

UnderStori

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Schaffer, Angela Jackson.

**Visit our website and Plant
Propagation
Database at:**

**[www.understorey-
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Coordinators News

The Understorey Network has received the 2007 Tasmanian Community Award for Environmental Excellence. Whooppee!!

This award
(sponsored by

Tasmanian Together 2020) was for our project funded by NRM South and NRM North in 2005/2006 titled 'Growing Plants and Communities Together'.

I was the very proud recipient of the award at a prestigious awards dinner held at Wrest point. I would like to take this opportunity to thank the committee PLUS volunteers PLUS all members for contributing to our success. In particular, a BIG thankyou to the following people:

Annie Griffiths, our president who chairs committee meetings with diplomacy and tact plus puts in extra time in the office sorting out the membership database.

The executive of the committee – who are all admirably suited to their roles, and do much more beyond the monthly meetings: Mary Jolly, secretary, Rupert Manners, treasurer, Joan Rodrigues Vice president.

Plus committee members- Brian Griffiths, Peter McGlone, Angela Jackson, Warner Wait and Kris Schaffer, for attending lengthy evening meetings and contributing so much to discussion.

Martin Luther – the seedbanker extraordinaire, for putting in countless hours sorting and storing seeds, now with beautiful new printed labels.

Amanda Cole – Our nursery organiser, for doing great pot shuffles, pot pickups and



Australian Government

stock takes at the new (cold) community nursery.

Liz Quinn – the newsletter compiler, for putting together interesting stories with assistance from baby Neve.

De Deegan – for also helping out in the office..

This award is an accolade for everyone in the Understorey Network – well done all!

Message from the President

Never, ever, give up! *Bursaria spinosa*, sown in October, erupted spectacularly this week (33/35 pots). Blackwoods also took months more than they are supposed to, to germinate...the message is, don't throw out those "empty" pots till your patience has gone!

Thank you to those growers who have returned their growers' charts. The results from these have been collated and a summary is in this newsletter. Those who haven't yet returned them please do as the information is important for our records.

Hopefully we will know at the end of the month about our NRM funding for next year; meanwhile we have been very successful with smaller grants for specific projects. Our Deductible Grant Recipient Status, which means that donations to the USN are tax deductible, has resulted in numerous donations from some members of the public as well as members for which we are very grateful.

On that note a renewal form for subscription is included in this newsletter. Please if you are happy with what we are doing renew your subscription, if you decide not to renew let us know why. Your feed-back is vital to our ongoing success as a grass-roots, community based organisation.

Anne Griffiths
President

Potting up a Storm

By Liz Quinn

The Understorey Network with Kallista Disability Services and Sustainable Living Tasmania is currently hosting a Green Corp team. The team is based at our Community Nursery in Tolosa St, Glenorchy. I recently caught up with a few of the team to find out what they have been up to.

Chris and Sammy-Jo are both 17 and are two-thirds of the way through a six month stint in the nursery Greencorp team. They are both quick to mention it's a great job, they get paid, it's outdoors, social and pretty 'laid-back'. I get the feeling it's a great way to enter the workforce and beats stacking supermarket shelves.

'We have been cleaning up the community nursery' Sammy-Jo says. Propagating and potting on natives, seed collecting, identifying and controlling weeds, track work and dabbling in landscaping are some of the activities they list. 'Hard core manual labor' Chris says.

The pair tell me about seed collecting adventures to Fortescue Bay, Lauderdale, Oposum Bay and Lenah Valley. During our discussions the botanical names are flowing and it is obvious they are keen to show their new skills. Chris tells me they have successfully taken cuttings of a few coastal species. I am jealous!

It hasn't all been plants and dirt though; one of the highlights for the pair was smashing up feral oysters. 'We went to 'Oyster training' and then spent the day smashing ferals at Howrah Beach' Sammy-Jo said.

'It's been great for building confidence' Chris says. The team has participated in team building activities including rock-climbing with other Greencorp teams.

