PENTACHONDRA

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RHS Wisley Specialist Plant Society Show
Gary Firth and Steve Harding

AUSTRALASIAN PLANT SOCIETY

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

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CONTENTS

APS news	1
Growing Banksia blechnifolia in North Wales, Maya Nedeva	6
Verticordia plumosa, Alan Bryan	6
Muehlenbeckia complexa - a warning, Jeff Layman	10
Some Australians in Sheffield, Peter Kohn	11
Growing dryandras in Europe, Tim Darrington	15
Keeping Muehlenbeckia complexa in check, Judy Clark	27
Some pink bottlebrushes, Judy Clark	29
Reports: Events 2022	34
Bits and pieces, compiled by Judy Clark	43

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APS NEWS

From your Chairman

Although online events have been a godsend for many during the last couple of years it was really great to be able to get back to organising and attending live events again in 2022.

We have held two plant sales this year; a joint display with the Hebe Society at the Specialist Plant Societies Show at Wisley in June, and at the Great Dixter Autumn Plant Fair at Great Dixter gardens in October. In addition, whilst APS members were busy at Great Dixter, Steve Harding put on a joint table display of Hebes and Australian Plants at the Hilltop Centre at Wisley.

All three events attracted a great deal of interest from members of the public as well as a rewarding number of plant sales at the first two events. We were delighted to sign up four new members at Great Dixter and look forward to meeting you again at future events.

For the first time in nearly three years we were able to meet up with fellow enthusiasts at several gardens of interest in 2022. The Abbotsbury visit in July attracted nine members who enjoyed an inspiring tour of the garden with Sean Boast. Most of us left with a number of plants from our informal plant exchange. Later in September ten of us met at Steve Bridger's fascinating tropical style garden in Burgess Hill followed by a visit to our own heavily planted garden in Haywards Heath.

You can find more detailed reports of these events on page 34. But already you will have noticed that all of them took place in the south and south east of England as this is where many APS committee members currently hail from. We would really love to be able to organise APS events in other parts of the country but need members to come forward with suitable proposals. This would not be particularly onerous as the committee will provide all necessary support.

We have a number of events planned for 2023, including our AGM in February and a joint Hebe Society/APS display at the Hampton Court Flower Festival. We hope to meet many of you at these and other events during the year, including our new members.

Gary Firth

Events 2023

APS AGM and visit to Lullingstone Castle Gardens

Saturday 18th Feb 2023

Please note change of date

By kind agreement of our President, Tom Hart Dyke, we are able to return live to Lullingstone Castle for our AGM. This will be followed by a guided tour of the gardens in the afternoon. Please bring plants to sell or to swap, or just give away. The AGM will commence at 10.30.

Lullingstone Castle is located just outside of Eynsford in Kent. The postcode is DA4 0JA. From Eynsford follow the brown signs to Eagle Heights and Lullingstone Roman Villa along Lullingstone Lane. Continue past the Roman Villa for about 600m along the narrow private road to the Tudor Gatehouse entrance.

The nearest train station is Eynsford, and trains take approximately 50 minutes from central London. When you exit the train station turn left, and then at the main road turn left again and pass under the railway bridge. (Do not follow signs for Lullingstone

Roman Villa or Eynsford.) On the right hand side of the road before you reach the Lullingstone gated entrance take the turning onto the signed green public footpath (opposite the recycling bank in the lay-by). Follow the rough track that brings you out at the Lullingstone Roman Villa. Turn left and follow Lullingstone's private road to the Gatehouse entrance. From Eynsford station to the Castle takes 10 to 15 minutes.

RHS Wisley Gardens, Surrey

Monday 20th March, 10.30am

Wisley horticulturalist and APS member Hugo Danckwerts has kindly offered to provide a behind the scenes tour of some of the Australasian delights to be found there. These include Australian epiphytic and lithophytic orchids which should be in flower; Australian pelargoniums; the *Macrozamia* plant bed in the main display area; Wisley's Australasian pot grown specimens; and various other sub-tropical and tropical Australasian plants around the glasshouse.

Jeff Layman's Garden, Hampshire, , Saturday 20th May 1.30pm

APS member Jeff Layman has kindly invited us to visit his garden in Botley, Hampshire. Jeff describes the garden as follows.

We moved here just over 10 years ago. The whole plot is about 0.1 ha. The front and back gardens were mainly lawns, although one attraction was a very large *Magnolia liliiflora* 'Nigra' in the front.

We have added a number of beds, but other than a few curves for interest the garden is steadfastly free of anything resembling a design. (I am to garden design what tone deaf is to music.) We have put in around 600 plants, of which quite a few are from the southern hemisphere, and seem to do well despite the very heavy clay soil and 20 m tall ash and beech trees in the back. The front of the bungalow faces almost due south so it can get very hot in summer, ideal for somewhat more tender plants. For those which might be frost-sensitive, or require protection, there is a 4 x 2.5 m greenhouse in the back. This has mainly Australian and New Zealand plants in beds, including *Grevillea wilkinsonii*. They are allowed to grow as they would be in the bush, that is, scruffily, and require a hack only every few years.

I have one main rule for the garden which has, in general, served me well. That is 'plants can't read'. In other words, they don't know where the books (and internet) say they are supposed to grow. For example, black bamboo grows well here in dry, windy shade. Plants of interest growing outside include five grevilleas, several eucalyptus (including *Eucalyptus moorei* which for some reason seems to be uncommon), callistemons, correas, *Embothrium coccineum*, magnolias, and about a dozen *Acer palmatum* varieties. There are also a few members of the Lardizabalaceae, including *Lardizabala ternata* and *Sinofranchetia chinensis*. Finally, there is a spiny border for those of an insensate and adventurous disposition!

Hampton Court Flower Festival Monday July 3rd to Sunday July 9th

The APS and the Hebe Society will be putting on a joint display of Australian and New Zealand plants in the Floral Marquee at the 2023 RHS Hampton Court Flower Festival, on the theme of Australasian plants for a changing climate. We would love to hear from any APS member who can help out on the stand for a few hours or more

during public opening hours. You don't need any special expertise and you will get the opportunity to visit the UK's largest flower show for free.

And more?

Other events currently being considered for 2023 include a visit to Wakehurst Place (late July or August), a visit to Judy Clark's garden and Alexandra Park in Hastings (September) and the Great Dixter Rare Plant Fair (see report on the 2022 event on page 41).

For further informationon about any of these events please contact Gary and Maria Firth at on 01444 413626 or at chairman@anzplantsoc.org.uk. It would be helpful if you could let Gary and Maria know if you intend coming.

Events coordinators needed!

Your committee is very aware that 2023 events are clustered in the south and south east of England. This wasn't always the case. When your editor joined the APS over twenty years ago most committee members were based in the north of England, and almost all meetings - in some years the only one was the AGM - were located in the midlands and the north with occasional forays into Wales.

In 2005 I volunteered to organise a southern members meeting in Hastings because I wanted to get to know local APS members. In the years that followed events became more evenly distributed around the country, though to my knowledge the APS has never ventured as far as Northern Ireland and only twice to Scotland.

Now the balance has shifted once more. It was in 2018 that the APS last ventured north of London, to visit Geoffrey Cooper's amazing arboretum in Oxfordshire. and for a memorable talk by Kevin Collins at Cambridge University Botanic Gardens. The last time we went any distance north was three years earlier, when, with the vital assistance of local APS members Peter and Trish Kohn, we held a meeting in Sheffield, taking in Sheffield Botanical Gardens and three members' gardens.

Prior to 2015 the AGM was held at various locations around the country, alternating between more northern and more southern locations, but since then the AGM has been held in November Lullingstone Castle in Kent. However the main reason for events being concentrated in the south of the country in recent years is that this is now where the majority of committee members are based, including events coordinators Gary and Maria Firth. It is really difficult for coordinators based in the south of England to organise events in regions of the UK that they are not familiar with.

Gary and Maria would very much like to relinquish their role as events coordinators. Now that Gary has taken

Plants for Hampton Court

Do you propagate Australasian plants from seed or cuttings? Could you do a few extra for the APS to sell at Hampton Court and/or other events?

We would be delighted if you could as takings from plant sales contribute to APS funds. If you are able to deliver plants to the event or a committee member that would be really useful, but not necessary as it may be possible for plants to be collected. Please contact Gary Firth at chairman@anzplantsoc.org.uk If you have any questions about raising plants for sale.

on the role of APS chair he does not have enough time to also organise events..We wonder if this role would be best shared, perhaps having several regional coordinators rather one person for the whole of the UK.

