



Mammal Mail

The Newsletter of the Tree-Kangaroo & Mammal Group

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~ Final presentation for 2017 ~

Thursday 7th December at the Malanda Hotel

5:30pm - TKMG Committee meeting - members are welcome to attend

7:30pm - My African Experience: Renowned local wildlife guide **Alan Gillanders** reports on a fascinating month in South Africa and the differences and similarities between ecotourism in FNQ and the South African experience.

Not only is this a chance to see photos and hear Alan's tales of South Africa but a wonderful opportunity to catch up with TKMG friends before the holiday season. **All Welcome!**

Conservation Award recognizes fantastic work of Mahogany Glider champions

by Keith Smith

TKMG awarded the 2017 William T. Cooper Award for Conservation of Northern Queensland Mammals to Daryl Dickson and Geoff Moffatt at this year's AGM. Keith Smith (Senior Program Officer at the Department of Environment and Heritage) gave this citation at our recent AGM:

Many of you will be familiar with Daryl Dickson's beautiful paintings of the wildlife of tropical north Queensland (<http://wildcardart.com.au/>). What you may not realise is that Daryl and her husband, Geoff Moffatt, are also devoted wildlife carers and passionate advocates for one of Australia's most endangered and least known arboreal mammals, the Mahogany Glider. This nocturnal gliding possum was only rediscovered in 1989 and is restricted to a narrow band of highly fragmented lowland open forest in the Tully/Cardwell/Ingham region.

When Daryl and Geoff moved to the Kennedy Valley (north-west of Cardwell) over 25 years ago, they found they were living in the heart of Mahogany Glider, or "Moggie" territory. Seeing the continuation of forest clearing around them continue and the death and injury of Moggies on barbed wire fences, they began to devote time to the protection of these gliders. They have been active members of the Mahogany Glider recovery team for over 20 years. With support from the *International Fund for Animal Welfare* they have built special enclosures to house and rehabilitate injured Moggies. Mungarru Lodge Sanctuary is a testament to Daryl and Geoff's selfless dedication to this very special animal.

Daryl and Geoff have pushed for tree clearing restrictions in the area and to restore greater connectivity for the fragmented habitat that still remains. They have been integral in persuading Ergon Energy to erect

power poles in critical gaps to allow Moggies to cross forest fragments safely and in forging a working relationship with forestry operations in the region to see improvement in habitat connectivity. They were key players in the recovery efforts for this endangered species following severe impact on almost the entire remaining extent of Moggie habitat by Cyclone Yasi in 2011.

Geoff works tirelessly supporting recovery actions for the Moggie, often in the background, leaving the lobbying and passionate "persuasion" of local, state and federal government officials and politicians to Daryl. Daryl gives talks to the general public, and local school children in particular, about the plight of the Moggies and illustrates children's books about the Moggie and other wildlife. Community education and conservation are very much part of her work as an artist. By illustrating the beauty of the natural world Daryl hopes to inspire others to care and conserve our fauna and flora for future generations.

In 2008 Daryl received a prestigious Cassowary Award for her work in art and conservation in the Queensland Wet Tropics.

Report on the 2017 Yellow-bellied Glider Census

by Rupert Russell

Yellow-bellied Gliders of the Carbine Tablelands

A minor but permanent stream flows out of rainforest on the northwest slopes of the Carbine Tableland, descending through a belt of Tall Eucalypt Forest before meeting the main Daintree River. Nick-named the Little Daintree, this stream traverses country which is home to Yellow-bellied Gliders (YBGs). First reported from the area in the 1980s, a decade or so later this was recognised as being quite a dense population across a small area. When an opportunity arose to invent a field trip for a bunch of Swedish university students and their professor, it was proposed that an estimate of glider numbers in the Little Daintree would be a valuable project. The idea started with Rupert Russell, then a ranger with National Parks, who promptly asked long time possum-watching friend Dr John Winter to join the project. So in 1997, a party of 13 people were the first census takers in what was to become a biennial census that has been sustained ever since.

