

- Break O'Day Understorey Network Branch
- **Open Garden at Greenslade**
- The Power of Pollination (Part 1)
- **Bushfire Cataclysmic Event or Golden Opportunity**

Spring 2008 No. 43

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Visit our website and Plant Propagation Database www.understorey-network.org.au

The Understorey Network would like to acknowledge the support of NRM South, the Tasmanian Government and the Australian Government.







Australian Government

Coordinators News

It has been a busy time in the office matching and mailing out packets of seed for our spring Grower's Scheme. I hope you have received your seeds, and are happy with the selection ...

As the number of growers has been steadily growing every year, this year we are handing out seeds for southern growers on depot day, to save on postage and packing. Try and get your tubes filled and seeds in before the silly season (so you can concentrate on filling Christmas stocking!). Don't forget to label each species with the name and time of planting. Those requesting plants please contact your grower as soon as possible, to provide encouragement.

This is the time of year when the event season swings into gear – we have held a large and very successful display at the Australian Plant Society Wildflower Spectacular, which will soon be followed with a stall at the Sustainable Living Tasmania's Home Expo. On the East Coast, the Understorey Network branch has held a display at the Portland Hall in St Helens A roster of volunteers has helped to make these happen, and I'm receiving requests daily to participate in more events around the state. It would be great to have members in each region willing to help out with local displays – look out for email requests for assistance.

We have recently been successful in receiving a Threatened Species Network grant to rehabilitate Orange-Bellied Parrot (OBP) coastal habitat. This project involves researching methods to successfully propagate species of saltmarsh OBP food plants, and to pass on these methods to local community members. The community nursery in Glenorchy, Hobart will be used to establish propagation trials. Once propagation techniques have been established, community workshops close to OBP coastal habitat sites will be run on propagating saltmarsh plants (King Island and Marrawah/Smithton).

Message from the President President's report (edited) presented to the Annual General Meeting of the Understorey Network 30th August 2008

The year up to the end of June this year has been a year of expanding horizons. Massive 'growings' of tube stock in back-yards, workshops and field days, as well as our nursery at Glenorchy increasing in its usefulness and relevance both to the USN and to the wider population, are testament to the varied activities that we can offer to our members and the community at large.

However this year (2008-2009) things are rather different. With the change in Federal Government came a change in the ways of funding environmental and community groups. The Liberal Party's "Natural Heritage Trust" funding ended on 30th June this year and the Labour Party's "Caring for Our Country" do not kick in till 1st July 2009. There is some interim funding through a scheme called "Open Grants" for large projects. Ruth, in partnership with other organisations, has put in an excellent application and we are hopeful of getting funding to take us through till the end of the financial year. We won't know until October or possibly later. So bearing in mind that incoming funds are not guaranteed we have drawn up a budget that will enable us to keep our co-ordinator and office till June 2009, but severe cuts have had to be made. away.

Our volunteers are many and varied. Eighty seven of our members were growers last year. All those plants grown in backyards for revegetation projects across the state - that is amazing. Others helped at the many functions held across the state such as the Sustainable Housing Expo, the Tread Lightly day at the Botanical Gardens, and numerous smaller days held by schools, Landcare groups etc. Special mention must be made of others, such as De Deegan, who works in the office entering all the membership details, Susan Friend who helps Amanda regularly at the nursery, Anna Povey who organises the Northern depot day and above all Martin Luther who, for more than 2 years now, has been regularly coming into the office to clean, sort, pack and label the enormous amounts of seed that we need for our Growers' Scheme. We could not possibly function without all this ongoing volunteer support.

I want to thank you, our members, who continue to support and believe in the USN. Our members are our first priority, without you the organization would not exist. Some have been members since our inception 14 years ago. I hope you continue to value your membership of the USN, let us know if in any way you feel we could do better and keep growing those little plants that can help solve our climate change problem. Anne Griffiths

President

Propagation Table



Orders are now being taken for this very lightweight propagation table made from treated pine and mesh, with irrigation sprayers attached. It will easily accommodate five polystyrene boxes filled with tubes. It would be a neat addition to the suburban or rural backyard and could be easily moved to another part of the garden should the need arise.

Cost: \$160.00

To order please contact Ruth in the office.

Green Corps Team

The USN would like to extend a warm welcome to the Green Corp team who have started their six months with the Life without Barriers and the Understorey Network partnership based at the Tolosa Community Garden and Native Plant Nursery. The team, with their leader Mel, have already been involved in extending the path at the Tolosa Community Garden, propagation, re- planting the garden at the YMCA and planting out numerous plants on a steep bank at the Glenorchy Quarry. We hope you have a successful six months with our organisations.

