



## Mammal Mail

The Newsletter of the Tree-Kangaroo & Mammal Group

Vol 16 No 1 June 2016

### What's Going On? Don't Miss These Upcoming Events

Is your membership up for renewal? Please check (contact either Simon or Ruth) and **RENEW YOUR MEMBERSHIP**. Please remember that TKMG memberships run for the financial year so memberships are due for renewal July 1<sup>st</sup>. Look for a date on your mailing label or email version of the newsletter.

**Thurs, July 7<sup>th</sup>:** 5:30pm Committee meeting at the Malanda Hotel. Members are welcome to attend.

**Thurs, Aug 4<sup>th</sup>:** 5:30pm Committee meeting at the Malanda Hotel; followed by a presentation at 7:30pm by Dr. John Winter and others talking about the Yellow-bellied glider Project. This will be an update on the project and the broader conservation issues surrounding Tuomoulin Forest.

**Thurs, Sept 1<sup>st</sup>:** 5:30pm Committee meeting at the Malanda Hotel; members are welcome to attend.

**Thurs, Oct 6<sup>th</sup>:** 5:30pm Committee meeting then at 7:00 pm by TKMG Annual General Meeting at the Malanda Hotel followed by a presentation by Dr. Steve Murphy on fire management for wildlife conservation.

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### FROM THE PRESIDENT

*by Peter Valentine*

My first six months as President has been rich in personal wildlife experiences. In February I had the great pleasure of two weeks camping in Tasmania with Martin and Sam Willis. While the focus was more on birds we made sure we took plenty of opportunities to see some of the wonderful mammals. Exceptional for me were our encounters with Eastern Quolls. As members will be aware the Eastern Quoll is extinct on the mainland, an extremely sad loss of an iconic species. By spotlighting on Bruny Island we were able to see many quolls (and other species). I was astonished by the numbers of individuals we saw each night, including many of the gorgeous chocolate colour form.



*A Chocolate form Eastern Quoll on the edge of a road on Bruny Island and the normal fawn-coloured form February 2016*

Fancy having quolls so abundant! Amazing.

During two nights we saw 29 Eastern Quoll and 19 Eastern Quoll respectively and were astonished at the abundance we encountered. In addition, on Bruny Island we enjoyed many Brushtailed Possums (including the white form), lots of Bennet's Kangaroo (including white form), Wombats, Tasmanian Pademelons and Potoroos. A special treat was the occasional encounter with the very hairy Tasmanian Echidna. We were disappointed at the number of roadkills we noticed including several Eastern Quoll and occasional Tasmanian Devil. On this trip we missed devils in the wild but did see them at a captive breeding establishment

#### **Local wildlife care.**

Margit Cianelli had a young Platypus brought into care and worked strenuously on trying to save it, trying lots of different food including fish bought from the pet shops. Several members helped out and the Committee decided to assist with funds also but the effort failed unfortunately. It does seem extremely challenging to assist these young platypus ... perhaps by the time they wander into somebody's yard they are already too far gone. I was also delighted to meet with Kimberley, the Lumholtz Tree Kangaroo reared by Margit and used as a model for the "Virtual Tree Roo" project with James Cook University. Some Committee members have been guinea pigs in trying out the system and we look forward to further progress on this educational project.

In April I was given an excellent introduction to the Tree Roo Rescue and care facility in Malanda by Karen Coombes and her husband Neil McLaughlan. The facilities are impressive and extensive but of course it was sad to see so many animals needing care. The hazards of roads, of dogs and other threatening processes seem to mean a steady stream of animals needing care. It is pleasing that many of the rescued animals recover through the contributions of volunteers and donors.

