PENTACHONDRA

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Individual flowers of *Xeronema callistemon*

AUSTRALASIAN PLANT SOCIETY

Promoting the cultivation and conservation of Australasian plants, and their closest relatives, in northern hemisphere gardens

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THIRTY YEARS OF THE APS

Robbie Blackhall-Miles

When we (my partner Ben and I) joined the Australasian Plant Society back in 2012 we joined out of intrigue that such a society existed at all, and I seem to remember us having a conversation that went along the lines of "*Well, we will give it a year and see what it's like*". By 2013 we had written our first article for Pentachondra and attended our first meeting, at the National Botanic Garden of Wales. It was then that we realised that the APS was going to become a part of our lives of which we are both very fond. Little did I know that by the following year I would be making a 'moment of madness' decision and putting myself forward for the Chairmanship. I am, however, very pleased to have made such a decision.

Although we are just a little plant society we are, currently, one of the few plant societies in the UK whose membership is growing. We don't hold flower shows and monthly events like other societies but when we do get together the experience is always worthwhile. Our AGM each year has become an absolute highlight and I always look forward to seeing my colleagues on the committee (who have become good friends) and a whole bunch of you, the members (many of whom have become equally good friends). We swap plants (some of my favourites came to me through the society) and we grow interesting things from our seed list. (I have two *Banksia lemanniana* plants that I never thought would even germinate).

In 2016 we started attending shows again with the RHS Wisley Plant societies show and in 2017 we were honoured to display at RHS Hampton Court Flower Show; I have been told by so many people that our display was the most interesting at the show. It was through our display at Hampton court that we had nearly 8 full minutes of airtime on the BBC!

We were the first of the horticultural plant societies to take conservation to our heart and actively start working towards international plant conservation targets such as the Global Strategy for Plant Conservation and the Aichi Biodiversity Targets. Added to this, we hold at least 14 Australasian plant related National Plant Collections - that I know of.

We are a varied bunch of people to say the least: nursery men and women, people growing a few interesting plants in pots, staff of botanic gardens, head gardeners, scientists, retired teachers, people growing entire collections of just one genus in a back garden and, in at least one case, the owner of a castle (Tom)! We are people from all walks of life and when we come together and start talking about plants it takes a lot to shut us up (I should know - I chair the AGM each year).

And if all that is not enough, we have a library, Facebook group, members area on our website and 700 followers on Twitter too.

I think all that is amazing for 'just a little plant society'!

This year we celebrate our 30th birthday. The society's inaugural meeting took place at the Royal Botanic Gardens, Kew on 11th June 1988 (see pages 12-18 for some recollections of the early days). For a society that started with just a handful of people coming together to discuss their love of growing Australian plants in the northern hemisphere to have grown in the way it has is certainly something to celebrate.

For me the APS has become an integral part of life and something I and pleased to have taken a chance on. I am very proud indeed to be chairman of the Australasian Plant Society.

Can't access the members' area of the website?

Contact webmaster Ben Ram to get a username and password.

APS NEWS

Events

Cookscroft, West Sussex 11am Saturday 9th June 2018

APS members John and Jill Williams' five acre garden, Cookscroft, is located south west of Chichester, West Sussex. Being about one mile from the sea it has a relatively maritime climate. Started in 1988, it features cottage, woodland and Japanese style gardens, water features and perennial borders, with a particular emphasis on southern hemisphere plants. Of particular interest to APS members will be the 40 eucalyptus species together with collections of *Corokia*, *Correa*, *Callistemon*, *Grevillea* and *Hakea* as well as a well grown *Boronia heterophylla* which has survived many years grown permanently outdoors.

This event is exclusively for APS members. There is an admission charge of £5. For more information about the garden, visit www.cookscroft.co.uk/.

Please contact Gary Firth at meetings@anzplantsoc.org.uk if you expect to attend.

Directions: Cookscroft is located in Bookers Lane, Earnley, Chichester, PO20 7JG. Travelling from Chichester, after a long straight road in Birdham go left at the roundabout. One mile further on, on a sharp right hand bend, Bookers Lane goes off to the left from the apex of the bend. There may well be ”Diversion” signs but take no notice. Once you have entered the lane, Cookscroft is the second property on the left. Drive past the house and barns and you will see a double entrance on the left. Go through the first single gate and up the drive, turn right into the field and there is ample parking space.

A satnav should take you straight to Bookers Lane but beware of missing the turn and going too far down.

The Ecology of *Banksia*, *Dryandra* and Other Australian Proteaceae; a talk by Kevin and Kathy Collins

Cambridge Botanic Gardens, Thursday 19th July

REGISTRATION ESSENTIAL

Contact chairman@anzplantsoc.org.uk or write to Judy Clark (address inside the back cover) to register.

Kevin and Kathy Collins of Banksia Farm are the holders of the only complete collection of *Banksia* in the world (at Banksia Farm in the Great Southern Region of Western Australia), and are world authorities on the subject of banksias and dryandras, two of Australia's most iconic genera.

We will meet at 10.30 in the Garden Café. The talk will start at 11 and will be held in the garden's classroom. At 12.30 there will be a complimentary buffet lunch at the gardens (after all, it is the APS' 30th birthday). After lunch there will be a garden tour led by members of the CUBG horticultural team.

The lecture is free to members but there will be a garden entrance fee of £6. More information will be sent on registration.

For more about Banksia Farm there is a very readable article in the February 2018 edition of the magazine Australian Geographic (www.australiangeographic.com.au/topics/wildlife/201 8/02/western-australias-banksia-farm).

Royal Botanic Gardens, Kew Temperate House and Shirley Sherwood Gallery

September 2018

After nearly five years of restoration the Temperate House at Kew Gardens, the largest Victorian glasshouse in the world, has reopened. It holds an internationally important collection of temperate zone plants from Africa, Australia, New Zealand, the Americas, Asia and the

Pacific Islands, including some of the rarest and most threatened.

The inaugural meeting of the APS took place at Kew and this visit during our 30th anniversary year will celebrate this. The It is scheduled for a date between the 1st and 16th September and will include a guided tour of the Temperate House and a visit to the Shirley Sherwood Gallery which has two exhibitions of botanical art featuring Australian plants (see www.kew.org/kew-gardens/attractions).

When full details of this event are available members will be informed by email and details will also be posted on the website (in the members' area). If you do not use digital communication and wish to receive further details please write to Judy Clark (address inside the back cover).

Geoffrey Cooper's arboretum, Oxfordshire: 12.00, Wednesday 12th September

APS member Geoffrey Cooper's six acres of rare trees and shrubs at Singe Wood in Oxfordshire have to be seen to be believed. Geoffrey pays close attention to his plants' needs and to their provenance, and thus succeeds in growing many Australasian species well in what might seem to be a less than auspicious location. He has planted about 600 specimens, including 100 or so eucalypts, along with acacias and other Australasian shrubs and small trees, and *Nothofagu*s from Australia, New Zealand and Chile, as well as trees and shrubs from other parts of the southern hemisphere, north America and Asia, all growing in a beautiful naturalistic setting.

As Singe Wood is not easy to find and parking is limited, we will meet at Geoffrey's house (directions below) and leave at 12.00 sharp to drive to the arboretum, sharing cars if necessary. The terrain is a bit rough - think walk in a wood - and if it has recently rained it could be muddy, so sturdy footwear is a must. You will also need to bring lunch, including something to drink, as there are no nearby facilities.

Please contact Gary Firth at meetings@anzplantsoc.org.uk if you expect to attend.

Directions: Geoffrey's address is Milton House, Cote, Bampton, Witney, Oxfordshire OX18 2EG, grid reference SP353027. From Aston (east of Bampton) travel about ¾ mile towards Standlake and Eynsham on the B4449 until you come to a crossroads. Turn right (towards Cote and Old Shifford; the lane has no name) and Milton House is about ¼ mile on the right. The entrance is between two stone pillars. Please park in the grounds, not on the road verge.

Great Dixter Autumn Plant Fair: 11am-4pm, Saturday 6th and Sunday 7th October

Now under the stewardship of Fergus Garrett and the Great Dixter Charitable Trust, Great Dixter was for many years the family home of eminent gardener and gardening writer Christopher Lloyd. Great Dixter's plant fairs attract specialist nurseries from all over the UK and Europe and this year the APS will be attending to sell plants and publicise the society.

Great Dixter is located just outside of Northiam in East Sussex, post code TN31 6PH; there are directions at www.greatdixter.co.uk. Entrance to the fair is included within a garden entry ticket.

AGM 2018: Lullingstone Castle, 10 am, Saturday 10th November

All members are invited to attend the APS AGM which, thanks to our President's continued generosity, we are again holding at Lullingstone Castle in Kent (www.lullingstonecastle.co.uk).

This is always a terrific day, not least because the business aspects of the AGM are confined to the morning session and the remainder of the day is pure pleasure. After a buffet lunch Tom will take us round the World Garden and his varied undercover collections. In between there will opportunities to catch up with old friends and make new ones, to purchase plants from specialist growers, and to swap plants with other society members.

Library

Many thanks to David Cooper who has catalogued our collection of books on Australasian plants, housed at Lullingstone Castle in Kent. The catalogue can be viewed in the members area of the APS website. To arrange a visit to the Library contact Tom Hart Dyke at president@anzplantsoc.org.uk.

Back issues

The back issues of Pentachondra contain a wealth of information from thirty years experience of growing Australasian plants in the northern hemisphere, Almost half of them are now available on the APS website (in the members' area) thanks to the work of David Cooper and Tim Smith (scanning) and Ben Ram (uploading). We hope to post the rest by the end of 2018.

Pentachondra was produced digitally from number 40 onwards so these issues can be searched. We have hard copy indexes for issues 1 to 30, prepared by Pat Anderson, but unfortunately the font is too small for them to be scanned. Does anyone have these in digital form? And would anyone like to volunteer to prepare an index for issues 31 to 39? In either case please contact Judy on editor@anzplantsoc.org.uk.

2018 Seedlist

The 2018 seedlist includes new stock of some the most popular species, and of Kirstenbosch Seed Primer paper discs, as well as some new items, most of which have been added in response to requests from members. You are an eclectic lot when it comes to what you'd like to try and grow, resulting in the addition of species that I would never otherwise have considered (and have never tried from seed).

For gluttons for punishment there are some species from genera known to be difficult to germinate including *Lechenaultia biloba*, *Verticordia plumosa* and *Eremophila maculata*. The article on page 6 should help, but you will probably have to experiment, as I expect you will if you try to grow either of the hemiparasites *Nuytsia floribunda* (Western Australian christmas tree) or *Amyema preissii* (wire-leaf mistletoe). These species, members of the Loranthaceae, require host species. Ralph[1] suggests *Acacia* or *Allocasuarina* for *Amyema preissii*; and a native shrub or grass for *Nuytsia floribunda*. The hosts may well prove much easier than their hangers-on! Nuytsia is reputed to be difficult not so much to germinate as to grow, as without a suitable host for their roots to latch on to the seedlings will remain small. Turning to Ralph again, for mistletoe he suggests: *Place the seed directly on the bark of a suitable host. Remove the outer layer of the seed*."[2]

For the first time there is a fern on the seedlist: *Cyathea medullaris* (black tree fern, mamaku, black mamaku), the tallest of New Zealand's tree ferns, If you're not familiar with growing ferns from spores general information for beginners can be found on the website of the British Pteridological Society (ebps.org.uk).

Xeronema callistemon (Poor Knights lily - so called because its original home is the Poor Knights Islands off the Whangarei coast of New Zealand's North Island) has been on the seedlist previously but is said to germinate best from fresh seed, so now is the time to try it. But be warned, patience is needed as it

More germination information

Useful 'Seed Notes' providing information on seed identification, collection, biology and germination for a wide range of Western Australian native species can be found at www.dpaw.wa.gov.au/about-us/science-and-research/publications-resources/114-seed-notes-for-western-australia. The Seeds of South Australia website (www.saseedbank.com.au/) is still being actively developed but already contains information about 804 genera and 2,990 native species, including, where known, germination information.

takes ages for growth to get going; 8cm in two years according to one website[3]. Sean Boast, who has flowered it at Abbotsbury Subtropical Gardens in Dorset (front cover and page 9) says it took seven years! Unfortunately Poor Knights lily does not tolerate frost.

