



Mammal Mail

September 2005

Newsletter of the Tree-Kangaroo & Mammal Group Inc.

Passing of an Era

Jack Grant is currently a freelance environmental educator and wildlife ecologist, with a background in zoology (PhD from ANU in 1988) focusing on rainforest ecology and ecology of vertebrates, especially birds. Jack has consulted on fauna surveys and endangered species research for Queensland government agencies and various private concerns, and taught and directed international student programs over many years. Current research interests include Tablelands fauna especially rainforest birds and Sarus Cranes, and ecology of remnant vegetation. Jack has had previous community conservation involvement with the North Queensland Conservation Council (publicity officer in 1987-88), and as Vice President of TKMG from 2002 to 2004.

Sue Mathams is enrolled at James Cook University doing an Honours course. Sue is doing an assessment of some habitat and dietary requirements of the endangered Northern bettong. Sue began her involvement with TKMG in 2001 as a project officer.

Rowena Grace is currently the Natural Resources Co-ordinator – Biodiversity with Far North Queensland Natural Resources Management Ltd

Larry Crook is currently co-managing the Eacham Shire Community Revegetation Unit and is also Project co-ordinator for TKMG and other revegetation community groups. Larry seriously

The recent AGM saw two of TKMG's long term committee members, Tania Simmons and John Winter, take their final bow and move from the Executive Committee to take up a supporting role as members. The pair will continue to make important contributions to the group. We thank them for their past leadership which has steered the group into playing an important role in local conservation issues.

Taking over from Tania as President is a former vice president, Jack Grant. Former TKMG secretary Sue Mathams takes over John's VP role. Larry Crook continues as Treasurer and Newsletter Editor and Rowena Grace steps into the Secretary's position. Ross Chapman, Margit Cianelli, Ceinwen Edwards, Alan Gillanders and Mark and Angela McCaffrey were voted in as committee members.

began his interest in conservation issues by becoming involved in the Tasmanian Wilderness Society and the Franklin River campaign in Tasmania (1979-1983). He followed this with a long involvement with the North Queensland Conservation Council (1983 – 1988). Larry became involved with TKMG in early 2001.

Ross Chapman is a local dairy farmer with a long association with tree-kangaroos and revegetating his property for wildlife habitat. Lars Kazmeier did much of his PhD research on Ross's property. Ross has taken many students over his revegetated sites.

Margit Cianelli remains as the longest serving committee member. Margit was there at the inaugural meetings in 1997. Margit is a wildlife carer whose work was recognised last year when she received a Cassowary Award. Though tree-kangaroos are the animals that Margit mainly cares for today she has cared for animals from hummingbirds to bears. Margit started her wildlife caring career as a zookeeper in Stuttgart Zoo in 1968.

Ceinwen Edwards has vast experience in natural history research and is about to embark on an adventure across the top of Australia from North Queensland to the Kimberleys studying the Great Bowerbird. Ceinwen has been a TKMG committee member for many years and has a keen interest in wildlife and conservation issues.

Alan Gillanders has been running a wildlife tours business for three years on the Tablelands. His interest in matters natural stemmed from growing up in aboriginal communities with parents with a rural background. Alan says that he had the sort of childhood that Crocodile Dundee would have had. An ex-teacher, Alan is a self-taught naturalist, a lot learnt from associating with knowledgeable people rather than academia.

Angela & Mark McCaffrey have thrown themselves into volunteer conservation work since moving up here from Woy Woy in early 2003. This is a new experience for them and a steep learning curve now sees them leading volunteer nocturnal wildlife tours for Queensland Parks & Wildlife Service and also tours for Fur'n Feathers resort. They have been wonderful volunteers for TKMG planting projects. Angela has built up an astounding knowledge of local flora in the short time she has been here. They are regular volunteers with TREAT. Angela and Mark bought a block of land near Millaa and are in the process of planting up a wildlife corridor (3,500 trees so far) that will connect remnant forest on their land to World Heritage forest.

TKMG beginnings...*by Tania Simmons*

I was one of the founding members in 1997, along with people like Margit Cianelli, Beth Stirn, John Winter, Rigel Jensen, Leasie Felderhof and a few others who wanted to kick the group off. We used to meet at Beth's place at Platypus Park on Topaz Road. I remember the time we worked out the group's name and the group's aims/objectives around Beth's big pine dining table. Beth and Margit were so passionate about it all and inspired the rest of us to act and get involved.

I've especially enjoyed the way that people are always keen to tell me their tree kangaroo stories. Everyone appreciates that they have seen something special and it's great to see that in them.

Tania Simmons & John Winter

Former TKMG Treasurer and founding member Beth Stirn wrote this article in tribute to John and Tania:

It is time to say very huge and warm heartfelt thanks to Dr. John Winter and Tania Simmons, for their unwavering dedication to the Tree-Kangaroo & Mammal Group and its objectives. Both John and Tania are founding members of The Tree-Kangaroo & Mammal Group Inc. and both have held integral positions in the management committee for the group over many years. For those who don't know, Dr. John Winter was the

President of the TKMG since its conception in 1997 until September 2002.

Tania Simmons has held many different positions since 1997, starting off as our founding Treasurer, then to Publicity, next step to Secretary then to Vice-President and eventually stepping up as the President for the group of which she has only recently stepped aside.

Their ability to liaise with many different groups, organizations and people from all walks of life has been invaluable. Their relaxed and welcoming manner has ensured the groups diversity among the members. Their enthusiasm has helped to drive the group forward in ways that we could have never imagined and will always be appreciated.

One only has to look back at the history and achievements of the group since 1997 to understand just how far we have come with their help along with the help of many other members.