#### **Conservation Issues**

The latest addition of another 49 species to the threatened species list by the Federal Government (May 2016) is a good reminder at how little the commitment is nationally to conservation of our wildlife. In the same breath the Federal Government has provided no extra funds for threatened species even though most of the threatened species do not have a conservation plan. It can also be highlighted that usually one expects greater concern to be expressed by the national government, especially over endemic species. But this does not seem to be the case. For example the latest additions include the Brush-tailed Bettong (Woylie), which has now been listed as Endangered. The IUCN has it listed as Critically Endangered as does the NGO produced Action Plan for Australian Mammals. While we might debate the relative merits of focussing on habitat management versus individual species, the laws are designed to reflect concerns about species extinction and the consequences of listing should mean more funds to address the biodiversity extinction crisis. That is not the case with this Government. It ought to be.

We have already lost 27 mammals and 22 birds since european settlement (now officially designated as extinct) and we have many more now threatened. Sometimes it does seem we are simply monitoring in the name of conservation the long decline of all our species. The 20 by 2020 national "strategy" gives priority for conservation to just 20 species. Many others are equally or even more threatened. It does not seem the magnitude of the crisis is appreciated in political spheres where money does seem available to help out big polluters, miners and defence contractors but not to take on a relatively inexpensive task such as feral cat eradication or feral fox eradication, the principal threats to smaller mammals.

On the good news front there has been a commitment from the present State Government to

permanently protect the Toumoulin Forest Reserve, which many members will be aware is critical habitat for our Yellow-bellied Glider (and other species). We are still waiting for any revision by the State Government on the near-threatened status of Lumholtz Tree Kangaroo.

### **Focus on Yellow-bellied Glider.**

The Committee has discussed an opportunity to provide an umbrella organisation role for the long-running Yellow-bellied Glider project (with QPWS and John Winter). Previously housed within the Tablelands National Park Volunteers organisation, discussions between the two groups and the existing YBG team has led to agreement for the transfer to TKMG. At a meeting in early June we reached agreement and the logistics will be sorted out in the next little while. It will mean we add a project on Yellow-bellied Gliders to our work plan. Of course old hands will recall that the project began its life with TKMG and is still listed on our web site. The key volunteer and project leadership will be continuing the project within TKMG and necessary equipment and funds will also come across from TNPV. In many ways this makes good sense as the project definitely fits well within our overall aims.

### **Lumholtz Tree-kangaroo.**

Members may recall the excellent Community Action Plan 2014-2019 that came from a community workshop hosted by TKMG in 2012 (with partners Terrain and CVA). The Action Plan identified 5 goals and numerous actions. The Committee has decided that as we approach the half-way mark this year we will review progress on all these goals and associated actions. We are keen to ensure that the aspirations of the community as expressed in the plan are being progressed and if necessary to take up with appropriate partners any gaps in our progress. The Committee would welcome input from any members in this activity. Later in the year we will report on our findings.

Elsewhere in the newsletter Amy Shima provides an update on the research projects involving Lumholtz's Tree-kangaroos.

The Committee is anxious to advance the new web site and has been working on getting better content. We would be delighted for any input from members on these efforts. We had a fascinating presentation from Dr Tasmin Rymer on her behavioural studies on the Fawn-footed Mosaic-tailed Rat (*Melomys cervinipes*). It was a fascinating study by Tasmin and her students. Elsewhere in the newsletter there is more information for members unable to be present at that meeting. The next presentation (in August) will feature Yellow-bellied Gliders.

No doubt members are already talking with candidates about the importance of conservation of wildlife as a factor in their voting intentions. So far not much mention of the environment from the Government this time around even though they boast the world's greatest Environment Minister. I felt complete sympathy for the global expert on corals, Professor John (Charlie) Veron's comment in the latest *Saturday Paper*. He said that speaking with Mr Hunt was frustrating and like speaking with a schoolkid he was so poorly informed about the issues. Actions by the government seem to support Charlie's assertion.

In a short time we will have the results of the Australian national election ... will those results lead to any improved outcome for wildlife I wonder? And to our own human well-being.

I hope to see many of you in the next few months.