You may well ask why, when we already offer so many, another acacia and two more eucalypts have been added to the list. Well, two of the three - *Acacia pataczekii* (Wally's Wattle - see page 25) and *Eucalyptus morrisbyi* (Morrisby's Gum) are rare Tasmanian endemics, respectively threatened and endangered in the wild. Growing such plants in northern hemisphere gardens can help contribute to their conservation, even if only in a small way. The seed of the other eucalypt, *E. pauciflora* (snow gum), came from a tree grown in Vancouver in Canada, and like the *A. pataczekii* seed, was donated by Maurits de Vries.

Some of you may find that your requests are not on the seedlist. This is usualy because a supplier could not be found. In particular, species native to higher altitudes are very difficult to source. We would also love to offer more grevilleas as there are many that ought to be reasonably hardy in the UK, but those on offer are mostly from warmer areas and won't take any frost. The two species new to the seedlist, *Grevillea crithmifolia* and *G. paniculata*, can both be grown in Canberra gardens. They might just do outside here, and should certainly be fine overwintered in a frost free place.

An order form is enclosed with this newsletter, for orders by post, or you can download the same form from the website and email your order to seed manager Janet Miller. Please remember that Janet is not superhuman, and at busy times she may not be able to deal with your order immediately.

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1. Ralph, M. (2003). *Growing Australian Native Plants from Seed* (second edition).

2. ibid. p. 47.

3. Tawapou Coastal Natives. The Poor Kinights Lily, Xeronema callisteon. Available at http://www.tawapou.co.nz/about-native-plants/the-poor-knights-lily-xeronema-callistemon. [Accessed 18 May 2018].

Contribute to Pentachondra

Many thanks to everyone who has taken the time to write something for this issue. It's your contributions that make our journal so special. For the next issue articles about success with seed, or otherwise, and about the impact (or not as the case may be) of the 'beast(s) from the east' on your plants will be particularly welcome, but don't feel you need to constrain yourself to these themes.All that's required is that articles have some connection with Australasian plants and their allies. You could tell us about your own garden, where it is, what the soil and climate are like, and the successes, and otherwise, you have had growing Australasian plants. Or how about recommending a book, or a garden or nursery that you enjoyed visiting?

The deadline for the next issue is **21st October 2018**. If you have any questions about contributing please don't hesitate to contact Judy at editor@anzplantsoc.org.uk; she'll be delighted to hear from you.

SMOKE GERMINATION OF AUSTRALIAN PLANTS

Kingsley Dixon

Introduction

Fire has played a significant role in the ecology of the Australian flora at least since the arrival of arid conditions in the mid-Tertiary. In fire-prone floras, particularly those of mediterranean zones, fire has been shown to be crucial for the recruitment from seed of a wide variety of taxa. For seeder or fire-sensitive species and fire ephemerals, fire is the single most important cue for triggering germination of the dormant soil seed bank. For many fire-responsive taxa, germination of viable seed under controlled conditions has been difficult or impossible using conventional treatments other than in vitro excised embryo culture or complex and often difficult to apply pre-treatments including hormonal applications. However, my research has now shown that smoke responsive species occur throughout the world's plants from fire-prone to non-fire-prone floras.

The role of smoke in germination

Smoke is a key principal in breaking seed dormancy in a wide variety of native Australian species. Many studies over the years since the discovery for Australian species in 1993 of the action of smoke in germination have found that smoke:

- Promotes faster and more uniform germination under controlled greenhouse and laboratory conditions.
- Enables germination in species previously thought difficult or impossible to germinate by conventional means e.g. *Geleznowia* and *Eriostemon* (Rutaceae); *Hibbertia* (Dilleniaceae); *Stirlingia* and *Conospermum*, *Grevillea* and *Hakea* (Proteaceae); *Verticordia* and *Calytrix* (Myrtaceae); *Pimelea* (Thymeleaceae); *Blancoa* (Haemodoraceae); and *Stylidium* (Stylidiaceae).
- Promotes germination in species with low levels of germination e.g.*Anigozanthos* and *Conostylis* (Haemodoraceae); *Thysanotus* and *Burchardia* (Liliaceae); *Patersonia* (Iridaceae); *Lechenaultia* (Goodeniaceae); *Gyrostemon* and *Codonocarpus* (Gyrostemonaceae); *Stackhousia* (Stackhousiaceae); and *Hybanthus* (Violaceae).
- The promotive effect is independent of seed size and shape; plant life form i.e. whether annual, perennial, herbaceous, seeder (fire-sensitive) or resprouter (fire-tolerant).
- Aerosol smoke, smoke dissolved in water or direct smoked solids (activated clays, sand particles) or direct-smoked seeds are effective methods for delivery of smoke for seed germination.
- High doses of smoked water can inhibit germination of many species e.g. paper daisies (Asteraceae).
- As seed ages it can change in its ability to respond to smoke such as in *Conostylis* which has cyclical dormancy – seed dormancy cycles in and out of smoke responsiveness each 6 months or so.
- Ageing seed in soil for 1–2 years and repeat smoke application will result in high germination of smoke 'recalcitrant' species in the Ericaceae, Proteaceae, Cyperaceae, Restionaceae, Rutaceae and others.

Smoke methods (see figure page 9)

Sown seed trays or seed are placed on an open mesh, two tiered frame in a sealed, plastic tent approximately 2 x 2 m and 1.4 m high. Smoke is generated by slow, controlled combustion of a mixture of fresh and dry leaf and twig material from a range of plants avoiding too much myrtaceous material due to the high level of oils in the leaf material that can be 'distilled' over onto the seed trays. The

drum is fitted with an inlet through which air is pumped at the rate of 60–100 litres per minute, and an outlet connected to a 1.5 m long pipe. A 2 m length of flexible stainless steel exhaust piping approximately 50 mm in diameter is connected to the plastic enclosure ensuring that smoke is injected towards the roof of the tent. This ensures that there is adequate spread of smoke inside the tent.

After smoking for 60 minutes, trays are transferred to the glasshouse and watered carefully for the first 6–10 days to ensure that the soluble promoter in smoke comes in contact with the seeds but not washed through the mix before reacting with the seed. Watering is then continued as for normal germination.

Seeds can also be direct smoked. In this instance, air-dried seed is laid out in a single layer in trays. The trays are smoked for 60 minutes in the fumigation tent (as described above) and seed is then sown or stored dry until required. Unlike smoke applied to soil containing sown seeds, smoked seeds can watered as for normal seed trays.

Smoke water

Smoke water can be useful for direct priming or pre-germination of seeds prior to sowing. Smoke water-treated seeds have the advantage of not requiring the use of the smoke tent and the convenience of priming seeds at will. Smoke water-treated seeds may germinate better than smoked seedling trays with the process applicable to handling potentially large quantities of seed such as for land restoration or automated seed sowing devices.

Smoke water is produced by drawing smoke produced from the combustion drum operating as for aerosol smoke, through a 20 litre container of water. Smoke bubbling is done for approximately 60 minutes and the resultant solution is frozen till required. It is important to note that commercial smoke water products are available but if they are derived from wood this smoke water can be highly suppressive of germination.

Seed to be treated with smoked water is soaked for 12 hours in a 10% solution of the neat solution and then sown or dried then sown as required. Seed treated with smoked water can be watered normally after smoking. Although this method has been shown to be useful for a number of native species, caution is recommended as seed of some species can degenerate if soaked in water for prolonged periods. Pre-germination as a horticultural practice for seed of Australian native plants requires some experimentation to ensure the process is applicable.

In situ habitat germination studies

Smoke fumigation treatments can be applied directly to habitat sites and for a range of species germination will happen in 6–8 weeks after treatment. This technique is particularly useful for soil seed bank auditing (determining how large a native soil seed bank is) and for patch stimulation of rare species. The benefit is that the process is defined rather than the use of prescribed fire which can result in highly patchy germination.

Smoke is generated as above and applied to sites where excess leaf litter and larger plants have been removed to prevent ‘shadowing’ of the soil from smoke. Tents are erected over the sites, usually 5 x 1 m and 40 cm high, and smoke is pumped into the tent for 60 minutes. In temperate regions of Australia, the best results are achieved if smoking is done in summer to early autumn so that leaching of the smoke products coincides with the onset of the first rains. Smoking undertaken at other times of the year appears to yield less germination for taxa which respond to summer/autumn smoking.

The Australian Flora Foundation

This article appears by kind permission of the Australian Flora Foundation and was first published in January 2017 in their newsletter, *Research Matters*.

The Australian Flora Foundation (http://aff.org.au/) is an Australian not-for-profit charity dedicated to fostering scientific research into Australia's flora. It is totally independent. All members of the Council and the Scientific Committee give their time freely as volunteers.

Each year the Australian Flora Foundation provides funding for a number of grants for research into the biology and cultivation of the Australian flora. While the grants are not usually large, they are often vital in enabling such projects to be undertaken. Many of the researchers are honours or postgraduate students, and their success with an Australian Flora Foundation grant hopefully stimulates their interest in researching Australia's unique and diverse plants throughout their careers. This work is only made possible by the generous support of donors and benefactors.

Summary

Smoke derived from the combustion of plant material enhances seed germination in a wide range of native species that will not germinate under normal nursery conditions. Species in the families Rutaceae, Restionaceae, Ericaceae, Thymeleaceae, Proteaceae and Dilleniaceae and many other species in other families have improved germination in response to the application of smoke, smoke water or the key germination promoting agent in smoke, karrikinolide. Genera known to be highly recalcitrant to conventional seed propagation which respond to smoke include *Stylidium* (Stylidiaceae), *Geleznowia* (Rutaceae), *Hibbertia* (Dilleniaceae), *Stirlingia* (Proteaceae), *Verticordia* (Myrtaceae), *Actinostrobus* (Cupressaceae) and *Pimelea* (Thymeleaceae). Germination percentages of species which normally germinate in small numbers are positively influenced by smoke treatment. Seed size varied amongst all positively responding taxa. Within the Ericaceae, small-seeded (*Lysinema* and *Sphenotoma*) but not larger, woody-fruited species respond to smoke however both seed types respond under field stored seed. Significant applications now exist for the use of smoke in germinating a wide range of species for horticulture and land restoration.

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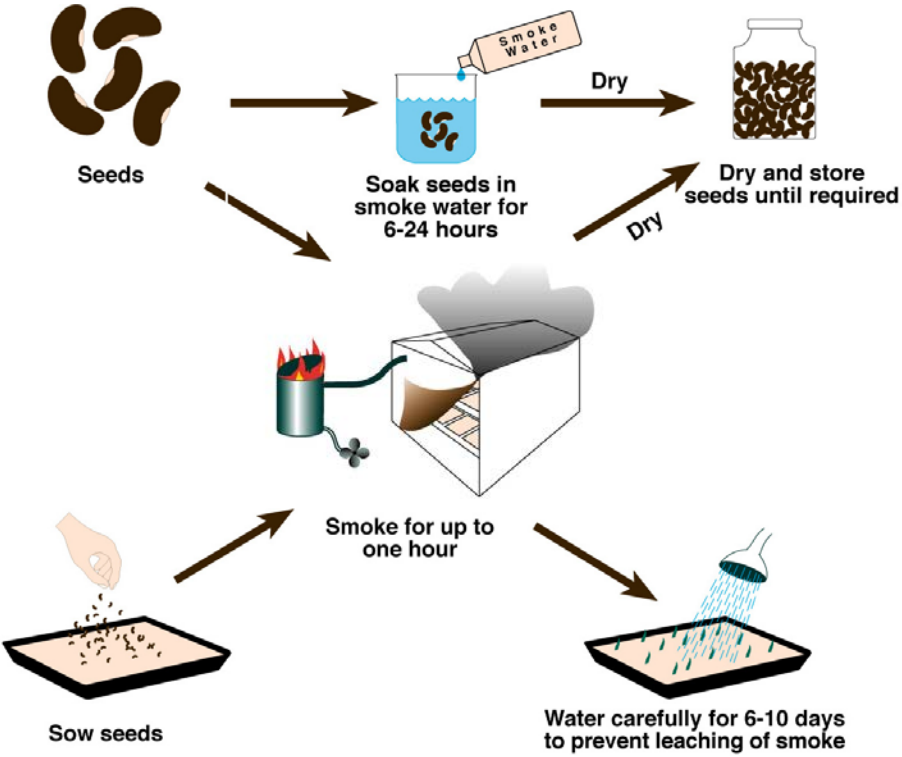
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About the author

Professor Kingsley Dixon is an academic in the Department of Environment and Agriculture at Curtin University and at the University of Western Australia and is a Visiting Professor at Kings Park and Botanic Garden. In addition, he is a valued member of the Scientific Committee of the Australian Flora Foundation. His research areas are in conservation science, restoration ecology and plant science. Professor Dixon was named Western Australian Scientist of the Year in 2016.



above

How to use smoke for germination of native Australian seeds



right

Poor Knights lily, *Xeronema callistemon*, flowering at Abbotsbury Subtropical Gardens in Dorset, April 2018



Hovea elliptica

The photo on the right gives a sense of the plant as a whole while in the photo below the standard nine-inch bricks of the wall give some idea of its size. The third photo shows an individual flower cluster.