- The Grant from Department of Environment for the first stage of a Tree-kangaroo survey in the Malanda area.
- The Minnamoolka Ecofest
- Field work with scientists from the Tree kangaroo Species Survival Plan Group from the USA and the Koala Foundation to determine distribution of Tree-kangaroos based on the types of rainforest.
- A Grant from the Natural Heritage Trust via BushCare to undertake the project "Protecting and Enhancing Rainforest Remnants as Wildlife Habitat" of which also included the Yellow-bellied Glider & Wet Sclerophyll Habitat Project known as "Wet Sclerophyll Forest Rehabilitation in Far North Queensland".
- The "Yarri" project to develop an Awareness and Recovery Strategy for the Spotted-tailed Quoll.
- Co-signatory on submissions to the government for protecting 5B rainforest
- Tree-kangaroo crossing road signs in key areas throughout the Tablelands
- The development of T-shirts, fridge magnets, postcards, a stall at the Yungaburra Markets, a stall at the "Frog Festival", displays at the Old Post office in Atherton and at the Malanda Falls Visitors Centre and a Web site to promote awareness of Tree-kangaroos along with other mammals with their need for suitable habitat.
- The acceptance of a proposal by the TKMG group to Eacham Shire Council to have the Tree-kangaroo as Eacham Shire's official Mascot.
- The inclusion of wildlife crossing culverts for the McHugh Road upgrade project.

- Natural Heritage Trust funding via BushCare for the "Conservation of Remnant Vegetation on Private Property on the Atherton Tablelands"
- Our involvement with "The Anderson Road Landscape Linkage Project" funded by the World Wide Fund of Threatened Species Community Grants program.
- The "Protecting Spotted-tailed Quolls on the Atherton Tablelands" project was funded through the World Wide Fund for Threatened Species as part of its' Network Community Grants division.

- The Shelter-Pole project, giving Tree-kangaroos an escape route while in the middle of paddocks.
- The "Enhancing Eucalypt Woodland in Cape York Peninsula as Arboreal Marsupial Habitat" project.

Wow! No wonder they felt it was time they stepped aside. Well done John & Tania! We look forward to any other contributions with your ongoing support to the Tree-Kangaroo & Mammal Group in the future.

TKMG President's *Annual Report*

by Tania Simmons, August 2005

Another year for the TKMG.....year 9! My thanks to the TKMG management committee, Vice-President John Winter, Secretary Sue Mathams, Treasurer Larry Crook (who took over from Wendy Bergen) and committee members Margit Cianelli, Rhonda Winger, Ceinwen Edwards and Lars Kazmeier (lately residing in Germany to complete his PhD). And my thanks to the TKMG membership for your continued support and interest in the group.

The TKMG continued our regular promotional activities over 2004/5. Many dedicated people have organized some great market stalls and other information displays. Special thanks to Alan Gillanders, Ceinwen, Larry, Rhonda and Sue for your regular assistance. This year we also marched in the Maize Festival along side the Tolga Bat Rescue.

Larry has continued to be a great asset for the group this year. He has continued to produce our quarterly Mammal Mail newsletters (and recently took over as treasurer, when Wendy needed to take time off from her TKMG duties). Thanks Wendy for your efforts with the group and your continuing support for sick and injured local wildlife. Many

hours have been contributed over the past 12 months for our bi-monthly committee meetings. My personal thanks also to Ernie Rayment, Syb Bresolin, Joan Wright, Tony Irvine, and John Winter for their advice and guidance. Special congratulations to Margit who received a Cassowary Award late last year.

Membership numbers for 2005 have remained steady at about 70. The TKMG is always looking for support from new members. Please encourage your friends to join.

TKMG has continued to work for conservation of TK habitat through its role on the Mabi Forest Recovery Team. We also sit on the regional revegetation group - Southern Atherton Tablelands Revegetation Alliance and the Wet Tropics Conservation Sector Liaison Group. In 2005, TKMG prepared comments and submissions for the Wet Tropics Plan Review, Forest Practice Code, and the Eacham Shire Plan.

After many months wait, the TKMG now has a stuffed and mounted tree-kangaroo and quoll. Both these animals will be on display at the Malanda Falls Visitor Centre to promote awareness of these species.

The animals represent a significant financial investment for the TKMG and will form the basis of a larger permanent display which we will endeavour to attract funding for.

In October 2004 the TKMG continued its three way educational exchange between students from Australia, United States and Papua New Guinea. The Tree-kangaroo conservation program from Roger Williams Park Zoo in Providence Rhode Island funds this unique educational program that links children across the world for a conservation cause. We look forward to working again with the students from Herberton State School in more conservation based educational experiences for our local kids. Chris Doyle will be back for another year of the program in October 2005.

The TKMG has enjoyed a great range of very informative speakers and presentations in our regular bimonthly talks at the Malanda Hotel. All our guest speakers volunteer their time and knowledge and many travel long distances. This year we enjoyed talks from John Winter; Rupert Russell; Shane Marsterton & students; Robyn Wilson; Bronwyn Robertson and Alan Gillanders

Special thanks are extended to the English family for their ongoing support supplying our meeting venue.

Projects

Larry Crook continued on as project officer in another year of the TKMG Hypsi project. Hypsi Forest, like the now well known Mabi Forest, is a local endangered rain forest type threatened with extinction. Only small isolated fragments of these forests remain due to past clearing and current threats of declining remnant quality, weeds and so on.

Another 5200 (7000 last year) trees were planted as part of the project this year consolidating efforts on the Waltham, Daley and Waller properties in the Millaa area. These trees build additional much needed habitat, and improve landscape connections between remnants. Well done to Larry and the small but dedicated tree planting team, Eacham Shire Community Revegetation Unit, and especially to our participating landholders.

A few additional thankyou's and congratulations:

1. Maureen, Editor of the Eacham Times for printing all our articles and photos.
2. QPWS for their contribution to the production of the newsletter
3. Paul English for his continued sponsorship of the Malanda Show Art Competition.
4. To all our supporting businesses who sell TKMG merchandise: Malanda Falls Visitor Centre; Yungaburra Visitor Centre; Eacham Medical Centre; Quincan Cottage; Atherton Visitor

Centre. With thanks to Sue and Rhonda for organizing all this.

Congratulations to Dr Karen Coombes on the successful completion of her PhD studies focusing on tree-kangaroos.

The year ahead has some fantastic highlights, not the least of which is the international Tree-kangaroo conference to be held at the Genazzano Centre, Lake Barrine in November 2005. The fact that we can host such a conference is testimony to our maturity and achievements as a community conservation group. Special thanks to Karen Coombes, Lee Curtis, Lisa Dabek, James Cook University and the CRC for their efforts and support in putting the conference together. All members are encouraged to attend all or part of the conference, at a special discounted rate, for a rare opportunity to hear all about Tree-kangaroo research and meet Tree-kangaroo enthusiasts from around the world. Special funding has been received to host three students from Papua New Guinea at the conference.