Could you volunteer to organise a meeting in your area or region, maybe once every few years? Or just a one off? It could be anywhere you think would interest APS members: a private garden, a public park or garden, a botanic garden, a nursery. Guided tours are a bonus, but not necessary. You would be responsible for compiling information about the event and receiving enquiries. The APS would do publicity and provide any other necessary support. If so contact Gary at chairman@anzplantsoc.org.uk. Similarly, let Gary know if you could host a meeting but don't want to organise it. Someone else can do that!

Photography competition

In the last issue of Pentachondra we announced that the APS photography competition is on again. I hope the fact that I've only received a few entries so far means that you are waiting for the holiday period and time to sort through your photos.

So do get sorting! Photos can have been taken at any time, not just during the past year. And if you can't find a shot that pleases you, well, it's not too late to start snapping. There are four categories; surely you can find something in your garden or greenhouse or conservatory that would fit into one of them.

Rules

- Only photographs taken by current APS members and not used elsewhere will be accepted.
- Entries are limited to two per member per category.
- Significant photoshopping of images is discouraged.
- Photographs can be submitted as digital copies or prints, preferably A4 size.

Categories

1. Individual plant of Australasian origin (whole plant not required) growing in the northern hemisphere.
2. Group of Australasian plants in garden/landscape (anywhere in the world).
3. Macro of diagnostic features of an Australasian plant (for example, a close up of leaves or flowers).
4. Image of plant collector/gardener known for collecting/ cultivating Australasian plants in the northern hemisphere.

The competition is free to enter and members do not need to be present at the AGM to compete. There is a prize for each category.

Photographs will be displayed at the AGM with an anonymous id and attendees will be able vote for their favourite image in each category. Winning photos will be printed in the May 2023 issue of Pentachondra.

Send digital entries, **as jpeg files**, to **editor@anzplantsoc.org**, to arrive no later than 11th February 2023. (This is to allow time for entries to be printed before the AGM on 18th February.)

Send prints, no larger than A4, to Judy Clark, 36 Collier Road, Hastings, East Sussex TN34 3JR, to arrive no later than 17th February, or bring your print to the AGM on 18th February.

Please note that while copyright of images will remain with the photographer the APS claims the right to exhibit the entries, and to use them

to further its aims generally and to promote the APS and its photography competition. This includes publishing photos in APS publications, on the website, or on social media. All published photographs will be credited. The APS also claims the right to edit or use images in combination with others.

Could you donate seeds to the APS seed list?

The 2023 seedlist will we hope be ready next spring. Members will be aware that rule changes following Brexit mean that purchasing seeds from Australia and New Zealand is more expensive than it used to be; involves more paperwork, including a phytosanitary certificate; and there is less choice because some companies will no longer supply seed to the UK.

This means that donations are needed more than ever. Both seed collected from your Australasian plants and any leftover seed you have hanging around will be very welcome. Don't worry if you don't know the (full) scientific name, or are concerned that collected seed might not come true. A common name is fine and some people like surprises! And don't worry about whether seed might be too old, though it would be useful to know how old. Some species (for example many pea family members) produce seed that remains viable for many years.

Send donations to APS seed manager Janet Miller; her address can be found inside the back cover. Seed donors get an extra packet of seeds from the seedlist for each species donated.

Write for Pentachondra

As always, many thanks to those members who have taken the time to contribute to this issue. Members' accounts of their experiences of growing Australasian plants provide unique information which increases our collective knowledge of how to get them to thrive in the northern hemisphere. Please do consider contributing - everyone has something worthwhile to share.

The deadline for the next issue is **15th April 2023**. Length is not important, and if you don't fancy writing an article photographs on their own are welcome as long as they come with a caption.

Please send contributions as word documents or similar (not as pdfs) and

Subscriptions are due!

Subscriptions are due on **1st January 2023**. A renewal form is enclosed with this issue for those who do not automatically renew their membership. Annual subscriptions are £15 for members resident in the UK and £18 for members resident elsewhere.

If you pay by standing order or PayPal, or you have already paid for 2023, you do not need to do anything, **unless** any of your details have changed. If so, please contact Treasurer Jeremy Spon directly at **membership@anzplantsoc.org.uk**.

And if you are resident in the UK and would like to change your method of payment to annual bank transfer (see issue 69 for a reason to do so) our bank details are:

Bank: Natwest
Account Name: Australasian Plant Society
Sort Code: 60-19-24
Account Number: 29872677

please do not compress photographs. If you have any questions about contributing please don't hesitate to contact **Judy Clark** at **enquiries@anzplantsoc.org.uk**.



GROWING BANKSIA BELCHNIFOLIA IN NORTH WALES

Maya Nedeva

In 2016 we went down to Cornwall for a week. One of the gardens we visited was Tremenheere Sculpture Gardens near Penzance. Among the grass trees, palms and leucadendrons, I spotted *Banksia blechnifolia* growing on one of the terraced slopes. I was fascinated! Until then I had thought of banksias as trees or shrubs but this one crept along the ground (see photos opposite).

Until the end of our holiday I kept on asking in every nursery we visited down south for *B. blechnifolia*. No one had it for sale. I decided to buy seed, which I did on ebay. At the time there was no problem with seed import from Australia and seeds arrived without a problem. I sowed the seed in 2017 and had a nearly 100% sprouting rate. At the time I didn`t have any special facilities for seed growing; plants were in small pots on the window sill in our conservatory. Our puppy managed to knock the pots off the window sill, smashing everything .... and that was the end of my first attempt.

Encouraged by the good germination rate of my first attempt, I bought more seeds and sowed them in the winter of 2017-2018. Again I had an excellent sprouting rate and I ended up with 5 plants. Later in 2018 I bought 2 more plants from the nursery Penberth Plants (they do mail order). Plants were potted up once before they were finally planted outside in the spring of 2020.

Since then they have all grown well This last winter was very mild, but in winter 2020-21 we had a lot of frost. I counted at least 21 days (not consecutive) with multiple occasions of -6C. Nonetheless this year one of the blechnifolias surprised us with a flower (see opposite).

Another banksia which has done really well for us is *Banksia marginata*. It is in flower at the moment (October 2022). It was frozen solid in 2018 with no ill effects.

Just before the seed import restrictions started, I bought seeds from Banksia Farm in Western Australia. All plants are growing well and I am hoping to plant some out next year. I hope to report on their progress in a future edition of Pentachondra.

Editor's note

For information on how to germinate banksia seeds see Pentachondra issue 58, May 2017, page 13.



VERTICORDIA PLUMOSA

Alan Bryan

Verticordia is a genus of over 100 species in the family Myrtaceae. Most are shrubs and the majority of species are found in Western Australia. The common name of featherflower reflects the feathery or hairy sepals which are rather prominent and give the flowers a strikingly beautiful appearance (see photos on page 8). I first became aware of them when someone posted a picture of *Verticordia pennigera* on Facebook. I was immediately entranced and very



March 2020

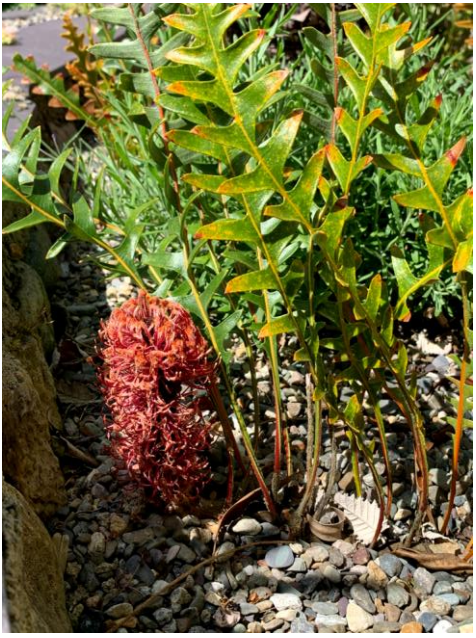


March 2022

***Banksia blechnifolia* in Maya Nedeva's garden: from bud to flower**



May 2022



July 2022



left:
Emergent *Verticordia plumosa* seedling, just to the right of centre

below left:
***Verticordia insignis*, Ellis Brook Reserve near Perth, September 2019**

below right:
***Verticordia* sp. West Mount Barren, WA, October 2019**
The colour change from yellow to red occurs after pollination and may indicate to insects that the flower is no longer worth visiting.





keen to try and grow one. I was excited to see that *Verticordia plumosa* appeared on this years APS list, so I ordered some and did some research online about their cultivation requirements.