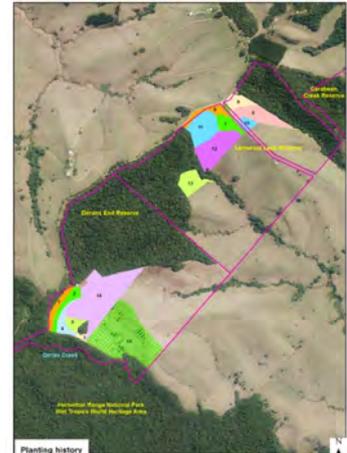
# Report on the Rock Road Corridor Project to QPWS

By David Hudson, TKMG Project Officer

The Rock Rd corridor project continues its remarkable progress. This year 11,947 seedlings were planted, including the 2,902 supplied by QPWS. Of these, 1,925 were used for infill in last year's site (compartment 11 in the attached) with the balance of 9,045 going into a new site (compartment 12), which equates to approximately 4 hectares of new plantings. TREAT held 3 planting days over which c7,500 seedlings were planted; the balance were planted by CVA under the direction of Mark McCaffrey, who deserves special mention for his absolutely outstanding efforts.

Apart from on-going maintenance and minor infill planting this effective completes the northern portion of the corridor. Work will continue on the southern portion with South Endeavour Trust securing funding through the Federal Government's 20MillionTrees program to complement their own significant contribution.

The 2017 seedling contribution from QPWS will again be allocated to this corridor, although specific site allocation has not yet been determined. This project remains a fantastic example of how much can be achieved through a partnership approach; thanks again for your very valuable contribution.



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## Rock Road plantings - 20th February, 19th March, 2nd April (2500, 2500, 2000 trees)

By Simon Burchill

The Rock Road plantings are on some steep slopes at Upper Barron and are part of a TKMG project, with funding from an Everyone's Environment Grant. The Rock Road Wildlife Corridor will connect 1000 ha of freehold habitat (known as the Mt Hypipamee outlier) to the Herberton Range National Park section of the Wet Tropics World Heritage Area. This landscape linkage is identified as a Wildlife Corridor of Regional, State and National Significance. The 1000 ha freehold remnant is largely covered by existing (gazetted) Nature Refuges, a number of which have been subject to significant restoration works over the last decade.

This year saw the completion of the section that was one of the biggest gaps in the corridor, with this area now planted up as a 250 metre wide corridor. The three plantings started at the bottom of the eastern hill where soil moisture was likely to be highest and worked our way up the slope. After last year's dry planting, tanks had been installed to water the trees, and they were needed this year for all three plantings.

Preparation for these plantings is a massive job, partly due to the number of trees being planted, and partly because the steep slopes mean there is no access for a tractor and slasher to mow the grass down. This meant that each hole needed the long grass chipped away before the holes were augered, the long grass did provide good mulch for the young trees.

The weather was sunny and hot for the first planting. On the Friday before the planting I was helping put out fertiliser and water crystals in fine weather, but when I drove home it was through heavy rain from Broomfield Swamp to Pearamon. Better conditions prevailed for the second, and it was windy and cool for the third, with even some light mists of moisture. Scrubfowl calls in the nearby forest greeted us at the first planting and Chowchilla calls were an additional pleasure for a while at the second planting.

A Conservation Volunteers Australia (CVA) team was present at all the plantings, and had helped with the preparation in during the week, and the SFS students came to the 2nd and 3rd plantings. The first planting was extended after the scheduled 2500 trees were planted, to help the small CVA team that day with their scheduled planting - they were watering all the trees afterwards.

Thanks to TREAT for their organisation of the community tree plantings this season, and the TREAT 'Dream Team' catering crew.

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## TKMG Outreach to Malanda Primary School Year 3 Students at Malanda Falls Visitor Centre

*By Amy Shima*

A big thank you to TKMG Treasurer, Ruth Whiston, who recently spent all day at the Malanda Falls Visitor Centre giving talks about tree-kangaroos and other mammals to 45 - year 3 students from the Malanda State Primary School. The large group had to be split up into 4 smaller groups so Ruth had to share her knowledge and stories of tree-kangaroos and other mammals of the region. According to our sources, Ruth was fantastic in sharing her tales of her experiences with local wildlife and the event may become an annual fixture!