The TKMG will continue to play a role in pressing for further habitat protection and growth through its involvement in the Mabi Forest Recovery Team. It is hoped that further endangered local rainforest types (notably Tracey types 1b and 5a) will be nominated and recognized under the federal Environmental Protection, Biodiversity and Conservation Act, and attract the attention that Mabi forest does.

After many years on the committee, both John Winter

and I are stepping aside from our formal duties as Vice-president and President. We've seen the group grow steadily over the years with a long list of achievements. One of our first projects was the Malanda Tree-kangaroo survey in 1997. This project was self funded and served as a pilot to a larger Tablelands survey with funding support from NHT, which culminated in the published report "Habitat protection on the Atherton Tablelands" in 2000. Since then the group has undertaken projects on habitat protection and tree planting through the "Case Studies" and Hypsi Forest projects, with further projects on Yellow-bellied Gliders, Spotted-tail quolls, and Cape York Possums. We have expended over \$300,000 of conservation funding. Some great achievements indeed and further inspiration to continue.

I welcome those newly elected to the committee and challenge them to continue the group's enthusiastic and energetic work towards a greater awareness of the amazing wildlife in our local area, and the need to understand and conserve them and their habitat.

In a time when much of our attention is drawn to economic concerns or human conflicts, I urge those of us with a firm conservation ethic to continue to make time to promote nature conservation in your local communities. Make sure you take the time to recharge your batteries by taking a walk in the forest and spot yourself a Tree-kangaroo or Musky Rat Kangaroo.

To market, to market.....

We need your help to man our stall at the Yungaburra Markets on November 26th or Dec.17th. It is an *easy and rewarding* task. You will enjoy talking to the many people who stop, sharing stories regarding our unique wildlife up here in the Tropical North.

The stall is *easy to set up* with easy access to the stall site. The stall material is stored at Sue Matham's close to Yungaburra. Sue will assist you with all the necessary info. Assistance may be arranged to help set up and take down the stall. The stall must commence to be set up before 6:45 am.

Chat to Sue on 4095 2251 and become a marketer.

TKMG & James Cook University

are proud to host the

Ecology and Conservation of Tree-kangaroos: current issues and future directions.

Conference 2005

At the Genazzano Lake Tinaroo Conference Centre,
Atherton Tablelands, Far North Queensland, Australia.
(Home to Lumholtz's tree-kangaroos)

Monday the 28th – Wednesday the 30th November
With welcome drinks on Sunday the 27th November

Guest speaker is Dr Tim Flannery,
Director of the South Australia Museum

For **Registration** information and a draft **Program** visit www.tree-kangaroo.net and click on
the link to the Conference site.

Member Special

\$36.00

(Published by CSIRO 2005 - RRP \$39.95)

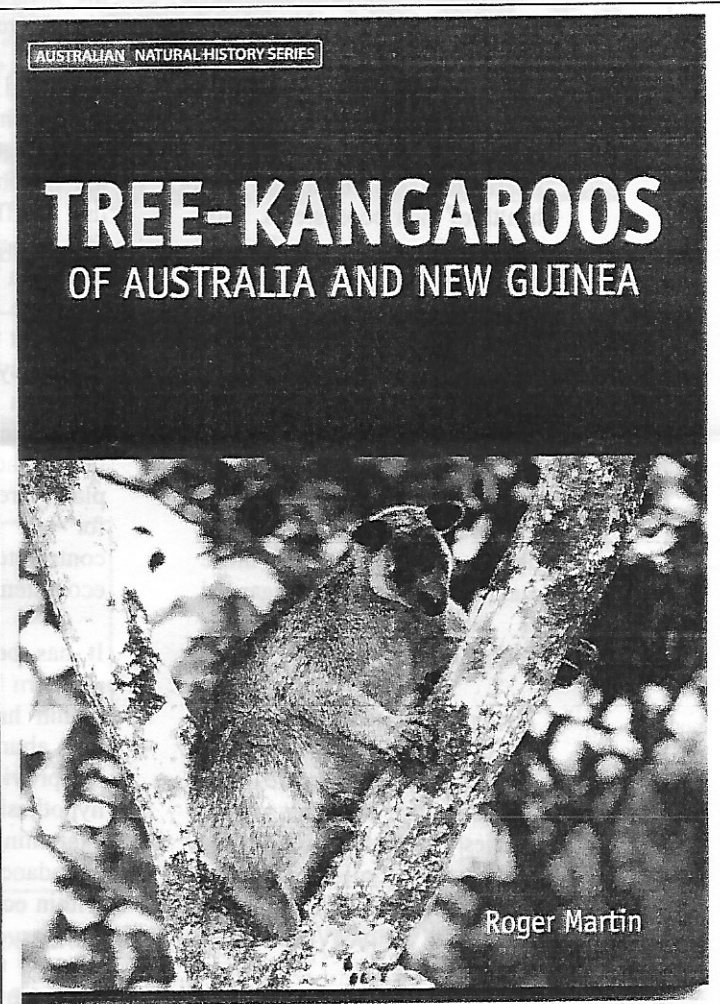
This book by Roger Martin reviews the natural history and biology of tree-kangaroos from the time of their first contact with Europeans in the jungles of West Papua in 1826 up to the present day.

The book covers the latest research being conducted in Australia and New Guinea. Combining information from a number of disparate disciplines, the author sets forth the first explanation of this apparent evolutionary conundrum.

Roger Martin has had an enduring interest in the natural history, conservation and management of Australia's forest mammals for more than 30 years.

Described by Tim Flannery as "one of the most experienced zoologists that I know", he has published numerous scientific papers, written articles and lectured to students. Since the late 1980s, Roger has studied the Bennetts tree-kangaroo in the monsoon forests of Far North Queensland.

Contact Larry (details on back page) for your copy.



Sandra Abell is a PhD student at JCU in Cairns. Her research interest includes the symbioses between animals, plants and fungi. This has lead her to undertake a project on the distribution and abundance of truffle fungi, the primary resource of the northern bettong, within ecotonal *Eucalyptus* and *Allocasuarina* forest.

