

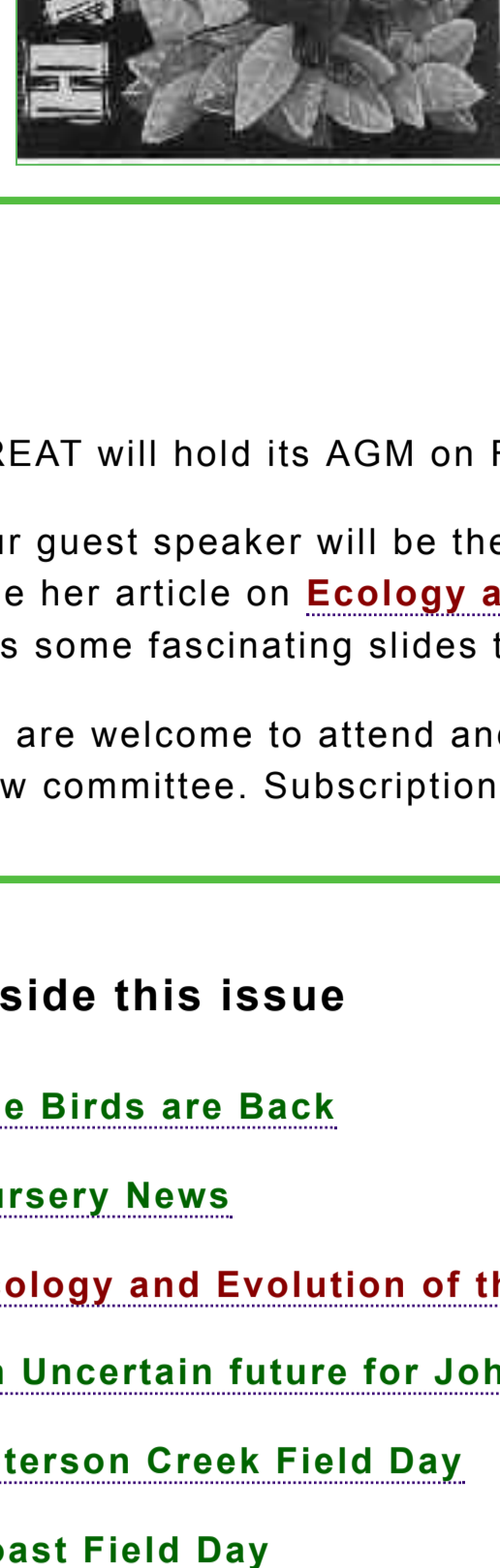


T R E A T

TREAT Newsletter Dry Season July - September 2004

Hyspi Forest Field & Information Day

Saturday July 17



Meet at 1pm at Malanda Falls

As part of the Hyspi Forest & Tree Kangaroo Recovery Project, a Field and Information Day will be held.

Hyspi Forest is the name given to the endangered Type 1b rainforest which is the vegetation type characteristic of the south-east Atherton Tablelands.

Speakers include:

- Andrew Dennis - Fauna
- Ernie Raymond - Cultural significance
- Kylie Freebody - Flora
- Tania Simmons - Status of Hyspi forest.
- Ray Byrnes - Mayor Eacham Shire Council perspective & launch of TKMG Hyspi T-Shirt.

Interested persons will then move on to Reg & Olive Waltham's property, Mullins Rd, Millaa Millaa to view and discuss the tree plantings there. Afternoon tea will be served afterwards.

This field day replaces the farm forestry field day at Kairi which will now be held sometime in September. Check the local papers or website for details.

Annual General Meeting

TREAT will hold its AGM on Friday 27th August at the Yungaburra Community Hall starting at 7:30pm.

Our guest speaker will be the ecologist Teresa Bradbury from the Imperial College, London, who specialises in insect/ plant interactions. She has articles on [Ecology and Evolution of the Wasp Community Associated with Australian Native Fig Species](#). We believe she has some fascinating slides to share with us.

All are welcome to attend and there will be a supper afterwards. Members are reminded that they must be financial when voting for the new committee. Subscriptions will be accepted at the AGM.

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The Fruit of the Month - *This feature should be back next issue.*

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The birds are back!

Bird monitoring for the Peterson Creek revegetation project

By Amanda Freeman

It's been five years since we began monitoring birds in, what were then, the young trees in the first of TREAT's Peterson Creek plantings, planted at the Burchill's property and on Bill and Laura Palumbo's property in 1998. Since then, Peterson Creek has changed a lot. The first trees planted are tall, closing the canopy, and starting to fruit. Further plantings, undertaken in subsequent years, are steadily shortening the gap between the Lake Eacham and Curtain Fig fragments. As most of these new plantings have been established, we have added them to our bird monitoring sites.