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## Do Melomys have personalities? How can we know?:

*by Peter Valentine*

The June talk at TKMG was a fascinating presentation by **Dr Tasmin Rymer** of James Cook University in Cairns. Tasmin grew up in South Africa where she completed her PhD but moved here in 2012 as a lecturer and researcher. On Thursday 2nd June Tasmin described the work of her ongoing projects on wildlife behaviour, including the work of several of her students.

The Fawn-footed Mosaic-tailed Rat (*Melomys cervinipes*) is relatively common in our tropical rainforests and it was the subject of this behavioural study. The JCU Cairns campus has lots and that provided easy access to a suitable population. Tasmin and her students established captive populations for the observational work and the different studies looked at discrete questions about individual animal behaviour in response to varying environment and stimulation. Personalities, or "behavioural syndromes" in animals are defined as consistent individual differences in behaviour that are correlated across contexts and situations. Tasmin gave an example from humans where some of us (bolder individuals) engage in many different forms of risky behaviour (the bungee jumper might also do whitewater rafting) whereas shy individuals might be content to read a book while on holiday or at the end of a day at work.

Tasmin described "bold" animals as those more willing to take risks, such as foraging in open environments. "Shy" animals are more likely to stay under cover than venture into open, risky, environments. With these basic premises Tasmin and her students explored differences in bold and shy behaviour by constructing artificial habitats (enclosures) that had both risky (open) situations and safe (lots of cover) environments and exposed a sample of melomys to the different environments. As expected Tasmin did find that some individuals were bold and some not so. Interesting there seemed to be greater boldness in animals captured in more open environments on campus compared with those captured under rainforest. This study demonstrated that some individuals are consistently more bold, while others are consistently more shy.



These simple behavioural observations were also further examined by assessing certain hormone concentrations in the blood, specifically corticosterone (which mobilizes glucose in response to stress, enabling "fight or flight" responses). In other species it has been found that animals that are more bold have lower corticosterone concentrations. In melomys there was no relationship between boldness and corticosterone, but bolder animals did have lower glucose concentrations. The study also examined testosterone levels, a steroid hormone important in development of male reproductive organs, as well as body size. Testosterone is associated with aggression and dominance and in other species bolder animals have higher testosterone concentrations. Bolder melomys do have higher testosterone in response to stressful situations. Testosterone is "costly" to produce, which likely explains the lower glucose in bolder melomys. Tasmin suggested that this might represent a physiological trade-off between glucose and testosterone,

where energy is directed to the production of testosterone at the expense of other functions that require energy.

Tasmin mentioned some of the challenges in the research, particularly getting a good sample; acclimatising the animals to captive situations and teaching them to do various activities during their relatively brief period of captivity. Obtaining blood from such a small animal also posed a challenge. Given the success to date further studies are planned including the study of emotion and spatial cognition. Members had many questions and comments and expressed interest in the project. There was some discussion about the possibility of toxoplasmosis being a confounding variable through induced boldness but Tasmin felt confident this was not an issue in her study.

The members showed their appreciation to Tasmin for her interesting talk and looked forward to further updates on such studies. I would like to thank Tasmin for assistance in putting together this report although any errors are surely mine!

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## Update on Research Projects involving Lumholtz's tree-kangaroo

*by Amy Shima*

Research on Lumholtz's tree-kangaroo to learn more about the species was one of the goals of the TKMG Community Action Plan. Much progress is being made on this front with projects by students from James Cook University, School for Field Studies and, starting soon, University of Melbourne. The research projects cover a wide range of questions from retrieving DNA from scat to try to identify individual animals; using new techniques to survey for tree-kangaroos, reporting sightings of tree-kangaroos to add to the database of where they are found and looking at the population and the health of the population (the project Roger Martin and I are undertaking).

Avril Underwood has finished her scat collection and is spending her time locked in the laboratory analyzing samples and pouring over pages of DNA code. I think she misses being out in the forest but is looking forward to completing her project soon.