Fungi is often overlooked and underestimated for its importance in ecosystem health and function. It acts as the interface between the abiotic (soil and water) and biotic (plants and animals) components of the ecosystem. Certain species of fungi are able to form ectomycorrhizal relationships with plants such as *Eucalyptus* and *Allocasuarina* species. This means the fungi are associated with the root system and improve the efficiency of the plant to take nutrients and water from the soil. The plant in return provides carbohydrates synthesised from sunlight to the fungi that would otherwise be unavailable. So how are mammals associated with fungi?

Well as I said all animals require fungal-plant interactions to maintain the health of their ecosystems. But there are quite a number of mammals that use the fruiting bodies (eg. mushrooms) of fungi directly as a food resource. This includes bandicoots, white-tailed rats, the musky-rat kangaroo and even the mountain brushtail possum, *Trichosurus caninus*. The proportion of fungus in the diet is quite low for those mammals and can be regarded as supplementary to their normal diet.

The only mammals in Australia that are known to use fungi as a primary resource are the potoroos and bettongs. Two species of bettongs occur in the tropics, the rufous bettong *Aepyprymnus rufescens* and the northern bettong *Bettongia tropica* (Figure 1). The rufous bettong is relatively widespread

throughout the east coast of Australia. The rufous bettong has a generalist diet and do not rely on fungi. In contrast, the northern bettong is endangered and is currently restricted to 4 populations in the tropics. Northern bettongs have been known to rely on fungi for as much as 67% of their diet.

The fungi that northern bettongs feed on are commonly referred to as truffles. You may have heard of the gourmet edible truffles (*Tuber* sp). The native Australian truffles are similar in form to the gourmet truffles and they also are found belowground or just below the leaf-litter (Figure 1). Most of the native truffles are actually closely related to mushrooms. Instead of having wind-dispersed spores like mushrooms, truffle fungi spores remain enclosed within the fruiting-body. This means that truffles rely on mammals for dispersal of their spores. Northern bettongs dig up and consume the truffles then transport the spores throughout the ecosystem via their scats. So you can see that the symbiotic interactions between the northern bettong, fungi and plants are equally as important for all participants and all contribute to the health of the ecosystem.

It has been hypothesised that northern bettongs are restricted within habitat that supports a high abundance of truffle fungi. To provide an answer for this hypothesis I have been examining the distribution and abundance of truffle fungi within ecotonal *Eucalyptus* and *Allocasuarina* forest. The forest types include Wet Sclerophyll dominated by

Eucalyptus grandis, *Allocasuarina* forest and *Eucalyptus* woodland. The three forest types are located adjacent to each other along an altitude gradient in the order listed. The closer to the rainforest (wet sclerophyll) the higher the altitude and also the rainfall.

One of my major findings is that all three forest types support truffle fungi. This is to be expected as all of the forest types consist of ectomycorrhizal host-plants including *Eucalyptus* and *Allocasuarina* species. However, one forest type significantly out-performs the others. The *Allocasuarina* forest supports the highest abundance (dry weight) of truffle fungi (Figure 2). This is an interesting finding as although bettongs occur within this forest type, it is not preferential habitat. Higher trap success and population numbers are generally found in the lower altitude *Eucalyptus* woodland forest. If bettongs are selecting habitat on the basis of truffle abundance alone it would be expected that the *Allocasuarina* forest would support a higher population of bettongs than has previously been recorded.

Further investigation is underway to determine what makes the *Eucalyptus* woodland preferential for northern bettongs compared to the *Allocasuarina* forest. Data suggests that the leaf bases of cockatoo grass *Alloteropsis semialata* are a seasonally important resource. The abundance of this resource is low in the *Allocasuarina* and absent in the wet sclerophyll

forest. In comparison, cockatoo grass is high in abundance within the *Eucalyptus* woodland forest. While the availability of truffles may limit the

distribution of the northern bettong at the dryer end of the gradient, the availability of the cockatoo grass resource may limit their distribution at the wet end of the ecotonal

gradient. Above all a continuum of ectomycorrhizal forest from rainforest to dry sclerophyll may be the most essential requirement for this endangered species.

