



August 2020

Alice Springs Field Naturalists Club Newsletter



Field Naturalists found this wonderful old Supplejack tree, *Ventilago viminalis*, along the Davenport Creek on their way into Roma Gorge last month. See p.8.

Meetings are usually held on the second Wednesday of the month at 7:00pm at the Olive Pink Botanic Garden Visitors Centre. **However the August meeting, which is also the Annual General Meeting, will take place in the Gazebo at Olive Pink Botanic Garden on Sunday 16 August at 2.00pm.**

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NEWSLETTER

The next newsletter will be September 2020

The deadline for the August newsletter will be 23rd August.

Please send your contributions to Barb Gilfedder: bjfedders@gmail.com

ALICE SPRINGS FIELD NATURALISTS CLUB

Sunday 16 August, 2.00pm – Annual General Meeting will be held at Olive Pink Botanic Garden in the Gazebo. Neil Woolcock will be presenting the Treasurer's Report and the Financial Report. Barb Gilfedder will be presenting the President's Report. All Committee positions will be declared vacant and an election will take place. Anyone who would like to serve on the Committee, please let a member of the current committee know or volunteer yourself at the meeting. The café will be closed by then, but tea and coffee will be available in the gazebo. Peter Jobson will talk briefly about a series of workshops about "Habitats, plants and gardens", being planned for next year. Neil Woolcock will give a brief workshop on the new radios and Kimberley Morgan is planning a fun challenge. It is also a good opportunity to pay your subscription in cash, if you need to.

We do not yet have any other activities or trips on the calendar. If any member is keen to organise a walk, drive or talk, please let Barb Gilfedder know.

AUSTRALIAN PLANTS SOCIETY - ALICE SPRINGS

apsalicesprings@yahoo.com.au

Saturday 9 August, 10am at Olive Pink Botanic Garden. "Planting methods for Australian natives" — Ian Coleman

The Olive Pink Botanic Garden has planted 600 native plants this autumn. Learn about the McEllister Planting Method used, see the results, share your experiences growing Central Australian natives, and hear what worked for others. The McEllister Method involves using termites rather than worms to work the soil. Several deep planting holes will be opened up to see if termites were active and what the results are. This APS Meeting is listed as part of the DesertSmart EcoFair.



Seeds Needed by APS AS

APS AS distribute and sell packets of local native flower seeds to stores around Alice Springs and further afield. Some they can buy in bulk, others are collected locally. Seeds from the following plants are required: Native Passionfruit, Red Bud Mallee and Sturt's Desert Rose ([left](#)). If you can help, please email apsalicesprings@yahoo.com.au

Note: For those not in the know about the rules for seed collecting from native plants. If the plant is a cultivated specimen, no permit is required. All other native flora (including plants on your property which grew there of their own accord) are considered 'protected' and require a permit for seed collection!

Alice Springs Field Naturalists Club Committee Members

President	Barb Gilfedder	8955 5452
Vice-President	Lee Ryall	0417 401 237
Secretary	Kimberley Morgan	0402 527 195
Treasurer	Neil Woolcock	0428 521 598
Property Officer	Rosalie Breen	8952 3409
Public Officer	Anne Pye	0438 388 012

Committee Members:

Anne Pye	0438 388 012
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Other Club Responsibilities:

Newsletter – Barb Gilfedder	bjfedders@gmail.com
Facebook Organiser – Meg Mooney	moon3@iinet.net.au
Website - Robyn Grey-Gardner	8952 2207

Pittosporum angustifolium

Barb Gilfedder



Pittosporum angustifolium is a small tree that I usually only notice when it is bearing its small orange fruit, but it has these lovely small flowers, too. *Pittosporum* is from the Greek meaning "pitch (sticky) seeds" and *angustifolium* from the Latin "narrow leaves". It just came up in our garden probably from a seed passed by a bird. Common name is Native Apricot from the fruit shape – they are not edible. See the flowers at Olive Pink Botanic Garden, now.

Fantastic beasts and how to raise them

- July Presentation. Report by Meg Mooney.

Carly Humphrys and Krysta Simms told a great story about hand-raising an orphan puggle or baby echidna. Echidnas like platypuses are egg-laying mammals and platypus babies are also called puggles.