Verticordia plumosa has lilac purple scented flowers with fringed sepals. *Verticordia* , I discovered, have a reputation of being difficult in cultivation, even in their native Australia, although *V. plumosa* is considered one of the easier species to grow. They are plants of dryer habitats, require good drainage, and dislike shade from overhanging plants. The flowers are shed whole when the fruit is ripe, each containing a single seed surrounded by the dried floral remains, which adhere tightly to the seed coat. Germination is difficult and treatment with smoke or GA (gibberellic acid) is necessary to break the seed dormancy. In addition the proportion of viable seed set is very low.

When the seed arrived it was still encased in its floral husk, as shed in nature. I soaked the seed in water with a smoke primer disc added for 24 hours, and then sowed the seeds on the surface of my usual Australian sowing mix, which consists of an equal mix of rough peat and granite grit mixed with silver sand. The pot was enclosed in an unheated propagator along with various other sowings and placed in a shaded spot in my greenhouse, which is kept at a minimum of 10^{o}C. The seed was sown in late spring (around the beginning of May) which was rather chilly here in the East Midlands.

In early August I was very surprised to see two seedlings had emerged (see opposite). I left them in the propagator for a week or so and then moved them to a sunny spot on the greenhouse bench. At the time we were experiencing one of the two heatwaves we had this summer.

Unfortunately, despite my best efforts both withered away and died about 6 weeks after germination. One had tried to produce its first true leaf. On inspection neither seedling appeared to have a root. Whether this had rotted away, or just didn't emerge and the seedling was growing on the nutrients in the seed's endosperm, is not clear. Inspection of the un-germinated seeds showed that very few if any of the floral remains contained a seed.

On reflection it may have been more sensible to use a low nutrient mix without peat, to reduce the likelihood of roots rotting. If seeds are available on next years list I will certainly be trying again, and I will probably start by carefully removing the floral remains to see how many potentially viable seeds I actually have. This years experience suggests that germination requires more warmth, so I may sow in a heated propagator. They say you learn by your mistakes! Hopefully these notes will inspire you to try growing *Verticordia* from seed.

Some useful resources for growing Verticordia:

George, E. 2006 Bringing Verticordia out of the too hard basket, Australian Plants Online **https://anpsa.org.au/APOL2006/dec06-2.html**

Department of Biodiversity Conservation and Attractions: Parks and Wildlife Service (2013) Seed Notes for Western Australia. No 10, *Darwinia, Chamelaucium Verticordia.***https://www.dpaw.wa.gov.au/about-us/science-and-research-publications-resources/114-seed-notes-for-western-australia**

MUEHLENBECKIA COMPLEXA - A WARNING

Jeff Layman

When we moved into our house ten years ago one small issue we had to deal with was an ugly L-shaped chicken-wire fence about 1.25 m high and perhaps a dozen metres long. Half was dealt with by growing a *Schisandra* up it, although this is deciduous and not of much covering use in winter. The other half had a *Lonicera japonica* 'Halliana' planted about halfway along. Within a couple of years this almost evergreen plant had covered a lot of the fence. However, as loniceras tend to do it soon decided to leave the lower part bare and the wire started to show through. I wondered what to grow to cover the fence a little better.

After some thought and reading (in particular Jan Michalak's article in Pentachondra[1]) I decided on using *Muehlenbeckia complexa*. This seemed ideal: an evergreen plant from New Zealand (so quite suitable for an APS member), which grows quickly and has good covering power. It was also said to be hardy, although that is not an issue here in south Hampshire.

A plant was purchased - although I can't remember where from - which had the name *Muehlenbeckia complexa* on its label. It might have been a variety or specific form for all I know. It was planted on the lonicera side of the fence, near the corner of the "L". After a few months it had obviously settled in and was growing well. I threaded some of it through the wire to help it on its way. After a couple of years it was doing what I wanted, and starting to cover the fence pretty well.

After another year I started to have concerns as it was growing out along the ground either side of the fence. Even the runners well above the ground curved down under their own weight and ran along the ground. It was then I realised that where it touched the ground it was rooting. After another few months it had smothered the lonicera, a plant often thought of as a weed because it grows so fast! Realising I had made a mistake, I decided to get rid of the muehlenbeckia. If only…

The runners of *M. complexa* are incredibly tough. Once more than 3 or 4 mm in diameter they simply cannot be broken by pulling apart (did the Maoris use them for ropes?). So I dug out my old electric hedge trimmer and started to attack the plant. It was a waste of time as the tough runners just twisted round and jammed the hedge trimmer as I pushed it through. I had to resort to hand shears. This was successful but was hard work. And, of course, because the plant was growing in and out of the chicken wire I couldn't get to that part of it easily to cut it. I also tried to pull up as many of the rooted ground runners as I could, which isn't easy when they are under other plants or hidden by fallen leaves. Of course, they aren't particularly visible either, with their small leaves.

So, having done as much physically as I could, I sprayed what was left with glyphosate. After three weeks and not a sign of it having any effect, I tried two further applications and followed that up with glyphosate plus pyraflufen-ethyl (Weedol Ultra Tough) to see if that was any better. It didn't appear to be as only very few of the leaves seem to be going brownish and drying out, and that may have been due to me partially digging out the plant

and severing some, but not all, of its roots. I assume the small, shiny leaves of *M. complexa* are rather like those of ivy, effectively shedding the glyphosate before it can be absorbed.

In conclusion, be very careful if you decided to plant *M. complexa*, and perhaps other muehlenbeckias. Even if restricted to a pot, its runners will find a way of escaping and rooting in the ground. Remember too that muehlenbeckias are members of the Polygonaceae, that well-known family including some of some of the worst invasive plants such as *Fallopia baldschuanica* (Russian vine) and *Reynoutria japonica* (Japanese knotweed).

I have a blacklist of plants I will never grow again in a garden as they escape, are vigorous, invasive, and glyphosate-resistant. Sadly, *Muehlenbeckia complexa* has joined it.

Reference:

1. Michalak J. 2016. *Collecting Muehlenbeckia.* Pentachondra 57 (December) p28.

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SOME AUSTRALIANS IN SHEFFIELD

Peter Kohn

The starting point for this report was a query to our editor about the ultimate height of grevilleas. We successfully grew both *Grevillea* 'Canberra Gem' and *G. victoriae* in our Scottish garden (Kerrachar in NW Sutherland[1]) as well as *G. lanigera* 'Mount Tamboritha', though *G.* 'Robyn Gordon' was lost in the first hard winter. At the time we left to return to Sheffield none of the survivors were particularly large in that windy location. I tried, and failed, to grow *G. victoriae* on the site in Sheffield Botanical Gardens (SBG) which was eventually cleared to create our South African Bed. A rather small, distorted 'Canberra Gem' was also removed from that site during the clearance. The only other grevillea in the gardens was a very unhappy plant of *G. juniperina* under glass in the Pavilions.

About five years ago I decided to try 'Canberra Gem' in our own small and sheltered suburban garden and a couple of years later I added *G. victoriae*. The soil in our home garden is very free-draining (unlike most of Sheffield) and was very depleted. Our house was built in 1870 and when we came here the garden was full of sickly, ancient neglected shrubs, so I didn't expect strong growth. The reality is that both grevilleas have grown away astonishingly quickly. 'Canberra Gem' has needed severe pruning already and *G. victoriae* is threatening to need similar treatment in a couple of years,.

The APS visited Sheffield Botanical Gardens in 2015. Since then there have been a number of changes. I knew there was a grevillea in the pavilions and opted to use the new website (sbg.gardenexplorer.org) to check plants in the gardens, which confirmed that it was *G. juniperina* and I also found a record for the failed *G. victoriae*, but not for *G.* 'Canberra Gem'.

Any database is only as good as the input of information but I was surprised that 'Canberra Gem' was missing. It generally isn't too hard to record accessions but it is almost impossible to fully update losses. Nevertheless, the new tool does provide a chance for us to learn more about what is (or, at least, has been) in the gardens. After more than ten years

working in SBG we still only know a fraction of what we have so the new website is a really valuable guide to some of the things we have missed.

Many of our Australian plants are in the Pavilions even though a number of the plants in there would be perfectly happy outdoors in our urban heat island. The original choices of what to plant in the pavilions were made by staff from the Royal Botanic Garden Edinburgh and the Edinburgh garden is definitely a harsher environment than that of Sheffield.

The other main concentration of Australian plants is in the Mediterranean Garden where the five main regions are each represented by a separate bed. In many of them shrubs now dominate, but particularly in the Australian Bed. This means that the herbaceous plants and smaller plants we tried to introduce have not survived. However I think all of the correas, acacias, hakeas and callistemons are thriving.