HOVEA ELLIPTICA

Tim and Gillian Burr

For anyone who shares our interest in the plants of Western Australia, A. R. Fairall's *Western Australian Plants in Cultivation* is still a valuable work of reference. Arthur Fairall was Superintendent of King's Park, Perth, during the 1960s, when the native plant Botanic Gardens was established. His book was heralded as the first on the subject to be based on actual experience in Western Australia. He is frank about the setbacks as well as the successes, and never more so than with the genus *Hovea*, on which he writes:

"To date, the only successful species in the botanic garden is H. trisperma, the seed of which was sown direct into the ground in autumn. Nursery raised plants of this and other species have failed soon after planting out" (1970: 164).

From our visit to Western and South Australia in 2014, we were allowed to bring back just ten packets of seeds (five each). One of these was *Hovea elliptica*, a species confined to the south-western toe of the continent, and endemic to Western Australia. We managed to get seed from nine out of the ten species to grow (proof that it was possible), but the germination rate was generally poor. In the case of *H. elliptica* it was just one plant. Potted out, it put on a few leaves and then ground to a halt, and so remained for about a year. We faced a 'Fairall moment', whereby the plant would fail soon after planting out.

So we took an executive decision, based on the principle that if a plant isn't growing, it's dying. Leaving it in the pot would literally be a dead end. Planting it out in the glasshouse soil was a big risk, especially as the glasshouse was filling up fast, and there were no well-lit corners left in which a small and struggling plant might stand a good chance. Why should we succeed where King's Park Perth had failed? And yet – this was a plant of the Jarra forest, of the 'bush' which we were trying to recreate on a small scale, where big shady plants create their own microclimates, and one plant rambles through another. At least it wasn't a Wisley-style test plot.

We planted it close to the brick pediment of the greenhouse, shaded by a 3m *Alyogyne hakeifolia*, and dominated by a rampant *Melaleuca decussata*, not to mention some straggling *Derwentia perfoliata*. But the location did have a couple of redeeming features. The ground dropped away on that side of the glasshouse, so the brick pediment acted as a retaining wall, and the soil in the glasshouse was some distance above the external garden soil. So water would readily drain to the garden level, however much we watered the plant. And the double brick wall completely shaded the soil, making for a cool root run despite summer temperatures up to 35ºC. The glasshouse location is Watersfield, West Sussex, and the soil is alluvial, on the edge of the Pulborough Brooks.

That was two years ago, and *H. elliptica* has steadily grown to a metre-high plant. Fortunately, it is of erect rather than spreading habit, or there wouldn't be room for it. New shoots are always reaching upwards. But we never seriously expected it to *flower*, and certainly not to produce dozens of flowers.

At its coldest, the spell of Siberian weather in early March had forced us to keep the glasshouse heating on all day and night, so we were looking for plants that might have succumbed rather than delightful surprises. But as the weather improved we noticed that our *Hovea* was covered in buds like little mittens, breaking into typical Fabaceae flowers of a deep shade of blue. The first of the two photos (opposite) shows a macro shot of an individual flower cluster, while the

second gives a sense of the plant as a whole.

Beth Chatto said of her Essex garden (one of our favourites):

"I try to follow Nature (not to copy her; we cannot do that in a garden), putting together plants which have similar needs in a situation for which they are adapted" (2002: 9).

We would like to think that success with *H. elliptica* is based on the same principle of the 'togetherness' of plants, few of which are found in isolation. Instead they not only *occupy* situations for which they are adapted but help create and sustain those micro-environments. What we have in the glasshouse is not so much a collection of Australian plants, but a mutually supporting bush garden. Or that at least is what our *H. elliptica* seems to think.

We would be interested to hear of anyone else's experience with growing this or other *Hovea* species. What little there is on the internet seems merely to emphasise the difficulties.

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Germinating *Hovea elliptica*

The seeds were purchased from the shop in King's Park, Perth, and were packed by *Australian Wildflower Seeds Pty Ltd*, as were 'the *Wildflower Seed Starter Granules* containing the smoke extract karrikinolide. Essentially we just followed the instructions on the packet, as follows:

"*Place seeds in a cup of hot water with Seed Starter liquid or granules added. Leave overnight then drain and sow. Fill small pots with moist sandy soil and compress. Sow 2 or 3 seeds 6 mm deep into each pot. Keep soil moist, not wet. Cover pots with clear polythene - remove this as soon as seeds start to germinate. Place in warm but shaded position to germinate. Germination commences in about 2 weeks for swollen seeds and 12 weeks or more for unswollen seeds.*"'

IN THE BEGINNING: MEMORIES OF THE EARLY DAYS

How it all began and how it's evolved

Sue Hyams

Back in the 1980s, Jeff Irons visited the home of the very keen plantsman, Dewi Price. In issue 9 of the APS Newsletter (November 1992), there is an article 'Remembering Dewi Price' who had recently died. Quoting from that article: "*Jeff Irons recalls that day, when they were at Dewi's home in Mumbles, Dewi said that he thought that they were probably the only two people in Britain who were interested in Australian plants as well as those of New Zealand. That chance comment led, some 18 months later, to an informal meeting of some 6 people. That, meeting led to another, and subsequently to the formation of the Society.*"

Jeff himself was a phenomenal plantsman, known in Australia as well as the UK. He was always happy to share his knowledge, and his experience of cultivating his favourite plants in his garden on the Wirral. Forming a plant society was the ideal way to do this. Initially taking the role of Secretary, he would later become President.

Another founder member of the APS was Tony Entwistle, who was Treasurer for

many years. Tony was very keen on unusual plants, including Australian ones. Like Jeff, he would experiment with ways to improve their germination, using smoke or gibberellic acid, among other approaches. His Cheshire garden provided a home for a wonderful collection of plants and in the newsletters we were treated to regular reports.

Another founder member was Brian Halliwell, a one-time Curator at Kew. His particular interests were the alpine plants of Tasmania and New Zealand.

I'd always been interested in Australian flora and fauna but I couldn't find the information I was seeking in the UK. So I purchased several horticultural books direct from Australia where I came across mention of the SGAP (Society for Growing Australian Plants). Contacting the Western Australian branch to subscribe, the secretary of the society told me about the embryo UK group of people interested in growing Australian plants, and provided me with Jeff Irons' address, which I subsequently contacted.

In June 1988, there was the first meeting, held in a small meeting room at Kew Gardens. I can remember very little of the meeting or who attended, but I think the following people were there: Jeff Irons (Secretary), Brian Halliwell (Chairman), Tony Entwistle (Treasurer), Dennis Rowlinson and his wife Ann, Jeff Layman, and Dewi Price.

The society was originally called the 'Australian Plant Society'. After a year it changed to the 'Australasian Plant Society'. It was thought that restricting the society to just Australian plants, would limit the number of subscribers.

The Newsletter

The newsletter has evolved over the years. The early issues, produced by Jeff Irons, were just 3 or 4 pages of A4 paper, filled with articles mainly written by Jeff and Brian. Gradually, members started to contribute their own articles, many describing their own experience of growing Australasian plants. As a result, the newsletter gained more pages.

In 1991, I took over the job of editor and newsletter producer. In 1992, the newsletter took the form of an A5 booklet. By this time the number of pages had increased to 28, and members numbered approximately 60. Pen and ink drawings of plants illustrated the issues. Three years later, the newsletter was given a new cover design; it was now named Pentachondra after a genus found in both Australia and New Zealand.

Colour photographs appeared for the first time in the December 2004 issue, as well as on the cover. In 2007 Judy Clark took over as newsletter editor and producer. The issues just keep getting better and better.

Meeting other members

From the beginning there has always been an AGM. Often held in London, it was sometimes not very well supported. Some members felt it would be worth a try to have regional meetings too, to cater for those members who did not wish to travel great distances. 1995 saw the first Northern Meet. Organised by Dennis Rowlinson and held at his own house and garden, 10 members turned up to discuss their experiences and see Dennis's plants. In 2003, Judy Clark held the first Southern Meet in her home and garden. These regional meetings were very well supported.

Our society today

There have been several changes to the committee over the years. Many of the members attending the first meeting are no longer with us: Jeff, Tony, Dennis, and Brian. Thomas Ross, an early member, who collaborated with Jeff Irons to write and publish *Australian Plants: A Guide to their Cultivation in Europe*, has also died. But their legacy lives on. We are all more

knowledgeable about our favourite plants thanks to their dream to set up our Society.

Australian Plants: A Guide to their Cultivation in Europe

Published in 1997, this highly regarded book by Thomas Ross and Jeff Irons is available to APS members for just £10 plus postage. As well as detailed accounts of 142 Australian plants particularly recommended for cultivation its Plant Reference List contains detailed information about the characteristics and requirements of a further 500 or so species. To purchase, contact Judy editor@anzplantsoc.org.

Ancient history

Jeff Layman

Some background….. I first became interested in plants in the mid 1970s, when a friend gave me several cacti. That seemed to precipitate what has turned out to be persistent, and incurable, "galloping plantitis". I became fascinated by the vast range of plants and their forms and started reading everything about them I could lay my hands on. (This was, of course, pre-internet. Books, plant magazines, and botanical gardens were the main sources of knowledge.)

Although most books concentrated on well-known plant regions such as China and North America, my focus was on Western Australia (WA). Somewhere I had read that this region had the greatest range of endemic plants in the world as it was so isolated, and some of the strangest. Most certainly, any photos I had seen of the WA flora just raised my curiosity about these strange plants. When compared to other flora, such as that of South Africa, there were very few books on this area. And that just increased my desire to see these plants in their habitat.

Luckily, I had kept in touch with an Australian friend from my university days, and she invited me to stay with her and her husband (and week-old baby!) in Perth. Even more luckily, she lived less than half a kilometre from Kings Park.

And so in August 1982 I made my first visit to WA. A couple of circular five day plant-based coach trips, the first to Kalbarri, and the second to Albany, just confirmed that I had made the right choice in selecting the WA flora as my main area of interest. I made a second trip in September 1986, this time flying to Kalgoorlie and then driving myself south, visiting Esperance, Cape Le Grand, and eventually The Barrens (Fitzgerald River National Park). This was at the end of a six week holiday, starting in Darwin, and taking in Kakadu, Cairns, Alice Springs, and Uluru on the way. I think it fair to say I saw a reasonable number of Australian plants on the way round!

By this time, I was growing quite a few WA plants from seeds I had bought at Kings Park, and one or two others I had bought in the UK. But I had no knowledge of anyone else interested in these plants in the UK. I had been a member of the Western Australian branch of the Society for Growing Australian Plants since I had caught the bug in 1982, and they had a journal and newsletter. They were useful, but of course focussed on growing in Australia itself. I was a member of the RHS, but I can't remember seeing any articles on WA plants.

