

ISSUE 10

PORT MACQUARIE LANDCARE GROUP INC.

May 2014

## Grand Opening of the Shed

The final step in Port Macquarie Landcare securely housing its biggest asset (our working bee van) was achieved late last year with Mayor Peter Besseling officially opening our shed on 23 November. Peter acknowledged Landcare's work and thanked us for our efforts. He said Council's long-term partnership with Landcare has seen the rejuvenation of some of the region's most sensitive habitats. He commented on the number of times he is made aware that decisions being discussed may impact on Landcare, highlighting our high profile in the community.

The grant for the shed, which was obtained by our Funding Officer Julie Ho, has allowed us to consolidate our resources at one secure site and made it easier to access what we need to deliver environmental restoration works across the Hastings. Over 20 Landcarers attended the opening, giving up extra time to Landcare to help celebrate this important milestone for us. Many had been in attendance at the working bee that started the fitout of the shed that continued over several weeks until there was a place for everything and everything in its place. (*Continued on page 2*)



Inside this issue:		
Grand opening of the Shed	1	
President's Report	2	
Clean Up Australia Day	2	
Meet Our Patron: Roy Sach	3	
Christmas Fun	4	
Christmas Party	5	
Native Plant	5	
All in the Family	6	
Barbecues Galore	7	
What the Fungi	8	
Local Artist Group Creates Rainforest-scape	9	
Whether the Weather	9	
The Dragonfly	10	
Volunteer Profile: Dylan Sainsbury	11	
Seed Collection Expedition To Boorgana Nature Reserve	12	
What Vine is That?	13	
Thievery and destruction in the Making of Bowers	14	
Bundagaree Rainforest Walk	15	
Native Passionflower	16	



### President's Report



The Christmas Party committee is to be congratulated for the very successful event they organised - it was our biggest yet with 92 attendees. The feedback was very positive and the committee members have all agreed to remain on board for this year's party, so a very big thank you from us all.

The shed has continued to have a big impact on how Landcare is run, with members now encouraged to pick up their own shirts, hats, boots and manuals from there and to return them when they

move on. This is turning the shed into a hub for contact with Landcare which we may be able to build on in the future.

Summer was long, dry and hot. Although it did not slow the growth of weeds it meant that we were able to progress the wet sites instead of having to leave them to hold their own. The emergence of American Cotton and Washington Palm as seedlings on nearly all our sites over the last few years has been enough of an issue to make us produce a weed profile sheet to be added to your weed manuals for easy identification. These are available from your Project Manager.

The recent welcome rain meant planting could commence, which has allowed completion of works on the P6 site of the Wrights Creek catchment. This is now in follow-up mode, a great achievement just in time for Year 2 reporting to our funding body the Environmental Trust.

Estelle Gough

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#### Grand Opening of the Shed (cont.)

The shed was decorated for the occasion with ribbons and balloons in Landcare colours by the nursery team's "crafty" Lorraine Moore and Brian Grant set up our first ever "hot cuppa in the bush". The urn is now part of the nursery morning tea facilities and is available for other groups if they can find an electrical outlet on site. Brian, in his role as Warehouse Officer, has decided to open the shed every Tuesday morning from 9.00am to 12noon. This will make it easy for members to pick up PPE (shirts, hats etc) relieving some of the workload on the project managers.

When visiting the shed (beside the dog pound in John Fraser Close) you will see that Brian has also been beautifying the surrounding landscape. This is also to slow down water runoff into Cattlebrook Creek.

Now we move on to the next job of relocating the nursery. Our improvements never end!

Estelle Gough



### Clean Up Australia Day





#### Meet Our Patron - Roy Sach

Roy worked his way through law school with jobs including truck driving and contract ploughing. He soon decided law was not for him and joined the RAAF. However, when the RAAF realised he held a law degree it assigned Roy to teach military law, thus proving there is no escape from the long arm of justice.

But Roy had other ambitions and returned to his studies, pursuing an interest in outer-space. Later, following two years of working in the United States, he was appointed to be an analyst in the Executive Office of the President of the United States (President Clinton) and from there enrolled at Harvard University where he completed a senior executive fellowship.