An echidna lays a single soft-shelled, leathery egg straight into her pouch. The tiny puggle hatches after 10 days and sucks milk from the pores of two milk patches in the pouch – echidnas don't have nipples. Puggles stay in the pouch for 45 to 55 days.

The puggle that arrived at Alice Springs Desert Park via health staff from Imanpa, where it had been handed in, was 112 grams, approximately 21 to 28 days old and underweight for its age. Its eyes and ears were still closed.

An echidna puggle had not been raised at the Desert Park for 10 years and vets contacted by the staff said that puggles less than 120 grams have a very low survival rate from hand-rearing. Nevertheless, Carly was determined to give it a go.

She put the puggle in a fabric pouch in a new incubator, a bird brooder. Every one and a half hours, she tried feeding the puggle a generic animal milk formula from the palm of her hand but it showed little interest at first. On the advice of vets, the puggle had fluids injected under its skin to help stimulate its feeding response. The puggle's weight got down to 105 grams. Then after the second fluid injection it showed more interest in feeding.

After 10 days the puggle was drinking "milk" regularly! Carly ordered "Wombaroo Echidna milk raising formula". Echidnas have a lower body temperature and metabolism than other marsupials, so don't have to be fed as often as joeys.

Desert Park staff aimed to get the puggle to drink 10 to 15% of its body weight every 24 to 48 hours. Carly started to use an egg-poaching cup rather than holding the milk in her hand, because the milk would easily leak out of her hand.

At around 41 days old the puggle started to open its eyes, and after 48 days spines were visible under its skin. The spines started to come through when it was 52 days. The puggle began to move around more.

Carly going on leave/holidays was a challenge. It was difficult to get new staff to feed the puggle because it responded to Carly's scent and would only feed with her. Carly would hold the puggle until it started feeding and then pass it on to Krysta who was the staff member who was to look after the puggle while Carly was on holiday. It took a week of doing this before the puggle would feed with just Krysta present.

Krysta thought the puggle smelled like rubber and Carly thought it was more of a musk smell. Scent is important for a mother echidna to find its young one. The puggle loses this scent once it starts to develop spines.





In the wild, after 45 to 55 days, the mother digs a nursery burrow and deposits the young one there (this is where the puggle develops spines. It is too prickly to be in mum's pouch). The mother returns every 5 days to suckle the puggle, giving it big feeds, until it is weaned at 6 to 7 months. To wean, the mother gives the puggle its last feed and doesn't backfill the burrow.

The Desert Park staff moved the puggle to a burrow when it was round 65 days old. The burrow consisted of a nest box and enclosure with lots of leaf litter, logs and dirt. It had pouches for scent and leaf litter. An air conditioner in the room was kept at 22 degrees, to give a room temperature of around 20 degrees. Puggles need the surrounding temperature not to go below 18 degrees, because that could induce torpor, and not above 28 degrees, as higher temperatures can be fatal to them.

At this stage the puggle's feeds were 15% to 25% of its body weight every 5 days and the staff started to teach it to feed from a bowl. They noticed the puggle would roll on its back in the burrow and interpreted from this that a mother echidna would stand over its puggle to feed it in the burrow. The puggle was eating well and putting on weight. At around 5 months, the Desert Park staff put ground termite mound in the puggle's milk and placed live termites in its enclosure. Over 4 weeks they slowly added adult formula "Wombaroo Echidna powdered food" to the puggle's milk. It didn't like this very much initially! Some days the puggle wouldn't eat much but its weight only went down a little. There are lots of mortalities in hand-raised puggles during weaning because they can lose weight and develop pneumonia.

The staff also dropped the quantity of food the puggle was being fed to encourage it to feed more frequently, until it was being fed daily, replicating daily feeding by adults in the wild. At this time the puggle's weight was monitored closely. The puggle began to move into a large enclosure and was feeding outside whilst still being brought in at night, to keep it at a good temperature to ensure good fat stores were developed. This helped prevent any weaning problems.