'We have received training in First Aid, OH&S, weed and plant identification, propagation and disability training' they say. Erin, the team leader, elaborates, 'the team has completed a module where they researched suitable native plants for different settings and then designed interpretation signs'. At the conclusion of the project team members receive Certificate 1 and 2 in Conservation and Land Management.

Chris is keen to get into horticulture as a result of his Greencorp work. Sammy-Jo is less sure, but is interested in landscaping and has great potential as a graphic designer. And the best part of the experience for them both....'A day at Fortescue Bay'.



Green Corp team with team leader, Erin Flynn.

Warming to the Ice Plants

By Phil Watson

This article will feature in two parts due to its length. Part one will introduce some of the fascinating attributes of the ice plants, whilst part two will discuss the interesting culinary and medicinal history of the plants. Part 2 will feature in the Spring edition of UnderStories. (ed.)

Introducing the Ice Plants

The challenges of Global Warming are yet to be fully appreciated in relation to their potential impacts on our vulnerable indigenous vegetation communities and the habitat they support for our threatened flora and fauna. One predicted response to the gradual global warming will be a relentless search for tolerant species, suitable for our future landscape and revegetation sites which will be able to adapt to the harsher environmental realities. Fortunately members of the Ice Plant family have a series of rare attributes which will enable them to flourish in these predicted climatic extremes.

Known botanically as the *Aizoaceae*, (Latin for “evergreen” or “ever living”), the name reflects the ability of members to maintain green coverage of fleshy foliage whilst existing in the harshest and driest environments. There are over 2300 succulent, herbs and shrubs in the family from South African, Asian, North and South American with only 60 indigenous Australian species (4 Tasmanian species). Disturbingly already over 20 naturalised South African invaders thrive in Australia’s

harsher locations suggesting Climate Change may exacerbate their invasive potential.

The family is composed of 2 groups, based on the presence or absence of petal-like staminoides (large sterile stamen). The sub family *Mesembryanthemoides* has showy daisy-like flowers made of these brightly coloured staminoides typically seen in Pig Face *Carpobrotus rossii*, whilst the other sub family *Ruschioides* has small insignificant flowers which are brightly coloured on the inside as seen in *Tetragonia implexicoma*.



Carpobrotus rossii. Photo by Richard Barnes

Like many of the Australian species the Tasmanian representatives act as key framework species in saline wetlands and dry coastal communities. Local examples include the Pitt water and Lauderdale salt marshes as well as the remaining 100 kilometres of undisturbed Tasmanian sandy beaches exclusively vegetated by indigenous flora.

From an historic perspective immense significance can be directly attributed to two of the family’s indigenous species *Tetragonia implexicoma* and *T. tetragoniodes* (many common names apply such as Ice Plant, NZ Spinach, Botany Bay Spinach, Warrigal Greens and Cook’s Cabbage). It could be considered that these species are held directly responsible for the choice of establishing Australia instead of colonial African nations, as the preferred penal colony.

Adaptive responses to the Global warming challenge

Climate Change’s predicted warming, reduction of overland flows and reduced soil moisture will impose severe habitat limitations on our indigenous plants and animals. However certain plants within families such as the Ice Plants, Native Grasses (*Poaceae*) and the Cactuses (*Cactaceae*) will be competitively advantaged and potentially increase their

natural ranges. Consequently they will attract attention due to their tolerance and adaptability. An obvious example will be Kangaroo Grass, (*Themeda triandra* which benefits from a more efficient photosynthetic process (known as a C4 pathway) enabling it to flourish in the dry summer periods when most other competitive grasses withdraw into dormancy. Interestingly, recent observations suggest an increased richness of native grasses on disturbed dark-soil grassy woodland due to their exotic competitor grasses, such as Yorkshire Fog Grass, *Holcus lanatus*, and Quaking Grass, *Briza maxima* etc. withering and dying under drought stress.

Remarkably, Ice Plants have evolved a separate mechanism to be known as “Night-time breathers”¹ or technically Crassulacean Acid Metabolism (CAM) that will increase the plants adaptive capacity to Climate Change. By storing Carbon, in the form of organic acids produced during night time respiration they do not need to absorb Carbon Dioxide, by opening their stomatal pores. Hence CAM plants stop moisture loses through their pores during the heat of the day.