The team was very helpful in setting up a display at the Australian Plant Society Wildflower Spectacular at the city hall in Hobart. The display promoted the new Gardens for Wildlife scheme, the recently published Australian Plant Society 'Grow Local' booklet, the Threatened plants of Tasmania group and of course the Understorey Network.

Break O'Day

Understorey Network Branch

by Alison Hugo Community Support Officer Break O'Day NRM (north) Ph 0488 677 727

Due to the enthusiasm and interest generated from the successful Coastal Garden Workshops ran by Ruth Mollison and Kris Schaffer in The Break O'Day Region we now have our very own Understorey Network Branch.



Some of the recently formed East Coast group combined with the Wombat Walk Weeders, on a working bee behind the St Marys Library.

Oliver recently visited the group to assist in putting together a Calendar of Events. This ranges from activities such as bush tucker walks and seed collection events. The aim of the group is to form a community group that can:

- Conduct and attend field days and trips of interest
- Draw together knowledge and experience
- Provide a support network
- Grow for local projects
- Educating the wider community re the amazing benefits of growing natives

Any one in the Break O'Day region keen to join the group

contact:

Alison Hugo *Community Support Officer Break O'Day NRM*



Newsletters - A single copy of the newsletter will be delivered per address as from this issue. Please contact Ruth if you have any queries regarding this matter. The newsletter will now be posted in a cost efficient flat format, wrapped in biodegradable plastic.

Open Garden Day Greenslade, Channel Highway, Gordon

by Mary Jolly

On Sunday 7th September we were privileged to visit Rupert and Wyn's magnificent property, Greenslade, 4685 Channel Highway, Gordon. The garden was open to the public as part of the ABC's Open Garden Scheme and Rupert and Wyn had nominated the USN as the recipient of funds raised.

The garden beds were resplendent with spring bulbs in their thousands, the frogs were chorusing in the lake and people came pouring through the gate in the morning sunshine. Devonshire teas were served by the ladies of the local Garden Club, with tables set up on the verandah and in arbours, looking down over the garden to the Channel. Picture perfect!

Despite the afternoon rain, a total of 163 people visited and \$815 was raised at the gate. Thirty five percent of gate-takings (\$285) was allocated to the USN with the Garden Scheme organisers receiving their customary sixty five percent. An additional \$150 was raised in gold coin donations at our plant and information stall.



Mary, Amanda, Annie and Brian helped man the gate and USN stall providing excellent exposure for the Network and several potential new members.

Rupert and Wyn's efforts to restore their lovely creek/waterfall area with native plantings, in very difficult, degraded terrain, are impressive.

For those who missed out this time, Greenslade will be open again on Sunday, 23rd November when roses will be the main attraction. Pop the date in your diary!

Our sincere thanks go to Rupert and Wyn. The results of their hard work were stunning in every way.

The Power of Pollination

Part 1

By Phil Watson

Introduction

Tasmania is the home of a diverse array of flora and fauna assemblages. The plants range from the diminutive, pygmy sundews to the delicate terrestrial orchids to the kaleidoscope of colourful heaths, native irises, lilies and bush peas to the robust and floriferous daisy bushes and the towering eucalypts and myrtles. The perpetuation of each of these floral species is a consequence of their flowers attracting suitable pollinating fauna. Their curious floral structures, charming colours and scents have evolved over millenniums of generational change to make them irresistible to their pollinators. Deciphering the role these stunning flowers play in their mating game to lure the desired pollinator generates a new level of interest, beyond just their visual attractiveness. This article continues to explore the many powerful relationships plants have developed with their pollinators, with particular emphasis on the furry and feathered pollinators.

Pollen is demanding to produce

As there is always adequate carbon in nature, plants can make carbohydrates in the form of very cheap sugary nectar and in appropriate amounts to meet the service costs of the more expensive pollinators (Yellow Wattle birds, Pygmy possums etc). In contrast to nectar, manufacturing of pollen demands ample moisture and precious nitrogen, plentifully available in tall forests and rainforests but limited in low nitrogen environments such as dry coastal heaths and grassy woodlands. In these areas, most of their nitrogen is obtained through healthy symbiotic relationships between fungi and plants.