Then, some time in 1987 or 1988, I saw a small advertisement at the back of one of the issues of the RHS journal *The Garden*, which invited anyone interested in growing Australian plants to contact the newly-formed Australian Plant Society. I did contact the APS, and the rest, as they say, is history.

It's all a bit vague now, but I remember going to the first meeting in a small room at Kew Gardens in 1988. Jeff Irons came

over and introduced himself, followed, if I remember correctly, by Tony Entwistle. I believe that Brian Halliwell and Sue Hyams were there, too, and I think someone else from Wales. (I am not referring to Graham Sumner - the man I am referring to was Welsh, but I cannot remember his name.)

Since that time I have been to a few AGMs and other meetings, and have seen many changes. Some time during the early 1990s it was proposed that we include New Zealand flora as well as Australian. That was accepted, although not suggestions to add South African and South American flora.

I don't consider myself a particularly active member, but I do have one claim to fame (infamy?). Some time after we became the Australasian Plant Society, it was suggested that we develop a website to help increase knowledge of the Society and the growing of Australian plants in general. This was discussed ad infinitum at several AGMs, but no progress was made.

Eventually Keith Larkin (a past chairman of the APS) created some pages ready for an appearance on the internet. I even put together some wording about the Society. But once again things seemed to get bogged down in making decisions, or to be more accurate, lack of them. What were we to call ourselves? What was our domain name to be? Just about everyone agreed that the obvious one, www.australasian plantsociety.com, was just too much of a mouthful, and anyway we didn't want to be a “dot.com”. So I am afraid that I must claim responsibility for our internet moniker which ever since has been www.anzplantsoc.org.

Over the past 30 years I have seen the membership of the APS rise and fall, and rise again. It is now pretty healthy, thanks to new - and much younger - enthusiastic members. This is indeed fortunate, as it has generated new ideas and new methods of communication through social media. When I first joined the APS, few people had computers. Now it is the other way round - few do not have computers, as most have smartphones of some sort. It will hopefully be easier to reach those who might like to become members.

As for us older members, well, I hope I might be able to contribute a similar article for our Golden Anniversary!

The first thirty years: a personal reflection

Graham Sumner

The news that the Australasian Plant Society is now thirty years old came as something of a surprise: ‘that long?’; ‘so soon?’. From my personal gardening perspective the APS is a part of the furniture. I was never much of a gardener at all for the first forty years or so of my life. I had played with growing vegetables, and keeping what lawn I had trim, generally attaining results slightly better than failure in both areas. But then, just before the society was founded, I ‘discovered’ Australia. In 1980 I hauled my then young family off to northern New South Wales for a six month visiting position in Armidale, up on the Northern Tablelands. Arriving there at 1,000m above sea level early one frosty July evening, by taxi, from Brisbane (that’s another story!), was a thermal shock to say the least, as it must have been for the taxi driver still in T-shirt and shorts. The arrival was also the start of something new and significant for my career, but with similarly far-reaching, unexpected fringe benefits for my garden.

It was the start of a love affair with the Australian environment and, in particular, a fascination with Australian flora. Numerous further work visits followed to various points around the country – Brisbane, Perth and Townsville principally - each reinforcing my interest, and each allowing me to gather large

amounts of material about the native flora as well as carrying out the rainfall research I was there for. As far as I can recollect, my attempts at growing half of Australia in my back garden in coastal west Wales started around 1985 or 1986.

So, at just about the time that I was grappling with growing Australian plants, up popped the Australasian Plant Society. I cannot remember how I first heard about it or when exactly I joined up, but it must have been early on in the society's life. My initial attempts, pre-society, had been based on making hopelessly optimistic assessments based on perceived, often misunderstood (even as a climatologist), similarities between Welsh climates and those of Tasmania and upland parts of Victoria, and on the equally optimistic assessments of a well-known UK seed supplier whose lists were particularly well-endowed with Australian species. Many young plants succumbed to the combined effects of cold and wet during those first winters of experimentation, but not before my neighbours and my students (and I) had become increasingly concerned that my harbour-side garden might be a bushfire risk! Those which survived (mostly *Eucalyptus*) really grew, to the extent that I remember felling many once they exceeded the height of the house, before they had become too tall and unwieldy. I was younger then! Some young *E. globulus* really belted away and were soon visible over the house roof from the other side of the harbour, before a frost finally killed them. One local fisherman was convinced that someone had been poisoning my trees, I had so many, frankly out-of-control, and highly visible, Tasmanian blue gums killed by that same frost!

My involvement with the APS has been a two-way exchange, but I must have taken more than I have been able to give over the years. I have always been an inveterate hoarder, but when we downsized our house (though not garden!) and moved to Oxfordshire three years ago, I was uncharacteristically thorough and brutal in pruning my personal possessions. As a result I now have no issues of Pentachondra (or its Newsletter predecessor) prior to 2015.

However, I have uncovered digital remnants of my long association with the society. The search has turned up numerous letters to Jeff Irons, Tony Entwhistle and Sue Hyams in the early 1990s, as well as articles I had written going back to 1991. In one letter to Sue, I must have been responding to a piece she wrote for the Newsletter mentioning that lilly-pillies (*Syzygium*) made good indoor plants. By chance I had been very successful at growing *S. oleosum* from seed, and following on from Sue's article, started over-wintering specimens indoors as well as in the conservatory. I well remember that after a couple of years both my son's and my daughter's bedrooms had two metre tall specimens (they were mostly away at university anyway), and all in the family objected to my use of one in the lounge bedecked as a Christmas tree. I thought it looked absolutely fantastic! I also populated our local area with many, many specimens once my first seedlings had flowered and produced fruit and seed. Everyone I knew in my part of Ceredigion knew what a lilly-pilly was! I still have one, which I had given to my son, and which has somehow survived his neglect and many frosts. This is the only large plant which is still regularly given winter indoor shelter, by a window in my garage.

I would like to think that my articles through those 20 years from the first in 1991 showed a trend of emerging understanding, but I appear to have continued trying to 'push back the boundaries'. The last I wrote from Aberaeron was a tale of woe (but then weren't they all?) about the aftermath of the twin cold spells in the winters of 2009-10 and 2010-11; the latter saw a

temperature of –12°C early on Christmas morning 2010, a mere 200 metres from the thickly frozen harbour. After the resultant mass culling of Australian plants in my garden, my wife finally persuaded me to move house to be near our daughter and her family. The title of my Pentachondra contribution in 2011 was *And his epitaph shall say, 'He used to grow Australasian plants'*! We took three years to sell up and in that period I mostly gave up growing any more Australian or New Zealand natives, save tending numerous surviving *Callistemon* spp., from which I collected seed, still viable in 2018, and leaving a solitary *Euchryphia*, several *Hebe* and a single *Acacia retinodes* outdoors in the garden by the time we moved in January 2015. The latter had been given winter shelter in the conservatory in a large pot until 2014.

My first seed check list in 1986 (yes, sadly, I have it still!) included *Anigozanthus manglesii*, *Stenocarpus sinuatus*, *Ficus macrophylla* and *Eucalyptus citriodora*. Some hope! Most died, of course, but I do remember donating a very large Moreton Bay fig (*F. macrophylla*), top heavy in a rather modest pot, to the local comprehensive school, for their newly completed and light entrance hall area. I doubt very much if it is still there. I note that even by 1993, following a couple of years of APS membership, my seed list was still what I would now consider to be outrageously optimistic. I only wish I could have been more phlegmatic when it came to frequent inevitable failure, both then, and now.

But then there are often pleasant surprises, too. Three days after the 'mini-beast' in mid-March 2018 I was amazed to see the first flowers opening on a *Leptospermum lanigerum*, sheltered against a west-facing house wall. Back in Wales I had a large conservatory, which in the winter became a refuge for many increasingly large specimen trees in very large and heavy pots. When I think about the twice yearly migration twixt garden and conservatory I know that I now cannot blame my bad back entirely on the house move three years ago. In Harwell (Oxfordshire, where I now live) I must contend with potentially even more frequent and severe frosts, alkaline soils and no conservatory. After three years, the garden is still more of a blank canvas than I would like for Australasians.

I have slowly learnt what might, just might, survive over my more than 30 years of trying to grow Australasian plants (those boundaries again). Looking back, this has been a steep learning curve, initially trial and error, mostly the latter, but then guided by the articles written by other members of the society in the Newsletter and, later, Pentachondra. These have simultaneously inspired, informed, and occasionally made me a little envious as I coveted others' successes. In addition, the species in the society's seed list may have a provenance in the UK, and so I can hope that I am in with a chance. No longer do I necessarily believe what mail order plant or seed lists say regarding the hardiness of Australasian plants, and sometimes my own success belies what I read on websites and in print. The hardiness ascribed to *Callistemon* is, in my experience, very frequently under-rated, even by the RHS. Here, encouragement through Pentachondra's pages and my own trials have given me a surplus of such plants, often given away or sold at the village gardening stall, grown from home-harvested seeds. One additional and major spin-off from belonging to the society has been my acquisition of Thomas Ross and Jeff Iron's book (see box page 14). This has proved most valuable, and has become a valued source of reference when looking for possible alkaline and frost tolerant Australian species for my new Oxfordshire garden. It has become my 'bible'.

Which brings me back to 2018. As I write in late March, we have recently returned from our winter break to the Algarve, where I left rampant eucalyptus and acacia in full bloom; how I wish... We missed the 'beast from the east' of late February and early March by a day or two, but not the 'mini-beast' in mid-March, although at least for this event I was home to put covers on a couple of the most vulnerable plants.

Recent checks following both 'beasts' have revealed some damage to foliage, particularly to a prized, young *Eucalyptus nicholii* (covered for the second cold snap, as one might close a stable door, to stave off further damage). Otherwise, all my *Callistemon* (*citrinus*, *linearis*/*rigidus*, and *pallidus*), save those chlorosis affected plants mentioned in Pentachondra 59, seem happy and mostly undamaged. My *Leptospermum* (*grandifolium* and *lanigerum* (see above)), numerous *E. perriniana*, a single *E. parvula*, and of course, an *E. gunnii*, plus my various *Hebe*, *Corokia* and *Pittosporum* also seem to have survived … thus far. The lowest temperature recorded in my garden was –7.2°C on 27th February, although with wind chill this was equivalent to about –13°C. I even went to my local village gardeners' club meeting the evening after our return from Portugal, to be met with concerned sympathy rather than the usual quizzical look when I mentioned my Australians and New Zealanders. The club now seems happy with the proceeds from my young Australian plants at their stall on the local 'Feast' day in late May, so they may be beginning to take me seriously. They appear even to believe what I say about the plants as well, and not to attempt to discuss with me the growing of vegetables or 'traditional' garden plants!

Here's to the next 30 years .....

GRISELINIA

© Gary Dunlop

Griselinia is the only genus in the family Griseliniaceae. It comprises a total of 7 species with a common, if disjunct, distribution in the southern hemisphere. Only one species is common in cultivation, *G. littoralis* from New Zealand. The other species from New Zealand is *G. lucida*, which, though it is very similar in appearance, is not very hardy. The other 5 species are from South America, all being native to Chile. Three species are endemic to Chile, whilst the habitat of one extends into Argentina and the other into both Argentina and southern Brazil. Unfortunately none of the Chilean species have proved to be reliably hardy in the British Isles, and the most recently discovered and named species grows in desert conditions.

The genus *Griselinia* was founded in 1786 by Georg Forster[1], correcting the previous existing genus name *Scopolia* which was originally given to this new plant by his father and himself in 1775[2]. They had collected the specimen when accompanying Captain Cook on his second circumnavigation of the world. He obviously subsequently realised, that the new plant, *G. lucida*, was sufficiently different from other plants in that existing genus, and so deserved to be placed in a new genus. He named the new genus in honour of the recently deceased Venetian naturalist Francisco Griselini[3]. The specific name lucida means bright or shining, probably on account of its large and distinctively pale green leaves. Its natural habitat range is mostly in the north island and a small area in the north of the south island.