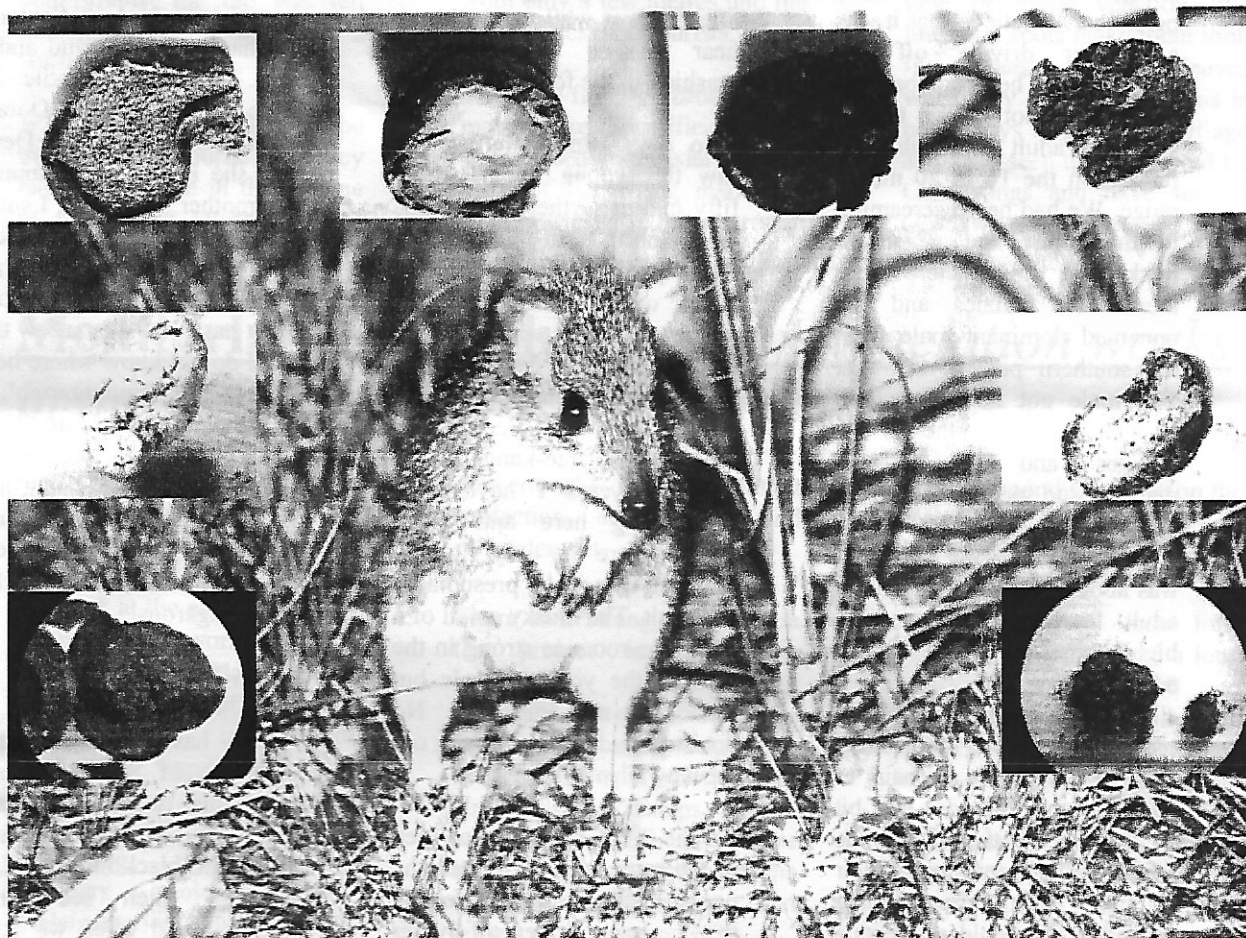


Figure 1: A photograph of a northern bettong including examples of dissected truffle fruiting-bodies.

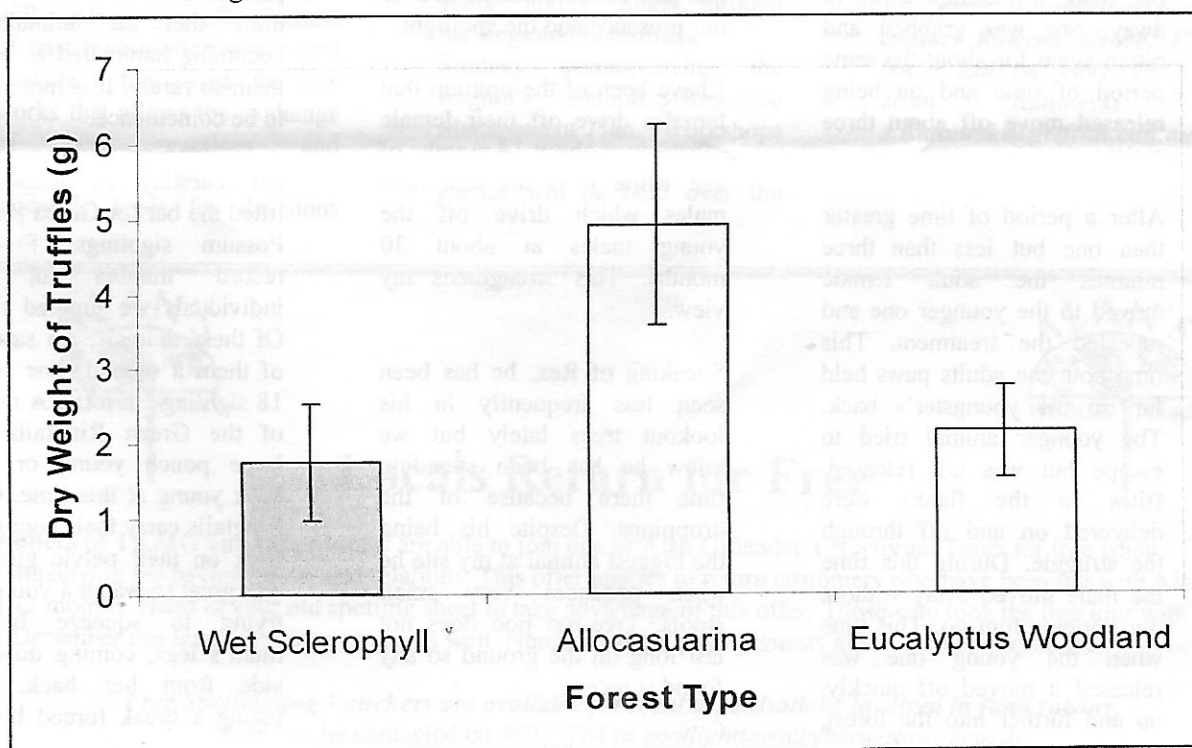


Figure 2: The mean dry weight of truffles for three vegetation types sampled during 2004 and 2005.

On the Spot.....with Alan Gillanders

On the 27 June we observed two female **Lumholtz's Tree-kangaroos** engaged in riotous behaviour. I believe that it was a mother driving off her offspring. The combatants, which were not known to me, were an adult and sub-adult female, in the 16 to 20 month range. We had heard screaming in the forest and when we tracked it down, there were these two females and the unnamed dominant male from the southern part of my site. The male got no closer than five metres from either of the females and appeared a disinterested spectator.

At first sighting the sub-adult was about four metres from the adult female and one metre higher in the tree on an adjacent branch. It made a slight movement towards the older female which then rushed at it; grabbed it by the hairs of its thigh and shoulder and bit its flanks. We then heard the screams again, confirming their source. After about three seconds the older female released her grip and the screaming stopped. The young one made no attempt to move away. She was grabbed and bitten again for about the same period of time and on being released moved off about three metres.

After a period of time greater than one but less than three minutes the adult female moved to the younger one and repeated the treatment. This time both the adults paws held fur on the youngster's back. The younger animal tried to escape but was not released. Bites to the flanks were delivered on and off through the struggle. During this time the male moved away without our noticing him go. This time when the young one was released it moved off quickly, up and further into the forest,

clambering into another tree. The adult followed close on her heels. We lost sight of them after a short while and did not hear further screaming or crashing in the forest.