Ingenuity conserves pollen and provides a competitive edge

To conserve pollen plants have evolved cunning protective processes and structures. For example the Native Cranberry Astroloma humifusum and the Bearded Heaths (Leucopogon spp.) flowers possess rings of hair at the throat of their flora tubes which limits their nectary accessibility to finely beaked birds, long tongued insects or very small insects. Curiously many highly floriferous shrubs, often in close proximity (such Tea trees, Correas etc) have developed other conservation methods. Undetected by their pollinators, each shrub may only produce nectar in 20-30% of their receptive flowers. The flowers with barren nectaries frustrate the insects by displaying all the same attractions as the nectar laden flowers. These plants possess an uncanny ability to still engage the pollinator's interest, whilst

maintaining just enough full nectaries. Research has revealed that in our Common Heath *Epacris impressa* the potential volume of conserved nectar in their deep nectaries varies from 0.1 - 0.2 millilitres under harsh conditions to 2 - 3 millilitres in lush conditions. To fill a kilogram jar of honey hard working bees must fly up to three times extra distance to visit enough nectar bearing flowers (estimated at 1,000,000 flowers across 50,000km). Individual bees work itself to death in 3 weeks contributing only 2-3 mls of pure honey in its life time.

Another method used by plants to gain a competitive edge is the clever use of darker coloured flowers and early morning peak nectar flows. By absorbing the sun's warmth an alluring sweet scent attracts early flying pollinators. Examples include the brilliant red flowers of the Running Postman (*Kennedia prostrata*) and the warm autumn tones of Bush Pea flower *Bossiaea cinerea*.

Pollination by the birds

The honeyeaters are the largest family of birds in Australia with a staggering 80% of all bird species in forest communities belonging to this diverse family. Records indicate that over 100 species of Australian honeyeaters frequent well over 1000 indigenous species, with many developing close mutual relations with indigenous flora. The flora benefits significantly from pollination and seed dispersal. Unlike the numerous 1:1 bird:plant relationships formed between their overseas counterparts, Australian Honeyeaters have no true 1:1 relationships although there are some which are very close (such as that between Swift Parrots and Blue Gums).

Honeyeaters have unique features

Our honeyeaters are much larger and more robust than the overseas equivalents such as the very energetic, but tiny, American humming birds or the small, colourful South African sunbirds. Unexpectedly, the largest of all the world's specialised nectar feeders is Tasmania's Yellow Wattle Bird (*Anthochaera paradoxa*) some 10 times larger than the hummers or sun birds.¹

With this substantial size and robustness, honey eaters offer a superior pollination service relative to the insect pollinators. They have the capacity to feed and hence transfer pollen during wet periods or remain active in adverse weather conditions including hot, cold or windy conditions. They are also capable of transferring larger pollen loads over longer distances and can frequent many more flowers in a working day than insects.

¹ Low T. *Our Sweet Country a Celebration* Australian Geographic Jan- Mar 2006 Edition

² The brush-tipped tongue of the honeyeater functions in the same way as a paint brush



As efficient nectar feeders, they have evolved elaborate tongues which are prolonged and protrude well beyond their bill tips enabling collection from deep nectaries. The front edges of their tongues are delicately frayed to form a brush for licking up the nectar. By lapping up nectar at the rate of 10 licks per second, nectaries can be emptied within a second or two.

Mutual benefits for honey eaters and gum flowers

In Tasmanian forests where moisture and plant nutrients are in luxurious amounts, members of the Myrtle family (Myrtaceae) including Gums (Eucalyptus sp), Bottle Brushes (Callistemon sp) and Paper Barks (Melaleuca sp) etc, have abundant nectar. Each brushy or fluffy flower can pump nectar for over 2 to 3 weeks to satisfy the birds (also bats and agile arboreal marsupials) addictive behaviour. Fortunately their flowers have been sturdily constructed to support the honeyeater's bulky bodies whilst busily feeding. Given insects are blind to colours on the infra red end of the light spectrum (reds, oranges, yellows etc) their vibrant red and orange coloured flowers provide them with further competitive advantages.

It is not unexpected that the more pugnacious honey eaters, particularly the Little wattle bird, Yellow wattle Holland Honeyeaters (Phylidonyris bird, New novaehollandiae) and Noisy miners become extremely boisterous and territorial, as they boldly defend, their flower clusters. This defensive behaviour has been linked to defoliating insectderived dieback in stands of flowering Gums, as a result of both the small foliage insect gleaners (Black headed, Strong billed and Crescent Honey eaters, Pardalotes Thornbills etc) and the large foliage and trunk gleaners (Golden Whistlers, Black-faced Cuckoo-shrike, Grey Shrike-thrush etc) being frightened away. Fortuitously their dominance diminishes as the flowering period closes forcing the aggressors to leave the area in search of protein rich staple foods such as fruits, honeydew seeds, lerp and manna.