Some shrubs thriving in the Australian Bed in the Mediterranean Garden at Sheffield Botanical Garden

Correa alba, C. backhousiana, C. decumbens, C. 'Dusky Bells', *C.* 'Mannii', *C.* 'Marian's Marvel'

Hakea nodosa, H. teretifolia

Callistemon pallidus, C. rigidus, C. salignus, C. speciosus

Bursaria spinosa was added after the APS visit and it is also growing strongly..*Acacia longifolia* and *A. retinodes* were big plants when the APS visited and have grown away strongly after severe damage in the 2019 winter, although they are yet to fully recover their original form.

Acacia baileyana, after a shaky start, is very happy on the AGM Bed (see photos opposite). *Wollemia nobilis* is well established in the Evolution Garden but so far has always dropped its cones before producing seeds. There are two large eucalypts in the Marnock Garden, *Eucalyptus globulus* and *E. pauciflora*.

Judy's list of Australasian plants at Bedgebury[2] made me wonder whether we had any podocarps and it was a real surprise to discover that a small bed we had previously overlooked was designated as the Podocarp Bed. In reality, I only found a rather ancient and anonymous looking plant of *Podocarpus alpinus* with no sign of the recorded *P. nivalis*. However it was exciting to discover that we had also recently acquired the Chilean *P. salignus* which is at the opposite end of the gardens.

The only surviving small Australian plant in the Mediterranean area is *Ficinia nodosa* which we grew from APS seed. Checking on the internet, it turns out that this is also native to South Africa so we may well rescue it before it gets completely swamped and move it to the South African Bed. It is lost where it is.

SBG cannot claim to be a haven for Australasian plants but they are certainly present. The Curator, Ian Turner, seems interested in the idea of developing an additional bed for Australian or Australasian plants so hopefully the collection in the garden can be expanded soon. Watch out for new accessions on sbg.explorer.

Notes:

1. For more information about Kerrachar see Pentachondra 47, December 2011, p34 and 43, December 2009, p16.
2. Pentachondra 67, December 2021, p27



***Acacia baileyana* thriving at Sheffield Botanic Gardens**



Correa flowers

left:
Correa decumbens

right:
Correa backhousean a





Tim Darrington's Dryandra collection

left:

Dryandras are best grown in deep containers. (The pink flowered plant is *Isopogon* 'Stuckey's Hybrid'.)

below left:

***Dryandra nivea* (*Banksia nivea*): Tim has grown this species from APS seed**

below right:

***Dryandra foliosissima* (*Banksia foliosissima*) with follicles.**





GROWING DRYANDRAS IN EUROPE

Tim Darrington

On my way home from my first visit to the Courson plant show on 16th May 2014, I encountered Frédéric Pautz. As we settled in the TGV he remarked on the crate of plants I had bought at the show. To cut a long story short, I soon discovered that he was director of the botanic gardens at the Park de la Tête d'Or (in Lyon) and president of the CCVS (Conservatoire des Collections Végétales Spécalisées), the French equivalent of Plant Heritage. Once he heard about the number of banksias I was growing, he told me that I must join the CCVS. I duly asked that my collection of *Banksia* be recognised and it was Frédéric himself who came to inspect it. The scientific committee of CCVS was most interested in the taxonomic absorption of *Dryandra* into *Banksia*, proposed by Mast and Thiele[1] in 2007, and its contestation[2] not least by Alex George, the author of accounts of both 'Banksia' and 'Dryandra' in the Flora of Australia[3]. In their wisdom, the committee decided to grant me the label 'collection agréée' for *Banksia* in its enlarged, Mast and Thiele definition. At the time I possessed only 12 of the 137 taxa of *Dryandra*, whereas I already had 57 true *Banksia* taxa (out of 98).

For the rest of this article, I will continue to use the word 'Dryandra' and I will use 'Banksia' in its restricted (George) sense. There are several reasons for this. First, whatever the overall scientific merits of the Mast and Thiele definition, as Alex George says, there are "morphological characters distinguishing *Dryandra* from *Banksia*," particularly the way in which each genus holds its seed[4]. Second, the major publications, the most useful to amateurs, use the distinction and, as far as I know, there has been no serious attempt to overturn the very useful series (subdivisions) of *Dryandra* distinguished by George[5]. Thirdly, I do find distasteful the use of anagrams, particularly of people's names, when attempting to provide a unique name for a former *Dryandra* species where there is already a *Banksia* which uses the same name (for example, *Dryandra lindleyana* becomes *Banksia dallanneyi*).

To get up to speed on dryandras, I joined the Dryandra Study Group (DSG)[6] and organised a trip to Western Australia for late August and early September 2016. I had the privilege of being taken by Margaret Pieroni (head of the DSG) on two five-day field trips (that is, two long tours) during which we saw 91 taxa of *Dryandra* in their natural habitats. This was complemented by other field trips and visits organised by Keith Alcock (former head of the DSG) and Kevin Collins, who is leader of the Banksia Study Group. Kevin has grown all *Banksia* species and the vast majority of *Dryandra* at his Banksia Farm in Mount Barker (Western Australia) for more than 30 years and has in the past sold seeds. Unfortunately the Banksia Farm, which I had already visited in 1999 and 2007, is now closed to the public, which is a great loss.

Cultivation considerations and the prevention of *Phytophthora*

Chapter 1 of Cavanagh & Pieroni's book *The Dryandras* gives a useful overview of dryandra cultivation in Europe during the early 19th century and the decline of interest since the end of that same century. I believe one of

the reasons for this disinterest is that the two dryandras most commonly supplied, even today, by British and European nurseries (*Dryandra formosa* and *Dryandra quercifolia*)[7] are amongst the most difficult to maintain. I have found both particularly susceptible to dieback from *Phytophthora* where the plant dies suddenly from the root upwards. Once you've spotted the signs, it is already too late to save the plant. I have grown both from seed several times. Both grow rapidly and, after two or three years, flower for the first time and then a few months later will often suddenly drop dead.

The fight against *Phytophthora* is only preventive and consists primarily in providing excellent and maximal drainage to the plant's roots. The choice of substrate is absolutely essential for growing any dryandra (or indeed any Western Australian banksia). I know of no commercial mix which is adequate, so you should mix your own. I am still experimenting, but in all my mixes I use at least 75% of rock. By rock, I mean a mixture of materials like pozzolan[8], granite chippings, basalt chippings (all grade 5-15mm), and perlite. The reason for this is that in their natural habitat in Western Australia many dryandras grow in pure lateritic gravel. This material seems to contain virtually no organic matter. Until recently, the other 20 to 25% of my mixes was mainly good quality peat substitute, but recently I have been experimenting by replacing half of the peat substitute with fine coconut coir which up to now seems to be giving good results[9]. Whatever your mix, when you take it in your hand it should feel dry(ish), gritty and crumbly, even after you've added (say) 1 part in 15 of water[10].

Additionally attention should be given to other aspects of providing highly well drained conditions. Those who, like me, grow their dryandras in pots or containers should choose deeper ones, for example those for growing roses (see photo page 14). I have also found the deep root trainer containers with meshed bottoms good. My experiments with Air-Pots have been disappointing. The smaller the Air-Pot, the less I like it. The principal difficulties are filling it and keeping it filled to the correct level, and weeding which can be a nightmare on account of all the holes and bumps. For those who are lucky enough to have a mild enough climate to grow dryandras outside, raised beds with other soil drainage improvements are recommended.

Phytophthora is a fungal disease, the development of which is favoured by hot and thundery weather. This implies that we should try to keep the roots of our dryandras cool. As I grow all my dryandras in terracotta pots or plastic containers, so as to be able to keep them under glass in winter, I bury the larger pots in the soil in summer and mulch over the surface with hedge clippings or similar[11].To prevent the holes from filling with water after a heavy shower, as my garden is steeply sloped and the soil is generally quite light, I can make do with tilling the soil well and to a deeper level than the pots in March, before the plants come out of the greenhouses once the danger of frost is over (in early to mid April). At this point they are immediately buried. Finally the cooling aspect may lead us to favour terracotta pots, which cool by allowing evaporation from the surface of the pot. This effect also helps dry the substrate around the roots and helps air to permeate, which I consider

to be beneficial (particularly when the pot is not buried, as in winter, or for smaller pots containing seedlings).

Dryandras require very high light levels but will put up with temperatures down to about -5°C provided they are protected from icy winds and from frost falling directly on their leaves. This is of course achieved by using a greenhouse in winter, and I have three of them. However, in summer greenhouses are generally too hot and humid for dryandras. Nevertheless, even in winter, every effort should be made to keep humidity as low as possible. In all my green-houses, there is an electric fan running constantly to stir up the air, I also avoid any atomising (spraying) of water, and whenever the ambient temperature is significantly above 0°C, I open the top door and/or roof to ventilate the greenhouse. This is particularly important on warmer days in March and April to keep daytime temperatures inside the greenhouse as low as possible. Finally greenhouses should be orientated to give good winter light and I make a point of pruning back nearby bushes in October to reduce shading.