Census logistics and method

Logistics for each census are greatly supported by the Mossman-based National Parks service, which provides Ranger staff, helps gather volunteers, and provides vehicles. Twelve or thirteen people are needed for each census. Depending on funds available, volunteers either walk for eight hours through steep, trackless forest carrying food and shelter sufficient for five nights camping at a cool altitude, or the party is ferried in by helicopter. For the recent 2017 census, volunteers were flown in, with costs met by Queensland National Parks and Wildlife Service (see fundraising report at the end of this article).

Making an accurate estimate of glider numbers within a defined area of a little over 100 hectares requires locating the Red Stringybark (*E. resinifera*) trees that are currently being used for sap feeding by YBG groups within the census area. This requires daily criss-crossing of the site on both sides of the Little Daintree by those familiar with the appearance of tapped trees in active use. Each evening volunteers settle at their appointed tapped tree to record the maximum number of gliders present on their tree at any one time, while also recording any glider calls heard sufficiently close to the watched tree to be considered an additional YBG. Glider counts are made on two, sometimes three consecutive nights for the first two hours of dark. Records are compiled and a report written up by the National Parks Ranger who heads up the team.

Results over the last two decades

The highest number of gliders recorded from the census area was 26 animals in 1999. No census was conducted in 2011 nor in 2013. Eighteen gliders were recorded in 2015 and the same number in 2017. It is hoped that the census project will be continued for many decades to come, to monitor the survival of this population in response to changing park management and the impact of climate change.

While 18 YBG is still a significant population, this is nevertheless a decline since the 26 animals counted in 1999. It is possible that 26 was an unsustainable peak for the area and numbers are declining to a more normal level. However, what is worrying is that a couple of groups formerly known to occupy certain parts of the census area have entirely

disappeared and their sap trees have fallen into disuse, yet no other groups in the census area are showing an increase in numbers to indicate recruitment. For half-witted guesses by this writer, continue reading ... time may tell an unhappy tale.

Factors impacting on the YBG population

By maintaining this census over several decades, information is being gained on how the population responds to several factors. One is natural thickening of the vegetation, particularly on the east, or rainforest side, of the Little Daintree. Glider groups continue to use several *E. resinifera* trees on the eastern portion, despite a considerable invasion of certain rainforest species which shade the ground so thoroughly that eucalypt seedlings (of both feed trees and den trees - *E. grandis*) are unlikely to thrive and push up through the invaders. Without disturbance of the understorey, which benefits eucalypt regeneration, there will eventually be no eucalypts east of the stream. Another impact on the glider habitat comes from fire: National Parks will attempt to burn forest on both sides of the stream, usually in successive years. Burning on the east side is designed to discourage rainforest invasives, while fire on the west should serve to maintain the predominantly grassy understorey. Prescribed or planned burning on both sides of the stream carried out in the past had scant impact on rainforest thickening but regrettably each past fire has brought down mature trees on both east and west slopes. The third and overarching impact is climate change which will result in more heat waves, more droughts, greater likelihood of wild fires and more heavy winds, even cyclones. A heavy drought, for instance, could inhibit flowering of Turpentine (*Syncarpia glomulifera*) and eucalypts, depriving gliders of pollen and nectar from the blossoms and perhaps even reducing sap flow on tapped trees. And droughts can persist for several years. The north Queensland population of Yellow-bellied Gliders, probably a subspecies but certainly a disjunct population, is restricted to cooler, higher altitude forests, generally above 800 metres. More heat waves, or more protracted heatwaves are very likely to take a toll on these gliders.

In the context of other YBG populations ...

