



Toodyay Naturalists' Club Inc.

THE TNC NEWSLETTER

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PRESIDENT'S REPORT

by Desraé Clarke

The guest speakers for the first meeting in February of 2021 were long-standing TNC members, Eva and Don Smith, who gave a most informative presentation entitled '*Wrangel Island – a Trip to the Russian Arctic*'. Of course it was accompanied by beautiful photography of the wildlife of the area and the arctic landscape.

Members were saddened to hear of the passing of Mrs Beryl Boase, aged 94 years. Beryl and her late husband, Fred, farmers of Goomalling, were members of the Club since 1982 becoming Honorary Life Members in 1995. They were wonderful role models to the family passing on their love and appreciation of the environment as far as their great-grandchildren.

Club members extend their sympathy to Rob and Beth Boase, Janette Cavanagh (nee Boase) former TNC president and now living in Boulder, and Grandson, Craig, who lives in Victoria and carries on the Boase tradition with his care for the environment and his exquisite natural history art.

On Saturday 20th March Bob Cooper, reptile guru and outback survival specialist, gave an exciting presentation, ably assisted by Vanessa, commencing with suggestions of learning to cope with the fear of snakes. This segment was followed by the management of suspected snake bite with discussion and demonstration of the up-to-date bandaging technique now promoted world-wide.

Bob and Vanessa brought their 'kids' along for the outing who received lots of cuddles and, of course, photos recording the event. The only 'kid' not cuddled was a female Death Adder. It was quite happy moving about the floor but preferred the privacy of its bag; Bob and Vanessa appeared quite besotted with the little creature!

The April meeting was an excursion on the geologically interesting Toodyay property of members, John and Karen, led by retired Earth Scientist, Doug Blandford, with his presentation entitled '*The Wonderful World of the Science of Landscape Evolution*'. Members were led about the steep slopes with Doug explaining the age, composition and other interesting features of the ancient landscape. Doug has retired to live within the Shire of Toodyay and is a wealth of knowledge that is shared willingly.

With the discovery of the beautiful male Stick Insect over the past summer months a call was made through the Environment segment of The Toodyay Herald, the monthly community newspaper, requesting sightings and photographs to be recorded for further research of the creature for correct identification. The response from the general public was amazing! [Read more on the Stick Insect Saga on page ten].

An in-house project, currently in progress, is the cataloguing of the extensive collection of Toodyay Naturalists' Club books on all aspects of natural history; it is housed in the Toodyay Environment and History Centre, Drummond House. The library is available for use by the general community especially the younger folk.

Wrangel Island - A Trip to the Russian Arctic - Part One

Don and Eva Smith

TNC members, Eva and Don, took a six week sojourn to Alaska and the Russian Arctic with time spent on Wrangel Island, 71°N 179° E. They left from the port and largest town in the north, Anadyr, with geographic coordinates of 64° N, 177° E on the ice-strengthened Russian research ship, the *Kapitan Khlebnikov*. The vessel of 12,300 tons, 122.5 metres in length and of 24,000 HP had a crew of 70 catering for 110 guests. Wrangel Island is north-east of the Russian Far East and has no road or rail link to the rest of Russia. The following is the interesting species list of creatures found through the area.



Above: The Beluga Whale

Photo: Don Smith

The Beluga Whale (*Delphinapterus leucas*) lives between 50° N 80° N and is four to five metres in length, quite rotund and weighs between 700 and 1,500 kilograms. It feeds on fish to depths of up to 300 metres. Small pods of up to 12 animals are formed and in the summer they fish in shallow waters for salmon to eat up to 80 kilograms of fish daily.

It moults in summer by rubbing the body on coarse gravel on the seabed to remove old skin. The female has a gestation period of 15 months and gives birth to a single calf in spring. The young are nursed for about two years.

The Spotted Seal (*Largha seal*) occurs mainly in the Chukchi and Bering seas. It is up to 1.7 metres in length and weighs up to 130 kilograms. It is rarely seen as it spends most of its life at sea and on pack ice in family groups of a female, male and a single pup. The pup is weaned at four weeks; the female mates with an attending male and the group then disbands. The Spotted Seal may dive to 300 metres and forages in the open ocean on schooling and bottom fish, crabs and octopus.

