

# *Eucryphia*



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*Gaultheria hispida*

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## Membership Subscriptions

Regular (individual) including Organisations	\$40.00
*Concession membership	\$37.00
Each additional adult included in Regular or Concession (Household Membership )	\$9.00
Each additional child included in Regular or Concession (Household Membership )	\$1.00
**Overseas Member or Overseas Organisation	\$55.00
***Subscription for <i>Australian Plants</i>	\$14.00

\*Concession subscription rates are available to holders of a Pensioner Health Concession Card issued by Centrelink or the Department of Veteran Affairs or of a Student ID Card.

\*\*Paid by Banker's Draft in \$Australian.

\*\*\*Subscription payments may also be made directly into the Society's account at a Westpac bank or by Electronic Funds Transfer.

**Please identify payment with your surname or membership number.**

Account details: Australian Plants Society Tasmania Inc.;

BSB: **037015** Account number: **194644**.

\*\*\*\*It is a decision of Council that the subscription to *Australian Plants* entitles a member to receive only those issues that are published during the members subscription period. Purchase of back copies may be arranged by contacting your Group secretary.

## Membership Badges and Cards

Membership Badges are provided to all financial members and Membership Cards are re-issued to financial members at the time of membership renewal.

Inverawe Native Gardens, Margate offers half price entry, Jolly Swagman's Camping World, Hobart and Plants of Tasmania Nursery, Ridgeway offer 10% discount on non-discounted items to financial members on presentation of a valid Membership Card.

Substantial discounts are offered on book purchases through the Publications Officer.

## Membership Renewals

Your subscription expiry date is shown on the mailing envelope and automatic reminders will be enclosed near expiry date. Please return the reminder with your payment to facilitate the work and record-keeping of the Treasurer and the Membership Officer. If payment has already been received this is reflected in the expiry date on your mailing envelope and you do not need to send any remittance until you next receive a reminder.

An application form is included on page 13 for use in introducing new members to the Society.

Please note the requirement to unambiguously identify yourself and the subscription type if payment is made directly into our bank account.

Failure to do so can cause substantial difficulty for the Treasurer and Membership Officer.

## Membership

A new **Membership Officer** is required as Frances Taylor will be stepping down after the March 2018 AGM.

Fran is happy to travel anywhere in the state to train the new officer. If you would like more details phone Fran 0408 929 833 or 6376 1338

### Recent New Members

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### From the Editor's desk:

Firstly, my many thanks for all the work the Journal team have done behind the scenes this year: Heather for proof-reading so well, Fran for reading mailing lists and envelopes, Gill and Blane for filling and posting envelopes, and most importantly my faithful contributors. Thank you one and all.

The last quarter has been packed full of events for spring, and the lead-up to Christmas will be hectic for some also, I suspect. Have a restful season, and for those involved in the Conference, enjoy, enjoy! I encourage you all to check out the webpage, and put your comments on the members-only page. We welcome all feedback. Happy Christmas to all, I wish you all a good rain on your gardens for the summer months.

*Mary Slattery, Editor.*

### Red Face Department

Last issue I mistakenly credited B. Champion with photos of *Leptecophylla* on p 14d.

My apologies to D. Burns, whose photos they were. And apologies also to M. Killen, for not attributing to her the front cover photo.



## President's Plot

Margaret Killen, President.

We continue to focus on the ANPSA Conference, which we (APSTT) are hosting in Hobart in January next year, and progressing the Strategic Plan with our Tasmanian Council and other member based groups. With the flower show Blooming Tasmania in Launceston and the various activities around the State, including plant propagation, plant sales, walks, meetings and excursions, there is a lot going on and a lot to be part of.

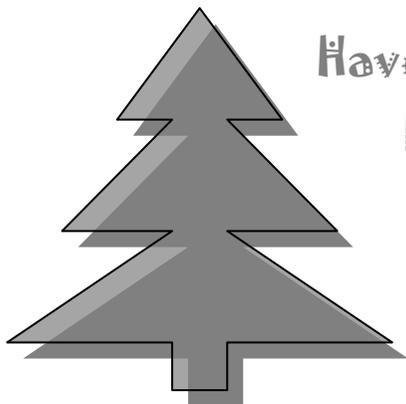
As discussed in the previous edition of Eucryphia we have been focusing closely on the membership aspect of the Society this year. From the recent membership statistics, there has been an increase in "total memberships" of 17% in the past year and a half. Much of this increase is the result of the initiative of giving a discount to people who join as new members at a public event.

There is evidence that many people are interested in joining APSTInc so we can disregard the notion that people are not interested in joining societies or being part of our Society. We aim to achieve sustainable membership levels by working through the Strategic Planning Actions in the Membership Priority Area, to ensure that we retain those members by giving them good experiences and offering reasons to stay.

Planning for the Conference is in the final stages as discussed in the report on page 8.

There is a little book that I often refer to when looking for quick botanical and related definitions which is *The Language of Botany* by C. Debenham. This book was first published by the Society for Growing Australian Plants (SGAP) in 1962 and a second edition followed in 1971. Some classification details are out of date but the vast majority of the information is sound. Although I can find most things I want to know botanically on the internet, it is sometimes helpful to be able to page through the vast treasury of information in this publication to improve my own. It has been out of print for some time but there are copies available through the internet and if you come across it, I highly recommend making a place for it in your library.

The special plant from my garden for this edition is the brilliant and showy *Myoporum floribundum*. At this time of the year, late spring, this shrub puts on a magnificent display of white flowers which are borne in clusters along the top of the horizontal branches and the narrow leaves droop beneath. The spent flowers then fall like snow on the understory.°



Have a safe and happy  
Festive Season



Happy New Year

## Council Notes

*Jill Clark, Vice President*

Her Excellency Professor the Honourable Kate Warner AC, is now the Patron of APST, and will remain the Patron for the term of her appointment as Governor. Hobart group will donate a copy of *Tasmania's Natural Flora* and a set of *Identikits* to be sent to Government House. On the first evening of the Conference, registrants who wish to may attend a reception at Government House.

Dick Burns has compiled an excellent leaflet on Public Native Gardens of Tasmania, which will be available for groups to use at plant sales and on similar occasions. 2,000 copies are to be printed.

A reciprocal arrangement is being investigated whereby Journals such as *Eucryphia* are sent to other Plant Society webmasters, from where they would be available to all members.

Membership Officer Frances Taylor will resign at the AGM.

Tasmania has made two nominations for the Australian Plants Awards.

The Membership Officer received a letter from a member in the South who joined for \$10.00 but has not renewed. She says she is just an 'ordinary gardener' who is planning a native garden but has never grown native plants before, so is seeking help. She enjoyed the garden visits and articles by Bruce Champion and Phil Watson in the Journal but other than that found the Journal rather 'dense'. Council feels more garden visits are needed in group programmes,

The APST website, [www.apstas.org.au](http://www.apstas.org.au), has received more visits since the Hobart site has started to be included. Check it out, especially the members only section, where you can have your say.

A native garden is being developed at the Arboretum in Canberra, to be called Terra Australis. It is designed by Lawrie Smith from APS Queensland and will feature plants from all regions of Australia. APST is making a donation towards the project which will hopefully be open before Christmas.

At the Conference the ANPSA Executive will be provided by Tasmania. National President will be Riitta Boevink (NW), National Secretary will be Mary Slattery (NW) and National Treasurer will be Rosemary Verbeeten (N). Lynne Mockridge (N) will be Tasmanian delegate. A calendar is being produced for the Conference, which can be pre-purchased by Group members.

Please send to David at [davidcmboyer@gmail.com](mailto:davidcmboyer@gmail.com) any suggestions you may have about books that could be sold at the conference. For Publications in general consult the Blackgum website. CSIRO also have a pamphlet about books on ornithology for those interested in birds.

Blooming Tasmania was a great success. Many posies were sold, and a couple of new members joined, but the main success was getting APST into the public view. A double site will again be booked for next year.

Registrations for the Conference have reached 170. All tour bookings are now closed. The speaker programme is on the website.

Strategic planning is proceeding, and facilitator Peter Edwards spoke on this to Council. Check out the report in this issue.

The Macquarie Point Development in Hobart is proceeding. APST have put in a submission.

We have had very productive Council meetings, of which there are just four in the year, three held in Ross. Car pooling is practised so expenses are shared and one always has company for the trip. The AGM will be held on Saturday the 24<sup>th</sup> March 2018. ©

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## Highlights from Study Group Newsletters

Riitta Boevink, Study Group Liaison

Note that most of the study group newsletters can be read on the ANPSA website. The current year issues are available to members only, but many study groups do not charge membership fees if you read your newsletter on-line. Have a look! There is a wealth of information in them, generally accompanied by wonderful photography.

### Correa SG newsletter No 56 Oct 2017

The leaders report a harsh winter with 14 frosts.

A report on the July 2017 Correa Crawl to the Grampians. On top of Mt William, on a chilly morning at over 1000m altitude they found Correa *Laurenceana* var. *grampiana* plus *Correa aemula* and *C. reflexa* but with no flowers in them. Day 3 was Mt. Arapiles and the Little Desert. They found several flowering plants of local form of *Correa reflexa* var. *scabridula* as well as wide variety of other winter flowering plants.

A team of botanists found four rare plant types in Bombala that had not been seen for decades. They included Genoa River Correa first discovered by Mueller in 1860. Cuttings will be taken at the ANBG as an insurance against extinction.

### Hakea SG newsletter No 65

Paul Kennedy, Hakea SG leader, also lamented a very cold winter followed by a wet spring. Paul and Barbara spent most of June and July in Northern NSW and Queensland to escape the cold and visited some members gardens. This included Phil Trickett and Catriona Bates garden, described as magnificent. Their Hakeas are mostly grafted. Phil is experimenting with grafting more Hakea varieties. Paul Kennedy's Hakea collection now includes 162 species out of the possible 169.

There are reports from members and a brief description on the Inverawe garden.

Next Hakea crawl is planned to the Jerramungup-Albany area in mid to late September 2018.

### Fern SG newsletter No 139

Extensive programme for fieldtrips for South East Queensland Region and the Sydney regions. It includes descriptions by Claire Shackel on a group visit to her own garden as well as visits to Brisbane Koala bushland and to Mr Mee. Interesting descriptions on the multitude of ferns observed.

Peter Bostock writes about an excursion to the Gold Coast Botanic Garden in June. He writes that they began by examining the ferns cultivated by Gene Rosser, who lives on the edge of the gardens and who donated the land on which the gardens are situated.

### Acacia SG newsletter No 137 June 2017

There is a description of *Acacia phasmoides* with the intriguing common name the Phantom Wattle. The name refers to its rather ghost-like growth habit. Fine phyllodes and the habit of growing in thickets with other shrubs make it very hard to find outside the spring flowering period. It is another rare species worth cultivating to lessen the risk of extinction.