For now, even 18 gliders in a little over 100 hectares of habitat represents a strong population, equal to numbers known from Windsor Tablelands and Nitchaga Creek country near Koombooloomba. Several decades have elapsed since much attention has been paid to Nitchaga Creek but it is likely that Nitchaga has the highest population per hectare. Good numbers of YBG in Nitchaga may be aided by the presence of *Banksia aquilonia* in the mix of trees; YBG have been observed using nectar and pollen from the flowers of *Banksia aquilonia* which are usually available for several months of each year. Good numbers of YBG in Nitchaga may thus be aided by the presence of *Banksia aquilonia* in the mix of trees. By contrast, *B. aquilonia* is rare in the glider census country of Little Daintree. A compelling reason to oppose the Tully Millstream hydro-electric proposal is that most of the Nitchaga Creek YBG habitat would be drowned if it went ahead.

Editor's note on our Yellow-bellied Glider crowd-finding appeal...

QPWS had offered to cover any short-fall in the cost of the helicopter flights, but eventually was able to cover the entire cost, so the money raised by generous donors to the Chuffed crowd-funding appeal will now be used for another aspect of Glider research. The consensus of TKMG's Yellow-bellied Glider working group is to use these funds to buy two SM4 Wildlife Acoustic Song Meters. These robust meters can be placed in the forest to record sounds for many months. The data is then collected and analysed by researchers. This means that Glider activity can be monitored all night, for months, at as many locations as there are meters. The meters cannot replace the biannual counts at the Little Daintree or the ongoing monitoring at Tumoulin, but they will make it much easier to estimate Yellow-bellied Glider activity across a variety of locations.

Results from deployment of the song metres will be published in future editions of Mammal Mail.

The Vision and Passion of William T. Cooper - A Retrospective

Don't miss out on this inspiring exhibition at the Tablelands Regional Gallery!

🌀 open Tuesday to Sunday until 26th November 🌀

President's Report from the 2017 Annual General Meeting

by Peter Valentine

Started in 1997 by a diverse group of people concerned about habitat clearing and the likely impacts on Lumholtz's Tree Kangaroo, TKMG is now 20 years of age. Initially the group included scientists, wildlife carers, conservationists and other concerned local people from many walks of life. That diversity of members continues and remains one of our strengths. Since it was formed TKMG has worked to raise awareness about the many unique mammals of northern Queensland and has sponsored research, conservation and restoration projects.

In 2017 TKMG hosted a number of presentations at the Malanda Hotel as part of our program to increase awareness about wildlife, celebrations of our unique species and providing conservation messages. I thank very much the people who presented their work:

- Martin Willis - A Celebration of Australian Mammals (at the 2016 AGM)
- Dr Jess Kolek - the Northern Bettong
- Dr Scott Burnett - All about Quolls
- Dr Steve Turton - Climate Change in northern Queensland
- Dr Susan Laurance- Revegetation and lessons learned
- Jonathan Kingdon - Art and nature (joint presentation with the Tablelands Regional Council)
- Martin Willis - Photography of African Animals (at the 2017 AGM).

These presentations were open to the public and proved very appealing with numbers between 80 and 100 attending. I also thank the Malanda Hotel for providing the venue.

It has been a very busy year for the Committee and I want to acknowledge the strong support from all of the Committee members throughout the year. Vice-President Amy Shima was always available for help when needed as well as continuing her own work on Lumholtz's Tree-kangaroos. Secretary Simon Burchill was a stable influence and contributed significantly at the stall at Yungaburra Markets each month, as did Committee member Ceinwen Edwards whose help on many fronts is appreciated. Ruth Whiston managed our finances and always ensured the Committee was well-briefed on income and expenditure. Dave Hudson yet again showed outstanding leadership in the search for funds for many different purposes, and he was highly successful (see below). Margit Cianelli managed to keep us all grounded in the reality that individual animals are continually impacted by our human activities and showed the importance of caring for those many damaged individuals. The presence of wildlife under care at several of our functions proved a boon to awareness raising. Leanne Hales contributed as a Committee member at our meetings when possible despite her active work requirements and took the leadership on setting up the funding arrangements for our new tax deductible status. I also thank Keith Smith and Alan Gillanders who have stepped up to assist with the necessary independent fund management committee associated with the tax deductible arrangements. Finally, I thank Denise Bond who not only provided a great service as *Mammal Mail* Editor but also contributed to many of our Committee discussions. My role as President would have been impossible without the support of these people.