Our bird monitoring, carried out as volunteers on behalf of TREAT and the Birds Australia - North Queensland Group, involves quarterly counts of all birds seen and heard using plantings during twenty minute surveys. Over the course of one morning, we visit Byrnes' remnant, Byrnes' 2003 planting, Palumbo's 1998, 2000 and 2001 plantings, De Tournouer's 2002 planting, Burchill's 1998 and 2004 plantings. We mix up the sequence of sites visited, as much as is practicable, so we don't bias our observations.

So what do our data so far tell us about bird recolonisation in a riparian restoration site? The most important findings at Peterson Creek have been the changes in the bird community as restoration sites mature.

When sites are first planted and the ground is bare, or there is short grass between the new seedlings, ground-foraging species take advantage of the disturbed soil. Masked Lapwings, Magpie-larks and Richard's Pipits are frequently encountered and Willie Wagtails are seen perching on surrounding fences. As long grass then grows up in the site, grassland birds make it their home. Golden-headed Cisticolas, Tawny Grassbirds, Red-backed Fairy-wrens and Chestnut-breasted Mannikins are common at this stage.

After about a year, a replanted site begins to attract its first "forest" birds, especially if the site is adjacent to some remnant trees. Silvereyes will be frequent visitors. They are very important dispersers of seeds, both wanted and unwanted, into young plantings. Lewin's Honeyeaters may start using the site, perching on trees that may still be quite short. If there is dense cover, an occasional Little Shrike thrush, Eastern Whipbird and Grey Fantail may be seen. The grassland birds will still be there depending on the extent and length of grass cover in a site.

Two years or so after planting the list of forest birds using the sites expands substantially. Spectacled Monarchs, Brown Geryones, Fairy Geryones, Brown Cuckoo-doves, Spangled Drongos, Figbirds and White-headed Pigeons have all been recorded in plantings on Peterson Creek that are only two years old. The earlier colonists, Little Shrike-thrush, Eastern Whipbird and Grey Fantail are seen more often and where the canopy is starting to close, the grassland species are less frequently encountered.

Once the trees in a planting are three or four years old, some more specialised rainforest birds begin to visit. We have been pleased to see a Victorian Ritebird and Black Butcherbird in plantings that were only three and four years old respectively. At this stage the species list swells further to include Dusky Honeyeater, Golden Whistler, Rufous Fantail and Black-faced Monarch.

One of the oldest of the TREAT sites on Peterson Creek, Burchill's 1998 planting now seven years old, continues to accumulate rainforest species. A Macleay's Honeyeater was recorded there when the site was only five years old and an Emerald Dove was added to the list during our last survey in May 2004.

So that's the bird species that are regularly using TREAT plantings on Peterson Creek. Who's missing? Well, we haven't recorded any Large-billed Scrubwrens, Pale-yellow Robins, Spotted Catbirds, or Varied Trillers in the revegetation sites along Peterson Creek, even though these species are common in Byrnes' remnant, the most substantial patch of remnant vegetation on the eastern end of the creek. Byrnes' remnant also gets visits from a wider range of frugivores such as the Common Koel and Barred Cuckoo-shrike, neither of which have been recorded in revegetation sites along the creek.

Only time will tell whether these species eventually recolonise or the new sites as they are planted, with some of the first sections of creekline to be revegetated. Will these new sites receive colonists sooner because they are less isolated than the earlier plantings? Will the revegetated areas eventually support a wider diversity of species as more habitat is added? To find out we will have to keep going with those early mornings for some time yet!

Many thanks to Simon Burchill and Alastair Freeman who have lent their ears and eyes to monitoring on all the early mornings and the Byrnes, Palumbo, DeTournouer and Burchill families for allowing us access along Peterson Creek.

Nursery News

On the 24th May the nursery welcomed a new member of staff. Neal Walters has joined the work unit for the next 12 months during which time he will undertake training in restoration and nursery management. In addition to a variety of field based responsibilities including site management, seed collection and wildlife monitoring Neal will achieve formal qualifications in Horticulture by completing a Certificate II traineeship. Neal who hails from Speewah recently completed a 6 month Green Corps Program which saw him involved in restoration projects around Kuranda and the Barron River. Skills and experience Neal has acquired from Green Corps will be consolidated over the next 12 months on a variety of QPWS and TREAT projects. All nursery staff congratulate Neal on his appointment and, look forward to a productive and stimulating year.