The Pacific Walrus (*Odobenus rosmarus divergens*) is the world's largest pinniped, a fin-footed mammal. It is up to 3.7 metres in length and weighs 1200 to 1900 kilograms; it has a bulky body. The two tusks, that are used to pull its body onto the ice flows, grow from the upper jaw and continue to grow throughout its entire life. The female has short tusks but a male's tusks can grow to 60cm long and each can weigh up to 5 kilograms. The larger the tusks the higher the male will rank in the social hierarchy. Males form aquatic territories they establish in polynyas (open water in surrounded by ice).

The wide, flat flippers serve as paddles for swimming. Its thick layer of blubber provides buoyancy and helps to conserve body heat while the animal is foraging in cold waters. It forages on shallow sea banks up to 80 metres feeding on molluscs, crustaceans and small fish. It feeds by sculling along the sea bottom using its sensitive whiskers to locate prey in murky waters or even complete darkness. It roots out molluscs and crustaceans by using the ridge of skin on the top of the snout. It will also dislodge prey by jetting water from the mouth into the sediment. The high-vaulted palate and 'piston-like' tongue creates suction strong enough to pull a clam or a snail right out of the shells hauling out great numbers.

...cont Page 4

Wrangel Island ... cont

Don and Eva Smith

Pacific Walrus (cont)

A female is sexually mature at four to eight years and a male at six to ten years; breeding is between April and May and mating takes place in the water. Following the cow mating there is a four month delay before the blastocyst becomes implanted. Gestation takes approximately one year delivering a single calf with the pair remaining together on the drifting pack ice that gives them continuous new feeding grounds. The calf is completely dependent on its mother milk for its first year and is not fully weaned until the second year. The Walrus requires thick ice flows to rest on to survive but the current climate warming is causing the rapid melt.

When a Walrus body is cold it turns a red colour; it then restricts its blood flow to the skin and will appear much paler. When diving the Walrus has the ability to seal off its ears. It also has expandable pouches on either side of the oesophagus that hold 50 litres of air. This enables it to hold its head above water allowing it to sleep at sea and allows the female to feed her young.



The Polar Bear (*Ursus maritimus*) is the world's largest land carnivore and is found in circumpolar on the Arctic Ocean seas growing to a length two to three metres with its weight between 150 and 600 kilograms. The male is larger than the female and has a broader and more powerful neck. The female will grow until it is four years old and reaches its full weight of 300 kilograms. The male will continue to grow until eight years of age and reaches 600 kilograms.

The large oar-like forepaws help in swimming with the feet insulated with fur between the pads; the bear can swim up to six kilometres per hour. The strong, slightly curved non-retractile claws are of five to seven centimetres in length. The long, narrow head is relatively small compared to the body.

The coat of the Polar Bear consists of an outer layer of glossy guard hairs overlaying a thick undercoat. This, in turn, covers a heavy layer of subcutaneous fat; its skin is black.

The Polar Bear can walk at five kilometres an hour and can move with a lumbering run at 30 to 45 kilometres for a short distance. It will overheat and tire quickly as it clambers over rough ice and will lay down on the ice to cool off at the first opportunity.

A female will reach sexual maturity at about five years and a male at eight to ten years. The breeding season is from April to May. Implantation of the fertilized embryo onto the female uterus is delayed until late autumn. The female finds a denning site then will go into a deep sleep for the next four months with her metabolic rate and temperature dropping to conserve energy.

Wrangel Island ... cont

Don and Eva Smith

In early January the sleeping female gives birth in the den. The cubs, with a litter size of one to three, but usually twins, are deaf and blind at birth. They leave the den in March/April to proceed with mom on to the ice to learn to hunt as mom hasn't eaten for four to five months. The Polar Bear does not hibernate unless pregnant.

Its main prey is seal and principally the Ringed Seal; also taken are the Harp, Hooded and Bearded Seals together with Walrus and the bodies of whales, etc. A bear can smell food at 25 kilometres distant. It will also eat seaweed, lichens, mosses, sorrel, sedges and grass. The lifespan of the Polar Bear is 15 to 25 years.