It was a further 60 years before the second, and most widely known and grown New Zealand species, *G. littoralis*, was correctly named by Raoul in 1846[4]. The specific name refers to its



***Prostanthera scutellarioides*: a good plant if we could get it**



***Senna artemisioides* in Tarragona**









above:
Volunteers working on the Australian collection at Dundee Botanic Garden

right, top to bottom:
Australian annuals, *Brachyscome iberidifolium* and *Rhodanthe chlorocephalun* subsp. *roseum*; and tender perennials that can be treated as annuals, *Xerochrysum bracteatum* and *Scaevola aemula*.



right
***Acacia pataczekii* flowering in Kew Gardens on 7th April 2018**





left
Hibbertia aspera







above left
Griselinia jodinifolia

above right
***Griselinia racemosa* in bud**

right
***Griselinia littoralis*, epiphytic seedling in the cleft of a branch and trunk.**

habitat being on or near the shore, though it also grows further inland and at higher elevations. Two years before Raoul had previously published a description of the new plant, but under the name *Pukateria littoralis*[5]. Roaul was a French doctor, employed as surgeon on the expedition ship L'Aube, but landed in the Bay of Islands in the north of New Zealand in 1840 and stayed for three years. On his return to France, and whilst finishing his medical studies, and gaining a doctorate, he also worked part time, under the direction of two botanists at the Muséum National d'Histoire Naturelle, to describe and name all the plants he had collected in New Zealand[6]. He finally published a book on his plant collections in 1886.

Griselinia lucida has large pale yellowish green leaves, which are similar to those of the more common *G. littoralis*, but slightly larger, more rounded and with a fine black edge. However it is not very frost hardy. A plant obtained in 1890 probably as seed grew at the top terrace on Tresco, and was reported in the Tresco plant catalogue recorded by Ronald King, in his book about the island's plants in 1985[7]. Whether it survived the snow in 1987 or the hurricane in 1990 is not recorded by Mike Nelhams[8]. Owen Johnson records that one tree of this species (since lost) reached 12m at Lanarth, but the species remains in cultivation as a small plant[9].

Bryan *et. al.* note that *G. lucida* is epiphytic and hemi-epiphytic in the wild in New Zealand. The latter term was new to me, and apparently means that as an epiphytic plant, after establishing itself, it eventually sends down distinctive fluted roots, to root into the ground[10]. I did try to grow it over 20 years ago, when I discovered some young plants of it in a local garden centre, but discovered the following autumn that it was not very hardy as it was killed by fairly light frosts.

In contrast the similar looking *G. littoralis* is reasonably hardy, probably down to about –18°C, and quite common in cultivation in the milder parts of the British Isles. It has slightly smaller but similar pale green leaves to *G. lucida* and is fairly resistant to salt spray and can thus be often found growing in coastal areas. Once well established, *G. littoralis* flowers well. Though the flowers are small and insignificant they are attractive to pollinators, resulting in viable seed and many self-sown seedlings close to the shrubs. It is also supposedly epiphytic, which I was sceptical about until, this year when I noticed a small seedling emerging from the cleft where an upright branch joins to the main trunk of my *Plagianthus regius* (photo opposite), despite being nowhere near any *Griselinia* plants. The seed could only have been deposited by a bird, and I can only assume it was pure chance, rather than a distinct preference for it to grow in another New Zealand native tree.

Whilst it is most often seen as a hedge *G. littoralis* can grow to a significant size (photo back cover). There are several very large specimens at Mount Stewart both in height and spread. The tallest specimen in the British Isles is at Derreen in County Kerry in the south west of Ireland, being 16m tall[9]. *G. littoralis* has a tendency to sport variegations, and a variety of such cultivars have been named, both here and in New Zealand, such as 'Bantry Bay', 'Dixon's Cream', and just variegated, to name but the few best known cultivars. Variations can occur in the type of variegation of these clones and reversions to plain green can also occur. About 20 years ago, when visiting the sculpture Garden of the late Dame Barbara Hepworth in St Ives, I noticed a plain green shrub had sported to completely different variegations on separate branches, but probably similar to named forms.

The first Chilean species to be discovered was by Ruiz & Pavón. They named it in 1798 as *Docostea scandens*, with the specific name referring to its climbing habit[11]. It was subsequently reclassified as *Griselinia scandens* by the young German botanist Paul Taubert in 1892[12] when he also reclassified three other *Docastea* species into *Griselinia*. They were *D. ruscifolia* Gay[13], *D. jodilinifolia*[14], and *D. racemosa*[15]. He obviously didn't realise that one species, *D. ruscifolia* had already been transferred to *Griselinia* by John Ball in 1886[16]. It was a full century later before the last Chilean species of Griselina, *G. carlomunozii* was discovered in the north of Chile in the costal Alacama Desert and described in 1993 by Michael Dillon and Mělica Muňoz-Schick[17].

In early 1989 I discovered that a local specialist nursery, run by the late Hon. Patrick Ford, was selling *G. ruscifolia*, and I decided to try it. It was small, dark green leafed, the leaves supposedly similar to *Ruscus* in shape but glossy, and apparently grows to a height of about 60-90cm (2-3ft). The leaves are possibly more like a small but elegant form of privet with an elongated taper to a slender point, as well as to its short petiole. It is stoloniferous and I subsequently noticed quite a large expanse of it at Mount Stewart below several trees and large shrubs. However, my plant did not survive the bad frost in the mid 1990s, though the plant at Mount Stewart did survive, but may have been lost or removed more recently.

Also in 1989 I obtained *G. racemosa* (photo page 22) from Logan Botanic Garden, which propagates and sells many of the uncommon and less hardy plants which grow there but would not so readily survive in Edinburgh Botanic Garden. The leaves are slightly paler green than *G. ruscifolia*, a little thicker and slope into the central vein, and have a more rounded base connecting with the petiole. Again it is quite dwarf only growing to between 60-90cm (2-3ft,) tall. Neither of my acquisitions survived long enough to flower and set berries, which are black in *G. ruscifolia* and maroon in *G. racemosa*.

In 1995 I obtained *G. jodinifolia* (photo page 22), again from Logan Botanic Garden. It also has small, though pale, green leaves, which are possibly best described a s a simplified form of holly leaves with far fewer spikes. It can apparently reach about 2m (6ft) tall. Unfortunately none of these South American (mostly Chilean) species survived the cold winter of 1996.

A year or two after the millennium, I discovered that Stone House Cottage Nurseries in England was selling *G. scandens* and I obtained a small plant to try growing it. It has pale green leaves similar to the New Zealand relatives, but smaller and slightly heart shaped and which clasp the stems directly. Unfortunately it did not survive the cold winter immediately following its acquisition and planting at the base of a wall.

In 2009 on another visit to Logan Botanic Garden, I managed to obtain plants of *G. racemosa* and *G. jodinifolia* again, with my usual bad timing of acquiring and planting out relatively tender plants. During the winter of 2010-11 they surprisingly survived being buried in 20cm (8in) of snow for about 6 weeks, with temperature down to about -8^{o}C at night, and not rising above 0^{o}C during the days. The following winter there was only about 15cm (6in) of snow but there were three consecutive nights when the temperature went down to about -14^{o}C. *G. racemosa* was killed but surprisingly *G. jodinifolia* survived, and still does, but it has grown very slowly and remains a small plant.

My experience confirms that really only *G. littoralis* can be regarded as being

hardy, though its limit is about –18°C; one hedge that I used to pass on my way to work was killed to the ground in the very cold winter of 1980. It is a useful plant for coastal areas, as its name implies, as it can readily shrug off salt spray, and once well established is quite resistant to gale force winds.

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ACACIA PATACZEKII IN THE UK

Judy Clark

Acacia pataczekii D.I. Morris, known as Wally's wattle or Pataczek's wattle, was first recorded in 1972 and its name recognises the forester who first collected it, Wolfgang (Wally) Pataczek[1,2]. It is a Tasmanian endemic which grows as an understorey plant in dry sclerophyll (eucalypt) forest, mostly in the northeast of the state where there are a number of small populations in highland areas[3]. It is listed as rare under the Tasmanian Threatened Species Protection Act 1995[4].

It has an interesting history in the UK, where it was first grown at Kew, as described by Brian Halliwell in Pentachondra issue 8[5].

"In 1974 flowering material was collected by Margaret Cowan of the Launceston Museum and sent to England for painting by Margaret Stones. This painting was included in Volume VI (no. 245) of the Endemic Flora of Tasmania which had been commissioned by Lord Talbot de Malahide. After painting, the branch became a Kew herbarium specimen. To complete the botanical illustration seed pods arrived in 1975 which were subsequently incorporated with the botanical specimen. Miss Stones extracted one seed which she gave to the horticultural staff at Kew. It was sown, germinated and in 1980 a mature seedling was planted outside at the foot of a south facing wall. Following establishment it was to survive unscathed by the bitterly cold winters of the early nineteen eighties which totally killed a neighbouring tree of A. dealbata.

The first flowers appeared in 1985 and there has, in successive years, been regular flowering in ever increasing profusion. In April or May the mass of bloom almost totally obscures branches and leaves. Three stems originally

selected for training are now trunk-like, some 150 mm in diameter and 6m in height. In most years seed is set but as it finally ripens and disperses quickly collecting it can cause problems. Because good seed is difficult to find in the wild, the Tasmanian Forestry Service has requested samples from the Kew tree."

The specimen referred to is presumably the one that used to grow behind the former Alpine House at Kew, and which was lost when the Jodrell laboratory was extended. It is described by Grimshaw and Bayton in their 2009 publication *New Trees* as having been "*a lovely small tree with dark reddish bark and a compact crown of greyish phyllodes, flowering and fruiting freely*"[6]. According to the ePIC database there remain two extant specimens of *A. pataczekii* at Kew, both planted in 1991[7]. At least one is still flourishing, as attested by the photo (page 21) taken "*outside the glasshouse*" by Australian visitor Chris Clarke on the 7th April of this year[8].

It appears that in 1991 there were many spare seedlings at Kew because in that year Friends of Kew were presented with the chance to help with the conservation of *A. pataczekii* by taking one of the 50 seedlings offered by the Living Collections Division and growing it in their own garden[9]. It would be really interesting to know what happened to these seedlings - do any resulting trees flourish still? Grimshaw and Bayton (2009) reported that *A. pataczekii* was growing in several British gardens while in 2013 Owen Johnson[10] recorded a 3.5m specimen growing in Peckham (London), though he noted that it had rather green phyllodes and a question mark suggests there could have been some doubt as to its identity.

As wattles go *A. pataczekii* is fairly distinctive. It has blue-green to grey-green phyllodes (flattened leaf stalks which masquerade as leaves) up to 6cm long, with sharp tips, prominent central veins and thickened margins. A key distinguishing feature is the presence of a small oval gland on the upper margin of each phyllode 2-4mm from the base. The flowers are arranged in a characteristic ball shape.

A. pataczekii has a reputation for hardiness. Brian Halliwell stated that "*There is every indication that in Great Britain this is the hardiest species of Acacia.*"[5] Thomas Ross[11] begged to differ although his analysis was based on year old trees which may well have been more susceptible to cold because of their age. (established trees normally tolerate more cold than saplings). It was his view that *A. alpina* and *A. obliquinervia* are both hardier than *A. pataczekii*. However the temperatures at which damage might begin to occur are given in Ross and Irons[12] as -16°C for *A. alpina* and -8°C for the other two. For *A. pataczekii* this is in accord with temperatures where occurs in the wild; for example, in Ben Lomond National Park average winter minimum temperatures are -6 to -7°C. This evidence suggests that *A. pataczekii* should survive winter in most years in many parts of Britain, but in years when periods of extreme and prolonged cold are experienced (such as earlier this year) there could be a risk of damage.