² Rowe M.T. RAOU *Honeyeaters of Hawks Nest & Tea Gardens A Guide* National Parks NSW

Swift Parrot and the Blue Gum partnership

The close relationship between the Swift parrot and Blue gum is a captivating example of flora and fauna adaptation resulting in outstanding mutual benefits. Taking advantage of the Blue Gum's (Eucalyptus globulus) nectar-laden cups surrounded by shaving brush-like pollen tipped stamen, the Swift parrot (Lathamus discolor) migrates to breed within the Blue Gum dominated communities. This dependence by Swift parrot on the gum is reflected by the gum on the parrot. As a consequence of the swift's short, stout bill it needs to not only brush many of the stamens but also dabs the stigma of each flower in its endeavours to empty the nectar cup. The resultant dusting over the facial region of the parrot, achieves the flower's goal of transferring its pollen to the other flower. Although the swift's mutual relationship produces remarkable pollination service for the gum, the musk lorikeet (Glossopsitta concinna) with its similar attributes also provides a valuable contribution.



^{.&}lt;sup>3</sup>Swift Parrot being dusted whilst feeding on Blue Gum flower

In contrast to these stout billed birds, the finer billed honey eaters such as the New Holland Honeyeater, Crescent Honeyeater and Eastern Spine Bills which also feed on the Blue gum's nectar. However they rarely brush the stamens or stigma and consequently are considered as ineffective pollinators.

(continued in the next edition)

³Hingston A. B, Gartrell B.D. & Pinchbeck G. How specialised is the plant-pollinator association between *Eucalyptus globulus* ssp. *globulus* and the swift parrot *Lathamus discolour* Austral Ecology (2004) 29, 624-630

BUSHFIRE Cataclysmic Event or Golden Opportunity

by Jean Taylor

Coningham Nature Recreation Area (CNRA) is a lovely reserve about 35 km south of Hobart. It was reserved as a regional park in 1975 after years of commercial woodcutting and grazing and in 1979 was upgraded to a Nature Recreation Area in recognition of its important environmental, cultural, scenic and recreational values. Our group, the Friends of CNRA has been working in the reserve since 2002, mainly removing weed species such as *Erica lusitanica* (Spanish heath).

On 11th January 2008, a bushfire to the west of the reserve, fanned by gale force westerly winds and fed by abundant dry fuel, rapidly escaped containment lines. The focus of fire fighters quickly moved from control to protection of life and property and with a suitable wind shift, lit a back burn from the shores of the D'Entrecasteaux Channel and to the south of the access road. As a result of the combination of bushfire and back burn, we estimate that 70% of the reserve has been burnt.



Typical scene 10 days post fire

This reserve, particularly the northern facing slopes, has suffered from bushfires many times over the past 20 years. This 2008 fire, however, is the most severe in terms of area burnt and fire intensity for some time. In spite of the challenges of past uses and frequent fires, the fauna and flora has proved remarkably resilient – this 479-hectare reserve protects eleven vegetation communities, three of which are identified as priority vegetation communities, eight threatened or vulnerable plant species and a threatened butterfly. It is also recognised as a key fauna habitat and provides significant habitat for the endangered swift parrot and forty-spotted pardalote, white bellied sea eagles, little penguins, bettongs and bandicoots. We were very keen to see what had survived the latest conflagration.

We have been astounded by the response of the native

plants. Only two weeks after the fire we found some tiny lilies, *Hypoxis glabella* (tiny yellowstar), flowering bravely in the bare and blackened earth.



Slowly green fuzz has covered most areas, the first plants to appear were the monocots – various grasses, lomandras, dianellas and lepidospermas, followed by some of the forbs.



(Photo point 6, 2 weeks post fire)

The first shrub to sprout was *Indigofera australis*. Who would have thought this lovely, but fragile seeming plant, would respond so quickly.

Eucalypts – globulus, viminalis, pulchella, obliqua, amygdalina and ovata – are sending out exocormic growth and sprouting lignotubers.



Resprouting blue gum 6 months post fire

Another surprise has been the *Exocarpus* species; both cupressiformis and strictus are showing delicate green shoots on their blackened branches. While we have not found any young banksias, all of the capsules have opened dropping their seeds into the ashy ground. We are looking forward to the orchid flowering as many tiny leaves are appearing. Perhaps we may even come across *Caladenia caudata* one of the threatened species found in CNRA.