All the echidnas at the Desert Park are supplemented with "Wombaroo Echidna formula" daily, in addition to what they forage, to help them maintain good condition and to ease the pressures of competition for ant and termites between individuals within the Mulga Walk, a four-hectare enclosure.

Post-weaning, the puggle now weighs two kilograms and has dug an arm's length burrow. It has been given the name of Inarlenge, the Arrernte word for echidna, 'Ina' for short. It is too young to determine its sex – echidnas need to be put under an anaesthetic for this.

Ina was born in early November, so is 8 months old now. It is a bit smaller than a loaf of bread! When it is older she/he will be moved to the Mulga Walk with the Park's five other echidnas, which include Joy who was hand-raised ten years ago.

Hand-raising Ina was a great achievement for Carly, Krysta and other Desert Park staff. Well done!

Many thanks to the Alice Springs Desert Park for allowing the Field Naturalists to use their theatre for this presentation. It was a safer environment, allowing social distancing and also has a large screen for showing these great photos. Ed.

Letter-winged Kite – 2019 Progress Report

Written up by Barb Gilfedder from Peter and Lisa's presentation notes for their February 2020 talk.



All photos by Lisa and Peter Nunn



Letter-winged Kites are endemic to Australia and are the world's only nocturnal hawk. They are nomadic and rare. They breed in colonies and their population appears to go through boom and bust cycles.

Scientific research work into them up to now has been opportunistic and short in duration. It started with Sydney Jackson, who studied the breeding of the bird during a large rat plague in western Queensland in 1918. Another significant breeding and irruption event occurred in the 1970s, including a flock of over 100 kites turning up at Werribee in Victoria, which was documented by several observers. Then Professor Jack Pettigrew carried out targeted scientific research in the early 1990s, but his findings were never published. The Long-haired Rat was said to be crucial to the survival and breeding of the Letter-winged Kite, though several more recent dietary studies suggest otherwise. There are big knowledge gaps, including almost anything related to movement patterns; population size and true conservation status; threatening processes (if there are any) and simple breeding parameters such as age of maturity.

Lisa and Pete got interested in these birds while witnessing mysterious visits of groups of them to the area around Mac Clark Reserve in the SE Northern Territory, in 2011 and 2016/7. ([I found a few out there myself in 2012 roosting in a Bloodwood tree.](#))

Lisa and Pete first had to decide where to work. Studying sightings records, they found the area around Boulia to be the most reliable and easily accessed from Alice Springs. Lisa completed 13 permits with a total of 106 pages: 6 to work in the NT (ready for their return to Mac Clark Reserve!) and 7 to work in Queensland.

They spent \$2077 on equipment and \$812 on permits to carry out scientific work in Queensland. They received significant funding from Birdlife Central Australia and from the Alice Springs Field Naturalists Club.

The Project Aims

- Explore the movement patterns of LWKs. This requires fitting leg bands (and later GPS trackers) to birds, which requires them to not only find birds, but be able to catch them!
- Investigate population trends, status and threats. The first two aspects involve regular surveying of standardised areas.
- Investigate breeding colonies in detail. This requires regular visits to a known colony during a breeding event.
- The flexible nature of the project means they can pick up other aims as they go if they identify them as important.



Letter-winged Kite drawn for Lisa and Pete by 7-year-old Ella

First Field Trip, July 2019:

Working on a cattle station near Boulia for 10 nights, they covered 1256km of driving on the station, learning the track network and searching for their target birds. They found 28 Kites across 4 sites, all within a 12.5km stretch of creek line. Birds were preparing to breed at 2 of these sites.

Initial observations

The researchers realised that the sex ratio was skewed with 21 males and 7 females. There were no immature birds, probably indicating there had not been prior breeding. Nest building was observed in the early mornings and late afternoons, mostly by the males (right). Nests being built from dry herbage picked up off the ground. Prey availability seemed to be low – Lisa and Pete did 180km of car-based spotlighting and only saw one mammal. They collected pellets from Kites to analyse their diet. Feral cat activity was noted at the primary breeding site. Cats have been suggested as a threat. They may kill Kites perched on the ground at night and breeding Kites which are sitting on nests in trees. The remains of one dead Letter-winged Kite was found, although they couldn't confirm if it was killed by a cat (rather than a bigger bird of prey for example).