Returning to Australia he obtained his first outer-space job. Other opportunities followed until he became Director of Space for the Australian Department of Defence. He also served as a company director to a space business (AUSPACE Ltd) and as an advisor to the Institute for Telecommunications Research.

Roy moved to Port Macquarie in late 2004, eventually joining Landcare. The Landcare committee immediately realised he was useless, even dangerous, in the field. So we made him President to keep him away from working bees.

He very reluctantly returned to Canberra in late 2010, but Landcare was not ready to release him so we appointed Roy to be our Patron. Essentially, Roy brings three areas of knowledge and experience to the position. First he is accustomed to dealing with bureaucracy, so he is prepared to represent us directly if necessary and has done so in the past. Second, his combination of legal training and formal qualification as a company director enables him to offer guidance on related issues. Third, he has a modest understanding of the services satellites can provide to our environment.

Some people might question the relevance of satellites to Landcare, but Roy is confident they are very influential. To offer a few examples: satellites give us the positioning data that allow accurate applications of fertilisers with less run-off into waterways; satellites monitor changes in vegetation patterns so environmental changes can be tracked; and satellites collect data on soil moisture content as well as salinity levels.

Throughout the year Roy receives the minutes of all Landcare meetings and informally offers responses or suggestions to Landcare's President, Estelle Gough. He returns to Port Macquarie annually for consultations and to attend our Christmas function. He regards the function as the best night of his year because he meets, in his own words, "the finest people in the region". In between Christmas functions Roy is researching a doctorate (Science Faculty, University of New South Wales) on the near-Earth space environment.



Brian Grant receiving his award from Roy Sach with Estelle announcing the winners of the awards



Habitatler, ISSUE 10, Autumn 2014

## Christmas Fun



#### **Christmas Party**

On Saturday, 30 November 92 of Port Macquarie Landcare's work, especially to Peter Duckett who won the 'Jack of All best swapped their muddy, grubby work clothes for their glad Trades' award and Brian Grant for taking on and doing extra rags and joined each other at the Racecourse to celebrate things as a committee member. Landcare's 16th year of caring for the environment. Special guests included our patron Roy Sach, Peter Berecry from Port Tree Fella, Peter Mare and Claudia Saddleton from Remondis, Matt Atkins from Gondwana Bush Regenerators, and Hose Ustariz and Samantha Cullen from Newcastle Permanent Building Society whose organisation enabled us to buy our working bee van.

Estelle took the opportunity to say "special thanks to our committee and sub-committees who do a great job lending their many talents to improving and running our group and devoting the extra hours this involves. Bruno Ryan Vice President, Janet Slater Secretary, Ken Gough Treasurer, Julie Ho funding Officer, Bill Quaglio Publicity Officer, Brian Grant Public Officer and Bronwyn Newton committee Member. The committee is ably assisted by members of sub committees including the Focus Group of Julie Ho and Janet Slater and the Events Group of Bronwyn Newton, Julie Ho and Mel Losh who will give us our first National Tree Day."

Highlights of the evening included Roy's presentation of the Landcare awards. Congratulations to everyone for your hard Estelle Gough and Sam Dobner

My personal favourite award was to the 'Doggie Doo Blues' award, given to Maggie O'Sullivan of the Queens Lake Group. Who can forget the enormous pile of this special commodity that Maggie collected!

Following the awards and an excellent dinner the fun started with the Spicks and Specks game Substitute, where the lyrics of Christmas songs were substituted with articles from the Habitatler. There was dancing to an excellent guitarist and an exhausting round of socialising to round off the evening.

Congratulations to the organisers, Mel Losh, Pieter Schouten, Ken Gough, Bronwyn Newton and Angela Millett; and to Rex who did such a magnificent job of putting together the slide show of the past year's activities.

Looking to next year, Estelle announced the relocation of the nursery to an as yet unconfirmed location. A sub-committee has been formed to steer this project through - Ken Gough, Julie Ho, Peter Crundwell and Brian Grant and Estelle.