This endows them with added xerophytic abilities that enhance their succulency mechanism to accumulate moisture and halophytic characteristics to survive in highly saline areas.

A Family with many appealing Common Names

The family members are suitably bestowed with intriguing common names, most relating to their striking attributes which enable them to survive low moisture or high salinity conditions. The name of “Ice Plant” is linked with many family members mostly as a consequence of their leaves being surfaced with salt accumulating bladder-like cells that often sparkle like ice granules to reflect sunlight and reduce transpiration. This name is applied to the fleshy leaved South African Ice Plants (*Mesembryanthemum* sp. and *Lampranthus* sp) as well as previously mentioned *T. implexicoma*.

The aptly named “Livingstones” or “Pebbles” (*Lithops* sp.) and Livingstone Daisy (*Doroanthemum bellidiformis*) are robustly designed to mimic both the colour patterns and tough surface textures of surrounding stones and pebbles. This ensures survival during arid periods by imparting drought resistance and camouflage from foraging herbivores. During the rainy season when the desert is alive with edible vegetation they transform from their chameleon-like behaviour, into large perfumed boldly coloured daisy-like flowers in an attempt to gain the pollination services of passing insects or butterflies.

The term “Noon flower” is another popular descriptive name applied to family members such as the Australian Coastal Noon flower *C. glaucescens*, the Tasmanian salt marsh, Round Leaf Noon flower *Disphyma crassifolium*, as well as the many South African species such as Wiry Noonflower (*Psilocaulon tenue*), due to their habit of opening attractive blooms around noon and closing later in the afternoon.

The resulting pinks, yellows etc carpets are irresistible to their insect pollinators which are at their busiest from noon to the mid afternoon.

The less than attractive common name “Snot wort” (*Conicosa pugioniformis*) relates to this succulent’s slimy roots which surprisingly are valued as a South African bush tucker delicacy.

Robust landscape plants with weed potential.

Australia has approximately 25 exotic species recognised as environmental weeds, a number of which derived from naturalising around old settlements, especially near the coast.

The Tasmanian weed representatives including Noon Flower *Lampranthus glaucus*, Heart Leafed Ice Plant *Aptenia cordifolia*, Common Ice Plant *Mesembryanthemum crystallinum* and the South African Hottentot Fig or Sour Fig *Carpobrotus edulis* and the Chilean Pig Face *C. aequilaterus*. Of these, the later two present major concerns as they are either out-competing the native species or

¹ The term *night time breathers* was referenced from the Royal Tasmanian Botanical Gardens information sheet “The Century Plant”

are being inadvertently planted by unaware, enthusiastic bush regenerators. Their ability to release 100's of seeds when triggered by rainy spells from the fleshy fruit or establishes from fresh or even significantly dehydrated cuttings ensures they will remain a persistent threat. Given the recent enthusiasm for planting indigenous Pig Faces, it is important to positively identify the Pig face before planting. Remember, if it has a yellow flower err on the side of caution and check it is not a weedy Sour Fig!

Conclusion

As alluded to earlier, the Ice Plant family primarily consists of hardy and environmentally resilient plants. Their tolerance is a consequence of their efficient methods of seed dispersal, ease of propagation from cuttings or off sets, their succulence, pest and disease resistance, fire resistance, xerophytic and halophytic abilities all supported by their CAM metabolism. In light of the global warming impacts, it is predicted that their recent popularity as landscape, erosion control, bush tucker and revegetation species will increase.

Disappointingly these competitive advantages will also result in the prevalence of many more exotic members menacing indigenous vegetation communities as invasive weeds.

Growing season 06-07

The Roundup

This year the Network has undertaken a survey of growers to examine the outcomes of the 06-07 growing season. The survey was initiated following some feedback about a 'poor' season. 'Poor in what way?' we asked.

Overtime annual growing season survey results will help us all to learn more about the specific requirements of different species, and roughly determine expected survival rates. We will also be able to learn some tricks from those growers with consistently great results!