Two days later I believe we saw this young female about fifty metres further north. This was north of Amanda's territory and in an area which I have only seen Rex, the dominant male, when on his way to visit his lady friends. There are numerous sections of rainforest on the site where I have seen no tree-kangaroos in the five years I have been spotlighting here and many others where the only sighting has been of a male, presumably in transit. The musky smell of a male tree-roo was strong in the area of the young female but we could not find Rex. No doubt he had been checking out the new talent.

On the 7th of July she was seen in the same area and given the name, Kate. The young female tree-kangaroo driven off by her mother is still living in her new territory. Unfortunately she has not yet become habituated to our presence and the spotlight.

I have been of the opinion that females drive off their female offspring at about 18 months of age while it is the dominant males which drive off the young males at about 30 months. This strengthens my view.

Speaking of Rex, he has been seen less frequently in his lookout trees lately but we know he has been spending time there because of the droppings. Despite his being the biggest animal at my site he often produces very small stools. Tree-roo poo does not last long on the ground so any found is recent.

Jill has quite a bulge in her pouch now. In August we have twice seen the face of Jill's new young, and in September we have seen its hand and left foot. Dorothy's bundle is a little smaller and Dora is seldom seen with her. Despite this she is still to be found in her mother's territory. I suspect that Amanda is infertile because I have never seen her with young or a bulging pouch. John has been seen a few times but I do not know where he has set up his 'kindergarten'. On one of these occasions he was in Rex's lookout trees, right at the top. With Rex being lower in the tree I think he was living dangerously as position seems to be important in the world of tree-kangaroos.

Other Mammals

There have been numerous sightings of Striped Possums over this two month period, including a most beautiful silver and black individual. We do not often see Striped Possums and when we do the view is usually brief but lately we have been getting extended periods of observation. I do not think that the animals are becoming habituated as we see them so rarely. It is more likely to be coincidence.

On Tuesday 24 August we lifted the bar for Green Ringtail Possum sightings. From a record number of nine individuals we jumped to 14. Of these animals, we saw four of them a second time so had 18 sightings in total. A number of the Green Ringtails have large pouch young or small back young at this time. Green Ringtails carry their young well back on their pelvic girdle. It was great to watch a young one trying to squeeze between mum's legs, coming down the side from her back. After taking a break forced by over

exertion, it tried again. This time mum was more co-operative and sat up, looking for all the world like a round kangaroo. In went the joey and wriggled around to get comfortable; the tail was left hanging out. After all it was a warm night.

White-tailed Rats might not be everyone's favourite but they have their place in the scheme of things and on the 25th of

August we saw two making sure that the species does not end. Copulation was a very brief affair but an intense one as the animals were oblivious to the spotlight trained on them from only a few metres and the noises of excited tourists.

The slow flight on broad wings makes the identification of Tube-nosed Bats easier than for most of our flying mammals. The variety in background

colour of these cute little mega bats is astounding; everything from pale grey or fawn to dark chocolate and almost black. Each bat also has a unique pattern of camouflage. Yellow, lime or green venation like lines and spots make them look like a bunch of dying leaves when they are at roost. This is not always enough camouflage as I have seen them attacked by Currawongs and have seen a Goshawk eating one.

Monitoring and evaluation of revegetation works in the Wet Tropics

A project undertaken for FNQ NRM by the Rainforest CRC

John Kanowski and Carla Catterall from Rainforest CRC have begun working with FNQ NRM Ltd on a project which will look at the effectiveness of revegetation works. The Regional NRM Plan stresses the importance of adopting recommended management practice for vegetation works, including appropriate monitoring. Hence, a monitoring program that considers project design, implementation, reporting and liaison is an essential component of plan implementation. This project will evaluate the effectiveness of past revegetation works and provide a framework for new works that allows the exchange of best practices and experience. It will provide a scientific basis for decisions

concerning vegetation protection, enhancement and reinstatement.

There is a strong emphasis in the project in developing practical user-friendly protocols for monitoring. The experiences and insight of revegetation practitioners, community groups and catchment coordinators are being sought to assist in the development, testing and review of the protocols.

The project will run for 2.5 years and is funded through the Regional Investment Strategy accompanying the Region's Natural Resource Management Plan. Workshops with FNQ NRM and interested parties will be held over the

next few months to develop the project and again in 2007 to deliver the project results.

Many of you will know John Kanowski as he has had a long association with TKMG and the Atherton Tableland. He has been involved in conducting research on the biodiversity value of reforestation for the past 5 years. John will be visiting the area regularly and talking to community groups and revegetation practitioners.

For more information please contact Rowena Grace, FNQ NRM Ltd on 4091 7977 or John Kanowski on J.Kanowski@griffith.edu.au.



Locals Return for Free

Members of TKMG and other locals are able to join one of Alan Gillander's Nocturnal Tours for free when accompanying fee paying guests and relations. This offer applies to return customers who have been out with Alan in the last 12 months. Hand in your old spotting sheet to take advantage of this offer. Those who took the free tour with Alan last December can take advantage of this as well. Numbers of fee paying guests must equal or exceed free returnees.

Free Spotlighting Vouchers are available for local organisations involved in fund raising.

Alan can be contacted on 40953784 or spotlighting@cyberwizards.com.au

Are Lumholtz's tree-kangaroos totally nocturnal?

by Dr Karen Coombes

Well, we thought they were.

Lumholtz's tree-kangaroos (*Dendrolagus lumholtzi*) have always been reported as being largely nocturnal (Proctor-Gray 1985, Flannery *et al* 1996, Newell 1999).

However, during my recent study on the ecology and habitat use by Lumholtz's tree-kangaroos (Coombes 2005), I found them to be very active, eating, climbing around and moving from one tree to another within their home range **during the day as well as at night**, especially on cooler days or during the cooler times of the day (morning and afternoon). This was apparent very early in my study (in fact even before I started) from observations of the tree-kangaroos that live in the spring, which are easily watched without disturbing them.

In fact, I found tree-kangaroos much easier to find during the day than at night. Many of them looked away from the spotlight at night, making them difficult to spot using their eyeshine. Furthermore, I often startled them at night well before I spotted them, with the animal jumping from the tree and away without ever seeing it. They see and hear us well before we see them! But during the day they were not as frightened, often carrying on eating or climbing around, after a brief time looking at me and wondering what I was doing. During this study, I also recorded movements of individual tree-kangaroos by radio tracking them several times in one day to see if they had moved and how far.