# Native Plant – Golden Everlasting Daisy

#### **Golden Everlasting Daisy**

Xerochrysum bracteatum

With their vibrant yellow flowers, our native everlasting or paper daisies are evocative of summer and thrive in any sunny spot in the garden. They need to be pruned regularly after flowering to maintain vigour and a tidy appearance. If left they develop woody stems and become open and straggly. They can be reduced by a third to a half and the prunings used as cuttings. Dead flower stalks can be removed at any time.

Xerochrysum bracteatum, the "Golden Everlasting", is one of the best known of these daisies as it is very widespread, occurring in both annual and perennial forms. It varies in habit from prostrate to a shrubby plant about 1 metre in height. The leaves are usually large (up to 100mm long) and green to grey-green in colour. Individual flowers are very small but they form large clusters surrounded by large papery bracts. The overall appearance is that of a large, single "flower" with the bracts as the "petals". However well over a hundred true flowers occur inside the ring of bracts.

Propagation of Xerochrysum bracteatum from seed is easy; no pre-treatment is required. Collect the dried paper flower heads and leave them in a paper bag to collect the seeds then sow them on top of seed raising mix with just enough sifted soil to hold the seeds in place.

Golden Everlasting responds well to annual fertilising, usually a slow-release type and appreciates an assured water supply. It is at least moderately frost resistant. This easy-to-grow native will make a spectacular show in your garden as a massed planting or as an individual in a rockery.

Estelle Gough; Photographs Rex Moir



Left to Right:

Bud, emerging flower, full flower, at night time



### All in the Family

#### All in the Family

When I put my hand up at a Friends of Kooloonbung Creek Nature Reserve meeting and said "Would you let me help you and Landcare grow some plants?" I had no idea where it would lead. The Friends had just had one of their plantings destroyed by vandals and I had joined Landcare and saw the need for plants to assist regeneration. I come from a family of "green thumbs" – five out of seven children followed our mother's example of making large gardens. I had a large native garden at Terrigal for 18 years and missed that when we downsized to a unit in Port Macquarie in 1998. This led me to join the Friends and then Landcare. Once the decision to grow plants was made, I was able to reach out to my sister Julie Keyes for help. Julie worked for many years at the Tondoon Botanic Gardens in Gladstone. I have enjoyed many walks through these gardens with Julie and the curator. Of course, the botanical garden concept and bush regeneration are very different, but it is wonderful to see so many different vegetation communities in such a small area; put it on your "bucket list"!

Estelle Gough



My long association with the Tondoon Botanic Gardens began on a bright, clear day in November 1996. As a skilled exotics horticulturalist I developed a passion for the native flora and natural environment that these gardens embody. The curator and volunteers would take field trips and return with seeds, seedlings and cuttings that I would nurture until they were ready for planting in the public beds. After some years I was invited to take part in the field trips. I was so excited! Now I could see the plants in their natural environment and gain a fuller understanding of the way the Gardens have been developed.

The Garden's public beds mirror the habitat from which the plants are taken. You can, for example, go to the Bulburin Bed and see plants from the Bulburin State Forest as they appear in the bush. Other beds I have worked on include Mt Castletower, Eurimubla and Mt Larcom Peak as well as Subtropical Rainforest 3, 4 and 5. I have so many stories of weeding these beds – rolling down steep inclines, falling in mud, being drenched by rain, chased by brush turkeys and sat on by kookaburra's looking for garden treats. Along the way I also grew plants for the median strips and parks of the Gladstone area. I became so passionate about the local flora that I taught myself how to grow and care for the Gladstone floral emblem *Barklya syringifolia* which can now be seen growing around town.

In 2004 I began working on the Garden's huge data collection, which includes information about who collected the plants, what material was collected, where it was from and where it has been planted. Over the years I have also been lucky to have the opportunity to train and mentor horticultural trainees, sharing with them the wonder of the enormous eucalypts that grow from the tiny specks that are their seeds.





Julie Keyes



#### **Barbecues Galore**

There was a good roll-up for our October Spring BBQ held at **Lighthouse Beach**, in the "Dunecare" area opposite Vendul Crescent. Volunteers have been tending this part for 20 years ago, beginning with Conservation Society members and Dunecare members. They saw the need to stabilise the sand and fight Bitou bush, then take on other weeds to protect our native plants. On the BBQ day members and neighbours saw how far we have come in restoring native plants and animals displaced by sand mining. Our signs at Lighthouse Beach tell the story. Our thanks to John for leading the beach walk, also Steve for his knowledge and archives, and to Jenny, Rex and the others for their years of devotion to this lovely area.