Fig Research

The nursery has on a number of occasions provided support for research projects investigating the nature of interactions between fig trees and their surrounding environment particularly within the insect world.

As part of our continued interest in supporting such research the nursery is currently hosting Teresa Bradbury from the Imperial College in London. Teresa is conducting research in pollination strategies of several different fig species including *Ficus obliqua*, *F. platypoda* and *F. rubiginosa* as part of her PhD studies. Teresa is revealing some of the fascinating intricacies in which both pollinating and predatory insects interact with specific fig species and has put pen to paper in an effort to share her insights with the broader community.

Ecology and Evolution of the Wasp Community Associated with Australian Native Fig Species

by Teresa Bradbury

Exploring the evolution of species interactions is central to understanding how the Earth's biodiversity has been generated and is maintained. No species exists in isolation in nature. The history of life on earth is essentially the history of the ecology of interacting species that have been intertwined over evolutionary time, or how Darwin described it as "natures entangled bank". The process that encompasses this inextricable link between ecology and evolution and between species is termed as coevolution.

Some associations between species are not so highly coevolved, however, the case of fig wasps of the family Agaonidae and fig hosts of the genus *Ficus* represent an example of a highly specialized association. The figs of the tree provide food resources, housing for the parasitic wasps and the majority have not even been taxonomically described, or given a species name. These wasps do not contribute to the mutualism, as they do not provide pollination services for the fig hosts they utilize. They are essentially freeloaders. Studies, e.g., of the parasitic wasp community associated with African fig species have also shown that these wasps have a wide range of ecological roles and are present either as competitors to the pollinators, e.g. as other gallmakers, or as predators of these gallmakers or the pollinating wasps. I am seeking to document the biology of these wasps but also I am investigating the impact of the parasitic wasps on the pollinating wasp/fig tree mutualism. This research should give insight into the ecological structuring of communities, how these interacting species arose and how they all coexist within the fig.

Ecology can be defined as the study of interactions of organisms with their environment and with each other. Recently there has been a renewed interest amongst the scientific community to study the ecology and evolution of species interactions and to emphasize their importance in understanding origins of biodiversity.

For a while now scientific study has largely focused on the relationship between species and their adaptation to the physical environment. Life and Earth have indeed evolved together and the study of this interaction is fundamental in examining the diversity and distribution of species.

However, the importance of the role of ecology and natural selection to biodiversity has been comparatively neglected. I hope therefore that my research can make a contribution not only by providing a documentation of the ecology of these wasps, but also by studying species at this community level, we will be better informed to protect not only a "keystone species" as in the fig tree but also by the interactions that enable the insect, bird and mammal communities to be supported and to persist in our ever changing and disappearing landscapes.

An uncertain future for John's forest

*By Colin Hunt**

John stands on a hill in Papua New Guinea enjoying the view of his ancestral lands below. The canopy of a thousand hectares of primary tropical rainforest is like a green tufted carpet - here and there flowering plants thrust their crowns above their neighbours.

While John's clan hunts in the forest, the principal activity is gardening. A range of green vegetables, together with yams, sweet potato, cassava and sugar cane are grown in clearings near the village, supplemented by sago. The gardens are rotated to maintain fertility and composting is an art form. The forest provides materials for housing, basket and bilum-making - but it has never been exploited commercially.

John belongs to a clan that has occupied and owned the land and forest for millennia. Customary tenure is recognised in the PNG constitution and means that anyone with ideas about dealing with the land or the forest must consult the traditional owners. Expatriates always talk about how fantastic the birds of PNG are, with seven species of tree kangaroo (*Dendrolagus* spp.), three species of cassowary (*Casuarius* spp.) and many birds of paradise (*Astrapia* spp.), etc. etc. However, no one has ever offered incentives to John's clan to conserve the forest. A frown creases John's brow. A forestry department official came to the village last week wanting to sign up the clan in a logging deal. Roads and bridges were promised by the logging company. There would be more money to pay for education and health, as well as better houses and transport, and promised air trips to Port Moresby.

John is circumspect. In the previous year he had visited a cousin on an island where the clan had done very well, on paper, out of a logging deal. But big men had taken most of the money, which they said they had once in Port Moresby. The people had benefited very little. In fact many aspects of life had changed for the worst. The streams that once ran pure were now brown when it rained, rendering them useless for washing or drinking and soil had gone out on to the reef. Forest animals were now hard to find and the custom trees, where the honey used to be collected, had disappeared. Meanwhile the bridges and logging roads had fallen into disrepair.