Trapping trials

Lisa and Pete put considerable effort into different methods of trapping, as many aspects of the study rely on their ability to catch the birds. Most were totally unsuccessful. Mist netting was the most successful, with one Kite flying into a net but then escaping, so they were unable to fit leg bands to any Kites on this trip.

Second Field Trip, Sept 2019:

Their aims for this trip were to revisit nest sites to assess the success of the breeding; survey an additional breeding site in the area reported to them by another birder; apply leg bands to any suitable nestling kites; further trial trapping methods and look more into cat activity.

Results

Three of the four July sites were abandoned and the fourth site held only one bird. The additional site reported to them contained a number of Letter-winged Kites, which were not breeding. No immature birds were seen, further indicating that breeding was not successful. They surveyed additional creek lines in the area. At the new site surveyed, seven nests were documented, 2.6m to 6.8m above the ground with the nearest nests 15m apart in adjacent trees. All the nests had been abandoned. A fragment of eggshell was found under one nest. Generally conditions were significantly drier and no cats were seen.

Observations

Numbers at this site varied daily, from 10 to 17, the birds apparently moving around and using other roost sites. The sex ratio was again skewed towards males. They were spending all night away, probably hunting, so night trapping was not possible and so Lisa and Pete were unable to trial any of the methods planned. After several days of



observation and identifying their daytime roost pattern, they set up a mist net to try and trap during the day. Success! One male was caught, leg-banded, weighed and measured, and feathers taken for DNA analysis. He was then released unharmed. (Left, Lisa about to release the Kite after leg-banding)

Parting news:

The banded male has been seen and photographed by birdwatchers at same site in November 2019. He was alive and doing well – evidence that capture and handling techniques did not cause harm. His persistence in the same area for months gives us optimism that we might be able to find the bird again in 2020.

This sort of research is vital for the protection and survival of these beautiful birds. Our son, Mat Gilfedder, co-authored a book "Birds of Prey in Flight" that was released last year. Profits from this book go to the Birdlife Australia Raptor Group. I learned last month that this group has made a significant grant towards Peter and Lisa's research. Excellent! I'm so pleased! Ed.

Alice Springs Field Naturalists Club

AUSTRALIAN BIRDS OF PREY IN FLIGHT

Seaton, Gilfedder, Debus



Detailed text and annotated photographs to explain the key features and markers that help you to identify that distant flying bird of prey.

<https://www.publish.csiro.au/book/7792>



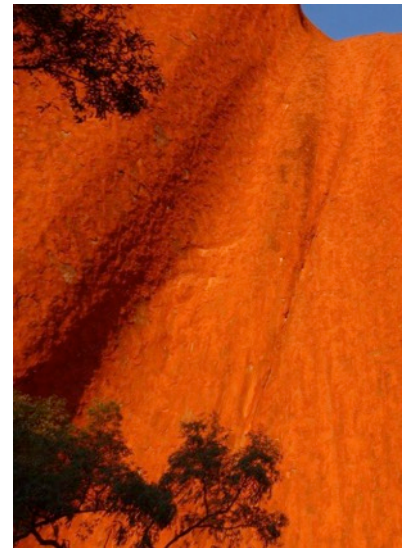
Ururu and farewell

It was good to attend one last Field Nats meeting before I planned to leave on the 21st July. I will first head north, stopping at Mataranka and then in the southern parts of Kakadu, before heading into WA via Kununurra once the border has reopened.

I'm sure everyone has been to Uluru many times, but on my recent trip I took a few pics from different angles, so maybe you like them if you need to fill the next newsletter. Everything is bone dry at Uluru, so I've also attached a pic from October 2016 ([bottom right](#)) for comparison, when the wildflowers were in full display.

Thank you for everything in running the Field Nats, I very much enjoyed being part of the club in the past 3.5 years.

Johannes Ammerschlaeger



Roma Gorge Trip – 27 June 2020

On the way to Roma Gorge by Connie Spencer:- What a delight to travel down Davenport Creek leaving the ravages of last year's fire behind. Healthy River Gums (*Eucalyptus camaldulensis*) shaded the drive along the creek.



