnesium, whereas felsic rocks are rich in silica and aluminium. Further explanation not forthcoming.

One last term that I need to get across, however, is "matric potential". This is essentially the suction that holds water in a soil. The higher the clay content, the greater the number of spaces there are for air and water however these spaces are smaller so the tighter the water is held by the soil suction - meaning a higher matric potential.

As the clay content decreases, the potential lowers and increasingly more water becomes available for plants. This was partially demonstrated by Doug mixing a Sandplain Road fine, silty clay with water to form a coherent soil 'bolus' which was quite malleable with a 'soapy' feel to it due to the presence of kaolinitic clays. In comparison, when a dark red soil bolus was formed using soil from weathered dolerite, we found that the clay content was almost double that of the first sample. Some plants would not be able to access the water contained in this soil due to the high 'suction' value of this clay.

I know nothing about geology and, Doug, with his clear descriptions, did his utmost to simplify an extremely complicated discipline. At times I felt the weight of the 500 metres of landscape that had, over the eons, eroded away to reveal the ancient weathering lateritic surface we were standing on and all comprehension disappeared with it, down to the coastal plain and beyond to the continental shelf.

Many thanks to Doug for not only making time to broaden our horizons but also for his correcting my misunderstandings and for providing more details. Also, big thanks to our hosts Karen and John who gave us a wonderful horizon to look toward, and to Desraé, who ran the shortest Naturalist's Club meeting ever as we ate lunch and took in the scenery. It was a splendid morning.



Left: Doug explaining some of the features of the rocks and their formation.

Photo: Charmian St John

Club outing with Doug Blandford (cont)



Above: Doug with a captive audience of Club members

See article opposite

Below: Interesting terrain at John and Karen's with Macrozamia among the outcrop.

Photos: Charmian St John



Doug's background:

B.A. (Geol), Litt.B (Geomorph.), Post. Grad Dip.EIA. Geology, Geomorphology, Polar Hydrology, Environmental Impact Assessment, Agriculture.

Doug has over 50 years experience working as a Soil Scientist and consultant. He was the Officer in Charge of Australia's expedition to Davis Station in Antarctica during 1974.

WHAT GEMS CAN BE FOUND IN THE TNC LIBRARY!

by Wayne Clarke

'**A CONTINENT IN DANGER**' by Vincent (Vin) Serventy, 1966 (published by Andre Deutsch, London and donated by the late Dawn Atwell).

Acknowledgements in the book include Lucy and Dom Serventy, Vin's siblings, and the late Dr. Stephen Davies, immediate past Patron of Toodyay Naturalists' Club (TNC).

Although some of the details are now out-of-date the book is a great expose of Australia's wildlife, much of it in Western Australia - their evolution, the threats to their existence and some very wise words for their future.

The book covers many aspects of our natural history, with chapters on *Egg-laying Mammals*; *Marsupials*; *Modern Mammals* (including marine mammals such as mermaids, or dugongs); *Birds* (including the Noisy Scrub-bird); *reptiles*; the *Ecology of Fire*; and the *Arrival of Man* (with his feral animals and weeds). The book then goes on to describe the *Present Position* (at the time), and *A Plan for Action*.

I have chosen two areas to expand on - *The Noisy Scrub-bird* and *Acclimatisation*.

The Noisy Scrub-bird

First collected by the naturalist John Gilbert in 1842 (in the company of Toodyay local James Drummond). The details of this story were lost for nearly 100 years, when in 1938 naturalist and historian Alec Chisholm discovered the notes of HM Wittell on the letters of Gilbert. In 1950 Whittell also discovered, at the Queensland Museum, another of Gilbert's 'lost' notebooks, in which Gilbert meticulously described the Noisy Scrub-bird (reprinted in the book). It was last recorded at Torbay (WA) in 1889.

Searches were made in 1912 and 1927. The Official Australian Yearbook of 1957 considered it to be extinct. The search continued over the years, then in December 1961, Harley Webster rediscovered it in an area near Albany. Vin Serventy went with Harley soon after to see this wonderful find, and he passionately describes the encounter in the book. Its richness of song was equated to the English Nightingale - the poet Keats described the Nightingale '*a symbol of something eternal*'; the Noisy Scrub-bird is thus categorised!