Males were observed moving more often and further than

females during the day, on some occasions moving even as far as the other side of their home range. It is possible that this could be associated with territory maintenance, and checking on females. Male Bennett's tree-kangaroos, *D. bennettianus* (Martin 1992) and koalas also move more often than females, although usually at night (Mitchell 1990). This was also attributed to territory maintenance and female visitation (Mitchell 1990).

Daily movements of my study animals were variable. One male (Colin) was recorded moving when radio-tracked twice in one day (morning and afternoon) on five occasions, averaging 110.8m, with one movement of 136m in one hour. Another male (Errol) was recorded moving during the day on three occasions, averaging 84.7m, including a movement of 109m in a four-hour period on one occasion.

Females were not observed moving great distances like males during the day, except for foraging. One female (Lisa) and her offspring, living in the forest surrounding the spring, moved regularly each morning and afternoon from one side of the home range to the other, on one occasion moving 43m within 3 hours. I have observed these animals regularly climbing around and eating during the day.

It has also been reported by many observers (including myself) that Lumholtz's tree-kangaroos will travel during the day across open spaces such as roads or paddocks (Tree Kangaroo and Mammal Group 2000). Unfortunately this makes them vulnerable to cars and dog attacks. So people should be aware that they need

to watch for them while driving during the day as well as at night and dogs must be kept fenced in at all times.

In contrast, Martin (1992) found Bennett's tree-kangaroos to be totally nocturnal, sleeping in favoured "roost" trees during the day and commencing their feeding rounds roughly two hours after sunset.

D. lumholtzi rarely used the same tree and did not "roost" during the day in this study (Coombes 2005). That is, they did not sleep in the same tree each day for the entire day. I observed them browsing and moving across branches periodically during the day. They rested or slept for short periods of about 30 minutes or so, then continued feeding again. Proctor-Gray (1985) also observed this behaviour, although she claimed that they were mostly nocturnal. This behaviour is typical of arboreal folivores and may be an adaptation to their highly folivorous diet, with small and frequent feeding bouts best suited for easy digestion of leaves.

Many species of macropods show varying degrees of activity through the day, although they are largely nocturnal, with peaks of activity around sunrise and sunset (Pople 1989). Nevertheless, some rainforest macropods are mostly diurnal, such as *Hypsiprymnodon moschatus* (Dennis 1997) and some are quite active during the day as well as the night, such as *Thylogale thetis* (Johnson 1980) and *T. stigmatica* (Vernes *et al* 1995).

Diurnal or crepuscular behaviour has also been reported for most tree-kangaroo

species in New Guinea (Fischer and Austad 1992, Flannery *et al* 1996, Betz 2001). Betz (2001) suggests that tree-kangaroos are not fully adapted for nocturnalism because they lack the *tapetum lucidum* cell layer in their retinas (Flannery *et al* 1996), which nocturnal mammals use to improve night vision. He adds that nocturnal behaviour may be a defensive reaction to hunting pressure (Betz 2001), as *D. goodfellowi buergersi* and *D. matschiei* have been found to be nocturnal near human populations in New Guinea (Flannery *et al* 1996, Betz *et al* unpublished data).

Three-toed Sloths (*Bradypus torquatus*), another arboreal folivore, are also found to have a predominantly diurnal period of activity with them ranging more during the day than at night (Chiarello 1998).

It is not surprising then that Lumholtz's tree-kangaroos are active day and night. If you are an animal living on a high fibrous diet such as leaves, then it would be beneficial to eat small amounts as often as possible, day and night, resting in between feeding bouts to allow time for digestion. This behaviour is found in many rainforest macropods, including most of the New Guinea tree-

kangaroo species and many other arboreal folivores. So, you can look for tree-kangaroos during daylight hours and not feel you have to spotlight them at night. It is much easier! Happy spotting.

Photos by Karen Coombes

Lumholtz's tree-kangaroo moving across open ground during the day.



Lumholtz's tree-kangaroo eating.



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From the Secretary's (messy) Desk!by Sue Mathams

June, July & early August

- The display Tree-kangaroo is now located at the Malanda Falls Visitor Centre in their general rainforest display area – thanks to Neil Mc for the TK pedestal and Karen Coombs for interpretive material. Also thanks to the volunteers at the centre who are very enthusiastic about his arrival.
- Donations/sponsorship for the Tree-kangaroo conference received from an American Conservation Foundation, Eacham Shire, Rainforest Habitat and Mt Quincan Crater Retreat.
- The display northern quoll has arrived and once it has its perspex cover will also reside at Malanda Falls Visitor Centre.
- **Wanted:** Volunteers to man TKMG stall at the Yungaburra Markets – approx' every 2nd month, its great fun and a real money spinner for the group..
- **Wanted:** Volunteer/s to coordinate merchandise and sales – please come to next meeting.
- Rowena Grace is our new secretary. Rowena has a strong community nature conservation background. Welcome Rowena!!

Carl? Lummy? Treacle?...Name the Tree-kangaroo that is on display in the Malanda Falls Visitor Centre

Winner to receive a TKMG Hypsi T-shirt.

Members can email names to Rowena at info@tree-kangaroo.net. Make sure you include your postal address!

The Wildlife Conservancy of Tropical Australia

TKMG is considering a proposal put forward by the WCTA that it becomes one of five not-for-profit organizations that is willing to undertake the duties of a director or committee members of the Conservancy.

The Conservancy is rapidly approaching the point of entering into a contract with the vendors to purchase the former Mareeba Wild Animal Park with the view to establishing a Wildlife Conservancy for research into and education about exotic and native wildlife.

To achieve the objectives of the Conservancy, the WCTA is applying for registration of a not-for-profit Company Limited by Guarantee to manage the venture and the accumulation and disbursement of relevant funds. In order to be endorsed on the Register of Environmental Organisations and to obtain ATO approval as a Deductible Gift Recipient (DGR), they propose to have the inaugural membership of this Conservancy made up of 5 like-minded organisations - one of which is The Tree-Kangaroo and Mammal Group. The

financial liability to TKMG is \$10.