Bullockbush left and Supplejack right.



Studying a Pimelea shrub.



Seed capsules identify *Zygophyllum apiculatum*.

A stop was made for all the troops to catch up and there was a great debate as to whether a grand old specimen was a Supplejack (*Ventilago viminalis*) or a Bullockbush (*Alectryon oleifolius*) (front cover). The two are easily confused if viewing from a distance. And the winner, Supplejack! Wandering across to the other side of the creek I came across the two trees growing side by side with a carpet of Twin-leaf, one of the many *Zygophyllums* along with Shrubby Riceflower, *Pimelea microcephala*. Barb and I were pleased to reacquaint ourselves with this shrub as we had been introduced to it two years ago on another trip to Roma Gorge. We were even more pleased that our brains eventually managed to come up with its name!



Rosalie under the large Bloodwood.



Female Pimelea flowers with tiny fruits.



Male Pimelea flowerhead.

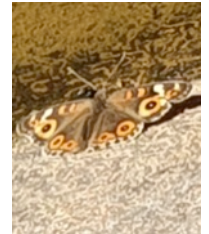
Another stop was at a magnificent specimen of a Bloodwood (*Corymbia opaca*). Growing under the canopy of the Bloodwood was Shrubby Riceflower again. This time the shrub was in flower and another in fruit. This particular species is a dioecious plant meaning that the male and female reproductive organs are on separate plants. The English Holly and Asparagus are also examples of dioecious plants. The male flowers were certainly more impressive than the female.

Jocelyn Davies:- Supplejacks. It was a great pleasure to see the large spreading Supplejack trees (*Ventilago viminalis*) growing on a sandy river terrace next to Davenport Creek about half way along the track into Roma Gorge. They look like they have had long lives, and very many years to grow since the last bushfire. Supplejacks grow like vines when they are young (right), sending out branches that have a curled tip which 'grabs' onto anything it can to help support it. These vine-like branches will often intertwine. Later when they thicken it can look like the tree has woven its own trunk. They have small white flowers in clusters and produce seeds that have a long wing which helps them be distributed by wind. Most records of Supplejacks in the NT are north of Alice Springs. They are also found across the Barkly, inland Kimberley, inland Queensland and into north-west NSW. One place in Alice where you can get your eye in for recognising Supplejacks is at the start of the 'Echidna Hill' mountain bike track (which starts close to the bus stop opposite 160 Kurrajong Drive). There are several Supplejacks on the hill slope just south of the track head sign. But none look as strong and healthy as those we saw on the way to Roma Gorge.



Supplejacks are in the family Rhamnaceae which has 25 genera and about 260 species in Australia, very few of which occur in arid regions. The two other Ventilago species in Australia grow in coastal Queensland. I associate the Rhamnaceae family with rainforest margins because I first learnt about it when living in northern NSW where Red Ash, *Alphitona excelsa*, is a common and distinctive tree in moist gullies that have not been burnt for some time and where rainforest might establish if fire continues to be kept out. Sometimes Rhamnaceae is called the 'Red Ash' family in Australia but it is also often referred to as the Buckthorn family, after a European member of the family. Because its relatives grow in much wetter areas, I think of Supplejacks as one of those plants whose evolutionary origins are in rainforest but that successfully adapted to desert life as Australia's climate started to become more arid, from about 33 million years ago. It's nice to think of these distinctive trees as adapters and survivors. But the real explanation of their biogeography is sure to be much less straightforward!

Megg Kelham - My favourite of many favourite moments on the Field Nat's first post-lock down film trip was hearing the sound of a flock of Zebra Finches flying to and from the small, slightly brackish, pool of water, at the end of Roma Gorge. There was much discussion about whether the presence of such a large group of people was creating the kind of flittish behaviour on display. My own observation, based on how the finches were behaving before everyone arrived, is that the finches were more disturbed by people movement than the size of the crowd. Whilst eating lunch at the edge of the pool I also saw: tadpoles, frogs, bees, wasps, butterflies and a small assortment of other insect life. It was a small oasis in a drier than usual desert - one of the joys of desert life.