Some Acacia species have become weeds outside their natural habitat. Three species are described: *Acacia decurrens* in Indonesia, *Acacia longifolia* in the Grampians and *Vachellia nilotica* (formerly *Acacia nilotica*). The last one is now one of the worst weeds in Western Queensland and infests an area of 23 million hectares, an area the size of Victoria.

### Acacia SG newsletter No 138

The Phantom Wattle *Acacia phasmoides* has intrigued several members and the

## INVITATION

Open to all members

Please join us at the **APST Inc.** 2018 Planning Day  
Saturday, 24 February, 2018  
Man-o-Ross Hotel, Ross

Objective – update and finalise the draft Strategic Plan and form strategic sub-committees to action priority areas.

Skills and experience in planning are not required, but a willingness to work together, and to be open to new ideas and to contribute, are.

To express your interest please email  
president@apstas.org.au

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### Study Group Newsletters

(continued from previous page)

conversation continues in this issue. Neil and Wendy Marriot have grown it for many years. Their largest plant was burnt out in a bushfire but hundreds of shoots appeared around the original plant, often metres away. Neil says the name 'Phantom Wattle' was given to the species by the late Jim Willis, former head of the Melbourne Herbarium. For more detail on this ghost story you need to read the original newsletter!

#### Garden Design SG newsletter No 99

This is a very extensive issue of the newsletter and well worth studying.

The retirement of Diana Snape as the leader of the GDSD in Melbourne is noted and her contribution to garden design with Australian native plants recognised. To quote: Before her book, produced in collaboration with the Melbourne group of the GDSD, there was little information on how to use Australian plants in gardens and the result was often a 'bush garden' which did not satisfy many people.

Illustrated articles on garden visits in Victoria, Queensland and Canberra.

A major article on the principles of garden design by the Queensland group.

A detailed lesson on how to draw garden plans using Microsoft Word.<sup>©</sup>

# 'Grass Roots to Mountain Tops'

**ANPSA Hobart Conference 2018 – Jan 15-19, 2018**

*M.Killen, Convenor*

In preparing for the upcoming Conference the Committee has used a number of initiatives so that it could complete the preparations on time and near budget. The first was to engage a conference organiser, Conference Design in Hobart, to look after the finances, GST arrangements and registrations. As I have often reported, this has been a very successful relationship with excellent support and guidance.

Other initiatives are to do with reducing waste using the Environmental mantra of Reduce, Reuse, Recycle. Early feedback from previous conference attendees stated that the conference bags were either the wrong size or shape and that not many people used them. In line with this we have reduced the weight and increased the usability by using Kraft brown paper bags with twist handles, which are easy to carry, lightweight for travelling and reusable. Likewise, we are not providing everyone with the traditional mugs, except on one tour, as for the most part mugs for morning and afternoon teas will be part of the catering. Another feature of current conferences and meetings is the endless provision of water bottles. To redress this, Aurora Tasmania are generously supplying a reusable water bottle for every registrant.

This has been the busiest of years for the Conference committee of 7 between getting the tours and speaking programme finalised, organising volunteers and having the registration numbers filled. Final registrations close on December 15. We are excited about having this National Conference in Hobart and hoping it will lift our local profile. The reception at Government House is now on the Government House website for all to see.

Highlights include a ceremony by indigenous leader Dewayne Everettsmith, opening by the Tasmanian Governor Her Excellency Professor the Honourable Kate Warner AC, Key-note speaker Professor Jamie Kirkpatrick speaking on Alpine vegetation in Tasmania. and the A J Swaby Lecture with the topic *Going to seed and proud of it: The Tasmanian Seedbank Story* by RTBG specialist James Wood. Daily excursions will take participants to a variety of locations following the Conference theme and speaker's topics. A reminder that the Swaby Lecture is a free public event, if you are not able to attend the Conference you are welcome to this Lecture which is at 7:30pm Tuesday 16<sup>th</sup> Jan at Wrest Point, Sandy Bay, Hobart. Please contact Mary Slattery to register your interest.

The majority of tours have filled or closed but there are two post-conference tours which have vacancies. The Alpine to Rainforest (AR2) which will close on December 15 and the Warra Supersite (WS1) tour closing at the end of December, see table below for details. Please contact Mary Slattery if you would like to join these tours.

Dates – January 2018	Duration	Abbreviation	Name	Cost \$
Saturday 20 – Wednesday 24	5 days	AR2	Alpine to Rainforest	915
Sunday 21	1 day	WS1	Warra Supersite	95

Big events such as this rely heavily on the help of volunteers so if you have not been involved, or put your hand up, and can assist, please contact Jenny Boyer our volunteer coordinator to register your availability. ☺

Committee: Riitta Boevink, David Boyer, Jenny Boyer, Noel Kerrison, Jill Clark, Mary Slattery and myself.

# Strategic Planning for our future

## Progress Report November 2017

*Margaret Killen, President*

As you may know, in May 2016 a group of committed members held a Strategic Planning workshop, to map-out our future direction. At that workshop we developed 9 key priority areas to focus on over the coming five years, to 2021.

1. Communication
2. Membership
3. Society Governance
4. Partnerships
5. Technology
6. Marketing
7. Education
8. Events and Activities
9. Conservation

The draft Strategic Plan is on the APST Inc. website under Events.

Recently we have focused on Membership and Partnerships. Governance has taken a back seat until we form a sub-committee to attend to this area.

**In the membership area**, we have:

- Introduced a one-year half price subscription for new members when they join at public events.
- Collated the feedback from the new members form and are planning ways to ensure their needs are met, within the Objects and resources of the Society.

**Outcomes** - Over the past one and a half years there has been a 17% increase in total membership, this evidence shows that there are many people interested in joining the Society. These are the results of the question *What would you like to gain from your membership?*

Information about Native Plants -75% events excursions and volunteering -16%  
meeting with like-minded people - 9%

**In the Partnership area**, we have:

- Engaged a Patron to assist in raising the profile of the Society in the community and to engage an audience we don't have common access to.
- Submitted a document to register our interest for the interim activation proposals on the former Cold Store site at Macquarie Point Hobart, Tasmania.
- The Northern Group has plans to partner with the local Migrant Resource Centre to hold a number of events during 2018.

The next planning day will be at Ross, on Saturday 24<sup>th</sup> February 2018, please refer to the invitation in this edition if you would like to join us. ☺

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## Blooming Tasmania

Rosemary Verbeeten

Last year Blooming Tasmania Flower and Garden show at Albert Hall in Launceston was held for the first time. APST had a single stand and because of the success of that, a double stand was booked for this year. The Show was held over the weekend of 24<sup>th</sup> and 25<sup>th</sup> September.

Bruce Champion was nominated as Convenor, with Jill Clarke, Lynne Mockridge and Rosemary Verbeeten to complete the team. The display was based on last year's with improvements. It was all planned, who would do what and get what, but this was thrown into chaos on the Thursday morning before the show. Bruce Champion was to drive up from Hobart with the new banner, books for sale, photographs, laptop plus a few more essentials, but, first he had to go to Knocklofty Reserve to pull out a few weeds, as one does. Well, what do you know - a little tumble led to a broken arm which was to be set the next day. One cannot drive with a broken arm so what were we to do? After a lot of discussion and phoning, Jill's son Alister, collected the things from Bruce's house about 6 pm Thursday night, drove up with them, slept at his Mum's and got up early next morning to drive back to Hobart to be at work on time as usual. APST owes a big thank you to Alister for this effort.

Flowers were picked from the Northern Group member gardens on the Thursday and delivered to Jill's garage for sorting. Her garage soon looked like a florist shop. On Friday morning, Nigel Keefe came with his ute and got the Northern Group's three inter-connecting screens and a few other things that do not fit in little cars. We all met at Albert Hall early, before 9am, because our time to use the car park was 9am-10am. Ken Saunders came in to help with the set up. Rosemary's husband Alf was also involved. We soon unloaded the screens and all the hardware, and set up.

Dick Burns' 13 '*Famous Botanists and Their Tasmanian Plants*' were displayed on the panel on the right. These were to prove very popular with the attending public. The three groups were on the three interconnecting panels at the back right hand corner. Photographs of their local gardens, propagation sessions and group outings were displayed. The black cloth sewn together by Jill fitted the white table beautifully which was placed to the left of centre of the site. In the left hand corner the banner from last year advertising APSTI was placed. Photographs of 'Tasmanian Public gardens with Australian Plants' were on the left panel. After this was all set up the men departed. Jill and Rosemary went home to Jill's for lunch, collected the buckets of flowers and went back and did the floral display. It was all coordinated in black buckets. We had expert help from Pat Wellington of the Launceston Horticultural Society in putting the display together. She was amazed at the variety of material. The table was set up with the books and identikits for sale, plus brochures and bookmarks that were to be free. Mid afternoon we were finished and we went back to Jill's to make posies for sale. On the Saturday these were displayed in the birdbath in one corner and in a shallow copper pan on a lovely painted tiled table in the opposite corner. Also on the table was a lovely *Dendrobium kingianum* orchid in flower.

Come Saturday it was busy from the opening of the doors. About 11 o'clock an alarm started sounding and people ignored it. It was eventually realised it was the fire alarm and Albert Hall was evacuated. It was not pleasant outside as there was a cold drizzle. The fire brigade came, checked the Hall out and the public and exhibitors were eventually allowed back in. It soon got busy again. The posies soon sold out. They were \$1 each. People were constantly commenting on the variety of flowers and the wonderful colours. We needed 4 members at any one time on the stand throughout Saturday to deal with all the inquiries. On the Saturday night at Jill's house, Jill and Margaret Killen made some more

posies. Rosemary and Alf went to John Duggin's to pick some more flowers so Rosemary could make more posies; her kitchen was turned into a makeshift florist shop that night.

On the Sunday there were fewer people but it was still busy especially in the morning. Jill brought in a tray of paper daisies in tubes to sell. By late morning all the daisies and posies had gone. Three members were needed on the stand throughout the day. Come 4 o'clock the show closed and we soon got to work and dismantled the stand and packed up. We all went home thoroughly exhausted.

Jill and Rosemary were there full time both days, with Daphne Longman, Margaret Killen, Lynne Mockridge, Janet Hallam, Louise Skabo, Sharon Percy, Ken Saunders and Rütta Boevink helping to answer all the inquiries. A big thank you to Nigel Keefe for helping with the setup. Overall it was a very successful show with \$354.50 in book sales plus the posies and daisy sales. Four new members were signed up. A big thank you to everyone who helped to make it so successful.