From a scientific perspective the survey is fairly rough and ready and therefore it is difficult to make any real conclusions about the 'poor' season. For example when looking at the cause of high germination but low survival in a species there are so many possible variables. Was browsing an issue, did germinants get too hot, not enough sun, not enough water, was it the potting mix, did people count thinning??? The list goes on.....

The survey has produced a valuable baseline and over time we will refine the survey so we can compare within and between years and determine if the performance of a species is different from the average.

This year it was thought that the potting mix in the south may have been of a poorer quality than in previous years resulting in good germination but very slow growth of seedlings. The survey results are not conclusive, however some growers have reported excellent results following re-potting seedlings into new soil.

Some interesting results:

Species with very poor germination:

- ♦ *Banksia serrata*
- ♦ *Helichrysum scorpioides*
- ♦ *Helichrysum scutellifolium*
- ♦ *Pultenea daphnoides*

Species slow to germinate:

- ♦ *Bursaria spinosa* (Autumn)
- ♦ *Acacia mucronata* – 16wks
- ♦ *Banksia marginata* – 6-19wks
- ♦ *Billardiera longifolia* – 16wks
- ♦ *Bossiaea cinerea* – 11wks
- ♦ *Gahnia grandis* – 13wks
- ♦ *Gompholobium huegelii*

- ♦ *Leptospermum lanigerum* – 16-19wks
- ♦ *Pultenea daphinoides* – 19wks

Species with good germination but low seedling survival

- ♦ *Acacia genistifolia*
- ♦ *Acacia verticillata*
- ♦ *Bedfordia linearis*

If you are interested in receiving a spreadsheet of the results please contact Ruth.



Planting Time Tips

It is planting time again, and no doubt some of you will have already started planting out your tube stock. Here are a few tips to ensure your seedlings get the best possible start.

Preparing the site

WEED control is essential. It may involve scalping the soil for small-scale plantings, or for larger scale paddock revegetation, involve ripping then spraying or cultivating after the autumn break.

Remember, compact planting areas are better than narrow ones as they will reduce the edge effects on vegetation once it establishes.

SOIL needs to be broken up to allow the roots to penetrate. In a paddock this may involve ripping (except in sandy soils and cracking clays) or for smaller scale plantings digging holes deeper and wider than the root ball of the plant. Shape the hole into a bowl shaped depression to encourage water to flow towards the plant.

When to plant

The key is adequate SOIL MOISTURE. Depending on location and rainfall, planting

can commence from late April until September (in wetter areas only). Planting in Autumn/ early winter allows plants to establish strong and vigorous root systems before the soil dries out. If you are prepared to water you may be able to plant beyond these times.

How to plant

Give plants a good soak before planting. Remove the plant from the tube by gently squeezing the tube at the base to loosen it and then upending the pot and tapping the top edge allowing the plant to slide out. NEVER pull a plant out of its pot!

Ideally a plant will have equal ratio of root to shoot, if plants are too tall you may need to trim them, ensuring that there are enough leaves to survive.

Place the plant in the hole to a depth such that the soil will just cover the top of the rootball as it did in the pot. Do not plant too deeply. Backfill around the rootball and press/step firmly around the plant to eliminate large air pockets. Good root-soil contact will ensure the roots can access water.

If rain is not imminent, thoroughly water plants (this will also help to eliminate air gaps).

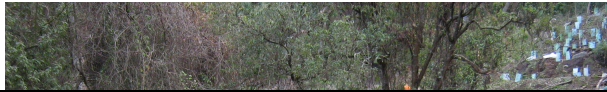
Protect your plants

Considering the effort and cost you have invested so far it is worth protecting your plants.

If weeds are a problem use MULCH MATS around each plant. Follow up weed control is often required.

If browsing animals and wind are an issue use a PLANT GUARD/mesh sock and/or fencing. To reduce costs, guards can be made from recycled milk cartons.

HAPPY PLANTING



Conserving the Tassie ray flower

A rare endemic shrub, the Tasmanian ray flower (*Cyphanthera tasmanica*) has caught the attention of the Tasmanian Millennium Seed Bank team.