An alternative proposal had since been discussed at a village meeting. A forester with a Lae-based NGO had made a proposal on 'wokabout' forestry. The NGO would lend the clan a portable Lucas mill or Lewis saw and train the men in sawing hardwood for export. Kwila (*Intsia bijuga*), *Intsia palambanica*), tau (*Pometia pinnata*) and beech (*Nothofagus* spp.) were all in demand in Australia, Europe and the U.S. There would be lot to learn about use of chain saws for directional felling, maintaining equipment, sawing to specifications and marketing the timber. The forester had said that John's clan was in a good situation because the port of Lae was not that far away, they could ship their timber in containers and there was a market for non-export timbers locally.

First it was necessary to make a forest plan based on sustainable yield, ensuring that trees of no less than half a metre in diameter at breast height would be taken, without discrimination between species, while custom trees would be marked for identification.

No vehicles would enter the forest. The sawmill would be shifted by hand and located according to the plan. Minimal impact would be made on the forest ecology and no forest areas would be revisited within 50 years. In time the group could purchase their own wokabout mill and apply to become certified under Forest Stewardship Council rules - something that would expand their market.

The forester's proposals had met with strong resistance from some of the clan. Instead of their dream of instant wealth they saw hard work - sawing timber, shifting the mill around the forest and carrying the sawn timber to the road. John knew there would be a lot more debate, but hoped that the clan would decide to go with the NGO and not the government. That way the forest would continue to benefit his children and his children's children.

Postscript: While most accessible forest has now been logged, there are no functional national parks in PNG, as we know them. Incentives to landowners, under agreements with NGOs, are a key to the conservation of national parks, including forested areas.

*Dr Colin Hunt, an environmental economist, has been researching sustainable development options in the Pacific region for 25 years: see also, www.colinhunt.com.au/

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Peterson Ck Field Day

By Barb Lanskey

About 20 people turned up on the afternoon of Saturday 15th May for a field day with a difference. After looking through one of the older plantings we tackled some maintenance working a newer planting.

Peter Dellow was in charge and before taking us into the 1998 planting, he drew our attention to the various factors affecting the planting and the selection of tree species to suit. The area where we stood was a cattle access point to the creek, was not a particularly wide area and the edge effect between the planting and the open paddock was obvious, with weeds prevailing in the light.

In the middle of the planting the weeds had been shaded out in most of the area and the shade-tolerant native grass was headed in a few places.

Upstream we stopped at one of the fauna monitoring sites, next to a covered pit trap - 2 pit traps, 4 cage traps and 20 small Elliott traps were used. It was also the area where pegs were in the ground for vegetation monitoring. At the creek bank further upstream, the creek was flowing with clear water and the Casuarinas were holding the opposite bank well.

Downstream we went out onto a small peninsula in the 2000 planting where the trees had already formed a canopy and were providing dense shade. Peter pointed out the 3 trees of *Trema orientalis* which were quite massive and responsible for the remarkable growth. They provide a lot of leaf litter, which at that time had been washed away in the wet. Here, Amanda Freeman told us about bird monitoring on Peterson Ck.

Back to the open at the 2000 planting we looked downstream and noted areas still to be revegetated. Then it was time for the working part of the program. We had a lot of legume growing over the trees at the edge, especially a few remnant trees and out task was to cut and poison the legumes at the edge. Peter explained to the students how to open the fruits and get the seeds out. Peter Snodgrass organised some young trees for them to pot up. Two little trees each was all that was allowed, but they would have liked to do more!

After a happy visit TREAT received "thank you" letters from all the children, illustrated by themselves and with excellent digital photos of the days activities.

Coast Field Day - Eubenangee Swamp and Whing Creek

By Barb Lanskey

TREAT arranged the June field day to be on the coast where the weather would be warm, but we were lucky to have an absolutely perfect sunny day. This field day was to look at the work being done in the Eubenangee Swamp National Park, between Babinda and Innisfail and then to look at the revegetation work at El Arish as part of the Walter Hill Ranges wildlife corridor.

A big crowd met at the Alice River car park at Eubenangee Swamp on Saturday 19th June. Besides TREAT members, we had School for Field Studies students come along and various locals, swelling the numbers to approximately 60.