Next year is already in the planning. We now know we need at least 100 posies per day so brush up on your florist skills. We also need four members on the stand at all times to handle inquiries and to help with sales. Mark the 4<sup>th</sup> weekend of September 2018 in your diary and come and be part of the team. It will be a very enjoyable and rewarding experience. ☺

**Don't like driving at night?  
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All welcome.**

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## Recent Name Changes

Dick Burns, Nomenclature Officer

The 2017 edition of *A Census of the Vascular Plants of Tasmania, including Macquarie Island* is available on line. There are entries for some exotic species and thankfully some deletions including *Hakea laurina*.

In the last issue of *Eucryphia*, I outlined the changes in the genus *Leptecophylla*. As well, there is a newly-named *Pimelea* and changes within the paper daisies that are worth a bit of sorting out.

### **Pimelea leiophylla**

In the 1990s, I was on a summer trip to Schouten Island. As the group climbed towards Bear Hill, I spotted a *Boronia* that looked a bit different. After seeing that the granite tor didn't look much like a bear close-up, we cut across heading for Mount Story. In a saddle there were two erect bushes of a beautiful greyish *Pimelea* that I knew wasn't in the Student's Guide. As soon as I could, I raced down to Hobart to tell of my discoveries to the Tasmanian Herbarium. It was somewhat deflating to be told by Alex Buchanan that their group had been on Schouten Island a few weeks before and had also spotted the *Boronia* and *Pimelea*. The first was soon named *Boronia rozefeldsii*, but the *Pimelea* has only recently been named.

I wrote about them, along with some other interesting recent discoveries in *Australian Plants: 'Some New Attractive Tasmanians'* vol. 24, pp. 3 – 11, March 2007. Both would make great garden plants.

Freycinet Peninsula is becoming a relic hot-spot for plant species. Many years ago on Schouten Island, I was with a bushwalking group hurrying across the granite side of the island when a small spikey-leaved plant flashed past – later I recognised *Isopogon ceratophyllus* in a photo, but severe bushfires have swept across that area since.

Alan Gray and Matt Baker, who described *Pimelea leiophylla*, recognised that this new species had closest affinity to the Tasmanian highland species, *P. sericea*. It differs in the following ways:

It has an open, sparsely branching habit (the plants I saw were narrow-erect). *Pimelea sericea* is many-branched and compact.

It grows on granite-derived soil, *P. sericea* occurs on dolerite in montane habitats.

Its leaves are arranged on the stem opposite and decussate (each pair is turned 90° to the pair below), less crowded than *P. sericea*.

The upper surface of the leaves has silky white hairs. *P. sericea* lacks hairs on the upper leaf-blade.

The underside of the leaves is sparse and silky-hairy. *P. sericea* has similar hairs, but the covering is dense.

The flower-head has more individual flowers than *P. sericea*.

### **The genus Xerochrysum**

This genus of paper daisies is described in *The Student's Flora* within the genus *Helichrysum*. Wikipedia describes *Helichrysum* as a 'wastebasket genus', a refuge for daisies with flower heads surrounded by coloured papery bracts.

The species that was first named is *Helichrysum orientale* which occurs naturally in North Africa, Crete and other areas around the Mediterranean Sea. Given that North Africa was on the opposite side of Gondwana from Australia and Africa separated from Gondwana some 100 million years ago, the extreme distance and time, as well as the intervening changes in habitat, provided many opportunities for evolutionary change.

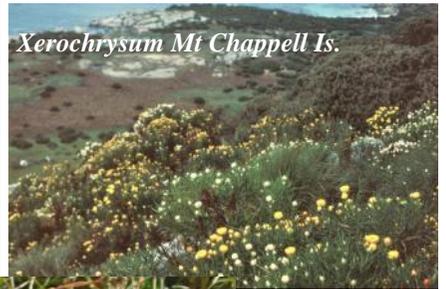
Of the 32 species of *Helichrysum* described in *The Student's Flora*, only two remain in that genus, *Helichrysum pumilum* with two subspecies and *H. leucopsidium*. One *Gnaphalium* species has been assigned to the genus, currently *H. leucoalbum*.



*Xerochrysum papillosum*



*Xerochrysum colbertianum*



*Xerochrysum Mt Chappell Is.*



*Xerochrysum alpinum*

All photos on this page are from 'Recent Name Changes' page 13.

Photos:  
© D. Burns



*Verticordia nobilis*

**Front Cover:**

*Gaultheria hispidula* as seen on a recent garden visit, see page 34. Photo ©M. Hosford page 3

Shrubby species are now in the genus *Ozothamnus*. It is some time since some mostly herbaceous species were assigned to the genera *Argentipallium*, *Chrysocephalum* or *Leucochrysum*. More recently, I outlined the reassignment of *Helichrysum scorpioides* to a new genus *Coronidium* (*Eucryphia*, Dec 2014, vol. 21 no. 4, p. 10). The perennials or annuals with relatively large flower heads surrounded by large bracts are now *Xerochrysum* species.

The 2017 edition of the Census lists nine species of *Xerochrysum*. *X. bicolor*,

*X. milliganii*, *X. papillosum* and *X. subundulatum* are described in Curtis within the genus *Helichrysum*, the last as *Helichrysum acuminatum*. The other five species have been described since, some in a paper by Paul Wilson, published in 2017. It is best to give a brief outline of each species anew. For those needing a fuller description, the paper is available online.

For field identification, the species can be grouped into two, either branching from the rootstock to grow shrub-like, or with a single stem often arising from a basal rosette of leaves.

## 1 Branching shrub-like species

### *Xerochrysum viscosum* (i) and *Xerochrysum bracteatum*

**Note:** Paul Wilson's paper does not list *X. bracteatum* as a Tasmanian indigenous plant and the 2017 Tasmanian Census retains it as occurring naturally. There is a brief discussion in the paper (p. 23) about possible confusion with other species or its introduction.

Both species are slender and erect, either annual or perennial, reaching 80 cm high and have yellow floral bracts. A key difference for *X. viscosum* is that both stems and leaves are viscous; if there are hairs on stems or leaves, they are sparse. Leaves are very narrow due to the blade being revolute. *X. bracteatum* is more hairy and its leaves are broader. Mention is made of *X. viscosum* being found along roadsides, so this could be the species that a group of us saw growing prolifically along Crotty Road near Queenstown one summer.

### *Xerochrysum papillosum*

The original material for this species was collected by Labillardière from around Recherche Bay. Leaf shape varies in specimens with collections made further north up to the Bass Strait islands. Paul Wilson suggests hybridisation may have occurred with either the above-mentioned species or *X. bicolor*. Leaves are up to 10 cm long, generally linear to narrowly elliptical. Stems and leaves are rough to touch because of glands or hairs. The floral bracts are white to pale fawn. It occurs in coastal habitats.

### *Xerochrysum bicolor*

This species also prefers coastal habitats. Paul Wilson lists many specific features, but in the field, those that distinguish it from *X. papillosum* are the leaves which are broader (elliptical to ovate and the bracts that are bright yellow.

One November long weekend I was wandering over Mount Chappell Island, collecting for the Australian National Botanic Garden while the rest of the party were measuring and tagging the 2 metre tiger snakes. On one side of Mount Chappell I encountered a field of paper daisy bushes, some with bright yellow bracts, often streaked with brown, some with white bracts, many bright pink on the underside. I assumed I was collecting a varied-colour single species, but I could not determine the species using Dr Curtis' key. It seems now that *X. papillosum* and *X. bicolor* were growing happily together.

## 2. Single stem

### a. Flowers with white bracts

#### *Xerochrysum collierianum* and *Xerochrysum milliganii*

*Xerochrysum milliganii* was described in *The Student's Flora* as *Helichrysum milliganii* (Part 2, p. 330). *X. collierianum* was described in 2004. Paul Wilson gives its habitat as

(continued on page 16)

## Calendar for 2018

*This Calendar of events is compiled from best available information supplied by Groups and Council but is subject to change. To avoid clashes that may limit opportunities for all members to participate, event organisers are requested to consult this Calendar when finalising arrangements.*

December	13	Wednesday	Hobart	Kingborough Day Meeting
December	19	Tuesday	Northern/ North West	General meeting
December 21	21	Thursday	North West	Propagation
January	4	Thursday	North West	Propagation
January	6	Saturday	Hobart/North	Propagation
January	9-13			Pre-conference tours
January	15-19		Wrest Point	ANPSA National Confer-
January	20-26			Post-Conference tours
January	23	Tuesday	North	Working bee, Heritage Forest
February	3	Saturday	Hobart/North	Propagation
February	7	Wednesday	Hobart	Kingborough Day Meeting
February	14	Wednesday	Hobart	General meeting
February	20	Tuesday	North/North West	Annual General meeting
February	22	Thursday	North West	Propagation
February	27	Tuesday	North	Working bee, Heritage Forest
March	3	Saturday	Hobart/North	Propagation
March	7	Wednesday	Hobart	Kingborough Day Meeting
March	14	Wednesday	Hobart	AGM
March	20	Tuesday	North/North West	General meeting
March	22	Thursday	North West	Propagation
March	24	Saturday	All members	APST inc. AGM

Lynne Mockridge, who is re-launching the 'Plants in containers' study group, is looking for photos of plants in containers to display at the Conference.

If you have any, or have friends with some, please get snapping and send them asap to Lynne at

[lynnem@timeclocks.com.au](mailto:lynnem@timeclocks.com.au)

Australian Plants Society Tasmania Inc  
**Annual General Meeting**

The Annual General Meeting of the Society  
will be held on  
24 March 2018 at 11.00 a.m.  
at the Kingston Primary School, Kingston

Agenda

- 1. Welcome**
- 2. Attendance and apologies**
- 3. Confirmation of Minutes of 2017 AGM**
- 4. Business arising from the Minutes**
- 5. President's report**
- 6. Financial report**
  
- 7. Election of Council Officers**
  - a. President
  - b. Vice President
  - c. Treasurer
  - d. Secretary
  - e. Public Officer
  - f. Membership Officer
  
- 8. Appointments**
  - a. Eucryphia Editor
  - b. Newsletter Dispatch Officer
  - c. Study Group Liaison Officer
  - d. Publications Officer
  - e. Nomenclature Officer
  - f. Auditor
  - g. Website Liaison Officer
  - h. ANPSA Delegate
  - i. ANPSA Delegate
  - j. APJ Liaison Officer
  
- 9. General Business** (if any)
  
- 10. Next AGM** 30 March 2019  
Venue to be advised.
  
- 11. Closure . Next AGM** 30 March 2019

## Recent Name Changes

(continued from page 15)

alpine, but the type specimen was collected from St Valentines Peak and the most accessible spot to see plants is near the Mt Claude Lookout below Mount Roland, so the species is more montane than alpine. I associate *X. milliganii* with alpine heathland and grassland, such as the Cradle Plateau and near the summit of Reeds Peak.

Here is a comparison of the two species that should help in their distinction.