Our Autumn BBQ by contrast was held beside **Queens Lake** in Laurieton, the site of our newest project.... which has some of the same old weeds! With a background of tall eucalypts and Dooragan (North Brother mountain), we learned how Landcare's work can help Yellow Bellied Gliders and Little Lorikeets. Once again attendance was good and so was the food, with fruit platters and delicious desserts complementing the BBQ food. Look on Facebook for some photos from the day and Like us!

Julie Ho; Pictures by Rex Moir and Janet Slater



Two very different days! Above left: Lighthouse Beach Above right and below: Queens Lake





The Habitatler, ISSUE 10, Autumn 2014

#### What the Fungi?



#### Boletellus emodensis

Boletes are unusual in that instead of gills they have pores, like a handful of drinking straws held tightly together, which give the underside a sponge-like appearance. In most *Boletes* these pores will rapidly turn blue or grey when broken or cut; this is due to enzymes reacting to the oxygen in the air. There are several exceptions, however - for example, *Boletellus obscurecoccineus* has very little colour change when cut and *Fistulinella mollis* pore tissue is so soft it collapses to a thick jelly consistency when handled and has little colour change.

*Boletes* are mainly found in eucalypt forest and woodlands where they are an important source of food for the larval stages of many insects. Their main fruiting period is from November to July. Species range in size from about 5cm to about 15cm, except for *Phlebopus marginatus* caps which can reach a massive 1 metre across! A weight of 29kg was recorded in Victoria for one of these giants, making this probably Australia's largest species.

Boletellus emodensis caps can grow up to 10cm wide and are covered with scales giving it a shaggy look. The scales become evident as the cap expands with growth. The pore surface is bright yellow and has a rapid colour change to blue. They appear solitary or in groups of two and fruit on dead wood, commonly Casuarina logs and stumps. This species has been collected from Queensland, New South Wales and Victoria.

I've come across this fungus only a few times in the Port area, including once in Sea Acres. Unfortunately the photos I took there didn't work out due to camera malfunction and the fungus had been eaten by the time I got back to it. A second encounter was on the back channel side of Settlement Point Rd where the photos shown here were taken.

If anyone wants to send me photos of fungi for identification please do. It is helpful if you take a picture of the top side as well as the underside, showing the gills or pores. Keep in mind that without a spore print and proper identification under a microscope, my ability to accurately identify from a photo is limited.

Angela Millett angela.26@bigpond.com











### Local Artist Group Creates Rainforest-Scape from Waste

up residence at the Glasshouse in March. Artists, musicians, your Landcare sites? We're interested to hear about waste scientists, and community members have come together with the aim of creating an intricately detailed forest entirely from straws, for instance, or lollipop sticks- though please don't salvaged materials. Why? Because nothing is wasted in the raid any bowers on our behalf! See page 14. forest, and we, in a world of dwindling resources and growing waste issues, could really learn from that. The project is a long one, culminating in an exhibition at the Glasshouse in 2016. A darkened room will be filled with a complex, inter-connected forest ecosystem that has been built from junk, imagination and thousands of hours of handwork. Viewers will experience it by torchlight, and a soundscape exploring the sonic potential of stuff headed for the dump will be recorded, layered, and played through the space.

Through a collection cart at the local library and with the help of local businesses, One Off Makery has been collecting waste materials and developing designs based on research and explorations of local remnant rainforest. Coffee cups, odd socks, fishing rods, irrigation pipe, x-rays and remnant house paint are all you need to make a fan palm tree; old photos and varnish become leaf litter; and baling twine and beer bottle tops are transformed, with a bit of banging and frizzing, into gum blossoms. Meanwhile, One Off Makery has also received funding from Midwaste to run Frugal Forest workshops from Bellingen to Forster. These range from school holiday programs and market stall demonstrations to master classes for practicing and aspiring artists.