A. pataczekii is on the 2018 APS seedlist thanks to Maurits de Vries. His method of germination can be found in the box opposite. My small sapling (in my garden it has grown quite slowly) came from seed that was nicked before sowing. I water *Acacia* seed pots from the base. advice given to me by Maria Hitchcock, to avoid overwatering. It is worth noting that in the UK *A. pataczekii* can produce good seed, whereas in Tasmania insects can attack both flowers and seed pods, meaning that in some places very little seed is produced[13]. It can reach 6m in the wild where it tends to sucker. In a garden it can be pruned but I have no information as to whether suckering has

occurred with trees planted in the northern hemisphere. That it is an understorey species suggests it needs a bit of shelter and that it grows in dry forest suggests it needs good drainage.

I hope lots of members will have a go at growing this lovely tree and at the same time help us to fulfil our goal of contributing to the conservation of southern hemisphere species. Even if you couldn't fit a specimen in your garden maybe you could donate a plant to a friend or a local park.

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Germination of *Acacia patakczekii*

Maurits de Vries

With this method I had about 90% germination. First I sanded the acacia seeds with two grades of sandpaper. I think that sanding the seeds works better than nicking them. When I have sanded the seeds I put them in a mix of 1/3 hydrogen peroxide solution and 2/3 water. The hydrogen peroxide will kill all the fungus and mold on the seeds and it will encourage germination. The next day I put the seeds in smoke water, I`m still not sure if its really necessary but I do it. After one day I will place the seeds on a moist kitchen towel and put the kitchen towel in a plastic glass so I can keep an eye on the seeds, the seeds stay moist and they will get enough air. On sunny days I notice that the kitchen towel will get dry easily. So it's handy to put a little bit of water on the bottom of the glass and if you keep the glass a little bit slanted the towel will get moist again. I also put plastic film on the glass, so it stays humid. I got this method from a friend of mine from the US. He made a video about it; you can see it at: www.youtube.com/watch?v=DsgZIA3yOyc&t=1511s.

AUSTRALIAN ANNUALS AT DUNDEE BOTANIC GARDEN

Clare Reaney

Dundee Botanic Garden is situated 60 miles north of Edinburgh but it has a mild microclimate. The garden is on the south facing side of the river Tay and so benefits from a degree of maritime warming. Rainfall is on the low side at 700mm and the soils are well drained raised beach. For over forty years there has been an Australasian collection at the garden and recently many new plantings have been introduced .

In 2012 a batch of new seed from WildSeed Tasmania was purchased and the resulting plants are now well grown. *Melaleuca, Callistemon* and *Leptospermum* are the main genera along with some hardy *Acacia* species. As the plantings matured there developed a certain textural uniformity due to the predominance of shrubby species. The range of shrubs we grow all seem to have a twiggy growth with small or needle like leaves giving a somewhat homogenous evergreen or evergrey appearance.

It was felt we needed to introduce more colour and contrast, perhaps using herbaceous plants and grasses. In each area of the garden we attempt to show as wide a range of species as possible in order to give a more realistic flavour to our artificial landscape.

After some research we realised that the Australian flora is not plentiful in herbaceous plants and most of those would not be hardy in Scotland. However we did notice the abundance of beautiful annual species that grow in Western Australia especially around Perth. The habitat there consists of arid scrubland , with very poor soils where every September an amazing desert bloom takes place. In National Parks such as the Kennedy Ranges and Coalseam National Park there may be over 80 different species of annuals, many of them (such as everlastings) belonging to the Asteraceae family. These plants have adapted to the arid climate by having a very brief season, dependent on sufficient rain falling at the right time while the papery petals are a way of conserving moisture. One of the most abundant is *Cephalipterum drummondii* , fondly known as pompom head, alongside *Waitzia acuminata* (orange immortelle) and S*choenia cassiniana.*

We also took inspiration from the Australian Botanic Garden Mount Annan on the outskirts of Sydney where annual everlasting flowers are part of a seasonal display. We began by growing some of the familiar and easy species, using seed from commercial sources but hopefully we will graduate to sourcing Australian seed of more unusual kinds. There are some great Fabaceae species such as *Swainsonia formosa* (best grown as an annual) and the fascinating *Lechenaultia* (Goodeniaceae) which apparently requires perfect drainage and conditions probably unattainable in Dundee!

The area planted is a south facing bank (photo page 20) where the soil has had no improvement but despite this we found many of the plants grew on the lush side. The Swan River Daisy, *Brachyscome iberidifolia* (photo page 20), was a first choice having a good track record and already widely grown here. The straw flowers, *Helipterum roseum* (cultivar 'Pierrot') and *Bracteantha bracteata* were also an obvious choice as being easy to grow and very popular with the public. *Bracteantha* has been grown as a cottage garden flower since 1799 and our visitors are intrigued to find such a familiar flower with an exotic provenance.

The blue lace flower, *Didiscus caeruleus* (syn. *Trachymene coerulea*), has proved itself a good grower, a bit straggly but it has a long flowering season. We also grow *Nicotiana* species such as *N .suaveolens* and *N. excelsior*.

Another garden centre favourite is *Scaveola* (photo page 20), commonly found in UK hanging baskets everywhere. This species is known to be tricky to germinate but we have discovered we can treat it as a tender perennial and take cuttings in October which will overwinter under glass. Likewise *Alyogyne huegelii* is another perennial which can be grown from seed or autumn cuttings, freeing up some space in the glasshouse in spring.

The annual (and odd perennial) display is in its second year now and while it may not match the beauties of south west

Australia it allows for some interesting interpretation to catch the public eye. There should be flowers from June to the first frosts if we have a half decent summer. We will continue to try different annuals from Western Australia and would welcome any suggestions.

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Asteraceae names

The names of plants in the Australian Asteraceae can be a bit of a minefield, due to changes resulting from taxonomic revisions.

S*choenia cassiniana* has in the past been called *Helichrysum cassinianum* and *Helipterum cassinianum*.

Helipterum roseum has a list of synonyms as long as your arm, including *Rhodanthe chlorocepahala* subsp. *rosea* (photo page 20), the accepted name in Australia, and *Accroclinium roseum*, *Helichrysum roseum*, and varieties thereof.

Bracteantha bracteata is called *Xerochrysum bracteatum* (photo page 20) in Australia. In the UK it is still at times called by an earlier name, *Helichrysum bracteatum*.

Judy Clark

TWO PROSTANTHERAS

Warren and Gloria Sheather

The prostantheras are Australian endemics. They are known as mint bushes and are in the Lamiaceae family, in company with the culinary mints and westringias. There are about 120 species but this is a rubbery figure as new species are being discovered and named with monotonous regularity. The genus is represented in all states but eastern Australia and southwest Western Australian have the lion's share of species.

Mint bush growth habits range from tall shrubs to ground covers with the majority reaching a height of 1.5 to 2m. Most have strongly aromatic foliage. There are two mint bushes that survive and thrive in our New England garden in northern NSW, *Prostanthera cuneata* and *P. scutellarioides*.

P. cuneata, the alpine mint bush, grows into a spreading shrub reaching a height of 1.5m. Small obovate leaves are thickish, deep green above, paler beneath and strongly aromatic. Flowers are 1.5cm long, white with coloured blotches in the throat. Blooms are conspicuous, profuse and cover plants from spring to mid autumn. In all, *P. cuneata* is a delightful small plant. Growth habit, foliage and flowers are attractive features. It will survive and thrive in full sun or partial shade. To keep plants looking their best tip pruning is appreciated.

As the common name implies, this mint bush inhabits the high altitude areas of NSW, Victoria and Tasmania. The species name means wedge-shaped and refers to the leaf shape. *P. cuneata*, in common with most mint bushes, propagates enthusiastically from cuttings.

P. scutellarioides (photo page 19) is found along the Great Dividing Range in New South Wales and Queensland. There are also populations in the Sydney region. This very hardy mint bush may reach a height of 2m in the wild, but we have found that our cultivated specimens seldom exceed 1m. Leaves are up to 3cm long, linear, slightly curved and pale to mid green. Foliage is only slightly aromatic. Flowers are 1cm across, pale to mid mauve, and held in leafy racemes.

The main flowering period is spring to early summer. At this time blooms are conspicuous and profuse. Sporadic flowering may occur at other times.

P. scutellarioides is a reliable and attractive shrub. Tip pruning is appreciated. Full sun or partial shade suits this mint bush. The species name refers to the foliage resembling that of the genus *Scutellaria* (skullcaps in the UK). It is propagated from cuttings.

P. cuneata is quite widely available in Europe but not *P. scutellarioides* which would be well worth trying in UK gardens. Remember the old horticultural saying: "If you never grow then you will never know". This is very applicable to the cultivation of Australian plants.

About the authors

Warren and Gloria Sheather used to live outside Armidale on the Northern Tablelands of New South Wales where they had established a large native garden. They are soon to move to the Blue Mountains, west of Sydney. They write for their local newspaper, submit items to the NSW Australian Plant Society website and write articles for the Acacia Study Group. For 20 years they have presented a talkback gardening program on the local ABC (the Australian BBC) radio network.

I LOVE PSEUDOPANAX

Mona Abboud

Pseudopanax: you either love them or hate them! They look so prehistoric – as if straight out of a dinosaur movie – particularly the most aggressively spiky ones, such as *Pseudopanax crassifolius* and *P. ferox*. They have so much attitude that they are definitely not to everyone's taste. However, if it's an architectural plant with wow factor you're looking for look no further.

I first came across *Pseudopanax* when I visited the Lost Gardens of Heligan in 2002, having avidly watched a TV programme charting their restoration after decades of neglect. The area that impressed me most at Heligan was 'The Jungle', with its extraordinary variety of subtropical plants, particularly a stately *Pseudopanax crassifolius*, which looked so primeval and weird that I immediately fell in love with it.

I managed to obtain a large specimen from Burncoose Nurseries. For the first few years, it looked quite pathetic, particularly as it kept shedding most of its leaves. Friends visiting the garden used to laugh at it, one remarking that its downward-hanging, serrated, leathery leaves looked like the long, wispy beard of an ancient Chinese man. Nevertheless, my love for it was undiminished and my loyalty to it was eventually rewarded. It bushed out after five years or so, and after approximately a decade it produced its adult leaves – ovate, pointing upwards and totally unlike its long juvenile leaves

This strange transformation of leaf-shape is believed to be due to the fact that it evolved alongside the moas, huge flightless birds which weighed up to 230kg and reached up to 3.3m. From the point *Pseudopanax crassifolius* has grown tall enough to avoid the attentions of creatures such as the moa, it sprouts its adult leaves, and it continues to do so, despite the extinction of the moa around 1400.

Much as I loved my first *Pseudopanax*, I decided in April 2014 to conduct an audacious experiment, partly to see whether I could get it to show off both types of foliage – juvenile and mature – simultaneously, and partly for aesthetic reasons. I wanted to shape it to provide a better profile in the garden and so that it could be admired close up without cricking of the viewer's neck. With great trepidation, as I was not sure whether the plant would recover from this treatment, I cut back one of its two 5m stems by 1m. With some anxiety, I waited, and, in June,



***Metrosideros kermadecensis* with myrtle rust**



***Pentachondra pumila* (carpet heath) growing at the top of Mt Wellington**





above:
***Pseudopanax crassifolius* with adult and juvenile leaves on the same plant.**
right:
***Pseudopanax* 'Tuatara'**

below:
***Correa* 'Jezabell'**



I saw new shoots appearing. Excitingly, these new shoots – being lower than the threshold for mature growth – were utterly unlike those on the longer parallel stem. So, since then we've been able to observe both the juvenile and the adult leaves on the same plant (photo opposite**)**.

Since the acquisition of my first Pseudopanax, they have become a passion and I have collected several others. Second came *Pseudopanax ferox*, which has sharp, jagged-toothed, bronze, leathery leaves. That one (photo opposite**)** looks even more hostile than *Pseudopanax crassifolius*. Other species and cultivars have since joined them: *P. crassifolius* 'Trifoliata', *P.* 'Tuatara', *P.* 'Moa's Toes' (ironically called after its predator), *P.* 'Sabre', *P. lessonii* 'Linearifolius', *P. arboreus* and *P.* 'Chainsaw'.