	<i>X. collierianum</i>	<i>X. milliganii</i>
<b>height</b>	varies in both plants	
<b>basal leaves</b>	loose rosette	tight, dense rosette
<b>stem</b>	few glandular hairs	densely woolly
<b>stem leaves</b>	lax growth	semi-erect or stem clasping
<b>outer bracts</b>	sometimes pink outer bracts	frequently with pink flush
	<b>endemic</b>	<b>endemic</b>

### b. Flowers with yellow bracts

*Xerochrysum palustre*, *Xerochrysum subundulatum* and *Xerochrysum alpinum*

The presence of *X. palustre* in the *Tasmanian Census* had passed me by, but *Xerochrysum alpinum* is a newly-named species, endemic to Tasmania. From its location it what we have

	<i>X. palustre</i>	<i>X. subundulatum</i>	<i>X. alpinum</i>
<b>distribution</b>	Midlands, East Coast	alpine to subalpine	alpine
<b>habitat</b>	wet areas, swamps, stream margins	moist situations	peaty herbfields
<b>growth</b>	slender single stem	slender single stem	single stem
<b>height</b>	45-80 cm	to 25 cm	generally 8-15 cm
<b>leaves</b>	no basal rosette, all on stem, narrow, oblong and acuminate, flat and hairless (sometimes hairy on margins)	no basal rosette, decreasing in size upwards, variably coated with cottony hairs esp. towards the tip	basal rosette of leaves, somewhat fleshy, elliptical to obovate; becoming sparse up the stem. Stem leaves erect, narrowly obovate to oblong
<b>bracts</b>	smooth	cottony, rough to the touch on the underside.	rough to touch on the underside
		also in the mainland mountains	<b>endemic</b>

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Photos from article p. 28.  
 From top, L to R:  
*Banksia menziesii*;  
 Ben's icypole of  
*Banksia praemorsa*;  
*Pileanthus* sp.;  
*Anigozanthos manglesii*

showing stem with perch and flowers turned to the pollination position;  
*Xylomelum pyriforme* (woody pear), foliage buds and fruits.  
 All photos © D. Burns





- 1. Olearia floribunda
  - 2. Olearia floribunda close-up
  - 3. Richea dracopylla
  - 4. Calytrix tetragona
  - 5. Anigozanthos sp.
  - 6. Melaleuca squarrosa (Hurricane)
  - 7. Melaleuca squarrosa (Coastal carpet)
  - 8. Pimelia filiformis
  - 9. Bellenden montana (Mountain Rocket)
  - 10. Margaret Hosford in her garden
- Photos 1– 8 © M.Hosford  
Photos 9, 10 © L. Skabo





**Blooming Tasmania 2017**  
*Above: part of the stall set-up.*



# Ants In Your Plants

## Part B: Agriculture, Wattle warfare and Devils gardens

Phil Watson

### Seeds glorious seeds

In our woodland patch we spend a lot of energy collecting and storing nutritious seeds in food heaps just below ground in a mutually beneficial process for us and the plants which botanists call myrmecophily. We collect seeds and eat the special nutritious food bodies (elaiosomes) which are rich in lipids. These seeds also have convenient handles to carry them which we store in our nests or nearby midden piles. They have been shed from many leguminous plants including trees such as black wattle, silver wattle, blackwood, spreading wattle and prickly moses *Acacia mearnsii*, *A. dealbata*, *A. melanoxylon*, *A. genistifolia*, and *A. verticillata*, as well as bushpea shrubs and ground covers such as showy bossia, *Bossiaea cinerea*, grey and smooth parrot peas, *Dillwynia cinerascens* and *D. glaberrima*, running postman *Kennedia prostrata* (heartleaf) and matted bushpea *Pultenaea daphnoides* and *P. pedunculata*, as well as non-leguminous plants such as the yellow flowering hop and trailing native-primrose *Goodenia ovata* and *G. lanata*, erect and spreading guineaflowers *Hibbertia riparia* and *H. procumbens* etc. There are hundreds of plants just in our woodlands alone (estimated 3000 world-wide) that benefit from us dispersing their seeds while we get a good fed for doing so. In our fire-prone woodland many of the plants rely on us for their survival and dispersal since we safely store the seeds in our middens, away from fire's harm.

We carefully guard these seed heaps from predators until we have finished extracting the nutritious bounty supplied by the oily elaiosomes. We often see many seedlings growing vigorously from our seed heaps. This happens especially after a hot fire which heats up the soil around the seed heaps sufficiently enough to crack the seed coats. Surprisingly sometimes we see baby stick insects (*Phasmids*) hatching from seed-like eggs which then feed on our nutrient-rich refuse piles. We are sometimes tricked into carrying seed-like *phasmid* eggs that also have an elaiosome-like structure found in close proximity to our seed heaps. What we do not know is that *phasmids* drop their eggs whilst perched in tree branches directly above the seed heaps, ensuring their eggs are picked up by our foraging workers.

It comes as no surprise that humans have devised ways to commercially benefit from seed collecting by our ant cousins. In South Africa **black ants** are used to harvest the well dispersed small seeds of the highly renowned herbal tea substitute rooibos (*Aspalanthus linearis*). The seeds are collected and stored in their nests allowing humans to gather them, often being some 200grams in one nest.

### We have been farming for millions of years

For millions of years, we have domesticated and milked herbivores including caterpillars, aphids, scale insects and mealy bugs. This has resulted in caterpillars forgoing their ancestral defences such as spraying chemicals or leaping away from enemies, in favour of a dependency on our ant protection and husbandry services. In humans this pastoral way of life only arose some 6000 years ago, after hunting and gathering communities began milking of goats, cattle, sheep, etc.

Particularly when the understorey plants are not in flower we have become more reliant on our close friendships with *Lycanid* caterpillars. In return we care for them to ensure that they pupate into healthy blue, copper or hairstreak butterflies. This mutually beneficial relationship allows us to receive a regular supply of honey dew in return for protecting them from predators and also helping their females find the best plants on which to lay their eggs.

These caterpillars cleverly avoid being mistaken as prey by our nest-mates as a result of their special glands which issue a calming potion that reduces our normally aggressive behaviour towards them. We must be careful as a couple of species of these caterpillars have evolved from *ant-loving* to *ant-eating* behaviour, tricking us by secreting a pheromone that misleads us into believing it is one of our own larvae. Horrendously, once we are fooled, they voraciously feed on our brood.

We particularly have a strong friendship with bright copper butterfly larvae, *Paralucia aurifera* allowing the caterpillars to spend the daylight hours securely protected in our nest. The caterpillars feed on the native box (*Bursaria spinosa*) leaves at night, until they pupate. Whilst pupating they remain in our nest until hatching out as butterflies. Butterflies feed in early summer on the prolific, nectar-bearing flowers of the native box and lay their eggs on the leaves. We also have a similar friendship with the fringed blue butterfly caterpillars *Neolucia Agricola*, although they like to feed on native peas such as *Aotus ericoides*, *Bossiaea cinerea*, *Dillwynia cinerascens*, *Indigofera australis* etc.

Additionally we may be lucky to make friends with the rarely seen hairstreak butterfly caterpillar *Pseudalmenus chlorinda*. In exchange for their honeydew we guide the larvae to their favoured silver wattle, black wattle or blackwood (*Acacia dealbata*, *A. mearnsii* or *A. melanoxylon*) trees so they can feed on the leaves. Later in the autumn we ensure that the pupae are comfortable in their over-winter locations under the bark of white gum *E. viminalis*.

### Agriculture was first invented by Ants

In addition to our pastoral and milking activities, many species of ants have been vigorously using complex agricultural and horticultural activities to feed their ant colonies. For example the ***Camponotus sp.* ants** have for millions of years been nurturing their own garden to grow the flowers they prefer. In branches of various trees they gather clumps of humus and soil to germinate collected seed of their preferred nectar-bearing flowers. In return this ant-favoured plant provides nectar from its flowers and pulp from its fruit.

Another outstanding form of agriculture is displayed by our South American cousins the **leafcutter ants**. They specialise in fungus gardening which is a far more complex task for ants compared to the simplicity of tending honeydew-producing insects. In these fungal gardens the fungus is totally dependent on the ants for survival requiring constant feeding and housing.

They are often called **parasol ants** (*Atta sp.*, *Acromyrmex sp.* etc.) because they hold leaf sections over their heads like parasols when carrying them to their nests and always carry their burdens individually. The strong and rigid leafcutter jaws contain up to 30% zinc and operate like a lever-type can opener to cut rounded leaf sections. This vegetable material is purely for their fungi gardens which they cultivate with extreme diligence on the leaves they have collected. They are almost unique amongst ants in their total dependence on vegetation nutrition feeding both on the sap from the leaf sections (primary energy source) and the protein-rich fungal gardens provided as payment for protection of the fungus that is related to the button mushrooms sold in the supermarket. These ants have been cultivating fungi for over 50 million years clearly well prior to humans who began their agricultural activities only 10,000 years ago.<sup>4</sup>

Leafcutters grow and harvest their fungi using farming techniques no less complex than humans. Their invention of agriculture has enabled their colonies to support massive populations and associated massive structures. Just like humans and their cities when humans progressed beyond the hunter-gatherer lifestyle into agriculture and pastoral pursuits, this enabled their development of massive populations and associated massive

support structures to ensure adequate shelter, food collection, transport, storage and distribution, defence etc. Many of our leafcutter ant cousins construct enormous nests of several million workers with soil mounds rising two metres high over 160 square metres with gigantic chambers down to seven metres mostly filled with fungal gardens. Their chambers and tunnels can require excavation of 40 tons of soil. Their fungus gardens dominate most of the chambers with only relatively tiny areas used to house their broods, queen and workers.

### **Mulga wattles provide ant nectar rewards**

In our woodland patch we have a number of *Acacia* sp. (wattles) that afford us nutritious seeds. However in other parts of Australia, and in Africa and America, wattles have evolved in a distinct way to develop special nectar exuding structures, known as extra-floral nectaries. These wattles provide nectar for our cousin ants in return for protecting the wattle from damaging herbivorous insects (symbiotic relationship). In the outback woodlands of Australian mulga (*Acacia aneura*), one of our honey-pot ant cousins feeds on the nectar issued from the tiny extra-floral glands near the base of the phyllodes. These glands divert the ants from damaging the tree's small delicate flowers at seed setting time. As this nectar does not always flow, worker ants will gather the nectar when available in the crops located just behind their mouthparts. They then carry this to their nest not far from the base of the tree. Inside the nest, hanging from the ceiling are what looks like transparent decorations. They are in fact ants with hugely distended bellies. Living honeypots! The incoming worker ants regurgitate their sweet cargo into the mouths of the storage ants. Hence when the mulga's nectar flow ceases, the colony turns to its living stores. To extract a drop of nectar, an ant will gently stroke a storage ant with their antennae.