A few very deep gulches escaped the flames and in one of these, less than two weeks post fire, we disturbed a bettong. More recently we have seen wallabies in the regrowth areas. Unfortunately, many of the animals that survived the fire had to forage outside the reserve and the Channel Highway was, for months after the fire, littered with a nightly toll of road kill – possums, wallabies and pademelons the most obvious.

Birds have been very obvious recolonisers. The first to appear were forest ravens. Although we have not found any bodies, many small animals and birds must have been unable to outrun the flames and perished to provide food for the ravens. The insectivorous birds came next. Fortunately, the unburnt 30% of the reserve and the surrounding bush areas contain significant woodlands and are providing a bird population that has rapidly exploited the vacant niches. Honeyeaters such as yellow throats, new holland, black headed, eastern spine bills and yellow wattle birds have been seen, as well as thornbills, flycatchers and flame robins. Wildfires do not burn evenly. Factors such as slope, vegetation type and aspect ensure that while some areas are burned intensely, others are less severely affected. Indeed, we have found small areas, even in the worst burnt sites where grass clumps in the lee of tree trunks were untouched by flame. This naturally affects regeneration – while a green film is spreading over much of the reserve, some areas remain black and desolate.



Erica resprouting 3 months post fire

We are keeping pictorial records of the regrowth throughout the reserve and from previously established photo points and we are also surveying for regrowing *Erica*. While most of the mature *Erica* plants have been killed, we are expecting a mass germination of seedlings and some regrowth from lignotubers. Already we have found some areas where a few surviving plants in the midst of what were once dense patches *Erica*, are growing robustly and even flowering.

While the fire has destroyed much important and intact bushland, it has also diminished the weed load. The group is anxious to maintain any advantage in the fight against weeds, so we have already moved back into the burnt area to search out the surviving *Erica* plants. If you would like to join us we can offer lots of cutting and pasting in very trying conditions. However if you don't mind getting down and dirty, we can also offer fantastic companionship with friendly people with beautiful views over the D'Entrecasteaux Channel and Mt Wellington, surrounded by birdsong with the occasional white bellied sea eagle or wedge tail soaring overhead. Our working bees are held on the 3rd Tuesday of the month.

Contact John or Jean 6267 4870.

Membership Renewal To save postage time and paper, receipts will not be issued for membership renewal unless requested New forms will have a tear off receipt slip, to keep for your own records. Receipts will continue to be issued for donations, for taxation purposes.

What's Happening <u>*Talks - Fiona Coates</u> *

Threatened Flora Program Manager at Arthur Rylah Institute for Environmental Research, Victoria Threatened flora recovery plans all require 'monitoring', but often we don't really know why or how to do this. Fiona has been involved in several long-term orchid monitoring projects in Victoria, and will discuss some of the aims, techniques and common mistakes of monitoring, and how the data can be used to better manage our native orchids.

South: Sunday, 2nd November 2008 10.00am Riverview Room, Royal Tasmanian Botanical Gardens Refreshments provided

North: Monday, 3rd November 2008 7:30pm Devonport Recreation Centre Community Meeting Room (34 Forbes St) Refreshments provided

★ Wildflower Walks★

East Coast: Sunday, 2nd November 10.00am **Humbug Point Reserve**, Binalong Bay For more information contact Alison Hugo Community Support Officer, Break O'Day NRM (north) 0488 677 727

South: Sunday ,16th November 11am

We will be visiting wildflower artist Deborah Wace's family property at **Lune River.** This is an opportunity to purchase unique floral artwork as well as learning how to identify common plant in dry sclerophyll and buttongrass vegetation. *Email/ring Ruth for directions.*

South: Tuesday, 18th of November 10am

A wildflower walk and identification on a lovely grazing property **Fort Chimo at Snug**. Some of the property is recovering from a bushfire, with orchids expected to be flowering.

Email/ring Ruth for directions.

South: Thursday, 27th of November 10am.

A wildflower walk and talk with botanist Oliver Strutt in the Peter Murrell reserve at Kingston. *Email/ring Ruth for directions*

★<u>Seed collection</u>★

East Coast: Sunday, 7th December 10.00am Robina and Karl's property near St Marys / & coastal location.

For more information contact Alison Hugo Community Support Officer, Break O'Day NRM (north) 0488 677 727

★ Seed Collection & weeding working bee

East Coast: Sunday, 4th January 10.00am

Skyline Tier: Meet Surfside Hotel, Beaumaris For more information contact Alison Hugo Community Support Officer, Break O'Day NRM (north) 0488 677 727 If undeliverable return to

Understorey Network PO Box 4535 Bathurst Street HOBART TAS 7000