Local artist group One Off Makery's Frugal Forest project took Do you find the same sort of rubbish cropping up all the time in materials that are found in quantity and can be collected;

> You can find out more about the project www.frugalforest.oneoffmakery.net.au where you can also at subscribe to the monthly newsletter to hear about upcoming events, and see images and short films as we make them.

Bryony Anderson, One Off Makery



### Whether the Weather

What do you do when your site is too hot in summer??

The east facing Nobby's Beach site is sometimes too hot to work on, so one day last summer the Nobby's Beach team decided to come and help us at shady Blair Reserve. This worked well for everyone as we were able to remove weeds that are under water once the rains come. Nobby's has been going for four years and Blair for ten so there were some interesting comparisons to be made. The Nobby's team gained experience in managing different weeds and were able to see a site at a different stage of management. Thank you Nobby's team from a grateful Blair team!

> Whether the weather is cold Or whether the weather is hot We'll weather the weather Whatever the weather Whether we like it or not



lan Morrison"Hotted Out"

### The Dragonfly

Dragonflies are an ancient group of insects which first appear in the fossil record during the late Carboniferous period, approximately 300 million years ago. These were the first winged insects and belonged to the Order Paleodictyoptera, which later evolved into the modern Odonata, the order which includes all modern day Dragonflies (suborder Anisoptera) and Damselflies (suborder Zygoptera).

Dragonflies and Damselflies are most commonly found around freshwater habitats, principally because their larval stages are aquatic. Eggs are laid in or near water and are followed by up to 12 different larval stages, a process which can last up to 5 years depending on the species. During this time the larvae prey on small aquatic insects, molluscs and even fish. Once an adult, Odonata continue to feed on small insects, and can even catch prey during flight using their two forward facing front pairs of legs. The adult life stage lasts approximately 5-6 months.

Because of their strict requirements for certain water parameters such as temperature range, oxygen levels and amount of harmful pollutants Odonata, like many aquatic invertebrates, can be used as a bioindicator in the assessment of stream water quality. High numbers of Dragonflies and Damselflies can be a good indication of a healthy system.



Odonata have unique flight abilities which make them one of the most successful flying insects. This is the reason they remain relatively unchanged from their ancestors. Their abilities to fly forwards, backwards and sideways allow them to actively hunt mid-air and avoid predators. This aptitude for flight comes from several features. Muscles are attached directly to the wing base, and their wings are very strong. They hold an aerofoil of air around their wings, which lowers the friction and allows the wings to flex on a number of axes. As well, there is a single cell called a pterostigma towards the leading edge of the wing tip which is where much of the wing weight lies (see photograph). It acts to increase the flex of a wing beat which further improves their aerodynamic abilities. The pterostigma can be seen as a dark cell towards the edge of each wing.

There is much more information available on these amazing insects, and I encourage everyone to watch "Dragonfly Wings in Slow Motion - Smarter Every Day 91", a short YouTube video which allows you to see the true beauty of Dragonflies close up and in slow motion. The web address can be located in the reference section below, as can other sources of information.

Dylan Sainsbury; photo illustration Rex Moir, close up Ros Anderson

References:

Britton D.; 2012; Dragonflies and damselflies: Order Odonata; Australian Museum; <u>http://australianmuseum.net.au/Dragonflies-and-damselflies-Order-Odonata</u>

Rowe R. J.; 2004; Dragonfly Flight; Tree of Life Wed Project; http://tolweb.org

SmarterEveryDay; 2013; **Dragonfly Wings in Slow Motion - Smarter Every Day 91**; <u>https://www.youtube.com/watch?v=oxrLYv0QXa4</u>



The Habitatler, ISSUE 10, Autumn 2014

### Volunteer Profile

#### Hi everyone,

I have been with Port Macquarie Landcare for a little over a month, joining up after I finished an internship with Port Macquarie-Hastings Council (PMHC) at the end of last year. The internship I chose as an elective in the final stage of my Bachelor of Environmental Science degree at Southern Cross University (SCU) in Lismore.