### **Army Ants are formidable predators**

Our tropical African cousin, the infamous *Dorylus* army ant, commands serious respect not only in the ant world but amongst all creatures. When their multi-million super-organism colonies swarm through the countryside, they devour every small rodent and insect in their path. Villages will need to evacuate for two or three days until the swarm has moved through the village not only removing all exposed foods but also beneficially cleansing the village of all pests and rodents.

### **Wattle warfare: lavish hospitality for our ant guard**

Some species of our stinging ant cousins *Pseudomyrmex ferruginea* live inside the long swollen thorns of acacias such as the South American bull's horn acacia *Acacia collinsii*. The bull's horn acacia is covered and armed with large sharp two pronged barbs resembling bull's horns, these are actually enlarged stipules. These large thorns do provide protection from big grazing animals but deliver little deterrent to small insects that may fly by to chew leaves and suck sap. Fortunately these thorns provide a home to our very formidable security guards. In order for them to start a colony their fertilised queen must land on a thorn, gnaw a hole in the end, crawl inside and lay her eggs. Her worker ant offspring patrol the leaves, killing and eating any leaf eating insects that stop by for a feed. Any gate crashers are instantly attacked by grasping them it in their mandibles and stinging them. If help is required they release an alarm pheromone to recruit nest mates which flood in, to secure a victory by numbers. Even the *Colobus* monkeys and giraffes are injected with so many little squirts of formic acid that they do not stay very long. They also patrol around the base of the plant killing any seedlings that could compete with their tree. If any surrounding branches touch the host plant the ants will cross over and attack the leaves and buds so severely that the branch will die back.

As the queen continues to lay eggs, the colony grows and these new workers take up lodgings in thorns of other shoots from the tree. Eventually the time comes when two colonies on the same tree will meet. Then the battle begins, with rival armies ferociously severing limbs and throwing bodies off the tree. Much like us in our underground colonies these ant armies are not just fighting for their homes inside the thorns. They are also fighting for access to the wattle's fat-rich, orange, nectar beads for feeding their larvae. These small beads are secreted at the base of the leaves and at the tips of the leaflets. Such lavish hospitality indeed for our lucky ant cousins as a result of their diligence in ensuring the wattle's survival.

### Devil's Gardens

Another ant cousin *Myrmelachista sp.*, found in the Amazonian jungle, receives the prize for the best gardener of all ants. They frequently climb down from their comfortable nest in their ant-tree to prune, weed or destroy any plant that threatens to reduce access to sunlight by attempting to grow within a couple of metres of their ant-tree's trunk. They attack the bases of the sensitive veins of leaves which supply those leaves with nourishment. After biting a hole, they then turn around and squirt a herbicide from the base of their abdomen into the wound which rapidly spreads out from the leaf and kills the whole plant. In tropical forests, this produces monocultures of the same tree species in contrast to the exceptional nearby diversity of tree species. A typical example is our **lemon ant cousin** which cultivates **devil's gardens** by killing neighbouring plants resulting in a monoculture of **lemon ant trees** (*Duroia sp.*) within a highly diverse rain-forest ecosystem.

### Our tropical cousins live comfortably in their ant-house plants

In northern Australia our ant cousins have developed a close friendship with epiphytic ant-plants characterised by their often grotesquely swollen stems. These epiphytes have a series of connecting tunnels or galleries inside their stems which provide an ideal home for our ants.

These ant-plants thrive in environments where carnivorous plants are also common. Both the carnivorous and ant plants have comfortably adapted to their low nutrient soils which have resulted from heavy monsoonal rains washing away the humus and leaching the soils.

Fortunately this ant-plant adaptation to these leach soils has been made possible by our ants which provide much needed nutrients to nourish their specially evolved cavities with rich organic debris brought from areas far beyond the reach of the host ant-plants themselves and their tree roots. A classic example of this friendship involves the **golden ant**, *Philidris cordata* syn. *Iridomyrmex cordatus* which live and nest in the tunnels and chambers and belligerently swarm onto any bold creature that dares disturb their nests.

Also of particular interest amongst these ant-plants is the widespread Australian *Myrmecodia beccarii* which has a mutually beneficial relationship not only with the golden ant but also the colourful **apollo jewel butterfly**, *Hypochrysoys apolla apolla*. Their larva feed exclusively on the ant-plant and is also protected by the golden ant in exchange for its honey-dew.

### Concluding Comments

Beyond our unique status as superorganisms our role as ecosystem engineers has profound effects on the occurrence, abundance and location of many other plants and animals sharing our habitat. Since our ant colonies are very sensitive to environmental disturbance, we provide an easy environmental monitoring opportunity. We are currently being used as indicators of ecosystem change across Australia, especially in mine site rehabilitation along with forest management and pastoral activities. When the environment changes the diversity of our ant species responds accordingly, thus providing the fundamentals for tell-tale assessment tools.

We also provide the ability to act as biological-control agents in the horticultural industry as part of an integrated pest management programme. Currently there are many of our ant species which are already recognised by farmers in tropical locations as beneficial to a range of crops and timber trees. The best known genus is the *Oecophylla* sp. which controls all the main pests on cashews and mangos in Australia, citrus in Vietnam, coca and coconuts in Tanzania and the Solomon Islands. However, while they love the honey dew milked from insects they are useless in controlling those devastating sap-sucking pests.

Finally a handy tip for when you are wandering through your local woodland.

‘Never crush any of my fellow ants’. Just one crushed ant will emit sufficient ‘alarm pheromone’ to send all the nearby ants into an aggressive frenzy towards that big foot.

### Post Script

#### The Bible recognises the abilities of ant societies

From the beginnings of human civilisation, man has been bewildered and astounded by not only the habits of individual ants but even more profoundly those of the ant super-organism. The Bible comments on the importance of observing and learning from the ways of ants as revealed in Proverbs 6: Verses 6 to 8 which states that, we must ‘go to the ant’ and ‘consider her ways and be wise’. Apparently King Solomon was a keen observer of ant behaviour, growing up watching seed harvester ants. In the Book of Proverbs, ants’ hard work and cooperation are considered an excellent example for humans. ◊

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### Recent name changes

(continued from page 16)

#### Useful photos

Tasmania’s *Natural Flora* (2<sup>nd</sup> edn) has *Xerochrysum bracteatum* and *X. papillosum* on p. 81 and *X. alpinum* named *Xerochrysum subundulatum* on p.82. *The Nature of the Midlands* also has *X. bracteatum* on p.78. *Exploring the Flora of Cradle Mountain Day Walk Areas* includes *X. milliganii* on p.73 as *Helichrysum milliganii*. *Alpine Tasmania* has good line drawings of two species. ◊

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 ‘An examination of the Australian genus *Xerochrysum* (Asteraceae: Gnaphalieae)’, Paul G Wilson, *Nuytsia*, vol 28, pp. 11 – 38, 2017. ◊

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## Kingston Stormwater Wetlands

*Bruce Champion*

The Executive Summary of the Kingston Stormwater Wetlands Final Report (June 2002) provides the background, concept, objectives, design and implementation for this interesting project as follows:

“The Kingston Stormwater Wetlands project arose from a need recognised by Kingborough Council through its water quality monitoring programme and the coincident natural Heritage Trust Riverworks Tasmania funding programme. Water quality monitoring at Kingston Beach and subsequent follow-up monitoring indicated a significant source of faecal contamination from Kingston Rivulet, a highly modified drainage and stormwater conduit through the urban area of the town. The rivulet feeds into Whitewater Creek and then into the mouth of Browns River. Other sources of contamination were also identified within Browns River and Whitewater Creek.

A concept for a series of constructed wetlands was developed by Millin Environmental Management Services and designed by Thompson and Brett Consulting Engineers following a successful application for funding under the Riverworks Tasmania Programme. The chosen site was an under-utilised area of open land adjacent to Whitewater Creek, and bounded by the two main entrances into Kingston from the Southern Outlet and Channel Highway. The area had previously been maintained as open grassland, with the central Kingston Rivulet heavily infested with willows and a range of other understorey environmental weeds. Disused sheds, which were subjected to vandalism, were located along the banks of the degraded Kingston Rivulet. The main objective of the concept proposal was to redirect flow from Kingston Rivulet and a portion of flow from Whitewater Creek through a series of ponds and wetlands, designed to achieve maximum exposure of bacteria and other water contamination to treatment processes that would occur in the wetlands. Design features included a range of diverse aquatic habitats within the wetlands through alternating deeper and shallower waters, changing shape and profile of wetland edges, planting of a diverse range of both aquatic plants and terrestrial shrubs and trees and cascading interfaces from one set of ponds and wetlands to the next. Peak stormwater flows are attenuated and silt and other gross solids are entrapped through a series of rock gabions within the main channel of Kingston Rivulet.

The other longer term objective, which was subsequently realised through provision of additional funding by both Kingborough and Riverworks Tasmania, was to enhance the visual and aesthetic values of the area and to provide an improved public amenity at the main entrance to Kingston. This has resulted in a significant passive recreational facility between Kingston Beach and the mid-catchment of Whitewater Creek, where an existing public footway had already (been) established. It is envisaged that longer term future developments of a similar nature could create a direct link between the Kingston foreshore areas and upper catchment areas of both Whitewater Creek and Browns River, and thus continuity between the beachfront and Mount Wellington hinterland. A continuing programme of water quality monitoring has indicated a significant reduction in faecal coliforms through the wetlands. Also, turbidity levels and nitrates are significantly reduced. Dissolved oxygen is maintained at high saturation levels throughout the system. Results from the monitoring carried out to date indicate that the Kingston Stormwater Wetlands appear to be an effective system for treating urban stormwater drainage and for providing a valuable community facility for passive recreation. The project represents an example of an effective collaboration between local and State government and

Commonwealth environmental funding initiatives. Future water quality monitoring and site assessments to define ongoing maintenance requirements of the system will provide additional information for planning and design of similar systems for treatment of stormwater associated with other urban areas.”

A small group of Hobart Members gathered in the Kingston Primary School Library for their winter daytime meeting on Wednesday afternoon, 12 July, to hear a summary of the Kingston Stormwater Wetlands Project by Bridget Jupes (BJ), Natural Area Interpretation Officer for the Kingborough Council. They then drove across to the Wetlands to inspect the structures and look at the mainly indigenous plantings in the area. They were met by John de Vries, a Kingborough Council Environmental Officer, who helped BJ with technical details during their tour. They first inspected the Kingston Rivulet Gross Pollution Trap where detritus washed down the Channel highway through the Kingston shopping centre and beyond is collected in a sump and the liquid drains off into the Silt Collection Pond. The retention time in this pond has been extended by increasing the feed in pipe out into the centre of the pond. This also removed short circuiting of liquor in the pond allowing improved fall out of sediment. After some time the clearer liquor flows into Wetland No. 1 together with water from a small dam upstream on Whitewater Creek. In this long path, an M shaped pond, the ultraviolet rays in sunlight reduce the bacteria level, fine particles settle and plants within the pond help to further purify the water.