School for Field Studies is having their students work on many aspects of the biology of Lumholtz's tree-kangaroo, including 1) distribution and habitat requirements of LTK including assessments of its' responses to fragmented landscapes (using spatial analytical tools); 2) role of structural features in habitat use of LTK; 3) Development of non-invasive methods of abundance assessments (testing available software and the suitability of facial traits; 4) colonization of rainforest restoration sites; 5) intra-specific behavior (specifically marking behaviours and mother-joeey interactions);6) anti-predatory behavior and its evolutionary basis; 7)development of a protocol for the preparation of the release of orphaned LTKs; 8)food preferences and detoxification strategies of LTK; and 9)modelling climate change impact on LTK distribution and landscape use (using various modelling software).

The study on the health and population of Lumholtz's tree-kangaroo is continuing. The road mortality work is currently being written up for publication. We are still interested in reports of tree-kangaroos killed by dogs or vehicles and will go out to collect carcasses for post-mortem examination and sample collection. While we will be publishing on what we've learned so far, continuing to collect information on predator and vehicle deaths in tree-kangaroos will give us valuable information over a number of years. Our thanks to the Eacham Times and numerous businesses in the area for their help in spreading the word about our interest in injured or dead tree-kangaroos. Thanks too to all of those people who have reported tree-kangaroo carcasses. We are especially grateful to those brave individuals who have been willing to report dog-predation (often from a pet dog) of tree-kangaroos. While we encourage people to control their dogs and be responsible pet-owners, we recognize that even the most responsible pet owner

can't keep a dog in its' own backyard from going after a tree-kangaroo who happens to run right in front of an animal. There have been some very interesting and thought-provoking findings from some of the carcasses. Work is still being completed and articles on our findings are underway for submission to peer-reviewed scientific journals.

We've got radio-tracking/gps collars on a number of animals. You might see a tree-kangaroo who is one of our study subjects—but you'll need a good view with binoculars to spot the tracking collar. We are using both radio-tracking and global positioning satellite (gps) technology to track tree--kangaroos. We're out and about quite frequently in various locations throughout the Atherton Tablelands. Work is now focusing more on the more remote and unstudied areas where tree-kangaroos live but we're still 'in town' monitoring on animals

We are starting work with a Masters student from University of Melbourne on surveying techniques. He is part of a group of top-notch ecological modellers with a strong publication record and rigorous standards. It's great to have interest in tree-kangaroos from such a strong research group. He's in need of volunteers to help with his surveys, so if you think you might be interested (the survey will run from mid-June to end of July), please contact Amy at 0499-180-961.

Work is continuing on determining the cause of eye abnormalities and blindness in wild tree-kangaroos. We are making good progress and early indications are making a strong case for an infectious cause which may be treatable and preventable.

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## Volunteer Opportunities

**On-going volunteer opportunities:** We always welcome members who are willing to spend part of their Yungaburra Market Saturday helping out at the TKMG market stall. Even if you can only stay for a short while, it will help and you'll be doing your part to help TKMG get the message out about tree--kangaroos and other mammals in the Wet Tropics and Atherton Tablelands. For further information, please contact Simon Burchill 0407---091---347 or [sbburchill@gmail.com](mailto:sbburchill@gmail.com) or any of the TKMG Committee members.

**Do you have writing, editing and publishing skills?** The newsletter editor would welcome assistance from anyone with an interest in writing and editing and in tree-kangaroos and other mammals. It's a big job to get the newsletter out and having someone else to help with the task would be most welcome. If you think you might be interested, please contact Amy (0499-180-961) or [tkmgnewsletter@gmail.com](mailto:tkmgnewsletter@gmail.com).

**Do you have computer/internet/website skills?** TKMG would love to have a member (or members) step up to help with the new website and our Facebook page. Please contact any of the Committee members for more information.

Tree-kangaroo and Mammal Group is a Community Organization so, step up and be an **active** member of our community. Volunteer to help us spread the word about the fascinating environment and amazing animals who inhabit it.

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## Mammal Mail

Newsletter of the Tree Kangaroo & Mammal Group, Inc.



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*The opinions expressed in Mammal Mail are not necessarily those of the Tree Kangaroo & Mammal Group, Inc.*



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