The Musk Ox (*Ovibos moschatus*) is stated to be closer to the goat and sheep families than the oxen; it inhabits tundra, forest and the tundra/barren lands of Greenland, Canada and was introduced to Wrangel Island. It is 2.1 to 2.5 metres in length and 1.2 to 1.6 metres in height; it can weigh from 80 to 400 kilograms. It has a very large head, a compact body, short stocky legs and a long, shaggy coat.

Both male and female have long pointed horns, from the brow, that point downwards and outwards. The horns of the male extend across the forehead to meet as a 'boss' up to 10cm thick. At the time of the rut the males will vie for position in the herd by charging each other to crash over the ten centimetre-thick forehead horn area.

The Musk Ox feeds on low tundra vegetation and uses its hooves to remove snow from vegetation. It also uses its head to break ice covering food then uses its hooves to remove broken chunks of ice. A typical herd of 20 to 70 animals will congregate in winter.

A female's sexual maturity is reached at two to four years to bear a single calf in spring following gestation of eight to nine months. A calf can eat grass within a week of birth; however, it still requires its mother's milk to put on enough body fat to survive the forthcoming winter. The calf lies next to its mother for warmth or under her 'skirt' of hair.

The soft wool from the Musk Ox undercoat is called *Qiviut* pronounced 'KIV – ee – ute'. It is extremely lightweight and reputed to be eight times warmer than that of sheep wool. The yarn is very expensive at between \$40 and \$80 per 28grams.

[Part 2 of Wrangel Island will be in the August 2021 Newsletter]

Bob Cooper visit

by Rob Boase

At the March meeting of the Toodyay Naturalist Club, we were privileged to have the renowned bushcraft and survival expert Bob Cooper and his partner Vanessa Paget talk on snakes and snake-bite treatment. Bob also touched on fear and survival.

Bob was born in Perth and has always been fascinated by the bush and the ocean. He is considered an expert teacher in snake handling and outback survival techniques. Much of his knowledge and survival skills has been gained from personal experience and time spent with Western Desert Aborigines as well as Kalahari Bushmen and Sioux Indians. He has also written several books on outback survival.

Bob started his talk by explaining how fear can cause some quite irrational actions, and that knowledge fights fear. Therefore knowledge is power and helps overcome what is often a learned fear. As his talk was primarily to be about snakes he used the fear of snakes as an example. Bob explained that for most people with a fear of snakes, the terror they experience is a learned fear and can be overcome once a person learns true facts about snakes and how to handle them safely. As a result of Bob's talk at least one TNC member was able to overcome their fear of reptiles and actually handle one!

According to Bob most people that get bitten are as a result of trying to capture or kill a snake. Bob informed us that snakes perceive humans as large potential threats, and if left alone snakes will do their utmost to get out of the way. It is only when snakes feel threatened when cornered or attacked that they are likely to bite. Even then many bites have no venom injected and are termed 'dry bites'. Bob explained the purpose of snake venom is to subdue prey so the snake is able to capture and eventually swallow it. Enzymes in the venom also assist with the snake's digestion. Therefore there is no short term gain for the snake in injecting venom when it is trying to frighten off a large predator like a human. Bob explained that Australian snakes have very short fangs that can only inject venom into the lymph fluid just under the skin. The lymphatic system mostly relies on muscle action to move the fluid around the body and eventually into the bloodstream, so any method that slows the movement of lymph fluid containing snake venom is going to buy time, and allow the victim to get to medical treatment.

Bob showed on TNC member Greg's arm, how the movement of lymph fluid can be effectively slowed by getting Greg to sit still with his arm down and not try to move. Bob then applied what is termed a "Pressure Immobilisation Bandage". Triple zero was called and then an elasticized bandage was applied firmly over the bite and then all the way up the limb leaving the finger tips exposed to be able to check circulation. The site and time of the bite was written on the bandage. We all then had a practice at applying a Pressure immobilisation Bandage under the watchful eye of Bob's assistant, Vanessa.

Vanessa then showed the various reptiles they had with them: two pythons, a bobtail, a Blue Tongued Skink and a Death Adder. All but the Death Adder were then handed around. Many questions and much joy was had. So much so that Desrae found it difficult to round us all up for our meeting!