TKMG has had a significant year for income and expenditure, as shown in the Financial Report by Treasurer, Ruth Whiston and confirmed by the Auditor's Report (both reports were tabled at the AGM). From various grants we received around \$73,000 for specific projects, the result of applications both in previous years and during 2017. We have also received funds from our market sales and from donations to help fund our activities. Our income this year has been substantially greater than in 2016. As at the 30th June 2017 we are

well-placed to continue our program of work for wildlife conservation. I particularly thank Ruth for her work as Treasurer.

Amongst the highlights of 2017 for me have been the on-going TKMG practical projects. TKMG has been a partner in a long-term research project investigating techniques for 'kick-starting' the process of natural regeneration in disused pastures. In yet another great example of strong community collaborations, the project has involved Griffith University and the University of Queensland, the Tableland Regional Council's Community Revegetation Unit, the Wet Tropics Management Authority, the School for Field Studies, TREAT, and private landholders all working with TKMG. The project is coming to a close but TKMG has received a \$22,000 **Queensland Government Community Sustainability Action Grant** to implement the learnings from this project (and other similar experiments overseas) at another site.

Project Kimberley – our 3D virtual reality tree-kangaroo – received a boost with TWO \$10,000 grants, one from the **Queensland Government's Engaging Science** program, the other from the **Australian Government's Community Heritage and Icons program**. This funding will go towards Phase 3 of the project, allowing our friends at James Cook University Information Technology School to develop the experience to the stage that it can be deployed at Malanda Falls Visitor Centre by the end of the year. The computer hardware is being funded by a grant from the **Queensland Gambling Community Benefit Fund**. While this project has had a long gestation period we firmly believe that the results will be worth it. Kimberley Phase 2 was demonstrated at the Malanda Visitor Centre's 20th anniversary celebrations and proved extremely popular. We will monitor visitor feedback for 3 months after installation, after which we can decide whether to make any additional enhancements and investigate other venues.

TKMG's **Everyone's Environment Grant** for revegetation along the Rock Rd corridor is coming to a close. The \$100,000 funding, together with substantial contributions from the South Endeavour Trust, has seen about 20,000 trees planted over 6 ha. If you haven't seen this incredible example of community driven habitat restoration get yourself out to the corner of McKell, Kenny and Rock Roads and enjoy the view!



A case study of the overall project was submitted to the **National Climate Change Adaptation Research Facility** by Dave Hudson (on behalf of the Southern Atherton Tablelands Restoration Alliance) and won a prize of \$3,000. The prize money will go towards the erection of a rope ladder fauna overpass for arboreal mammals, in particular lemuroid ringtail possums.

With Yellow-bellied Gliders now being an additional focus within TKMG, a crowd-funding campaign was initiated by Rupert Russell and Denise Bond. This was the first time TKMG has tried this approach to funding and it proved remarkably successful. The focus was to support monitoring a population of Yellow-bellied Gliders on the Carbine Tablelands. Volunteers have been taking a biennial census at this location

since 1997. Through a crowd-funding site called "Chuffed", we were able to raise \$4300 - this was thanks to some very generous support from our members, and we were also able to attract support from further afield. The census trip was successful and we will also be able to purchase two SM4 Wildlife Acoustic Song Meters which can be used to estimate Yellow-bellied Glider activity at additional locations (see Rupert's article for more details). An excellent effort from all concerned.

TKMG has made representations to the Tablelands Regional Council to have our very own Lumholtz Tree Kangaroo adopted as the Council faunal emblem. With the help of Margit Cianelli (and LTK Dobby), I made a presentation at the Council that seemed to attract considerable interest from the Councillors. However, we await a final decision by Council on this matter. In so many ways the decision has already been made by the wider community with Tree Kangaroos used as iconic elements across the region, for business and for visitors.