Returning down the path beside the Kingston Rivulet downstream from the Gross Pollution Trap the series of gabions that impede stormwater flows were noted. The group then walked up the service road past an embankment of mainly *Acacia ricana* and *Leptospermum lanigerum* to the walking track around the Wetlands No. 1 Pond. Before turning onto the track they looked further up the road to see on the right the large grassy depression that can capture the sewerage pump station overflow in severe weather, or at times of pump failure. They walked between tall *Dodonea viscosa* subsp. *spatulata*, *Melaleuca squarrosa* and *Pomaderris elliptica* overshadowed by a large *Eucalyptus globulus* to an open area overlooking, to the NW, the upper end of the No. 1 Pond and to the right a small promontory where a wrought iron table and chairs allow visitors to snack and enjoy the area. At the bridge over the third leg of the M they saw that the *Typha latifolia* (Cumbungi) around the edge of the Wetlands had been slashed and it was suggested that a special form of glyphosate, non-toxic to frogs, may have been used to try to control the infestations.

They continued along this path that is lined and side spaces filled with species including *Acacia leprosa* var. *graveolens*, *A. melanoxylon*, *A. mucronata* and *A. verticillata*, *Asterotrichion discolor*, *Goodenia ovata*, *Leptospermum lanigerum* and *L. scoparium*, *Melaleuca gibbosa*, *M. pallida*, *M. squamea* and *M. Squarrosa*, *Pomaderris apetala* and *P. elliptica*. The path is bordered with lots of *Dianella revoluta* and *Lomandra longifolia*. The shores of the ponds are lined with species such as *Baloskion* (syn. *Restio*) *tetraphyllum*, *Carex fascicularis*, *C. tasmanica* and other *Carex* species, *Eleocharis* species, *Isolepis nodosa*, *Juncus filicaulis*, *J. pallidus* and *J. pauciflorus*, *Ornduffia* (syn. *Villaria*) *reniformis*, *Phragmites australis*, *Triglochin procerum* and other wetland species.

The path from the bridge led them in a loop back beside the overflow channel from Kingston Rivulet Gross Pollution Trap to the service road. They crossed the Rivulet and walked NE along the other side between more indigenous plantings including *Gabnia grandis*, *Correa alba* × *reflexa*, *Poa labillardieri* and swathes of *Acaena novae-zelandiae* (Buzzies) and noted the water flowing from Wetlands 1 into the first small pond of Wetlands 2 that then became a small steady flow of water over a long shallow bed of pebbles imbedded in concrete that add aeration to the water flow into the larger pond of Wetlands 2. Other

species seen along this track were *Bedfordia linearis*, *Leptospermum nitidum* and more of all of the *Acacia* and *Melaleuca* species mentioned earlier plus *Acacia mearnsii* and lots of the *Goodenia ovata*. They walked around the Whitewater Creek side of Wetlands 2 and were shown plantings of indigenous species including *Acacia genistifolia*, *Banksia marginata*, *Bedfordia linearis*, *Bursaria spinosa*, *Coprosma quadrifida*, *Dodoneas*, *Melaleucas*, *Nematolepis squamea*, *Pomaderris sp.*, and by the Kingborough Council with help from some of Kingston's schools.

Their tour concluded after they had walked between Wetlands 2 and 3 and observed more excellent plantings of wetland and terrestrial species including *Acacia terminalis*, *A. verticillata*, *Asterotrichion*, *Gabnias*, *Hakea megadenia*, all the *Melaleucas*, *Pomaderris apetala* and unknown, very tall, large-leaved *Acacias*. Wetland 2 and 3 ponds perform pollution abatement and bacteria die-off. They also noted the large number of ducks and coots busy in Wetlands 3 and on the shore where they gathered to say a sincere thanks to BJ and John for a very interesting excursion. If you haven't visited these Wetlands, it is recommend that you do, especially in spring time when the area will be filled with beautiful flowers. Congratulations Kingborough Council and all involved for an excellent example of well executed stormwater wetlands. ☺

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Northern Group  
[www.apstasnorth.org](http://www.apstasnorth.org)

## Why Is It So?

Dick Burns

I had another teaching dream the other night (it is getting on for nineteen years of retirement, but the title question is not about the kind of dreams I have). At least it wasn't one of the panic dreams I used to have – I am late to a class and I can't find the class-room/my notes kind of thing.

This was a field trip. We had planted something that looked like a brachyscome and it had multiplied, growing in a 'fairy ring'. Nearby was another perennial that had formed a mat. I was about to name it something but a student correctly identified it as *Dichondra repens*.

Then someone asked why the two plants were growing differently. I gave a pretty convincing (in my dream) explanation for the mat-formation (multibranching) but was about to struggle with the fairy ring when I (thankfully) woke up.

The term 'fairy ring' traditionally applies to fungi, but my book on oldest plants has photos of yuccas and creosote bushes formed into rings around the original central spot. In outback Australia I frequently saw spinifex growing in rings. And in my garden, an old mat-forming daisy has a dead spot where I originally planted it and the trailing branches will not re-establish there.

So how do the rings form? My recollection was that inside the ring, the nutrients had been stripped by the growing plant. That is also the main idea proposed in Wikipedia, although it is suggested with fungi that the vegetative part of fungi, the hyphae, may remain inside the fairy ring with the fruiting bodies forming on the outer extent of the hyphae. But the yucca and creosote were very slow-spreading (12,000 years for the yucca), which is plenty of time for a replenishment of nutrients, and the red sand in which the spinifex grows is just that – red sand, wind-blown into dunes.

What do you reckon?

As a postscript: that dream was uncharacteristically logical, unlike my usual mash-up of strangers, family and friends from varied stages of life in weird story-lines. And my prescriptions haven't changed. ☺



## THIS COULD GET A BIT RACY

Plants that become prettied-up for fertilisation

Dick Burns

Some days at my last school, I would go round the garden and cut a branch off any plant that was flowering. When I got to school, the varied-coloured bundle would be dumped in a vase in the staffroom. Occasionally a colleague would comment on my flower-arranging skills - which were completely absent. The reason for their looking good together was that they were all Australian plants.

You have probably noticed how the whites, yellows, pinks and reds of Australian flowers blend. But not blues – Jeanette Closs tried a blue bed in one of her gardens, but the different blues clashed. That often occurs also when you try to mix Australian pinks with the pinks of exotics. A major reason for the blending of our flower colours is our suit of pollinators: in competing for pollination, the plants have evolved to be most likely to attract the attention of the Australian pollinators. On other land masses, different pollinators result in different pinks and yellows. Not even that far away – orange-coloured flowers are rare here but common in Western Australia. (See *Pileanthus*, photo i page 18a)

I'm not aware of any plants that do as land animals do, where males directly inseminate females. Plants need a separate agency, called a 'vector'. Grasses, rushes, casuarinas and conifers are among the plants that use wind as their vector. Many flowering plants require an animal to shift the pollen to the female part, so they need to ADVERTISE.

Pretty petals and attractive smells evolved. Flowers generally provide a reward or bribe for the vector with nectar or digestible pollen. But not those ultimate con-artists that give no rewards – orchids. Many release odours smelling of female mating hormones and have petals shaped to imitate female insect bodies. Duck orchids, *Caleana* spp., do this.

Like 'this-week's-special' ads on TV, petals are short-lived and are produced as cheaply as possible (no complex structures as in leaves, only a few layers of simple cells). Most fade after pollination, but some change colour and stay around to tell the vector 'go to my neighbour, I've been fertilised and there's no food.' This phenomenon is noticeable in the Myrtaceae family (e.g., *Verticordia* and *Hypocalymma* species).

Here is a sweeping generalisation of the effect of type of vector on flower structure. (Submerged water plants have a great variation in their methods of pollination.)

FEATURE	WIND VECTOR	ANIMAL VECTOR
Size of flower	small	large
Petals	green or absent	generally obvious and brightly coloured
Stamens and stigma	protrude into vector	varied
Stigma	feathery, branched	like pinhead
Pollen grains	small, smooth	large, rough, sticky
Pollen quantity	large amount	small amount

White light is actually a mix of all the colours in a rainbow. Just beyond the red end of that spread of colours (or spectrum) is infrared energy which we feel as heat. At the indigo/violet end of the spectrum is ultra-violet light, which some animals, including insects, can see. Photos of petals taken in ultra-violet light often show a very different colouring pattern to what humans see with lines showing the animal the way to the food, and passed the reproductive bits. Some of these directions are visible to us, say the lines on petals of

**Being noticed**

Effect of Type of Animal Pollinator on Flower

	Bird	Mammal	Insect:	
			Fly or Bee	Butterfly or Moth
Colour of Flower:	bright colour, towards red end of spectrum	dull colour (pale for flying mammals)	white or towards the blue end of the spectrum	
Odour:	odourless	sweet, emitted to match foraging time	sweet (bees) to carrion or faecal (blowflies)	sweet, emitted to match foraging time
Position on Pant:	prominent	hidden for day foragers, in plain sight for night mammals	prominent	

**Transferring the pollen**

Most organisms avoid self-fertilisation. Plants may do this by having separate-sex flowers, by having the anthers and stigmas 'ripening' at different times, or by having chemical barriers to its own pollen penetrating into the ovary.

To get to the nectar, the animal has to push past the stigma and anthers so the flower has evolved a shape to force this to happen. Unfortunately honey bees have learnt to cut through at the base of tubular flowers to reach the nectar, so pollination will not occur – I have seen eremophilas in the Outback with such holes, and even our *Prionotes cerinthoides* with these bore-holes. One of my rave plants, the NSW woody pear, *Xylomelum pyriforme*, (photo ii page 18a) has tiny brown-white tubular flowers, obviously evolved for a NSW small insect with a long tongue. But a local finally arrived with the right equipment because I have dozens of woody pears now.

	Bird	Mammal	Insect:	
			Fly or Bee	Butterfly or Moth
Perch/support	Flower strong to support weight of animal; perch often provided e.g. <i>Anigozanthos</i> species	Flower can be more delicate with the petal providing support	Flower can be more delicate with the petal providing support	
Shape of Flower	tubular or gullet-shaped	flat	tubular	

**The Earth moved!**

I guess that most Mills & Boone romances had a line where the brunette hero saw the blue-eyed blonde heroine across a crowded room and 'the Earth moved'.

In more up-to-date romances, the action would have made further progress before there was any such movement. In the plant kingdom, movement is more literal than figurative.