Finally I water all my dryandras and banksias (except seedlings) via a drip system, using a little rainwater[12] every day in summer, and about once a week in winter. This avoids getting the 'crown' wet. Adjusting the number of drippers and/or the flow rate to provide sufficient water without drenching the pot requires keeping an eagle eye on each plant, and of course adjustment as the plant grows. Generally seedlings seem to me to be more resistant to *Phytophthora* than adult plants; nonetheless you should protect your dryandra seedlings from 'damping off', which likes the same conditions as *Phytophthora* (too much humidity, too much heat) and thus water them parsimoniously especially in hotter weather.

At this point I should say a word about feeding dryandras. It is essential to avoid using fertilisers containing any phosphorus (P), as even in quantities normal to other plants it is toxic to Proteaceae. I feed mine with 0.5 g/l of slow release 'Australian native plants' fertiliser in my potting mix. I sometimes add a little potassium sulphate or potassium nitrate to the rainwater used to water my plants (60g per 200l of water). In spring all plants are given a dose of chelated iron and of magnesium sulphate. For those that continue to appear yellow, I give additional doses of iron or magnesium or micronised sulphur (to lower the pH), as I judge fit. Finally for the last year or so, I have been experimenting with giving shots of potassium nitrate (1g in 125 ml of water) to well established mature plants because I suspect that some are finding that I don't feed them enough. To date this has not had any noticeable adverse effects, and I hope this will promote better flowering.

Growing dryandras from seed

Growing dryandras from seed is relatively easy, certainly when compared with trying to take cuttings or even harder trying to graft them[13]. Dryandra seed is said to require a large diurnal temperature swing to germinate well. I have experimented with sowing them under glass around the 1st March and also around the 1st November, although this year I have advanced the autumn sowing to around 1st October. I then keep (most) seedlings under glass for their first summer, so as to avoid excess soaking from heavy rain showers. I sow my seeds in (holed)

Ranking of *Dryandra* species from easy to impossible to cultivate

Category	Cavanagh Ocean Grove, Victoria	Pieroni Perth, Western Australia	Darrington Vienne, France
1. **reliable and relatively easy**	arctotidis armata calophylla drummondii fraseri var.ashbyi conferta cuneata fililoba formosa fraseri var. fraseri hewardiana nivea (most forms) nervosa[19] obtusa praemorsa serra sessilis shanklandiorum tenuifolia (prostrate + mound-forming)	*arboreа* arctotidis armata var. armata baxteri **ш** brownii calophylla **$** conferta 'Corrigin Blue' cuneata (low form) drummondii subsp. drummondii drummondii subsp. hiemalis *fraseri var. crebra (Minyulo form)* *# ionthocarpa var. ionthocarpa* longifolia subsp. calcicola mucronulata (both subsp.) nervosa nivea (most forms) nobilis (both subsp.) # obtusa polycephela praemorsa var. praemorsa quercifolia (pink) shanklandiorum speciosa subsp. macrocarpa squarrosa (carduacea) tenuifolia var. tenuifolia tenuifolia var. reptans	**ш** armata var. armata calophylla (flat out) falcata fililoba foliosissima fraseri var. fraseri lindleyana var. lindleyana praemorsa var. praemorsa serratuloides subsp. serratuloides sessilis var. cygnorium speciosa subsp. macrocarpa tenuifolia var. reptans (cascading form)
2. some problems in establishing but reasonably hardy once established	# baxteri carlinoides cirsioides erythrocephela foliolata foliosissima kippistiana longifolia mucronulata +nobilis plumosa + proteoides pulchella seneciifolia serratuloides shuttleworthiana # squarrosa (carduacea)	*bipinnatifida subsp. multifida*[20] *comosa* *falcata* ferruginea subsp. pumila *ferruginea subsp.* *tutanningensis* *fraseri var.effusa* *fraseri var. fraseri* **S** f*ormosa* *lepidorhiza* mimica plumosa subsp. denticulata[21] porrecta (eastern) *pteridifolia var. pteridifoli*a pulchella *serra* *stricta* *subpinnitifida* (both subsp)[22]	armata var. ignicida bipinnatifida subsp. multifida **ш** brownii carlinoides **S** catoglypta echinata fasciculata ferruginea subsp.flavescens ferruginea subsp. pumila **S P** formosa longifolia subsp. archeos nervosa nivea plumosa

(continued) some problems in establishing but reasonably hardy once established	squarrosa (southern) ***** stuposa* subulata		polycephela **S P** praemorsa var. splendens **S P** quercifolia sessilis var. sessilis stricta **S P** trifontinalis vestita
3. difficult to very difficult	arborea bipinnatifida ferruginea polycelphela preissii # quercifolia speciosa # tridentata vestita	*bipinnatifida subsp. bippinatifida* carlinoides preissii proteoides tridentata (needed Fe)	'Boyup Brook" columnaris **S P** comosa corvijuga # cuneata epimicta erythrocephela subsp. inopinata ferruginea susp. magna ferruginea subsp. obliquiloba fraseri var. oxycedra **S P** kippistiana var. kippistiana **S** mucronulata subsp. mucronulataS mucronulata subsp. retorsa **S P** nana **S P** pallidaS **S** porrecta (eastern) serra shanklandiorum subulata
4. absolutely hopeless		cirsioides ferruginea (all subsp. except pumila & tutanningensis) serratuloides shuttleworthiana stuposa	**0** baxteri bipinnatifida subsp. bipinnatifida **$** conferta 'Corrigin Blue' **P** foliolata glauca **S P** nobilis (both subsp) **S P** stuposa subpinnitifida var. imberis

$ now called *Banksia densa*

* sensitive to wet mixes

\# prefers 'sand' according to Cavanagh (DSG newsletter 13 (December 1987) p8) or to me

S shortlived according to Pieroni (DSG newsletter 16 (July 1989) p18) or to me

P suspected to be highly sensitive to *Phythoptera* (ie I believe this is why I have lost this taxon)

ш shy to flower

0 never germinated for me despite multiple efforts

yoghurt pots in a mix which is just a finer version of my normal mix. As soon as they have 4 true leaves I pot them on into deep 400 ml pots.

In 1983, Keith Alcock reproduced a table of first germination times (of batches of seed) for over 40 species of *Dryandra* obtained from Kings Park in Perth over a period of 20 years[14]. He comments: "The percentage germination can also be quite low though I have no firm evidence that any particular species suffers from this problem more than any other". Much of the July 1994 DSG newsletter discusses germination, whilst in 1992, David Raddall reported extremely high germination rates for over 60 taxa, Hartley Tobin gave a table of results of his sowing of over 50 taxa in autumn and spring of 1993 in Victoria, which overall shows a much lower germination rate. This globally corroborates Keith Alcock's remark, although a few of the species he tried did give very high germination rates[15]. Hartley's results also tend to suggest that for most species spring sowing is preferable as far as germination rate is concerned. Spring sowing gives the high diurnal temperature swing in the months following sowing but I have found that some species do germinate in late December and/or January after being sown around 1st November. .

Some *Dryandra* species require smoke treatment to stimulate germination. I have never tried the smoke discs that the APS supplies but I have used smoked vermiculite from Nindethana Seed in the past, which is scattered over surface, and I now use smoke water bought in Australia[16]. I soak the seeds (said to require it) in concentrated smoke water for about 16 hours prior to sowing. To my knowledge, Nindethana recommends smoke for *D. calophylla*, *D. catoglypta*, *D.columnaris*, *D. echinata*, *D.obtusa*, *D. plumosa* and *D.quercifolia*, but for each species growers should consult the literature.

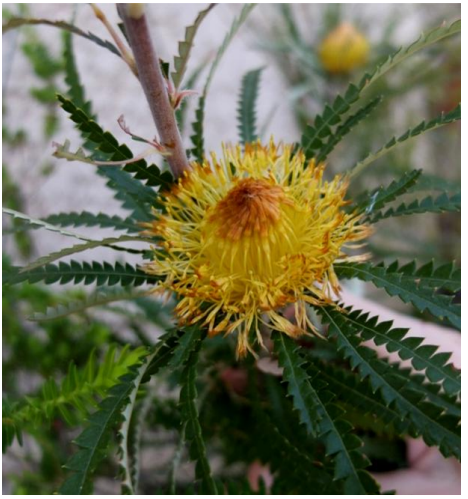
Generally I have found that here in Europe dryandra seeds (particularly commercially available seeds) have generally a lower germination rate. The reason for this maybe that the seeds available in Europe are simply less fresh and so have lost some of their viability. However, I believe that there are also other reasons: too much (or too little) watering or too much humidity when grown within a greenhouse, even with the doors fully open. This can cause damping off (or desiccation) even before anything appears above the surface.