Having grown up in Bonny Hills, I moved to Lismore to study after finishing high school at Mackillop Senior College in 2010. SCU was my first preference after completing HSC and I was thrilled to be able to follow my interests in science at a smaller uni which had a good reputation for its Environmental Science course.

While at SCU I completed 24 units of study ranging from basic Biology, Chemistry, and Hydrology to Agricultural Management, Wildlife Conservation, and Land Degradation and Rehabilitation. Amongst these, one of my favourites, Plant Identification and Conservation, has helped form the base of my knowledge in plant i.d. and landscape management. Though having said this, my most enjoyable unit was my last, where I got a chance to see real land management and the steps involved at PMHC, not to mention getting introduced to Landcare! Having now completed all the requirements of my degree, I am awaiting my graduation date, which has just been confirmed in early May.

(Dylan has been recently working at Blair Reserve and on going through our great photo history of the site I came across photos of his year 10 classmates helping spread mulch! Estelle Gough )

#### Dylan Sainsbury

Dylan now has his degree. Congratulations! (Ed)



Dylan (right) being introduced to Landcarers by Bill Peel (centre)



The Habitatler, ISSUE 10, Autumn 2014

#### Seed Collection Expedition to Boorganna Nature Reserve



It was just before 7.00am when Julie and I set out in the Landcare van to pick up Janet Slater. The three of us headed out on the Oxley Highway through Wauchope and onwards to the Byabarra turnoff. The weather was grey overcast and threatened rain all the way. We passed through sleepy Byabarra and eventually started the climb up the escarpment to the Comboyne Plateau. Very little was stirring in Comboyne as we proceeded through town towards the Innes View turnoff which would eventually bring us to the Boorganna Nature Reserve.

We drove up the dirt track to the parking and picnic area and were disappointed by the scarcity of seeds among the plants along this section of the reserve. Our main objective was to find the seeds of Rosewood, Black Booyong and Rose Myrtle. We were successful only with Rose Myrtle. There was just one tree that had ripe fruit among at least a dozen near the car park. However, Julie and Janet collected the seeds of Yellow Carabeen, Hairy Rosewood, Pepper Vine, an unidentified Syzygium and Socketwood from the sub-tropical and cool temperate rainforest and wet sclerophyll sections of the reserve.

There was a great amount of bird activity to be seen and they could be heard when the cicadas toned it down a bit. Species included: Eastern Spinebill, Scrub Wren, Yellow Robin, teenage Scrub Turkey, Bassian Thrush, White Headed Pigeon, Brown Gerygone, Brown Pigeon, Logrunner and Mr and Mrs Satin Bowerbird.

Birdsnest ferns, elkhorns and strangler figs were numerous as shown in these pictures. An eel was also seen at the bottom of Rawson falls and leeches were conspicuous by their absence.

Afternoon tea was partaken at The Udder Cow Cafe in Comboyne and our haul was dropped off at Estelle's place when we got back to Port Macquarie.

Article and photos by Steve Ho







#### What Vine is That?

#### Barbed Wire Vine

Smilax australis







This vine is also known as Austral Sarsaparilla and Wait-a-while (as an "intruder" has to wait a while to untangle the grasping thorns).

Smilax australis is a prickly scrambling climber that grows to a stem up to 2 cms in diameter and 8 metres in length and grows vigorously to dense thickets. It has coiled tendrils up to 20 cms long, growing from the leaf nodes. It flowers once a year and is dioecious, meaning male and female flowers are on different plants so both have to be present for fertilisation of the female flowers to take place. Then bunches of green berries form, ripening to black.



This native vine provides many benefits to other species in our reserves: birds that feed on the ripe berries include the Satin Bowerbird and the Green Catbird and they in turn help in seed dispersal. It is also a food plant for the larval stages of the Miskin's Jewel and Cephenes Blue butterflies. The ripe fruits were eaten by the Indigenous people, medicinal tea was made from the leaves, and the leaf can be sucked to soothe a dry mouth. The dry stems were ideal firesticks.

Smilax makes a good edge-closing plant as it is sun-hardy and provides a shady barrier to the penetration of wind and sunlight into a rainforest stand. This is important as it keeps the internal temperature and moisture of the stand more constant, thereby improving its health and helping to keep fire at bay. It can be used as a deterrent plant in bush regeneration to surround areas where grazing can damage important trees and where minimal human contact of the bush is beneficial.