The Menace of Acclimatisation

Dom Serventy wrote a paper in 1936 deploring the introduction of fauna not required for economic reasons. Although Vincent underestimated the scourge of camels and donkeys on the environment, and particularly cats on our wildlife, his notes on the worst of the ferals are extensive.

Acclimatisation Societies worked hard trying to recreate England in Australia.

British ornithologist John Gould, enthralled by his first sight of the beautiful rosella, wrote:

Scenes like these fill the mind with sensations of no ordinary description and excite the greatest astonishment in those who have recently arrived in the country; the novelty however soon wears off and a caged lark, linnet or blackbird from the land of their birth are highly cherished and valued while the beautiful productions of the island are passed by unheeded except to deal out destruction among them, with no sparing hand, for some slight injury they may have inflicted upon the rising corn.



This book would certainly be categorised as a 'gem'. TNC member Lynn Phillips is currently cataloguing the club's books and a link will be put on the TNC website so you can explore all our great titles. Most books can be borrowed on a Saturday morning but there are some 'very special volumes' that will only be available to read in Drummond House.

A copy of the book was purchased on-line in August 2021 and has a label inside stating: '*The Secret of Success is Constancy of Purpose. Noel Lothian. His book*'

Who was Noel Lothian? See 'Did You Know' on page 15

MYRTLE RUST ALERT - AN INVASIVE FUNGAL DISEASE

by Desraé Clarke



Above: *Syzygium anisatum* (syn. Photo: copyright Department of Primary Industries NSW, courtesy DPIRD

ENTOMOLOGIST, Dr Darryl Hardie, was the Nat's guest for the June meeting with his presentation entitled, 'Good Bugs and Bad Bugs.' Emphasis was on community members being encouraged to report to the Department of Primary Industries and Regional Development (DPIRD) strange bugs, ants or disease on plant foliage, etc, that has been noted and with which the observer is not familiar.

A fungal disease that has been found in all states, except SA and WA, is known as Myrtle Rust, a highly invasive imported fungal disease that attacks plants including peppermint trees, paperbarks, bottlebrushes, lilly pillies and Geraldton wax.

If, per chance, a disease is suspected as depicted in the photo, it is important not to touch the infected leaves but to take a photo. If disturbed the pustules on the leaves of the infected plants will release spores and they will spread via wind but also by direct contact. They also can spread by any activity in natural bush areas such as walking, bike-riding, camping, etc; it is preferable to always keep to established roads, camping areas and tracks.

Symptoms of the Myrtle Rust infection are masses of bright yellow or orange-yellow spots, lesions on young foliage, the fruits and floral buds and buckled or twisted leaves; lesions on bottle brush are often purple in colour and sometimes the spores are dark brown.

Prior to leaving an area of natural bushland, and on-site, remove soil from footwear and vehicle tyres then spray the tyres and footwear with a spray bottle containing Methylated Spirits. This also helps to prevent any further spread of Dieback.

Reporting to the Department of any queries, worries or observations may be made online via mypestguide.agric.wa.gov.au, by phoning 9368 3080 or emailing padis@dpiird.wa.gov.au

With the assistance of the observations from the community we want to keep WA free of this highly invasive fungal disease.

Members Gallery



Above: A young Euro

Photo: Ardina Van de Ven



Above: Club members mingle with members of the York Branch of the Wildflower Society of WA in the Mount Observation picnic area's bushland.

Photo: Wayne Clarke

Members Gallery



Above: Bee Orchid (Caladenia discoidea) in Majestic Heights

Photo: Lynn Phillips

Below: Drosera sp., Mount Observation

Photo: Vicki Warburton



Toodyay Spiders



Above: Photo of a large spider, taken 18th May 2021, measured 13cm from leg tip to leg tip. The image was sent for identification to Peter Langlands, Senior Laboratory Technician (Entomology), Department of Primary Industries and Regional Development. Peter advised it is definitely a Huntsmen spider but it is difficult to correctly identify it from a photo only .

Photo: Lee Francis



Left: This image portrays a juvenile species of the Huntsman of the Family Sparassidae. The marking on the underside of the abdomen suggests it is in the genus, Neosparassus, the Badge or Shield Huntsmen spiders.