Sourcing seeds from within the UK or Europe has been getting increasingly difficult over the last 5 or 6 years. Over the last 20 years, I have sourced most of my seeds from Kevin Collins and Nindethana, however I believe that the UK will no longer (easily) let seed enter. Indeed the last time I received seed in the UK (before Brexit kicked in) I had to pay VAT to UK customs. As things stand, I can still get seeds sent to France. Kevin still sends me seed to France, as I know him well and am a member of both the Banksia and Dryandra Study Groups.

Ranking of species from easy to impossible to cultivate

In the DSG newsletter no. 15, Tony Cavanagh classifies *Dryandra* into three groups by their easiness or otherwise to cultivate in his garden in Ocean Grove, Victoria (about 100km SW of Melbourne)[17].Tony says he uses raised beds in his garden and that the 'soil' on his block "consists of shallow sandy-clay loam over a layer of

Not so easy dryandras from Tim Darrington's collection









clockwise from top left

Dryandra formosa **(*Banksia formosa*)**

Dryandra praemorsa **var. *splendens*** **(*Banksia undata* var. *splendens*)**

Dryandra quercifolia **(*Banksia heliantha*)** **flower and bud**

Muehlenbeckia topiary



Royal Botanic Gardens Melbourne, 2018



Tasmanian devils?

The RHS Wisley Hilltop display





Some of Steve Bridger's ferns, which he grows himself: can you spot the baby?





Reliable and relatively easy dryandras from Tim Darrington's collection



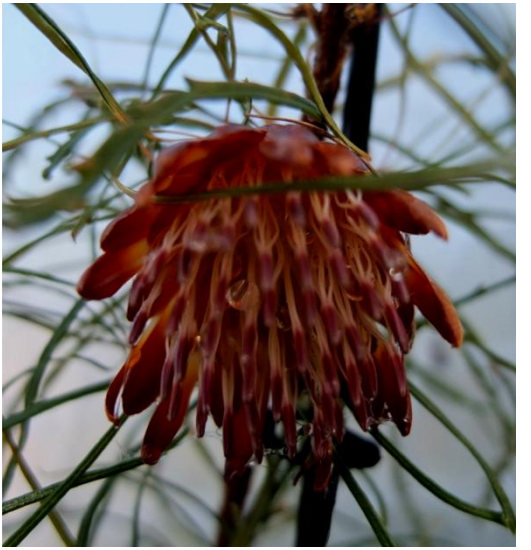
above: ***Dryandra speciosa* subsp. *macrocarpa* (*Banksia splendida* subsp. *macrocarpa*)**



above: ***Dryandra lindleyana var. lindleyana* (*Banksia dallaneyi var. dallaneyi*)**

below: ***Dryandra foliosissima* (*Banksia foliosissima*)**

below left: ***Dryandra tenuifolia* var. *reptans* (*Banksia tenuis* var. *reptans*), cascading form**





buckshot gravel followed by yellow clay". His three categories are:
a) Taxa which are reliable and relatively easy to grow;
b) Taxa which present some problems in establishing but are reasonably hardy once established;
c) Taxa which are difficult to very difficult.

In the next DSG newsletter (no. 16), Margaret Pieroni gave her classification of the easiness (or otherwise) to grow and maintain in hergarden which was in Perth (on Perth sand). She added a fourth category, taxa which are "absolutely hopeless"[18].

The table on pages 18 and 19 summarises the information from these two DSG newsletters and I have added another column giving some indication of my own experience of growing dryandras in the Rhône Valley. In this last column, I have included annotations for short-lived taxa; taxa suspected of being highly sensitive to phytophthora; taxa which are shy to flower and taxa which have never germinated for me despite multiple efforts. There are a number of species which I find both short-lived and susceptible to phytophthora which have both annotations. Readers should however be aware that these findings are often based on the experience of growing just a few plants.

Some examples

The 2022 seed list offers the following dryandras: *D. formosa*, *D. stuposa*, *D. nivea*, *D. praemorsa* var. *praemorsa* and *D. praemorsa* var. *splendens*. In the past, the APS has also supplied *D. baxteri* and *D. quercifolia* and more recently (2015) *D. tenuifolia* var. *tenuifolia*. *D. formosa*, *D. nobilis* and *D. stuposa* are all in the same series (8, Dryandra) and I have found they are some of the most difficult to maintain, and most susceptible to *Phytophthora*. Generally they germinate well, but at this point the difficulties begin, especially for *D. stuposa* for which I have lost nearly all at the seedling stage. I did get one plant to about 18 months old but it died before it had flowered. *D. formosa* is easier, it grows rapidly, and I have got several specimens to flower over the years and indeed set some seed, but it is short-lived and seems to succumb to P*hytophthora* quite rapidly.

In series 7 (Illicinae) we have *D. praemorsa*, *D. quercifolia*, and the extremely rare *D. anatona*. *D. praemorsa* has two variants, var. *praemorsa* and the bigger and more showy var. *splendens*. This series requires extremely well draining substrate. By far the easiest to grow is *D. praemorsa* var. *praemorsa* although *D. praemorsa* var. *splendens* and *D. quercifolia* are well worth growing for their large(r) flowers (photos page 21). *D. praemorsa* var. *splendens* also has a pink flowered form which seems to me to have bigger leaves and be more difficult than the yellow form.

Some of the 'honeypots' of series 24 (Niveae) are amongst the easiest Dryandras to grow (photos opposite). My original *D. lindleyana* var. *lindleyana* is now 9 years old and it had over 20 flowers heads in April 2021. I have also grown *D. nivea* from APS seed to flowering and, having lost this original plant to a watering failure, I now have a second young plant which looks as if it will flower when still quite small in early 2023.

I also find the cascading form of *D. tenuifolia* var. *reptans* (series 11, Tenuifoliae) (photo opposite) an easy plant to grow. I have also seen photos

of Jeff Layman's *D. tenuifolia* var. *tenuifolia*, grown from APS seed, and have reasons to think that it is similarly easy to grow.

I have had mixed fortunes with series 9 (Foliosae). I have never got *D. baxteri* to germinate despite many attempts in the (distant) past. My *D. foliosissima* plant was from Nindethana seed sold as '*D. longifolia*". In cultivation this plant seems less untidy and tangled than in the wild and has flowered well for several years now. Additionally I have found *D. mucronulata* subsp. *mucronulata* to be fast-growing but I lost this plant to suspected *Phytophthora* before it flowered. However I still have a slower growing and younger *D. mucronulata* subsp. *retorsa* plant which at the time of writing has a large bud.

Series 1 (Floribundae), has just one species, *D. sessilis* which has four varieties. I have found *D. sessilis* var. *cygnorium* to grow vigorously and flower well since I received a cutting of this plant in a 300ml container from Liesbeth Uitewaal just two years ago. I also have *D. sessilis* var. *sessilis* (this plant maybe intermediate with *D. sessilis* var. *cordata*) which seems not so happy; its leaves are brown and it is beginning to look straggly. I am wondering whether it requires extra summer water or something else.

I would like to end with a few words about the series 14 (Aphragma) species, several of which I have found surprisingly easy and rewarding to grow. This series is characterised by deeply lobed "fishbone-type" leaves with rampant or low plants. I have found both *D. fililoba* and *D. calophylla* (I have the low 'flat-out' form) easy to maintain and both flower well, even if the flowers tends to be somewhat hidden amongst or under the dense vegetation. *D. nervosa* also flowers well but I have found its wood is rather 'brittle' and when pruning (thinning out the centre), I managed to break off a major branch. I would recommend these species that have such unusual and characteristic leaves.

References

1. Mast**,** Austin and Thiele, Kevin. (2007) The transfer of Dryandra R.Br. to Banksia L.f. (Proteaceae). *Australian Systematic Botany* 20(1), pp 63-71.

2**.** George, AS (2014),The Case Against the Transfer of *Dryandra* to *Banksia* (Proteaceae). *Annals of the Missouri Botanical Garden*, 100(1-2), pp:32-49

3. *Flora of Australia*, Volume 17B, Proteaceae 3, Hakea to Dryandra, available for download as a PDF file (26.7 MB) at www.dcceew.gov.au/science-research/abrs/publications/flora-of-australia/vol17b

4. For banksias, the follicles are generally held radially in a woody cone whereas dryandras hold their follicles upright in a cup-shaped head.