Several members of TKMG will be joining with Dr Lisa Dabek (from Seattle) to help write a book on the biology and conservation of tree kangaroos, covering all species found in Australia, PNG and Indonesia. The book will be published by Academic Press in the USA, probably at the end of next year.

Finally, let me refer to the William T. Cooper Award for Conservation of Northern Queensland Mammals. On the 10th May 2015 the world lost an internationally acclaimed artist, a naturalist and a conservationist, known for his humanity and generosity. Bill Cooper was a long-standing member of TKMG and donated the drawings we use as our logo and on our tee-shirts. It is in his honour that TKMG established the annual award for outstanding contribution to conservation. The previous two recipients have been John Winter (2015) and Rupert Russell (2016). This year the award goes to Cardwell couple Daryl Dickson and Geoff Moffatt (see full citation in this issue). Congratulations from all the Committee to Daryl and Geoff – you have provided such terrific support for wildlife over many years.

In conclusion let me also thank our many supporters, especially Sustainable Solutions Global who sponsor our web site and our newsletter; our local newspapers who have provided much needed publicity about our activities (*The Tablelander*, the *Eacham Times* and the *Mareeba Express*); Wendy Cooper for support of the William T. Cooper Award; the Malanda Hotel who host our Committee meetings; and our many project partners. I also offer thanks to our many members (about 140) and our volunteers who enable us to be a more active group. I invite members to continue supporting the work of the TKMG by volunteering for specific tasks or by serving on the Committee. Please contact any member of the Committee if you are able to offer some of your skills and time.

Mysteries in Tumoulin Forest

By Rupert Russell

Glider watchers in Tumoulin Forest grew anxious when particular Red Stringybark trees used for sap by Yellow-bellied Gliders fell into disuse. One fear was that the animals using a particular tree may have been killed off by a feral cat. The fear was strengthened when Alan Winlaw mounted a camera to monitor one tree which several gliders were visiting, resulting in a video showing a cat leaping onto the base of a tree, reaching exactly the height at which a Sugar Glider had been recorded earlier the same night licking sap from a low excision made by Yellow-bellied Glider (YBG).

When the YBG monitoring project became part of TKMG, Funding Wizard Dave Hudson secured a grant from the Norman Wettenhall Foundation which allowed the purchase of five Wildlife monitoring cameras and five large cat-traps, plus money for related expenses. The chief related expense was the cost of treated pine timber with which to build a large stool for each trap to be set on. It was felt that a trap set at ground

level would too easily be entered by bandicoots. Each stool was built large enough to provide a spacious and stable landing platform onto which a cat could jump, from where it could then enter the trap.

It took a great many months for TKMG to receive a "permit to collect biological material " (feral cats) from the Department of National Parks, Sport and Racing. This was finally obtained in June this year. Meanwhile, in late 2016 Amanda Kaiwi and Rupert Russell had lugged stools, traps and cameras into Tumoulin Forest Reserve, setting them up next to five widely separated Red Stringybarks which were being tapped by YBGs. It was reasoned that if a feral cat was attracted to the gliders visiting the tapped tree it might also investigate the nearby baited trap. At this stage, while awaiting the permit, all the traps were wired open so that the cats could investigate them, but would not be caught.

Cards from the cameras set to monitor the traps were eagerly inspected a week after setting up. There were short snatches of a variety of animals ... bandicoots, brush-tailed possums, pademelon, echidna, one tree kangaroo, a goanna, swamp wallaby and a brush turkey. A single, elegant feral cat walked through the camera's field of view without bestowing so much as a glance at the trap. The most curiosity was shown by a brush-tailed possum which visited a trap on several nights, and the only bait taken was by a goanna. Cameras were retrieved as the wet season developed, but the traps were left in place (either closed or wired open).