Our native vines are very important to retain a healthy bush and rainforest, so we should see them as an integral part of the community of plants that retain important moisture levels for all fungi, ferns, ground-cover plants, shrubs and trees. As bush regenerators we often see vines surrounding, attached to, and seemingly suffocating a tree and we often think we are doing a service to the tree's health by removing or herbiciding the vine. In some limited circumstances, treating a native vine may be required. But the removal or trimming of native vines is a big decision (and will be the subject of another article in the Habitatler). Native vines should only be removed or trimmed by prior agreement with the site owner (in most cases the Council). Unless the vine is a non-native, or defined as a weed, we will cause more damage by removing it. If a vine is in a coastally exposed location and helping provide a canopy to the rainforest or bush area, releasing or eradicating it from a tree usually leads to tree shock and loss of structural integrity and can create a canopy hole, which may also cause a "domino" devastation result (Peel 2010).

#### Rex Moir and Bill Peel

Peel, B. (2010). Rainforest Restoration Manual for South-eastern Australia. CSIRO.



#### Thievery and Destruction in the Making of Bowers

A lot goes on behind the scenes in the creation of the wonderful bowers of Satin Bowerbirds that we see at Landcare sites. Rex Moir has been corresponding with Dr Janine Rix (Wojcieszek) at Murdoch University who has studied bower making and has some fascinating insights into this phenomenon. Below is an edited version of Janine's email and research papers.

Despite looking somewhat like a nest, a bower is not a nest. It is a platform used only by males to attract and court females. To this end, Satin Bowerbirds collect and display objects that are blue, yellow and white (sometimes purple). There is much controversy over why these colours are preferred. An older hypothesis was that the blue was an 'extension' of the male's colour and therefore extended and amplified his display and attractiveness to females. For various reasons this idea has fallen out of favour. The idea that is being supported at the moment is that the colour preferences serve two purposes: (1) the coloured items (especially blue) provide a high degree of contrast when displayed on the bed of yellow straw and sticks - i.e. it's easy for the females to see exactly what items the male has obtained; and (2) the display enables a female to identify that there is a male of her species there.

This second aspect can be a bit harder to understand but the theory is referred to as 'specific mate recognition system' (http:// www.blackwellpublishing.com/ridley/a-z/Recognition\_species\_concept.asp) and it means that females have evolved to recognise a particular combination of colours and display style as belonging to a potential mate. In areas where two species overlap in distribution it is important that females can tell the males of different species apart. Supporting this theory is the fact that each bower-bird species has its own colour preferences. (Though no-one knows why, Satin Bowerbirds really dislike the colour red!)

Stealing from the bowers of other males is an important part of bower-making behaviour. It's very unlikely that a female could ever know that a particular decoration had been stolen. The only thing she can assess is the quality of the bower display and the number of decorations shown. So stealing is a way to create an impressive bower and thus sire more offspring. In one of our studies we found that blue plastic bottle tops were the most popular decorations stolen relative to their availability on bowers. Frequently stolen items were similar to non-stolen items in their weights and surface areas, but were darker blue than the decorations never stolen. Items that reflect more UV light were stolen most frequently.<sup>1</sup> This is most likely because these items have a strong contrast against the bower platform background, making them 'hot property'. It's interesting that in order to steal lots of items a male needs to fly away from his bower, leaving it vulnerable to theft! Males that are successful stealers have been found to steal from other successful stealers.<sup>2</sup> Bower destruction behaviour also goes on – males purposely fly to rivals' bowers and destroy them as quickly as they can. I have seen bower owners return during this destruction and vigorously fend off the intruders.

I have spotted many odd (to humans) objects on bowers including a blue plastic toy gun and a blue condom wrapper. I can see many similarly funny items in the photos you [Rex Moir] have sent me. The high numbers of artificial objects is a relatively new phenomenon for the birds, obviously coinciding with the advent of plastics by humans. It is common to see bowers with such objects in bushland close by urban areas. In more remote areas the blue objects are mainly feathers and flowers. Unfortunately, no one really knows why they like particular items such as shells and straw etc. but at some point this preference has evolved and continues to this day. One theory is that many of the items used as decorations are quite rare in the environment, so again offer females information about the male's skills in obtaining them.