Data: Dr. Peter Langlands

Photo: Nyaree & Adrian Lawler

A recent find was that of a 'sloughed' (pronounced 'sluffed') skin of a Reticulated Velvet Gecko (*Oedura reticulata*); all reptiles 'slough' their skins as do frogs and turtles.

The process is termed as 'a voluntary discarded skin'. Reptiles have a dry outer skin that is a layer of dead scales overlapping each other. As the dead skin doesn't grow with the animal it needs to be removed and this process is known as 'sloughing'. Young creatures continue to grow and the skin may be sloughed once every three weeks whereas the mature creature may slough once, or up to three times, annually. Reptiles with legs such as lizards, monitors, skinks, geckos, etc, have a skin that will be shed in pieces whereas the legless lizard, snake, etc, sheds its skin in one piece turning it inside out as it sheds.

With the recent find of the Reticulated Velvet Gecko slough it was examined very closely to find a small clear circle of the skin that covered the head; it is the scale that covers and protects the eye of the species. As the eye lid is immovable the Gecko cleans the scale covering its eye with a rapid movement of its tongue.

Like all reptiles the monitor sheds its skin regularly with some shedding the skin as a complete unit and others flake off in small sections resulting in the old skin adhering to the throat, flanks and legs giving the individual a 'scruffy' appearance. The 'scruffy' appearance has also been observed on the familiar Bobtail.

A frog normally sloughs on a regular basis. It avoids dry areas and in those periods it avoids dehydration by concealing itself in a cool area and envelops itself in a cocoon made of shed skin and mucus.

Turtles also regularly slough with the material resembling a piece of slime on the waterway.



Above: A sloughing Shingleback lizard (or Bobtail)

Photo: Wayne Clarke

(Desraé has written Python Watch - a regular feature in the monthly Toodyay Herald - since August 1996)

DID YOU KNOW...

THOMAS Robert Noel Lothian OBE (25 December 1915 – 24 September 2004), generally known as **Noel Lothian**, was an Australian botanist.

Lothian was born on 25 December 1915 in the Melbourne suburb of Mont Albert. After completing school at Scotch College, Melbourne, he studied at Burnley Horticultural College. He worked in botanical gardens in Melbourne and at the Christchurch Botanic Gardens in New Zealand, then started study at the Royal Botanic Gardens, Kew in 1938. Lothian was an exchange student at the Munich Botanic Garden when the Second World War broke out. After returning to the United Kingdom to complete studies at Kew Gardens, he joined the Australian Army and managed farms in New Guinea as a lieutenant.

After the war, Lothian studied and lectured at the Lincoln Agricultural College in New Zealand. In 1948 he was appointed director of the Adelaide Botanic Garden, a position he held until 1980. While there, he was a prominent member of the Royal Society and chairman of its offshoot, the Field Naturalists Society, for several years. In 1961 he was awarded an OBE for services to horticulture, and in 1975 the Veitch Medal of the Royal Horticultural Society. He died on 24 September 2004 in Townsville, Queensland. On 8 October 2004 his ashes were subsequently scattered at the cool temperate botanical gardens at Mount Lofty that he had been integral in establishing during his tenure as director.

ENVIRONMENT MATTERS



Above: Good rains in late July and early August caused the Avon River to run a 'banker'. The TNC's John Masters Bird Hide can be just seen near the top right of this image.

Photo: Greg Warburton

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THE TOODYAY NATURALISTS' CLUB INC.

PRESIDENT: Sharon Richards 9574 5723 **VICE-PRESIDENT:** Wayne Clarke 9574 5574
SECRETARY: Desraé Clarke 9574 5574 **TREASURER:** Charmian St John 9574 5723
PROJECT OFFICER: Greg Warburton 9574 5445

ADDRESS: Post Office Box 328, Toodyay. 6566

NEWSLETTER EDITOR: Desraé Clarke [Format by Wayne Clarke]

email: info@toodyaynats.org.au

Website www.toodyaynats.org.au

Drummond House - Toodyay Environment & History Centre: 108B Stirling Terrace, Toodyay
(next to the Bendigo Bank ATM). **Opening hours:** Saturday 10am - 12noon

WILDCARE HELPLINE 9474 9055