In 2017 while waiting for the permit, Ceinwen Edwards set up cameras to watch three of the five traps. The traps were wired open and baited over a six week period. One camera recorded a feral-looking Tabby hopping up on the stool and entering the trap to closely examine it, then sitting comfortably on the stool while it groomed. This record by Ceinwen showed that a cat was quite willing to hop onto the stool.

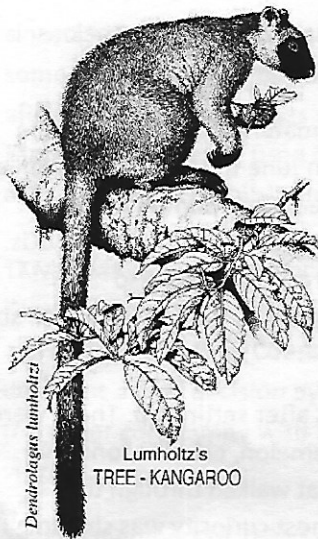
Finally, in September this year Rupert, Amanda and Ceinwen set up all five traps and cameras, baited with all kinds of hopefully yummy smelling materials, now set to be sprung. Each trap was inspected every morning, then closed to avoid catching any daytime visitor. Each evening the trap was baited afresh and re-set. The work was repeated for six days in a row. The result was a disappointing zero. Not a cat crossed the camera's field of view and no animal of any kind was caught.

Many factors could explain this failure to catch a cat. The need to visit the trap morning and night in order to liberate any non-target captive would have introduced a dose of human odour day after day. All baits used: sardines, cooked chicken, raw chicken, proprietary smelly dog wafers and a special dried liver preparation . . . were carrion, perhaps unattractive to feral cats accustomed to catching live animals. All suggestions on how any subsequent trapping efforts might attain a better result are welcome.

Meantime glider watchers have no explanation for the apparent reduction of YBG numbers in Tumoulin Forest Reserve. Best contact to assist with glider monitoring in Tumoulin Forest Reserve is Amanda Kaiwi, contact details available through the TKMG executive.

Editor's note on feral cats ...

Feral cats represent a significant threat to native fauna, so TKMG has been investigating humane methods, including trapping and euthanasia to remove feral cats from significant habitat areas. This is a fraught decision, as the cats' presence results from historical human error and yet it is individual cats that pay the price. However, allowing the feral cat population to grow unchecked, effectively condemns **many native animals per cat** to an early death, and probably contributes to local extinctions. There are very strict regulations to ensure that trapping is done in a way that minimises stress to the trapped animals and to non-target species. TKMG applied for and has been granted a permit from the Department of National Parks, Sport and Racing to cover trapping feral cats, and abides by the best practice guidelines which can be found at the PESTSMART website (<https://www.pestsmart.org.au/pest-animal-species/feral-cat/>), which is maintained by the Centre of Invasive Species Solutions in conjunction with the Invasive Animals Cooperative Research Centre.

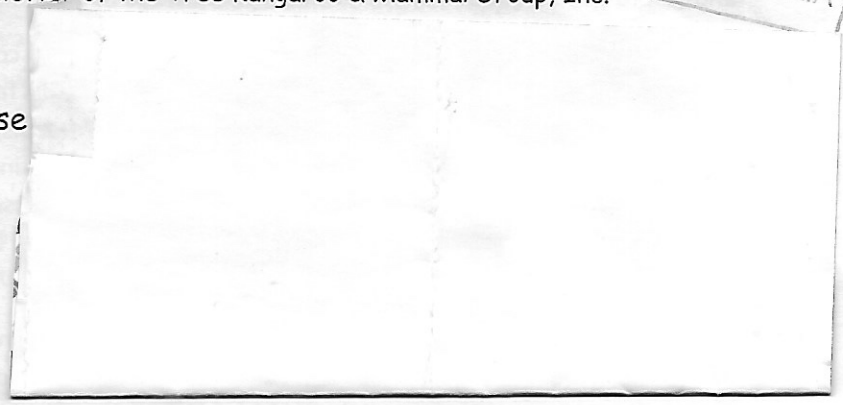


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Please



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