Peter Dellow was again in charge and he handed out some very informative notes, including the Visitor Information sheet on Eubenangee Swamp. It was gazetted as a National Park in 1980 and a few years later, TREAT began plantings along the Alice River. From the top of Grassy Hill, a wonderful vantage point not far from the car park, we could see vegetation all along Alice River where once it was apparently quite fragmented. On our way to the hill we walked through cool forest and on the way back we skirted along the edge of the TREAT plantings, which had widened the creek vegetation buffer considerably.

Peter explained the drains put in to drain the swamp for grazing in the past, had now been blocked up and a particular fire regime had been adopted to control introduced grasses and to help in the regeneration of native species.

The National Parks have recently acquired a new area of the swamp on the eastern side of the Alice River and the nursery is now involved in planting a 30 metre wide vegetation buffer on the boundary adjacent to cane land to help control fires into and out of the park. After a picnic lunch (various locations), we met at El Arish, on the southern side of Whing Creek on Vince McKeown's property. Here, Peter took us through a TREAT planting just 6 years old, with a closed canopy, trees fruiting (lots of Blue Quandong fruit on the ground), Peter growing up Whing Creek flowing crystal clear with small fish visible. Where we first stopped there was a small pile of seeds which had gone through a cassowary gut, showing they were already using the new forest. Further on, there was evidence that wild pigs were unfortunately also coming into the area.

Out onto the cane headland, Peter explained the benefits to cane farmers of planting trees along creek banks and gullies in rat control. The rats cause significant loss of production and move on when their grass cover is removed by tree planting. Besides the increase in production, less time and money is spent in spraying grass and weeds in harbourage areas and in spreading rat poisons.

A final few words on climate change and how important the wildlife corridor from lowlands to uplands will be for some mammals. It was the end of a great day.

Nursery Sowing List

Species Name	Common Name
<i>Acmena hemilampra</i>	Blush Satinash
<i>Clerodendron traceyanum</i>	Witches Tongue
<i>Ficus cōpiosa</i>	Plentiful Fig
<i>Ficus crassipes</i>	Banana Fig
<i>Ficus drupacea</i>	Drupe Fig
<i>Gahnia aspera</i>	Sword Grass
<i>Glochidion hartwegianum</i>	Buttonwood
<i>Helicia noronjiana</i>	Norton's Oak
<i>Mallotus philippensis</i>	Kamala
<i>Melia azedarach</i>	White Cedar
<i>Melicope eleryana</i>	Butterfly Tree
<i>Mischocarpus lachnocarpus</i>	Woolly Pear Fruit
<i>Neisosperma poweri</i>	Milkbush
<i>Neolitsea dealbata</i>	Bollywood
<i>Rhodamnia costata</i>	Malletwood
<i>Schefflera actinophylla</i>	Umbrella Tree
<i>Polyscias elegans</i>	Celerywood
<i>Acmena smithii</i>	Small Leaf Lillypillip
<i>Jagera pseudorhus</i>	Foambark
<i>Glochidion sumatranum</i>	Buttonwood
<i>Ficus hispida</i>	Hairy Fig
<i>Syzygium kuranda</i>	Cherry Penda
<i>Emmenosperma alpinotioides</i>	Bone Wood
<i>Melicope rubra</i>	Little Evodia
<i>Rhus taitensis</i>	Sumac
<i>Eucalyptus tereticornis</i>	Blue Gum
<i>Syzygium alliiiligineum</i>	Onionwood
<i>Zanthoxylon ovalifolium</i>	Yellow Wood
<i>Dysoxylum alliaceum</i>	Buff Mahogany
<i>Xanthophyllum octandrum</i>	Macintyre's Boxwood
<i>Glochidion philippicum</i>	Buttonwood
<i>Lophostemon suaveolens</i>	Swamp Mahogany

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Mount Molloy School Visit to the Nursery

By Joan Wright

In Answer to an invitation to Tableland Primary School to visit the TREAT display, the students and headmaster of Mount Molloy School enjoyed a happy education morning in June.

It was a very small school and the children, principal and helpers formed a happy family. Barbara and I took them round the display which they found very interesting. It proved to be a good way of introducing the children (and adults!) to forest restoration by a community group and a government agency working together.

The nursery proved to be even more interesting. There was some disappointment that the rat traps in the seed-growing room didn't contain any rats! Don Crawford demonstrated to the students how to open the fruits and get the seeds out. Peter Snodgrass organised some young trees for them to pot up. Two little trees each was all that was allowed, but they would have liked to do more!

After a happy visit TREAT received "thank you" letters from all the children, illustrated by themselves and with excellent digital photos of the days activities.

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