A small video of the finches flocking, which includes that sound, has been posted on the Field Nats Facebook page.



Ptilotus exultatus on the path into the gorge.



Lunch at the waterhole.



Tricodesma zeylanicum growing strongly.

Neil Woolcock - Roma Gorge walk up to the cliff top.

After lunch I led some of our group on a walk up to the top of the gorge cliff face.

The smooth rock wall behind the waterhole in the gorge is hard to get past, so to see what lies beyond requires a walk back to the entrance to the gorge then a scramble up the rocky slope to a relatively flat plateau, criss-crossed by ribs of red quartzite several metres high and several wide that must be clambered over. In between these quartzite ribs are relatively flat areas about 50m wide sparsely vegetated with Mulgas, Cassias, Ptilotus and various grasses. There was not much flowering in these flat areas but nevertheless they are still lovely, largely untouched and natural places to wander across.

After crossing several ribs and plateaus we traversed east along a rib to the edge of the gorge at a spot where we had a clear view into the gorge and into the valley beyond. From our vantage point we could see some of those who had chosen to stay below and continue exploring the gorge. The photo (left) shows the group resting at this point and enjoying the view before we set out again retracing our steps.



At the top, enjoying the view.



Looking down through the Fig trees.



Looking up through the fig trees. The two dots on the horizon are people.

Kate Stevens:- I had THE most fabulous day and loved the country and the company.

An excellent trip! Thanks Neil! Sorry I couldn't include everyone's great photos. Ed.



Fruiting bodies of *Elaeomyxa reticulospora*



Fruiting bodies of *Lamproderma muscorum*

SLIME MOULDS by Rosalie Breen.

Slime moulds also called myxomycetes. They are tiny predatory “blobs” (in one of their disguises), and are not really slimy. They live in forest debris in wet temperate forests. What they really are has puzzled naturalists for centuries because the life cycle was not understood and because of their small size, ephemeral nature, and life cycle stages, when discovered, showed traits of plants, animals and fungi. They are now classed as Amoebozoans



A slime mould has a life cycle involving three different guises. It starts out as a single celled amoeba wandering through the soil feeding on bacteria and other one-celled organisms such as yeasts. Then something triggers the amoebae to congregate into the second stage, the plasmodium, a mass of tissue of millions of nuclei but really only one cell enclosed in a membrane (left). In this form it can creep or ooze slowly along changing shape as it moves through the forest debris, engulfing its food, consisting of bacteria, plant detritus, fungi and even other slime moulds. It is still quite small, and delicate, moving slowly, maybe inches in a couple of days. Growing out of the plasmodia, are the third stage, the fruiting bodies, exquisite, colourful tiny spheres or other shapes on hair-like stalks. So small, 2mm, they can easily be overlooked. They look delicate but quickly dry out remaining quite

robust. The dust-like spores are dispersed by the wind and germinate into amoebae and the cycle continues. Their job is to recycle nutrients and break down forest litter so enriching the soil. Nothing is wasted in ecosystems.

The guru of slime moulds in Tasmania, Sarah Lloyd, lives on a property on Black Sugar Mountain. It is a perfect habitat and study area – a damp forest of many mixed species, with tall eucalypts especially stringybark (*Eucalyptus oblique*), tree ferns, shrubs such as blanketleaf (*Bedfordia salicina*) and clematis (*Clematis aristata*), extensive patches of fishbone waterfern (*Blechnum nudum*), lots of fallen logs in various stages of decay, fallen branches, twigs and leaf litter, all very green and damp with mosses, liverworts, lichens and fungi.

Sarah hunts each day for these tiny hunters, armed with camera and torch to observe and collect. The spore bearing stage still attached to its growing substrate is collected, housing it in a matchbox. At home are her microscope, camera, and many reference books for use in identification. She has amassed a collection of over 120 species from her property. This equates to 10% of world figures. One is a new species and named *Allwisio alloydiae* in her honour. [Its fruiting bodies pictured below.](#)

I look forward to reading her book “Where the slime mould creeps” to discover more and admire the wonderful photos.

Slime mould references

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[Thanks to Sarah Lloyd for information and photos and to Rhondda Tomlinson for passing them on.](#)