The Conservancy will promote and undertake scientific research of native Australian and exotic wildlife, particularly in the wet-tropics of North Queensland, the remote regions of northern Australia, and the neighbouring regions of Asia-Pacific. This research will be undertaken on three levels; Post-graduate research and case studies by veterinary and zoology students, Case studies and co-operative research in conjunction with select government departments and universities, and under contract to private organisations as appropriate.

It will also promote and provide to veterinary and zoological students post-graduate training in practical conservation, husbandry, and veterinary treatment and management of wildlife and provide continuation and specialised training to National Parks and Wildlife staff in the handling and treatment of native wildlife.

WCTA intends to continually refine and undertake veterinary treatment and the management of preventative medicine

programs for sick and injured native fauna and for exotic wildlife that may be presented for attention and/or research. It will also promote and facilitate the rehabilitation and release of wildlife presented for veterinary assessment and treatment. The origins of this native wildlife stem primarily from the surrender of orphaned, sick, or injured wildlife by the public, liaison with wildlife rescue organisations, and being actively involved in the management of wildlife affected by natural disasters.

They will establish community awareness programmes to regions throughout north Queensland to highlight and encourage the contributions that communities can make in conserving Australia's natural heritage by actively promoting the conservation of native wildlife and their natural habitat. This will include providing wildlife conservation awareness programs to school children at all levels of primary and secondary education.

One of the Principal Directors, Annabelle Olsson, will speak on the Conservancy at the next TKMG General Meeting at the Malanda Hotel, 6th October.

'Creation of the Wildlife Conservancy of Tropical Australia'

is the topic presented by

Annabelle Olsson

at the next TKMG General Meeting

Malanda Hotel, 7.30 Thursday 6th October 2005

Also, prior to the presentation, the TKMG committee wishes to discuss with members present how our membership fees are structured.

Supper by gold coin donation

All Welcome!

Meanwhile, in the Courts.....



Dugong agreement

Queensland's Environment Minister Desley Boyle has signed an agreement with traditional owners from Ayr, Bowen and Proserpine which formalises the groups' self-

imposed ban on dugong hunting. Marine turtles can still be taken for traditional and customary purposes in accordance with their self-managed hunting approval system. The agreement

is the first of its kind and is intended to make it easier for the EPA to monitor and enforce species protection legislation against illegal poachers.

Community for Coastal & Cassowary Conservation Inc. v Johnstone Shire Council & Oasis Mission Beach

The Environmental Defenders Organisation - NQ (EDO-NQ) recently represented the Community for Coastal and Cassowary Conservation Inc. (C4) in their appeal against the lack of conditions imposed by the Johnstone Shire Council on an approval for a residential development at Mission Beach on a site which adjoined and included cassowary habitat. The adjoining cassowary habitat also contained endangered

vegetation. A conservation covenant was negotiated over this area with a 60 metre habitat corridor through the subdivision to connect with other habitat areas. After a number of meetings with the developer, a settlement was reached and Consent Orders filed on 6 May 2005. The developer agreed to widen the cassowary corridor to an average of 80 metres (up from 60 metres), place restrictions on the size of dogs

allowed to be kept within the subdivision and a condition that any domestic cats must remain indoors or within a cat enclosure at all times. The developer also agreed to include native species endemic to the area in planting around common areas of the subdivision and in the habitat corridor. Congratulations to EDO-NQ and C4 for gaining these important improvements to protect cassowary habitat!

Wildlife Whitsunday v The Minister for Environment & Heritage.

EDO - NQ and barrister Stephen Keim SC and Chris McGrath are representing the Wildlife Preservation Society of Queensland - Proserpine/Whitsunday Branch Inc (Wildlife Whitsunday) in a new Federal Court test case. The case is the first legal challenge against the Australian Government for failing to consider the effects of global warming on the environment.

What is the Environmental Significance of this Case?

As indicated in the last EDO-Alert, Wildlife Whitsunday will argue that the Minister failed to consider the environmental impacts of greenhouse gases and global warming. The coal from the coal mines will largely be burnt

in coal-fired power stations producing greenhouse gases contributing to global warming. Global warming is expected to cause severe impacts to the Australian environment, including to the iconic Great Barrier Reef and Wet Tropics Rainforests.

Update on Court hearings to date

This matter came before His Honour Justice Dowsett of the Federal Court on 19th August 2005 for a directions hearing. Wildlife Whitsunday was granted leave to amend their application. Their application now includes not just the effects of the burning of the coal from the mines but the effects of the mining, transport and use of the coal from the mines on the matters of national environmental

significance protected under the *Environmental Protection and Biodiversity Conservation Act 1999*.

At the directions hearing both QCoal Pty Ltd (Sonoma mine) and Bowen Central Coal Management Pty Ltd (Isaac Plans mine) were joined as parties to the proceedings. Wildlife Whitsunday sought an order that the mining companies bear their own costs on the basis that their submissions would not add to those made by the Minister in defence of his decision. His Honour deferred a decision on costs until the hearing of these matters. All of the parties agreed to expedite the hearing. The matter has been set down for hearing on 20th October 2005 in the Federal Court in Brisbane.

Memberships due

If your *Mammal Mail* newsletter address label has 6/05 on it, then your valued membership is due. Please use the form below, either cut it out or photocopy. The membership fee can also be paid at the TKMG General Meeting (Malanda Hotel, 7.30 pm Thursday October 6th).

This will have to be your final newsletter if you choose not to renew your membership

TKMG Inc.

www.tree-kangaroo.net

e-mail: info@tree-kangaroo.net

ABN 66 316 466 220

Membership Application/ Renewal Form



*Subscription is \$11 (incl. GST) per year per couple or single
(\$11 = one vote) and is due every July 1st.*

Name: _____

Postal Address: _____

E-mail Address: _____

Phone No: _____ Date: ____/____/____

Subscription: \$_____ Donation: \$_____

Please tick the appropriate box

Renewal ☐ New Member ☐ Receipt Required ☐

Cheque/Money Order to be made out to:

Tree Kangaroo & Mammal Group Inc.

Post form and Payment to: TKMG Treasurer,
1691 Topaz Rd, Topaz, QLD, 4885



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- President's Report
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- Wildlife Conservancy of Tropical Australia
- In the Courts

Photo by Steve Parish



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Newsletter of the Tree Kangaroo and Mammal Group Inc.
PO Box 1409, Atherton, Q, 4883



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