Bob Cooper visit

... cont



Above: Bob Cooper demonstrating the 'Pressure Immobilisation Bandage' on Greg Warburton.

Photo: Sharon Richards

Vale Mrs. Beryl Boase

It was sad to receive the news of the passing of Honorary Life Member of the Toodyay Naturalists' Club, Mrs Beryl Boase, on 27th February 2021; Mrs Boase was aged 94 years.

Mrs Boase, and her late husband, Fred, had been staunch members of the Club since 1982 and both received their Honorary Life Memberships in 1995.

Despite the distance they regularly travelled from their farming property in Goomalling to attend the Toodyay meetings, working bees and outings. They made a wonderful team with a common interest of a love of the environment in its entirety.

The legacy and love of natural history has been passed through the Family to their great grandchildren.

RIP.

Gwardar Rescue

by John Hansen

In mid-December, and before break-up of the school year, a large Gwardar had been seen several times at the Wundowie Primary School.

The local snake-catcher had been called but was unable to catch the reptile as it disappeared beneath the boys' toilet block. I was recommended by the snake catcher to assist as he knew I had a special trap.

Under policy, the school had to call a pest control company but the snake could not be located. This outcome was fortunate as the Gwardar may have been destroyed.

I set my trap late afternoon. Early the next morning it was found secured in the boys' toilet. It measured two metres in length and was of a very handsome herringbone patterning with a shiny black head. It was relocated in nearby bushland.

I commend the school staff as they kept a level head throughout the incident.



Native Potter Wasp

by Andras (Andy) Szito



Above: Native Potter (or Mason) Wasp on a Calothamnus

Photo: Wayne Clarke

Photo above is a native solitary Potter wasp, or Mason wasp, *Abispa* species, almost certainly *ephippium* (Hymenoptera: Vespidae). The female Potter wasp constructs mud cells to house and provide prey of caterpillars, spiders and grubs for its developing larvae. The nests can be above or below ground but are often well hidden. Although the female can sting and can exhibit aggressive nest defence, the sting is not considered harmful. The adult wasps usually feed on pollen and/or nectar.

Unfortunately it is often the case that the sex of the wasp is required for reliable identification.

Information provided by Andras (Andy) Szito, Taxonomist/Curator

Biosecurity and Regulation -Diagnostics - Entomology, Dept of Primary Industries and Regional Development

The Stick Insect Saga

by Desraé Clarke

In early January of 2021 a Nat's member sent an image to the Club's email address of an extremely large, and beautiful, Stick Insect requesting it be identified. The request was passed on to Andras Szito, entomologist with the Western Australian Agricultural Department, who was unable to assist. Information of the find, together with an excellent photo of the creature, was sent to Paul Brock, the Australian Insect Farm, Innisfail, Queensland, to assist with the creature's identity.

He was unable to help so passed it on to a colleague, Jack Hasenpusch, who was equally stumped. "I have asked Jack about the specimen, so we'll see what he says".

Meanwhile a photograph of the creature was placed in the local monthly community paper seeking help from the public. An excellent response resulted with quite a number of photos arriving from vastly different areas of the Shire. Most creatures were found in an area of eucalypts – but not all!

"Well, it's like nothing in our book and Western Australia comes up with a few surprises", said Paul.

"It is a large male, looks something like *Tropidoderus*, but the short cerci [a pair of pointed appendages at the tip of the abdomen] and serrated mid femora (third segment of the legs of insects) do not add up but place it in the family Phasmatidae. It would be useful if someone found a female [which must be powerfully built of at least 160 mm from head to end of abdomen] and perhaps the Naturalist's Club members could have a look in that area - it is likely to be on gums. If members could search at night it is when it is most likely to be seen."

The Nat's patron, John Dell, said that he had known of this Stick Insect as a young person living in the hills of Perth; it preferred Wandoo (*Eucalyptus wandoo*) and Powderbark Wandoo (*Eucalyptus ascedens*).

The last photo sent to Paul received the following comment.

"Excellent, but that is a female *Podacanthus keyi* (type locality Floreat Park, Perth and various localities in WA, SA) - the male also has long cerci. <http://phasmita.speciesfile.org/Common/basic/Taxa.aspx?TaxonNameID=1201596> Note the legs are not broadened, but in *Tropidoderus* the femora are more leaf-like".