5. This classification is amply described in chapter 4 (pp. 58-68) of *The Dryandras*, by Tony Cavanagh and Margaret Pieroni,(2006) which, together with vol. 17B of *Flora of Australia* constitute the primary major references.

6. anpsa.org.au/study_group/dryandra-study-group/

7. The third species I have seen offered in France is *Dryandra sessilis* (*D. cygnorum*) which is less showy than the other two, but it is considerably easier to maintain.

8. Pozzolan is relatively unobtainable in the UK. When visiting France, you can buy sacks of it ('Pouzzolane' in French) from many garden centres and DIY stores (e.g. the chains called *Castorama, Gamm Vert, Jardiland, Point P, Leroy Merlin*). I get mine loose from gravel merchants Delmonico Dore (cheaper this way).

9. My thanks to Railhet nursery (www.pepiniere-railhet.com/) for this tip. I received some very well developed banksias in relatively small containers grown in almost pure powdered coir. For

the moment I use the chunky stuff (10-15 mm) and put it through the chipper once, which still leaves (visibly) fibrous pieces.

10. Beware of what Australian publications call 'sandy soil'. For Proteaceae said to grow in sand, I would not use anything finer than Melcourt Potting Grit.

11. The mulch should be dry, not slimy. Here in France I generally don't have the problem of it going slimy but if it does toss the mulch to encourage it to dry out.

12. Our tap water has a high pH. Sometimes I do not have enough rainwater. If tap water is used, I try to offset the high pH by adding micronised sulphur. .

13. I have not yet succeeded in grafting a dryandra (onto *Banksia integrifolia*) despite a dozen or so attempts. I have been trying cuttings on a much larger scale and have only succeeded in getting four viable plants in this way: two *D. lindleyana* var. *lindleyana*, *D.serratuloides* subsp. *serratuloides* and *D.fraseri* var. *oxycedra*. *D. falcata* has twice produced roots in the water propagator (Hydropod) but failed when potted on into my usual mixes. I have also tried to layer stems without any success. Tony Cavanagh reported high strike rates for cuttings of *D. squarrosa* in DSG newsletter 12 (1984), p.20, and that *D. fraseri, D.ashbyi, D.tenuifolia,*and *D. formosa* "are relatively easy (for dryandras!)". I have several times tried *D. fraseri* var. *fraseri, D. tenuifolia* var. *reptans* and *D. formosa* without success.

14. DSG newsletter 10 (1983), pp 3-4. All DSG newsletters are publicly available on the DSG site (f.n. 6). Readers should note that prior to 1996 many dryandras either were not named or simply had numbers. DSG newsletter 29, p. 2, gives the table of correspondance between the pre-1996 names and the 'new' names following the major revision by Alex George which gave names to over 50 new taxa.

15. DSG newsletter, 26 (1994).

16. From Zanthorrhea nursery (yes, with a "Z"!) in Maida Vale, WA.

17. DSG newsletter 15 (Feb 1989), pp.3-6.

18. DSG newsletter 16 (July 1989), pp 17-19

19. Before 1996, about 50 taxa of *Dryandra* did not have names: I have tried to interpret the reports in DSG newsletters15 and 16 to give systematic names. Although the table on p.2 of DSG newsletter 29 generally helps, this particular plant is described as "aff. *pteridifolia*, large, from south coast"; for me only *D. nervosa* fits.

20. Margaret Pieroni (pers. comm.) confirms that subsp. *multifida* did better in Perth, cf. photo p. 91 of *The Dryandras*. In addition, in the table all information in *italics* is drawn fom this same private communication.

21. cf. photo p. 180, *The Dryandras* (f.n.5)

22. cf. photo p. 34, *The Dryandras (*f.n.5)

Editor's note

To find the *Banksia* name corresponding to the *Dryandra* name search APNI: https://biodiversity.org.au/nsl/services/search/names

KEEPING MUEHLENBECKIA COMPLEXA IN CHECK

Judy Clark

I grow several muehlenbeckias so it was with much interest that I read Jeff Layman's account of trying to get rid of a *Muehlenbeckia complexa* intent on taking over his garden. In the right (or maybe that should be wrong) place *M. complexa* can be a rampant species, scrambling across the ground and climbing up anything it comes upon that is capable of supporting it. Then it does need to be kept under control. I have tried restrain my plants by clipping them into ornamental shapes.

I first saw *M. complexa* used for topiary about 15 years ago, near the main entrance to the Royal Botanic Gardens Melbourne. Over the years I have seen the plants mature into fantastical creatures (see photo page

22), the like of which I have seen nowhere else. I have since learned that clipping muehlenbeckia into decorative shapes is popular in its native New Zealand but I've not seen any topiarised *M. complexa* in UK public gardens. (I'd be interested to know if anyone has.) Nor do I know if this species is much used for topiary in Europe, though years ago Jan Michalak sent me a photo showing *Muehlenbeckia* trained into traditional topiary shapes in Madeira.

About six years ago I decided to have a go myself. I already had a plant in a pot waiting to go somewhere. I can't remember why I wanted three but I did so I obtained two more plants (probably of a different variety to the first as their leaves are slightly smaller and a lighter green). My first idea was to shape them into boomerangs, balanced on one end. Boomerangs didn't work. The plants flopped in a very ungainly fashion as the chicken wire I used for the frameworks wasn't strong enough to hold up the dense mass of foliage. So I asked my friend Mick if he could convert them into animals, and supplied him with some pictures of Tasmanian devils. He was willing to try. The extent to which my clipped muehlenbeckias now actually resemble Tasmanian devils may be debatable (see photo page 22) but at least they stay upright.

All topiary requires regular trimming to keep its form, *M. complexa* possibly more than most because it usually grows quite fast, at least it does here in Hastings on the UK's south coast. On the other hand frequent cutting means I don't get trailing stems that root where they're are not wanted. Occasionally stems at the base escape but I know to look out for them and to remove any rogue shoots before they get a grip.

I'd always thought *M. complexa* was an evergreen as that's how my plants behave. So when checking its hardiness in the RHS Plant Finder (it's classified as H3, hardy in coastal and relatively mild parts of the UK[1]) I was interested to see it described as deciduous, as it also is in Trees and Shrubs Online[2]. On the other hand, online floras for New Zealand[3] and New South Wales[4] (*M. complexa* is also native to Lord Howe Island) don't mention whether it keeps its leaves or not. I assume that what its leaves do in the UK depends on the weather and its location. The nursery Architectural Plants, for example, states that severe cold will cut *M. complexa* back to the base[5], while Tropical Britain says it will lose some or all of its foliage in colder winters[6].

Despite its tendency to thuggery I wonder if *M. complexa* might be a possible alternative to some of the species more commonly used for topiary (and also hedging and widbreaks). Climate change is predicted to bring warmer and drier summers but my specimens were unaffected by last summer's heat and drought, except that they grew more slowly, which might be considered a bonus. Nor do they seem bothered by any serious pests or diseases, unlike, say, box (*Buxus* spp.) which can be badly affected by box blight and box moth caterpillar. However, I would add that anyone thinking about growing *M. complexa* should keep Jeff's cautionary tale in mind and ask themselves: will you ever want to remove it?

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All accessed November 2022

SOME PINK BOTTLEBRUSHES

Judy Clark

Bottlebrushes (*Callistemon*, synonym *Melaleuca*; see box) are one of the easiest Australian plants to grow. Once they get going they are fairly forgiving of most conditions and provide a good show each year as long as they are pruned after flowering. The hardiest, such as the red flowered *C. subulatus* (*M. subulata*) and the yellow *C. pityoides* (*M. pityoides*), will grow in many places in the UK and Europe. Variations on red and yellow are the commonest colours; pinks are more unusual.

Callistemon 'Injune'

This article was actually prompted by a query from Jeff Layman about a pink flowered bottlebrush, 'In June'. He described it as "a superb callistemon (...) about 1.5 by 1.5 m, and the flowers were pink (...) at least as good a colour as 'Perth Pink'."

'In June' was nothing to do with the flowering time but a misspelling of 'Injune'. A few years ago I bought a specimen (from Lower Kenneggy Nursery in Cornwall if I remember correctly, which I may not) for my son's Totnes garden. I planted it in the shelter of a hedge and in due course it produced pale-ish pink flowers (see photo page 31). It can't have required much attention to thrive! I remember thinking of it as quite a refined plant for a bottlebrush and before my son moved house I took a cutting.