The Tasmanian ray flower is listed as rare under the Tasmanian Threatened Species Act. The rarity of this small shrub has enticed James Wood from the Seed bank project to find a novel way to source a decent amount of seed from the ray flower. For a healthy, long-term collection the project needs to collect around 10-20,000 seeds from at least 50 individuals within a population.

The rarity of the ray flower means it is not viable to collect enough seed from native populations, so James has set up a Seed Orchard Program. The Understorey Network has been asked to participate in the program. Ruth received an overwhelming response from members interested in participating. Participating members will receive ray flowers propagated vegetatively and be asked to collect any seeds. The seeds will then be stored under ideal conditions in the Tasmanian Seed Conservation Centre at the botanical gardens as an insurance policy against local species extinction. The seed orchard may also allow the staff to facilitate a research program to fully understand the germination requirements and also to look at seed longevity.

The lowdown on the Tasmanian ray flower

- ♦ Small, erect grey green shrub with white star-shaped flowers.
- ♦ Grows to a height of between 1-3m
- ♦ The leaves are between 1-4 cm long with a short stalk, blunt tip and a margin that is bent backwards towards the underside of the leaf. The undersides of the leaves are covered in microscopic star-shaped hairs giving the plant a rough sandpaper feel.
- ♦ The fruit is a reddish-brown capsule between 4-5 mm in diameter. When the seeds are ripe the capsule splits open and the seeds drop out.
- ♦ *Cyphanthera* is a short lived shrub (~10 years) whose appearance in the wild seems to be linked with fire events.
- ♦ Found in gullies and hillsides of the east coast of the state.

Note: This species was previously called *Anthocercis tasmanica*

Extra Hands for renovating crayfish homes

What is small and colourful but can only be seen if you to dig six feet down? It's the Mt Arthur burrowing crayfish or to give its correct title *Engaeus orramukunna* (orramukunna is an aboriginal word for Pipers River)!

This crayfish doesn't live in streams, but creates a moist habitat by digging a burrow down to the water table. An indication that it is present, is a hole in the ground, approximately 5cm wide and perhaps some freshly excavated dirt shaped as a chimney of pellets. However, to take a closer look at the beastie requires a lot of energetic digging, as its burrows can be deep and multi channelled.

The Lilydale Landcare Association has received a federal government envirofund grant to help conserve the habitat of this unusual species of freshwater crayfish in neighbouring properties along a tributary of the Pipers River. The burrows are found in swampy paddocks used for grazing cattle. To prevent trampling of the burrows, and to provide a better habitat, stock will be excluded from areas with burrows, weeds such as willows removed from the creek, and native plants used to replace the weeds.

As this little crayfish only occurs in the area around Mt Arthur it needs all the support it can get to survive – especially as it is now listed as a threatened species.

The Understorey Network recently hosted an Extra Hands field day planting tubestock, to support the Lilydale Landcare Association with suitable plants for revegetation. Participants first went for a walk to Lilydale Falls, to gain an idea of species suitable for planting along the waterway. Following the walk everyone gathered at the Village Green and planted seed into tubes filled with potting soil. Altogether 250 tubes were filled with a range of seeds from lomandra to teatree – hopefully they will be ready to plant in the ground by Autumn next year, and the burrowing crayfish will thrive in its newly renovated habitat! *By Ruth Mollison*



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What's Happening

Planting at MURRAYFIELDS, Bruny Island .

Volunteers are required to help plant out revegetation areas on Murrayfields. Several growers have grown for this stunning property on Bruny Island.

*Date: Friday, 5th of October
11am to 3pm*

Planting on a Colebrook Farm

Help plant out the banks Coal River on a large grazing property at Colebrook. There will be Willow tree bonfire in the evening to warm up.

Date: Saturday 25th of August, 2pm to early evening.

*Please RSVP for more information :
secretary@understorey-network.org.au
or ph (03) 6234 4286*

Has your newsletter got a RED DOT on the front?

If it has, your membership is due!!

Don't miss out on the Spring grower's scheme – fill in your Membership form and send it in with the growers scheme registration form.

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