*(continued next page)*

## This could get a bit racy

(Continued from previous page)

We lack hummingbirds in Australia, so our plants have to provide a perch in the right position for the bird to reach its food and brush the plants' anthers or stigma. Bushy plants can do this by growing lots of crisscrossing branches. But *Anigozanthos* species, the kangaroo paws, have only one stem. So as a flower becomes ready for fertilisation, it turns to the convenient feeding position, and then moves away for the next flower to take its position. See photo iii page 18a)

We all know that in *Syzygium* species, visiting insects are whacked on the back by the trigger to transfer pollen. Those delicate duck orchids have hinged petals so when a male fly arrives to have his evil way, he is tumbled into the pollen. Other orchids have similar tricks.

## Timing is everything

Walking home at night in Sydney, I would sometimes find the air full of a perfume that was absent during the day. It was flowering time for *Pittosporum undulatum*, advertising for night-time nectar feeders.

Most plants produce more than one flower but you never see all the flowers opened at the same time (not in the wild at least). That would swamp the market and the available pollinators would only be able to pollinate some flowers. More flowers will be fertilised if they stagger their opening hours. This has a striking effect on the appearance of banksia flower heads; starting from the base, rings of flowers release the pollen presenters in sequence. (see photo iv page 18a)

An ultimate example of the evolution of a specific pollination is the formation of a symbiotic relationship between two very different and specific organisms, providing fertilisation for the plant and shelter, food and warmth for the animal. *Ficus* flowers are enclosed in a fleshy chamber that becomes the fig we eat. There is an opening just wide enough to allow female chalcid wasps to enter. The wasps breed inside (often the male never emerges) and pollinate the flowers as they move around. Females escape when the fruit ripens. When I heard of this, I was pleased that I don't eat figs.<sup>8</sup>

Our APST website manager is in dire need of photos of gardens,  
or plants in situ, not just plants or flowers out-of-context.

You must surely have a bit of a garden,  
and if it has a rusty old shed in the middle,  
well, the more authentic the better!!

Get to it, bombard his inbox!!

It is [brchamp@ozemail.com.au](mailto:brchamp@ozemail.com.au)

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## NEWS FROM THE GROUPS

### Hobart Group

B. Champion, C. Walker

Hobart propagation sessions are held in a secure location at the rear in the centre of the Kingston Primary School (KPS) behind the 3m colorbond fence, accessed along the path at the rear of the school from the car park beside the basketball courts at the western end of the School, accessed via Sherburn Street. All welcome, so please come join us.

The Kingborough Day Meeting members have had their wonderfully floriferous flower table well covered each meeting. Their September meeting was a discussion on the spring flowers that interested them including *Acacias*, *Eucalypts*, *Leptospermums*, *Hakeas* and even Wollemi Pine. Their September meeting was to be an excursion to Snug but it was wet and cold so they discussed flowers they had brought in, some of which were *Grevilleas*, *Tetralobea*, *Styphandra*, *Hypocalymma*, *Correa* and *Boronia* species. Their November meeting started with afternoon tea around the flower table where *Actinotus*, *Bauera*, *Billardiera*, *Hibbertia*, *Kunzea* and *Melaleucas* were among the many genera displayed. The members then went on an excursion to the Peter Murrell Reserve where *Coronidium*, *Euryomyrtus*, *Leptomeria*, *Leucopogon*, *Pimelea* and *Thelionema* species were some of the genera seen.

The two day excursion to the Tasmanian Land Conservancy properties at Big Punch Bowl on Freycinet Peninsula and Long Point north east from Swansea at the end of August, in lieu of the General meeting was very successful. Member numbers were down due to the APST Council meeting etc.

A small group of Hobart Members walked around Bluff River Gorge in early October and at the end of that month a larger group walked along the refurbished Organ Pipes Track on Mt Wellington hoping to find the hybrid *Richea dracophylla* x *R. scoparia*. Unfortunately it was not in flower this time.

Once again the Hobart Group members who are Friends of Coningham, Knocklofty, Maria Island, Mt Wellington and Woodvine etc. and participate in bushcare activities in these parks and Reserves were hampered by wet weather on several occasions. On Mt Wellington, *Erica* was cleared at Goat Hills and vegetation along the Mt Connection Track. At Coningham more *Erica* was sprayed and pulled or cut and pasted in three more monthly sessions. Knocklofty Members had more follow-up sessions working on over-looked gorse on the 2ha private block within the Reserve and small gorse beyond along the extension of Forest Road; dealt with seed regrowth gorse along the Glover Track, and conducted another biannual survey and tall plant removal along the TasNetworks wayleaves. The Members also worked again in the newly allocated lower Salvator Rosa Glen area, treating weed infestations before rain stopped activities as it did for hawthorn removal along Forest Road extension.

A very special Thank You Community Event was held at Woodvine in November when 12 photo journals of working bees that Trauti and David Reynolds had participated in with other volunteers over many years were handed over to The Tasmanian Archives Heritage Office. Trauti's journals covered activities on Deal, Schouten, Maria and Tasman Islands, and in east coast National parks, at Melaleuca and Woodvine.

The Hobart Group's propagation sessions were mainly well attended and plenty of beautiful plants were sold during the very successful October Plants Sale.

Hobart Group meetings continued in the Kingston Primary School Library with

(Continued next page)

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## North West Group

Riitta Boevink

A group of us visited the Habitat nursery in Liffey in September. We were given a thorough tour of the well organized and maintained facilities and afterwards purchased plants. On the way back we braved the cold and the rain and stopped for lunch in the parking area at Liffey falls.

The biggest event in the spring was the Port Sorell Spring Fair on Sunday the 22nd of October. This is a general fair, not limited to gardening, held on the grounds of the Port Sorell Primary School. There was food and entertainment. The NW group provided a floral display and sold plants. Mary brought in several large containers of red Waratah branches that we were able to sell to eager customers. The small floral bouquets were very popular also. Pamphlets and bookmarks were handed out, but there were no takers for membership.

Due to low attendance it was decided to replace the November evening meeting with a daytime meeting in conjunction with the garden visit to Sheffield on the 11th of November. Eight of us gathered in a pleasant side room of the Sheffield cafe. Robert Gower showed us his drawings of Tasmanian endemic plants and talked about them. One develops a close relationship with a plant when spending several hours drawing it, he said.

We also inspected a small garden Robert has designed and planted in front of a large mural depicting soldiers from different battlefields.

His idea was to plant grasses in front so as to create a three-dimensional effect by making it appear as if the soldiers are rising from the grass to the battle.

Following lunch at the cafe we visited two very different properties in Sheffield area. We enjoyed a perfect early summer's day - warm and still.

Wes Moyle has an interesting property with a collection of *Nothofagus* species from Australia, New Zealand and South America as well as an alpine garden. The Sparrow's have a superbly organised and maintained large garden on a sunny hillside. They have vegetables, espaliered fruit trees, mixed shrubs, perennials and a sizable collection of natives. ☺

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## Hobart Group Report

(Continued from previous page)

good attendances for more very interesting presentations. Members brought in a wide range of species for the flowers display on the School's kitchen bench. In September, an excellent presentation was made by our talented member, Christine Howells, on her recent three week long trip along parts of the Canning Stock Route. In September, Mercedes and Fred Duncan gave a beautifully illustrated presentation on 'The Southern Connections: the Flora of Patagonia' which covered the plant families common to Tasmania and Patagonia through the Gondwanan distribution. David Reynolds gave a wonderful memory jogging presentation to the November meeting on 17 past Hobart Group walks done from 2009 to 2014 using photos taken by Trauti and himself.

Considerable work has been and will continue to be done on the incorporation of the Hobart Group website into the State website. The work is almost complete on the Gondwana pages and will be followed by the spring and summer flora pages. ☺

## Northern Group

Louise Skabo

**Tim Rudman** who works in biodiversity monitoring in the pest species section pertaining to our World Heritage areas, answered our concerns about Myrtle Rust disease with his well structured talk explaining the Myrtle Rust biology and disease, its history, the situation in Tasmania and finally the degree of the rust problem on mainland Australia. It is an invasive pathogen on several genera of Myrtaceae and as this is a keystone species covering vast areas of our landscape, anything that threatens them is a threat to our whole environment. **Tasmania is mainly susceptible to Myrtle Rust in the warmer regions in the north and north-east and coastal towns but not in inland regions. It has only been found on *Lophomyrtus* cultivars (endemic to NZ) and not on native species.** The Myrtaceae species import ban is still in place probably to stop another invasive strain cross pollinating and allowing MR to become more virulent.

Peter Dowde's Plant of the Month was a very impressive *Microcachrys tetragona* which has been growing in a pot for nearly 30 years! The generic name, *Microcachrys*, literally means small cones in this context while *tetragona* refers to the stems having a square cross-section. Since the break-up of Gondwana, it is the sole surviving species of the genus.

From the tallest hardwood in the world to the smallest flowering plant in the world, **Mark Wapstra** informed and entertained us in October with oddities, beauties and fascinating Tasmanian plants. Mark stated that one cannot but feel a connection with the massive, 600 year old trees of *Eucalyptus regnans*, the oldest hardwood in the world. The 'Kermadie Queen' measures 77 m, while 'Centurion', in the Andromeda stand in the Styx, reaches 98 m. Australia's smallest plant, our pygmy, is *Wolffia australiana*, Duckweed. Not endemic to Australia it is indeed the world's smallest flowering plant. It grows in ponds to 0.5mm in size and reproduces vegetatively in dense clonal populations.

Other fascinating plants discussed were *Prasophyllum taphanix*, one of the rarest plants in the world, only recorded at Campbell Town cemetery. This cemetery also grows *Pterostylis zieglerei*, a tiny greenhood and *Diuris chryseopsis*, the Golden Moth orchid. A talk on oddities mentioned the carnivorous *Drosera* and *Utricularia* genera including an amazing video-clip of a larger, exotic *Drosera* rapidly sucking in and beginning to digest water fleas.

The following day members went on an excursion to Powranna and Tom Gibson Reserves in the Midlands where Mark showed us many more tiny ephemeral plants with life cycles of weeks. It is always a privilege to be accompanied by knowledgeable and enthusiastic native plant people.

**Roy Skabo** presented POM for October. At this time of the year it is impossible to walk very far in dryish bushland without seeing a splash of brilliant blue colour, a twining vine which clammers over other plants. It is not a parasite. It is of course, the blue love creeper or *Comesperma volubile*. Two of the other species are *Comesperma ericinum* which we see frequently on the east coast and the very similar *C. retusum* both of which are shrubs, to about 1m tall, with beautiful pink flowers. The other species, *C. calymega*, is a small, not very showy blue-flowered plant which only grows about 30cm and which occurs in sandy heaths. Unfortunately the genus is not much used in gardens, being difficult to maintain apparently, so we will probably just have to keep enjoying it in the bush.