"Still plenty of time for the *Tropidoderus* to turn up! Sorry to report it is not the beast, but *keyi* is little known and seldom recorded - we described it in 2007. See map for the genus here <https://bie.ala.org.au/species/urn:lsid:biodiversity.org.au:afd.taxon:c41cf891-fe38-4d28-955b-289cb359362d>

"So we are still looking for a female *Tropidoderus*-like sp. most likely with short cerci [which would be unique in the genus], possibly closer to 200 mm [in body length], as the male is nearly 140 mm in body length (head to end of abdomen)".

As it has been sighted by a number of people from early December till late January it has made us aware to search for this beautiful creature over the summer months of 2021/22.



Above: *Podacanthus keyi*

Photos: Bethan Lloyd

[Note: A number of non-members have reported seeing this large insect and have promised to obtain specimens next summer. The more eyes on the ground the more chance of succeeding in locating specimens for identification]

A very unusual stick insect

Article and photo by Robyn Taylor

In December I found this magnificent stick insect partly submerged in the new swimming pool. I thought it might have been blown in from the surrounding paddocks and assumed it had drowned. Its body was soft, but its legs were stiff and rigid, so I thought rigor mortis was setting in. I took it home to photograph then wondered if I could spread its wings to see if the rosy colouring extended to the underside, but then I noticed a very slight movement at the end of its body. So, it was alive!

I then set it up in a protective shelter of small branches and leaves in the open garden shed and left small pieces of lettuce and watermelon. It wasn't interested, so I used a syringe to drop water below its head. After a while it lowered its head and started drinking. I kept this up for two days, and on the third day it had gone – hopefully it had taken flight.



Above: Robyn's Stick Insect

Photo: Robyn Taylor

DID YOU KNOW...

UNDER the Biodiversity Conservation Regulations 2018, injured or abandoned fauna that require assistance must be rehabilitated under the guidance of a licensed rehabilitator unless the animal is not being kept for more than 72 hours and is being released at the place from where it was originally taken. A licence must be obtained where fauna is to be held for more than 72 hours.

The relevant licence for this activity is Regulation 35 *Fauna Possessing (other purposes) Licence*, hereafter referred to as a Fauna Rehabilitation Licence. In addition, there is a requirement for “*notifiable species*” (which includes all threatened and specially protected species and species that require specialised care) to be reported to the department within 24 hours if a person taking possession of the animal.

Member's Photos



Above: Stick Insect. *Photo: Lyn Phillips*

Above: *Varanus gouldii*. *Photo: Wayne Clarke*

Below: Young Bearded Dragon. *Photo: Ardina Van de Ven*



ENVIRONMENT MATTERS



QUIRKS IN THE ENVIRONMENT

Our common Mangles kangaroo paw, *Anigozanthos manglesii*, has a small range of colour and form. It also sometimes hybridises in nature, and as it commonly grows with the yellow/red coloured cat's paw *Anigozanthos humilis*, hybrids may occur. So, the plant in the Busselton cemetery is a hybrid between these two paw species. The hybrids seem to be usually fertile so they can backcross to either parent which can result in a great range of flower colours in the population.

There is a famous locality, strangely it is a cemetery too, at Gingin, where the kangaroo paw and cat's paw grow together in the fenced cemetery, and where the soil has been disturbed. These conditions seem to have encouraged hybridisation, and much backcrossing to either parent species, so much so that tourist coaches used to visit the site to look at the variety of colours. I haven't been there for years so I've no idea if the paw population is still there.

There are collection records of the hybrids in the herbarium from bushland places like Pinjarra and Dardanup. Both species have been used extensively in artificial crosses with other species to give a huge variety of commercial cultivars. One example in the giant green paw *Anigozanthos flavidus* which is very widespread, however close to Augusta and in some areas near

Margaret River, this species has port-wine coloured flowers. This has been crossed with *Anigozanthos manglesii* to give very tall selections with flowers resembling those of Mangle's kangaroo paw.

Photo: Steve Winfield, Nannup

Article: Dr Neville Marchant AO

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