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NEWS FROM TARRAGONA

Phemie Rose

I found the last issue of Pentachondra most interesting as it featured two of my favourite plants, acacias and eucalypts. Graham Sumner's '*A tale of lost labels*' was fascinating as I can readily empathise with his struggles to grow Australasian plants in alkaline soil. Having gardened for some twenty odd years in acidic, wet West Cork, it came as something of a shock when plants I had grown from seed and brought with me to Tarragona in pots proceeded to die off at a great rate when planted out.

Heat, drought and alkaline soil all played a major part in their demise. *Acacia floribunda* which grew far too fast in West Cork, is still not looking healthy. here despite numerous applications of iron and water. *Sollya heterophylla* (grown from a cutting) is hanging on in there. *Metrosideros excelsa* and *M. robusta* are surviving but not thriving. *Acacia cultriformis* (which I grew from APS seed and brought in a pot from Ireland) is the most alkaline and drought tolerant. However grevilleas do well as do callistemons as these plants survive drought and heat very well.

Nothing grows fast here as it is so hot and dry, but I am learning which plants will survive these testing conditions. We do not have enough water to water all of the plants all of the time which is a good thing in a way as it makes you more conscious of how much water we waste!.

I have planted out *Kunzea baxteri* (APS seed 2015) and it is surviving. *Senna artemisioides* (APS seed 2015; photo page 19**)** is also growing well. I don't remember giving *K. baxteri* seed any special treatment but here in Tarragona the daily temperatures are much higher than in the UK in spring, when I generally sow Australasian seed. I usually have the seed trays outside so they benefit from the heat of the sun. I really enjoy growing from seed and will continue to experiment and report on Australasians and how they survive Catalonian conditions.

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MYRTLE RUST IN NEW ZEALAND

Karin van der Walt

Background

Myrtle rust (*Austropuccinia psidii*), also known as guava/eucalyptus rust, is a fungal pathogen which is native to South America. The rust has been spreading globally since 1900 and now consists of several "strains" and although these strains vary in host preference and severity, it is only found on Myrtaceae species (plants in the Myrtle family). Myrtaceae is the plant family which includes species such as *Eucalyptus, Corymbia, Angophora, Agonis,*

Callistemon, Leptospermum, Metrosideros, Syzygium etc. In New Zealand myrtle rust has the potential to severely affect native iconic species such as pohutukawa and rata, economically important natives such as manuka and exotics such as feijoa and gum trees.

In April 2010, myrtle rust was confirmed on a production property in Wyong, Australia and it has now established widely in coastal eastern Australia, including Tasmania where it was confirmed on *Lophomyrtus* early in 2015. There has never been a successful eradication of myrtle rust from a country it has arrived in, in the history of the pathogen.

Spread and dispersal

Myrtle rust spreads rapidly through highly mobile spores which can be dispersed by wind, animals (including insects), humans (on clothing or equipment) and movement of infected plants. Spores can remain viable for up to 90 days at 15°C and 35-55% relative humidity, with shorter lifespans expected at higher temperatures. The spores can also survive cold storage conditions, with viability still present after 150 days at up to -19°C. It is suspected that the arrival of myrtle rust in New Zealand (Raoul Island and North Island) happened during a major wind event.

Current status of myrtle rust in New Zealand

Myrtle rust was confirmed on Raoul Island, 1000km north of New Zealand's North Island in early April 2017. At the time of the detection, more than 1000 hectares of *Metrosideros kermadecensis* forests were already heavily infected. With less than 2% of the Island surveyed, infestations are likely to be more extensive. By September 2017 Myrtle rust was confirmed in 116 sites in the North Island with the majority (70) infections recorded on the native species *Lophomyrtus bullata* (ramarama) followed by *Metrosideros* species (47 infections). Although the Ministry of Primary Industries (MPI) is attempting eradication, infected plants within these areas were already releasing spores at the time of detection, making it highly unlikely that myrtle rust can be contained.

Myrtle rust response actions

The response to myrtle rust presents a complex biosecurity challenge since it impacts on primary industry (that is, honey, forestry, nurseries, feijoa) and natural sectors (all native New Zealand Myrtaceae species), it involves multiple regions across New Zealand and there is no known large-scale controls for myrtle rust. Fungicides are highly ecotoxic and can only be used in highly controlled environments such as isolated plants in a nursery. Information on susceptibility/ resistance of New Zealand floral species is extremely limited. This makes it difficult to predict what the possible impact of the rust will be as some species or even genes within a species might be resistant to myrtle rust.

Collaborations between MPI, Department of Conservation, Wellington Gardens, Massey University, New Zealand Indigenous Floral Seed Bank, Scion, Plant and Food Research and many more, are focussing on the following aspects:

- National seed and germplasm collection to establish ex situ collections of New Zealand Myrtaceae species;
- Research into storage behaviour to inform seed banking;
- Alternative germplasm conservation (tissue culture and cryopreservation) options for species which are likely to be recalcitrant (seed can't be dried out and frozen), or species not producing viable seed such as the nationally critical *Metrosideros bartlettii*;
- Determining susceptibility and/or resistance of New Zealand Myrtaceae

species to inform better surveillance and germplasm collection. Trails are conducted in Australia and South Africa.

Despite the unlikelihood of eradication of myrtle rust, surveillance remains one of the most important aspects of managing this pathogen. Although field recognition in the early stages of infestation can be difficult, the sporulation stage is almost unmistakable **(**see photo page 31**)**.

The author of this article, Karin van der Walt, is Conservation and Science Advisor to Wellington City Council. It is reprinted by permission of Jan Michalak.

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GRASS ROOTS TO MOUNTAIN TOPS: ANPSA 2018 CONFERENCE

Judy Clark

In January this year I was lucky enough to be able to attend the ANPSA (Australian Native Plants Society (Australia)) national conference which took place in Hobart (Tasmania). I have been a member of the Victorian region for a number of years now but this was my first conference and after attending it I can only say why did I leave it so long!

It was a brilliant five days. Mornings were occupied by talks, some given by prominent Tasmanian botanists, foresters, horticulturalists, ecologists and conservationists, and others by passionate locals. Complementing the morning sessions were afternoon excursions, led by some of those same experts, to see plants and places that were spoken about during the talks. We visited the Royal Tasmanian Botanical Gardens including a behind the scenes look at their seedbank and conservation work, native gardens large and small; wetland and salt marsh habitats, and that dominant feature of the Hobart skyline, Mt Wellington, where at the top he sun shone (unusually) and I saw a carpet of the five petalled stars that are *Pentachondra pumila* in full flower (photo page 31). The week was capped by a post conference trip to Bruny Island where I saw *Correa alba* in the wild for the first time.

I intend to write at greater length about what I saw and where I went in the next issue of Pentachondra. For the moment I want to emphasise that I learned so much more about Tasmanian plants and gardens from attending this conference than I could have by any other means. And not just through the organised activities; I was able to meet so many friendly and knowledgeable people at breaks, on the coach and during other in between times.

Now I've got the bug I have every intention of attending the next ANPSA national conference which will be held in 2019, in Albany (Western Australia) from 29th September to 4th October. Albany

Not in the UK - yet

Myrtle rust has not yet been seen in the UK, Europe or most of Africa, though it is otherwise widespread. Its risk rating on the UK Plant Health Risk Register is quite low (24/125) (https://secure.fera.defra.gov.uk/phiw/riskRegister/viewPestRisks.cfm?cslref=11987). This is because while it is assessed as quite likely to arrive and to spread easily, its potential impact is assessed as quite low because the host list is relatively small and the genera on it not much grown in the UK, relatively speaking. But if it did arrive it could prove a serious problem for us southern hemisphere plant lovers - a very good reason **neve**r to be tempted to bring home a cutting in your back pocket.

Judy Clark

PS Since the article was written in 2017 myrtle rust has reached New Zealand's South Island.

2019 promises to be just as special as Hobart 2018. The south-west of WA is known for its bushland and there will be an emphasis on native flora in its natural setting. The conference is still in the planning stages (for information go to www.wildflowersocietywa.org.au/anpsa/) but currently it is intended that one of the excursions will take in Banksia Farm at Mt Barker. Its owners, Kevin and Kathy Collins, will be giving a talk to APS members in July (see page 2).



A GUINEA FLOWER

Judy Clark

Amidst the carnage wrought in my garden by the beasts from the east, which brought prolonged cold and severe easterly gales, some plants were totally unaffected. One of these, *Hibbertia aspera*, I bought a couple of years ago from Treseders. I can't remember exactly why I wanted it but I presume one reason was its bright yellow gold flowers (*Hibbertia* go by the common name of guinea flowers) and maybe another was that *Hibbertia* are said to be "very difficult" from seed[1] so I took the option. I didn't, however, buy it because I thought it would be particularly hardy.

I chose its site carefully, a nice sunny spot by a south east facing wall. I estimate that it has doubled in size in two years, despite the attentions of a fox when it was first planted. It is now a somewhat sprawly shrub but should be easy to train along the wall. Its flowers have proved as delightful as I had hoped, around 2cm across, 5-petalled and a glorious shining yellow (photo page 21). I had a few flowers in 2017 but this year the plant has been really prolific, starting with the odd flower in late February and building up to a crescendo in April. As I write (mid-May) it's still going strong.

Now I am the first to admit that I garden in a mild area. But this plant was touched neither by a low of -4.6°C, nor by nearly three days of temperatures below zero, nor by a freezing east wind that came almost straight at. The cold may have delayed its flowers, but that's all.

Hibbertia is in the family Dilleniaceae, a genus that is confined entirely to the southern hemisphere, with most species endemic to Australia. Their number is estimated as 115 to 225[2], presumably because there is no consensus regarding the taxonomy; according to the online Flora of Victoria[3] the genus is currently being revised. Nonetheless, my plant seems to have too many stamens for *H. aspera* as currently defined. Research indicates that on current definitions my plant could be *H. truncata*[4], but who knows what revision may bring?

References:

1. Ralph, M. (2003). *Growing Australian Native Plants from Seed* . p. 102.

2. Angiosperm Phylogeny Website. Available at www.mobot.org/MOBOT/research/APweb/welcome.html.

3. Royal Botanic Gardens Victoria VicFlora, (2017). *Hibbertia*. .Available at https://vicflora.rbg.vic.gov.au/flora.

4. Toelken H.R. (1998) , Notes on Hibbertia (Dilleniaceae) 2. The H. aspera - empetrifolia complex. *J. Adelaide Bot. Gard.* 18(2), pp 107-60.

All websites accessed 10 May 2018.

Illustration acknowledgements

Mona Abboud: page 32 above and right
Tim Barr: page 10
Judy Clark: front cover; page 9 below; page 20 right hand side; page 21 below; page 31 below
Chris Clarke: page 21 above
Diane Cox: page 32 below
Kingsley Dixon: page 9 above
Gary Dunlop: page 22; back cover
Bob Makinson: page 31 top
Clare Reaney: page 20 left hand side
Phemie Rose: page 19 below
Warren Sheather: page 19, above

Has anyone seen *Correa* 'Jezabell'?

About a year ago I was asked if I knew where *Correa* 'Jezabell' could be purchased. The writer's much loved plant, originally from Bishop's Park Nursery in Fulham (London), had been destroyed. She described it thus: "*It flowered between October and April and it stayed in a large pot near my front door at the Almshouses throughout the year. ..... It was always strong and healthy. The plant was a great favourite with its glam shade of reddish pink. It reminded me of luxury and we often referred to it as the Christmas bells. Even a one time heavy snow just melted leaving it as pretty as ever.*"

Correa 'Jezabell' - photo page 32 - was bred by Bywong Nurseries (Australia) in 2009, and the writer had it for about five years, putting its availability in the UK at 2010 at the earliest. I've had no luck tracing it. If anyone knows of one, please let me know.