In November the Group were invited to member Judy Harris's property at Pontypool. In a less dry year, the *Pultenaea pedunculata*, *Hibbertia hirsute*, *Hovea heterophylla*, *Violaceae*, *Comesperma volubile*, *Clematis gentianoides*, *Billardiera mutabilis* and many small *Acacia verticillata* and several *Leptospermum* spp. could have provided more colour, but it's a beautiful tree-covered area where two of our members enjoyed camping near Judy's shack. Six other members had a most enjoyable evening in luxury at Swansea before continuing the following day to the Weilangta Forest south of Orford. The Flash Tier walk was recommended by Bruce Champion and we all appreciated the diverse terrain and flora.

We saw lots of *Eucalyptus pulchella* which does not grow in the north and walked through masses of *Bauera rubioides*, *Cyatodes glauca* with amazing reds, pinks and purple fruit, prickly but colourful *Pultenaea juniperina*, white-flowering *Zieria arborescens* and *Clematis aristata*, *Tetrabicha pilosa*, some with white flowers and dozens of other beautiful plants. Alan Gray, Honourary botanist, Tasmanian Herbarium, arrived to speak to us on 'What *Eucalypt* is that?' with armfuls of eucalyptus samples and a head full of knowledge about Tasmania's 30 *Eucalyptus* spp. From our tallest, the 'ruler of the forest', *E. regnans*, to the smallest, *E. vernicosa* which grows on the Hartz Mountain, Alan showed photos and described their distinguishing features. He explained that there are two major groups of eucalypts in our state; the monoclypts and the symphiomyrts (the gums-smoother bark trees-like *E. ovata* and *E. viminalis*). The latter have one, three or seven flowers per inflorescence and have an inner and outer operculum (petals and sepals) while the monoclyptus (ashes and peppermints) have many flowers per inflorescence and only one operculum per flower (a combination of petals and sepals).

The next day our Group was invited by Launceston Field Naturalists to study eucalypts at their beautiful Field Centre, Skemps, where there are about 9 species. Alan taught attendees how to identify *E. Brookeriana*, *E. delegatensis*, *E. regnans* and *E. obliqua* all growing strongly in the first 50 metres of this lovely relic bushland. We came across a tree with an *E. viminalis* sign but Alan thought the leaves too broad, thinking they looked more curved and narrow like *E. dahrymphiana*. As we were unable to find any seed capsules nearby and as Skemps is about 500m altitude where both grow, the mystery is yet to be solved. This showed how difficult it is sometimes to differentiate eucalypts. "Don't get into eucalypts – a most frustrating plant!" said Alan Gray- and he is very knowledgeable!

POM was presented by Margaret Hosford on two of the four *Gaultheria*'s which grow in Tasmania, *G. hispida* and *G. lanceolata*. Margaret showed beautiful photos of both plants growing and self seeding madly in her fernery. ☺

## Northern Group visit an extra special garden:

APST North visited Margaret and John Hosford's extensive and lovely gardens on the Tamar River. They bought part of Windermere Farm in 2001, put in a dam and started the garden before moving there in 2005. There are now hundreds of native plants, mainly Tasmanian, with mature *Acacia melanoxylon* and *Eucalyptus nitans* on the boundaries. They have managed to save a lovely copse of *Melaleuca ericifolia* and *M. pustulata* on their river boundary. Large shrubs of *Westringia angustifolia*, *Correa baenerlenii*, *Calytrix tetragona*, *Ozotamnus* sp. and an endemic *Hakea* sp. form a divide with the dam area where *Ornduffia reniformis* grow. In other areas *Boronia pilosa* blooms along with *Dampiera linearis*, *Phebalium davesii*, *Bossia cinerea*, *Pimelia filiformis* and *Indigofera australis*. A special part of the garden is a shaded area of alpine and sub-alpine plants in a shady, damp and south-facing section. We marvelled at the diversity, healthy growth and floral display in this sloped area below the house. Arranged artistically between rocks were *Anopterus glandulosus*, *Eucryphia milliganii*, *Gaultheria hispida*, *G. Lanceolata*, *Richea pandanifolia* and *R. dracophylla*, *Dicksonia antarctica*, *Lomatia tinctoria*, *Bauera* and *Tasmannia lanceolata*. The *Teloepa truncata* was in full bloom along with a delightful *Bellenden Montana*. ☺

## Group Programmes

### Hobart Group

Hobart propagation sessions are held in a secure location at the rear in the centre of the Kingston Primary School (KPS) behind the 3m colorbond fence, accessed along the path at the rear of the school from the car park beside the basketball courts at the western end of the School, accessed via Sherburd Street. All welcome, so please come join us.

- December 9 Saturday 1.30 pm - Propagation - weed and water check; pot on etc.
- January 6 Saturday 1.30 pm - Propagation - weed and water check; pot on etc
- January 9 to 26 ANPSA Conference and pre and post conference tours - Wrest Point and around Tasmania
- February 3 Saturday 1.30 pm - Propagation - weed and water check; pot on etc
- February 7 Wednesday 2 pm - Kingborough Day Meeting - Centcare rooms for discussion on surviving summer.
- February 14 Wednesday 7.30 pm - Hobart Group General meeting KPS library - presentation by Peter Franklin on the work the Friends of Mt Field group has been and are doing in this National Park, esp. across Windy Moor.
- Late February Walk to be advised in Hobart Group Newsletter.
- March 3 Saturday 1.30 pm - Propagation - preparing for April plants sale, KPS.
- March 14 Wednesday 7.30pm AGM, followed by member' pictorial presentation.

### Northern Group

#### Season's Greetings to all APST members

- December 19 Tuesday 9:30-11:30 Working bee , Native Garden, HFG, Mowbray
- January 15—19 **National Conference — Hobart**
- January TBA Alpine Excursion
- January 6 Saturday 1:00 pm. Propagation APST Nursery, Windsor Park, Riverside
- January 23 Tuesday 9:30-11:30 Working bee, Native Garden, HFG, Mowbray
- February 3 Saturday 1:00 pm Propagation APST Nursery, Windsor Park, Riverside
- February 20 Tuesday, 7:30 pm. Annual General Meeting, Max Fry Hall.
- February 27 Tuesday 9:30-11:30 Working bee, Native Garden, HFG, Mowbray
- March 3 Saturday 1:00 pm Propagation APST Nursery, Windsor Park, Riverside
- March 20 Tuesday, 7:30 pm General Meeting Max Fry Hall
- March 27 Tuesday 9:30 am Working bee, Native Garden, HFG, Mowbray

### North West Group

- December 19 Christmas gathering, Boevink's residence
- December 21 10am Propagation - Arboretum
- January 4 10am January Propagation - Arboretum,
- January 9 – 13 Pre-conference tours.
- January 15 – 19 **Conference week**
- January 20 – 26 Post Conference tours
- February 20 7.30pm North West Annual General Meeting, Mersey Library,
- February 22 10am Propagation - Arboretum

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**APST Directory**


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**COUNCIL**


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Postal address	<b>P. O. Box 3035, Ulverstone MDC, ULVERSTONE TAS 7310</b>			<b>Email:</b>	<b>apstsec@gmail.com</b>
President:	Margaret Killen	0409430665	ANPSA Delegate	Riitta Boevink	6428 6909
Imdte Past President	Dick Burns	6437 2474	Hobart Councillor	Bruce Champion	6294 6970
Vice-President	Jill Clark	6327 2899	Hobart Councillor	David Boyer	6293 1113
Secretary	Mary Slattery	0402784086	Hobart Councillor	Jenny Boyer	6293 1113
Treasurer	Rosemary Verbeeten	6394 4600	Northern Councillor	Jill Clark	6327 2899
M'ship Officer	Frances Taylor	6376 1338	Northern Councillor	Lynne Mockridge	6331 6106
Public Officer	Noel Kerrison	6224 6930	NorthWest Councillor	Riitta Boevink	6428 6909
Publications Officer	David Boyer	6293 1113	NorthWest Councillor	Dick Burns	6437 2474
Journal Editor	Mary Slattery	0402764986			

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**GROUPS**


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**Hobart Group**


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<b>President</b>	Bruce Champion	6294 6970	<b>Postal address:</b>
<b>Vice President</b>	Sib Corbett	6239 1275	GPO Box 1353K, Hobart Tasmania 7001
<b>Secretary</b>	Christine Corbett	6239 1904	<b>Meeting place/time:</b>
<b>Treasurer</b>	Jenny Boyer	6293 1113	<b>General meetings:</b> <u>Kingston Primary School Library</u> second Wednesday of the month 7.30pm except January, June, July and August.
<b>Committee Members</b>			<b>Kingborough Day meetings:</b> <u>Centacare rooms</u> For winter meetings, www.apstas.org.au/calendar
	Christine Howells	6224 4276	
	David Boyer	6239 1275	
	Heather Clark	6267 1590	
<b>Contact Officer :</b>			
	Bruce Champion	6294 6970	

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**Northern Group**


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President	Lynne Mockridge	6331 6106	<b>Postal address:</b> 45, Osborne Avenue, Trevallyn, Tas. 7250
Vice President	Roy Pallett	0438392041	<b>Email:</b> apstasnorth@gmail.com
Vice President	Louise Skabo	6334 6787	<b>Meeting place /time:</b> <u>Max Fry Hall, Gorge Rd, Trevallyn</u> 7.30 pm
Secretary	Peter Dowde	6331 7761	Third Tuesday of the month.(except January)
Treasurer	Rosemary Verbeeten	6394 4600	
Eucryphia Liaison	Louise Skabo	6334 6787	

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**North West Group**


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<b>President</b>	Leoni Read	6491 1632	<b>Postal address:</b> PO Box 3035 Ulverstone MDC, Ulverstone Tas 7315
<b>V/President</b>	John Tabor	6428 6512	<b>Email:</b> apstnorthwest@gmail.com
<b>Secretary</b>	Drew Thomas	6437 1802	<b>Meeting place/time:</b> <u>Mersey Regional Library, Devonport</u> 7.30 pm, Third Tuesday of the month. except January and July
<b>Treasurer</b>	John Boevink	6428 6909	
<b>Eucryphia Liaison</b>	North West Councillor		

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See NW report p. 32 for:

**Top:**  
Memorial Garden, Sheffield

**Left:**  
Daveisia latifolia

**Right:**  
Artist Rob Gower

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Photos:  
© R. Boevink

An example of  
*Myoporum floribundum*,  
as mentioned on page 4





Above: Part of the display at PortSorell Spring Fair by North West Group

Below: The flower table in September at the Kingborough Day Meeting.  
Ladies IL to R: Rose Pennington, Pamela Green, Carmen Walker and Norma Ali