Individual male bowerbirds definitely display individual behaviour differences. These can include: (1) preferences for certain colours or shades of blue etc.; (2) preferences for exactly where on their bower certain items and colours of items should be placed (and they don't like it if you move them!); (3) a preference to invest energy to staying at their bower and making sure the bower construction is top notch versus often leaving their bower to find objects and/or steal them from other bowers.

 Wojcieszek, J. M., Nicholls, J. A., Marshall, N. J. & Goldizen, A. W. (2006). The stealing of bower decorations among male Satin Bowerbirds (Ptilonorhynchus violaceus): why are some decorations more popular than others? Emu, 106: 175-180.
Wojcieszek, J. M., Nicholls, J. A. & Goldizen, A. W. (2007). Stealing behaviour and the maintenance of a visual display in the satin bowerbird. Behavioural Ecology, 18: 689-695.



The Habitatler, ISSUE 10, Autumn 2014

### **Bundagaree Rainforest Walk**

Bongil Bongil National Park south of Coffs Harbour has a coastal rainforest walk that Bill Peel recommended to us. We took the Repton turnoff from the Pacific Highway and followed Tuckers Rock Road to the car park by the beach – there were not many signs!

The walk was an easy stroll of about 6km (return) through the forested hind dunes within sound of the ocean. For Port Macquarie Landcarers it was interesting to compare the flora in this national park to our coastal regeneration projects such as Lighthouse Beach. In addition to the plants we have we noted many Brushbox, Red Ash and Geebungs; and further north, Plum Pines and a yellow-fruited fig. We were amazed at the number of elkhorn and staghorn ferns, often at very low height.

We spotted Scarlet Honeyeaters, Gerygones, and an eagle when we detoured to the wetland. The forest walk led us to Bungaden Headland, where brackish Bundagaree creek emerged on the left and there was a startlingly beautiful view of the seascape to the right. Connecting the forest green and ocean blue, a White-faced Heron posed in the estuary while a White-breasted Seaeagle soared above. Wow! We cooled off with a swim in the shallows then walked back along the beach viewing pods of dolphins, gulls, Oyster Catchers, Crested Terns and Little Terns along the foreshore.

There are several bush walks in the Bongil Bongil and a topographic map is recommended if you choose to go exploring there.

Photos and article by Julie Ho and Janet Slater



Below: The Hind Dune Walk at Bongil Bongil



Above: The Estuary at Bongil Bongil





### Native Passionflower

Passiflora herbertiana: These features distinguish our only local native species from all others:

 dark green slightly glossy leaves, rounded leaf lobes, gland shape unique and located next to leaf junction, flower bud orange, flower green and cream colour, fruit mid-green with lighter green speckles and can have "wart-like" insect holes and leaves and petioles have very fine hairs.

Note the Native Passionflower is a food plant (and host to eggs) for the Glasswinged Butterfly and caterpillars as shown in the photograph below,

Wand Spacing of Passionflower and Passionfruit Last Shares and Glands



### **Nursery Natterings**

#### **Nursery Retirement**

Pat Morgan, who has spent Monday mornings for the last 6 years at the Landcare Community Nursery, has retired from volunteering. To help her celebrate her retirement the Nursery Team joined her at Finnians Tavern for a well-deserved lunch. Pat has played an important role at the nursery, helping out with many of the retail customers, planting seeds and potting thousands and thousands of seedlings. Thank you Pat from all of us and don't be a stranger – you're always welcome back for morning tea and a chat!





#### School Visit to the Nursery

A group of students from Camden Haven High School came to the nursery as part of putting in a Bush Tucker Garden at their school. After obtaining permission from NPWS to come on site they had a tour of the various nursery functions with Estelle and saw some of the plants that they will be using in their garden.



### **Upcoming Events**

Date / Time	Event Details	Contact
July 8th	Landcare Meeting, Port City Bowling Club	janetslater1237@bigpond.com

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