Judy Clark

The Australasian Plant Society

Minutes of the Annual General Meeting

Held at Lullingstone Castle, Eynsford, Kent on 19th November 2017

Committee Members Present:

Tom Hart Dyke - President
Robbie Blackhall-Miles - Chairman
Ben Ram - Webmaster
Judy Clark - Newsletter Editor
Jeremy Spon - Treasurer/Membership Secretary
Gary Firth and Maria Firth – Events Co-ordinators

Other members present:

Hilary Spon (taking minutes), Bob Stevens, Jan Michalak, David Cooper, Jeff Layman, Graham Blunt, David Renouf, Dilys Renouf, Stephen Collins, Hilary Collins, Kevin Denson, Jude Lawton, Beth Smith, Tabitha Swann, Paul Reddy, Mary Thomas, Bernard Fernandes

1. Apologies for absence.

Apologies had been received from Janet Miller (Seed List Manager), Adrian Cooper, Richard Barley, Peter Kohn, Trish Kohn, David Ware, Martin Morris, Simon Olpin, Anne Blanco White, Tim Darrington, Kevin Tooher, Tamsin Taylor, Mona Abboud, John Anderson, Barry Clarke, Rosie Loveridge, Sally Brigden, Hannah Sindall, Jackie Doherty, George Smith, Finn Michalak, Greg Plenty, Laura Plenty, Jill Groombridge, Keith Larkin, Mandy Burgess, Stephen Harding.

2. Introductions.

After a welcome from Tom, Robbie asked everyone present to explain briefly who they were and what their main interests were.

3. Minutes of Last Meeting.

These had been published in the May 2017 edition of Pentachondra, and were approved.

4. Election of Officers.

a) Tom Hart Dyke said he was willing to continue as President, and the meeting agreed unanimously that he should do so.

b) Committee. As all members of the committee were willing to continue in post, the meeting agreed to re-elect them en bloc.

5. Committee Reports.

a) Treasurer's Report (Jeremy Spon)

A provisional report was circulated and although this gave a somewhat over-favourable picture, it was expected that the full accounts, which would be produced at year-end, would still show a surplus of income over expenditure. The largest element in the accounts was Hampton Court – we made a profit of £860 (see end of minutes for breakdown of this.) On membership, the Treasurer reported that at the end of December 2016 there were 160 members and that this had since risen to 188, with 17 new members joining as a direct result of Hampton Court. This makes us one of the few plant societies whose membership is growing.

b) Newsletter Editor's Report (Judy Clark)

Judy said that she is not usually short of articles, and is also getting a lot more photographs. It was agreed that Judy and Jeremy would look at the costs of increasing the number of pages in Pentachondra; provided it did not increase the annual cost per member too close to the £15 subscription, occasional larger issues would be a good idea. There was also discussion about photographs which include people; the consensus was that as long as the person in question has given permission, there is no problem with publishing these; it is also acceptable to publish if they have not given permission as long as they are not identified. Robbie suggested that we should try and get more of the photos submitted added to the website.

Judy reported that we have now got issues of Pentachondra available on the website back to 2008. Older ones are available, but volunteers are needed to scan them; 2018 is the 30th anniversary of the Society, so it would be good to get all back numbers on the website by the end of that year.

c) Seed List Manager's Report

Janet had provided a written report which was circulated as part of the agenda. The format of the seed list had been changed to group items by plant families; Robbie commented that he thought this worked well. Judy was going to the ANPSA 2018 Conference in Tasmania where she hoped to make new contacts, and she said that she would also continue to explore other possible sources of seed, and liaise with Janet about this, and about member's requests. Donations of seeds from members are still encouraged; donors will be offered one or two extra packets of seed when they order, but Judy asked that donors let her know as well when they send seed to Janet.

d) Website Manager's Report (Ben Ram)

Ben said the website was still going well, but said he would be pleased to receive suggestions for further improvements, together with more photos of member's plants and gardens. Photos in multiples of three worked well on the website.

e) Social Media (Robbie Blackhall-Miles)

Robbie reported that we had 632 followers on Twitter, which is very good, but he encouraged members to retweet more so as to gain more followers, and, potentially, more members. The Facebook group was still rather quiet. There was some discussion about making it an open group, and it was agreed that this should happen, as it had the potential to attract a significant number of new members to the Society.

f) Events (Gary Firth)

The visits to Marks Hall and to Hastings had been very successful. The Specialist Societies Show at Wisley went well and we signed up two new members; the location of the marquee and the space between stands was better this year.

Hampton Court: Members and the public enjoyed it and the feed back was very positive (perhaps apart from the judges; there was some thought that we had been judged by the wrong group!). The good coverage by the BBC was a big help. Robbie wanted to record thanks to Melcourt Compost for donating all the bark; thanks were also given to Graham Blunt who organised for Mrs. Nicola Downer AM, the wife of the Australian High Commissioner, to come along.

It was decided that we would not do Hampton Court again for a couple of years (Gary and Maria would be staging a display of their collections again, and could distribute our leaflets) but possible alternatives included:

Wisley Plant Societies Show (June)
New Forest Show (24 – 26 July 2018)
Great Dixter Autumn Plant Fair (October.)
Rosemoor Show (August.)
RHS Gardens - all 4 are apparently keen to host plant societies displays.

Robbie said that his big concern was that as a small society we could not afford to stretch our resources thinly, and that due to other commitments he would not be able to help as much in 2018. We rely heavily on members like Gary and Maria and there was a need to get more members local to the venues to help. It was agreed that we should set a limit of two events a year, and that we should definitely see if we could get a place at Great Dixter.

Garden Visits. Suggestions for 2018:

Geoff Cooper in Oxfordshire is very keen to show his collection to us (which includes lots of cacti as well as Australasian plants). His preferred day is Wednesdays; Tom agreed to contact him to arrange a date.

It did not now look as if it would be possible to go ahead with a visit to Cornwall this year, due to Robbie's other commitments, but he would still love to see an event in Cornwell and/or Devon so it was agreed to contact members in that area to appeal for help with the organisation. It was agreed that May or June was the best time to go.

Ventnor Botanic Garden. The Curator Chris Kidd has just put in an application for funding for extensive re-development and improvement, so a visit in the next few years might be worthwhile. Also thinking a couple of years ahead, the new RHS Bridgewater Garden might be a good idea.

2018 is the 30th birthday of the APS and Robbie announced two special events:

A visit to The Natural History Museum in January. Members will be sent an email to ask for expressions of interest; there may need to be a ballot as places will be limited.

An event at Kew in May/June. We have been invited by Kew to hold a birthday celebration in the Temperate House in May or June and they've asked us if we would like to plant a banksia and have a plaque unveiled – the Australian High Commission has said it would send a representative and we will have a tour of the Temperate House and possibly the Tropical Nursery. Robbie is taking the lead on this and working on dates.

If any member was willing to open their garden to other members they were asked to let Gary know. Graham said he would be happy to run an event at Plantbase; he thought the more events the better. Jeremy suggested that going to places that are not necessarily in the

north but which people from the north could more easily get to could address some of the concerns about the activities of the Society being too concentrated in the south. The idea of a separate northern organiser for events was also raised.

Robbie commented that as a society members only come together at special events. A lot of societies publish a membership list which allows members to get in touch with each other directly. Robbie would be keen to pursue this although the data protection issues would need to be looked at carefully. Tom said that he wanted there to be a list of names on the gate at Lullingstone so members can get in free; this would be sent to him in the New Year.

6. Any Other Business

a) Pentachondra. Judy has been the editor since 2008, and, although she is not currently planning to give up, she does feel we need to do some succession planning. Help was offered with some of the tasks involved with sending Pentachondra out.

b) Social Media. Robbie said he is happy to carry on as Chairman but he would like to give up the social media responsibilities. Jude Lawton agreed to help with Facebook, but nobody volunteered for Twitter so Robbie will continue for the time being.

c) Xylella fastidiosa. Gary had been to a Plant Societies meeting at Wisley at which there had been a presentation by the Animal and Plant Health Agency on Xylella fastidiosa. Discussion followed about the devastating effect this would have if/when it enters this country as there is no treatment. Judy agreed to put an item in Pentachondra about this.

d) New Zealand Plant Conservation Network. Judy thought it would be a good idea if the APS joined; the cost would be about £30. It was agreed that Judy should action this.

e) Cataloguing the library. A volunteer was needed to catalogue the collection of books in the library (at Lullingstone); it would be good to get a list printed in Pentachondra. David Cooper agreed to do the cataloguing; members were reminded that anyone who wishes to visit the library can do so by appointment (contact Tom).

f) John Purse's Eucalyptus Collection. Most of John's collection of plants in pots have now been dispersed to suitable recipients, but the future of a trial plot of eucalyptus on a friend's land is uncertain. It was agreed that Jeremy would contact Elaine to try and clarify the current situation and discuss how the APS might help.

7) Conclusion

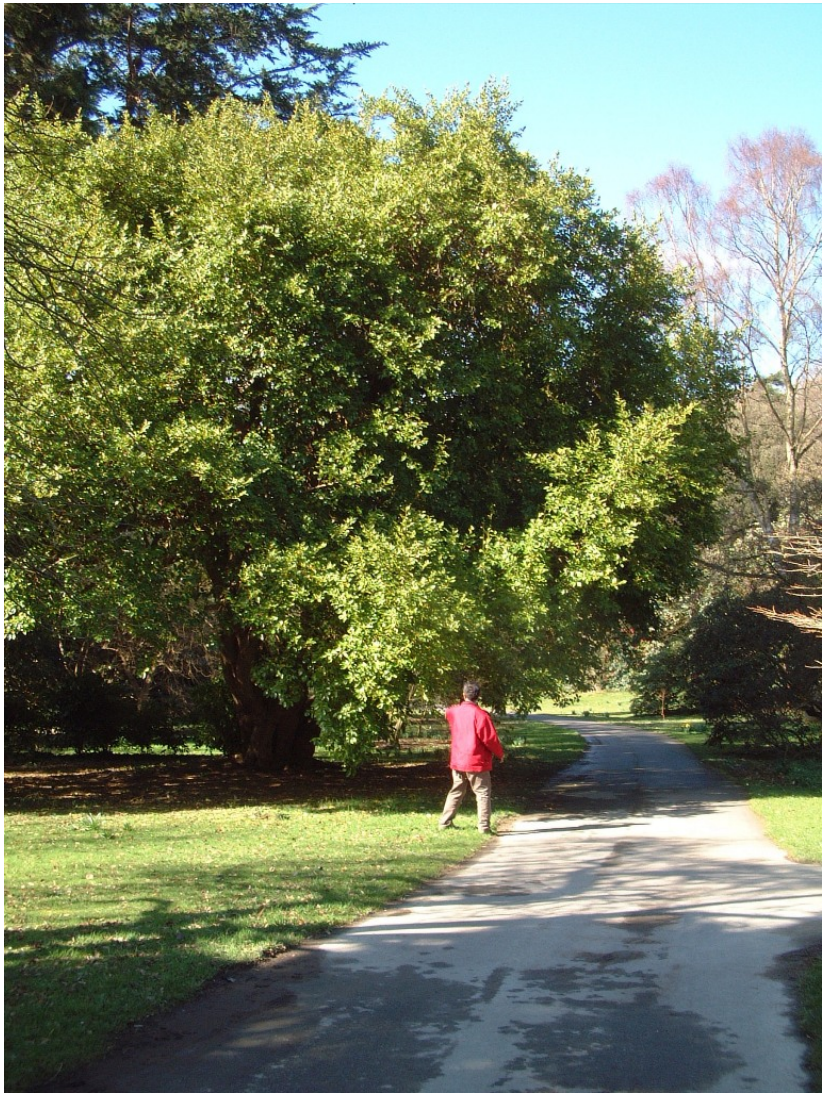
Tom and Camilla were thanked for once again hosting the meeting and organising the food, and the meeting was then pronounced closed, after which Tom led a tour of the garden and greenhouses.

Addendum: Hampton Court Finances Breakdown

Income:	**Expenditure:**
Plant Sales £1311.50	Plant Purchases £255.60
Book Sales £80.00	Banksia Print Framing £53.00
RHS Grant £716.00	Printing £354.52
Total £2107.50	Information Boards £245.76
	Parking Permits £110
	Miscellaneous £227.74
	Total £1246.62

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And you thought it would make a nice hedge!

***Griselinea littoralis*, Mount Stewart, County Down, Northern Ireland**