Injune is a small town in the part of central Queensland where *C.* 'Injune' grows wild. In Australia it is well known in cultivation and in recent years has been given species status, though there has been some debate about exactly what species it is (see

A note on names

I have used *Callistemon* as the generic name for bottlebrushes, with *Melaleuca* as a synonym. This usage follows the Australian Plant Census (APC), the recognised authority for plant scientific names in Australia.

However this taxonomy is not universally accepted throughout Australia. The debate goes back to 2006 when Lyn Craven proposed combining the bottlebrush genus *Callistemon* R. Brown and the paperbark genus *Melaleuca* L. under the name *Melaleuca* L., because he regarded the differences between the flowers of the two as insufficient to retain *Callistemon* as a separate genus. This proposed change has been challenged and further research is ongoing. Most Australian states and territories go along with the APC and use *Callistemon* as the accepted name, but not Tasmania, Queensland, the Australian Capital Territory and the Northern Territory where *Melaleuca* is the accepted name.

Kew Plants of the World online accepts *Melaleuca*, with *Callistemon* as a synonym. My personal view is that Australian taxonomy should be respected so I take the same stance as the Australian Native Plants Society Australia (ANPSA): stick to *Callistemon* until the APC does reach a consensus.

appendix 1). Far be it from me to adjudicate between two versions of where the Injune bottlebrush belongs! *C.* 'Injune' will do for me, though *M. quercina* is the name given to 'Injune' in Queensland, making the APC accepted name *C. quercinus*.

Searching the RHS 'Find a plant' pages turns up *C.* 'Injune' but no suppliers. (Google does not find any either though I believe Fibrex Nurseries used to stock it.) Also listed is "*Callistemon seiberi* [sic] 'Injune'". Mis-spelling apart, none of the recent sources that I have consulted deem 'Injune' to be a cultivar of true *C. sieberi* (*M. paludicola*, *C. paludosus*).

I have grown *C. sieberi* from seed. (It germinates easily using the 'bog method'.) My plants are easily recognisable as different from *C.* 'Injune'. The latter has narrow grey-green leaves which are obviously hairy while *C. sieberi* has mid green leaves that are shorter and wider. With a hand lens, scattered oil glands can be seen on its leaves, but not on the leaves of *C.* 'Injune'.

The flowers of *C. sieberi* are usually cream or yellow, rarely pink. None of my plants have (so far) produced pink blooms. It does grow well, and seems fairly hardy, but is certainly not as gardenworthy as 'Injune', though a pink version could be.

I'm not sure how much cold 'Injune' will tolerate as my cutting is still in pot and overwintered in my greenhouse. In Devon it would have got some frost and according to its ANPSA plant profile it does tolerate at least moderate frost (meaning overnight frost that burns off during the day). I hope it is hardier than 'Perth Pink' to which Jeff compared it and which is a cultivar of *C. salignus* (*M. salicina*). I have not grown 'Perth Pink' but I have tried the species; I lost my plants to frost when they were still in pots. From photographs 'Perth Pink' seems to be darker than 'Injune'.

Happy Valley bottlebrush

The flowers of the delightfully named Happy Valley bottlebrush appear bicoloured. This unusual effect comes about because the filaments are very pale pink and the anthers are a deep pinkish red (see photo opposite). I got my plant from Graham Hutchins of County Park Nursery in 2012. It took another five years for it to flower and it's now a sturdy shrub about 2 m tall. It has tolerated frost, some snow, and severe gales (including the 2018 'beast from the east') without any damage.

Happy Valley was introduced into cultivation in Australia over 40 years ago, as an undescribed species from the Darling Downs in Queensland, but is still little known in gardens there. It seems to me (see appendix 2) that Happy Valley could be synonymous with *C. pungens* subsp. *fletcheri* (*M. williamsii* subsp. *fletcheri*).

The name "Callistemon 'Happy Valley'" is listed as unresolved by the RHS and as with 'Injune' I could not find any online suppliers. Concerned about its availability, a few years ago I registered my plant under the Plant Heritage Plant Guardian scheme. This scheme helps to prevent plants that could easily be lost to cultivation (such as those not offered commercially, or that have very few suppliers) vanishing from UK horticulture. Does anyone else grow it? If you would like a cutting please ask; the more of us who have it in our gardens the better.

By the way, anyone can become a Plant Guardian (see www.plant heritage.org.uk/conservation/plant-





Pink bottlebrushes

left: ***Callistemon*** **'Injune'**
above and below: **'Happy Valley'**

filaments anthers





***Callistemon* 'Hot Pink' (**above) is a hybrid between ***Callistemon* 'Splendens' (**below left) and ***Callistemon pallidus* (**below right)





guardians/). The APS is affiliated to Plant Heritage so APS members do not need to join to do so.

Callistemon 'Hot Pink'

Callistemon 'Hot Pink' has no lack of suppliers; a bit of online searching shows it is widely available. I have had my plant since 2011. To begin with I put it in my garden but then I wanted the space for another plant so in 2016 I dug it up and relocated it to my allotment. I might have added a bit of peat free compost to the planting hole but I don't remember bothering much with improving the clay soil. My allotment is more exposed than my garden, especially to cold winds, and gets heavier frosts. Nonetheless 'Hot Pink' has thrived, taking everything the weather can throw at it with no sign of injury whatsoever.

The colour, a really bright cerise is quite unmistakeable (see photo opposite). I find it a bit garish, but it adds colour to my allotment and bees like it. It flowers well as long as I don't forget to prune it. The RHS rate it as H3 (hardy in coastal and relatively mild parts of the UK), but I suspect it would do in colder spots with a bit of overhead protection.

I bought my plant because it came with the name "Callistemon viminalis 'Hot Pink'". It was the viminalis bit that I wanted. My mother had a beautiful specimen in her Melbourne garden which drooped a gracefully (its common name is weeping bottlebrush) and got covered in red brushes. My purchase got bigger but its branches remained stubbornly erect and showed no sign of drooping, gracefully or otherwise. Moreover the leaves didn't seem right for *C. viminalis*.

As it turns out, 'Hot Pink' is **not** a form of *C. viminalis* (*M. viminalis* subsp. *viminalis*). It is a hybrid, selected from a cross between *C. citrinus* 'Splendens' (*M. citrina*) and *C. pallidus* (*M. pallida*). It was actually bred in South Africa and plants were imported to Australia by Aussie Winners (the Australian arm of Proven Winners, an international plant marketing cooperative). It is sold there as *C.* 'Hot Pink' and has plant breeders rights (PBR) which means that only those with a licence can propagate and sell it.

The RHS lists it as "Callistemon viminalis Hot Pink ('Kkho1'PBR)". I can only assume that whoever has the rights in the UK or Europe chose to call it viminalis but why anyone would pick a name that seems so clearly wrong is beyond my comprehension!

Appendix 1: *Callistemon* 'Injune'

In 2009 Lyn Craven named nine new species of *Melaleuca* L. placing plants from the Injune and Texas districts of Queensland in a new species he named *M. phratra* Craven. A few years later Tony Bean of the Queensland Herbarium suggested that 'Injune' is actually *M. quercina* Craven (*C. quercinus* (Craven) Udovicic & R.D.Spencer), another species named by Craven and found in the nearby Oakey and Dalby districts in the Darling Downs, east of Injune. However although Craven states that *M. phratra* Craven and *M. quercina* Craven are very similar (and that both are closely related to *M. paludicola* Craven (*C. paludosus* F.Muell., *C. sieberi* DC.)), he does separate them out. In Queensland not only is 'Injune' regarded as *M. quercina* Craven; *M. phratra* Craven (Craven's 'Injune') and *M. paludicola* Craven are now regarded as the same species (taxonomic synonyms).

Appendix 2: Happy Valley?

A bit of googling narrowed the location of wild 'Happy Valley' to the area around Stanthorpe in the Southern Downs District of Queensland. Since it was still an undescribed species in 1993 I wondered if Craven looked at it. It seems he did. The

herbarium material that he used in naming a new sub-species, *M. williamsii* subsp. *fletcheri* Craven (*C. pungens* subsp. *fletcheri* (Craven) Udovic & R.D.Spencer), found in the Stanhope district of Queensland, included a specimen labelled Happy Valley, collected from a roadside just outside of Stanthorpe.

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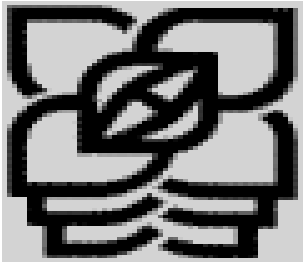
RHS Wisley Specialist Plant Societies Show

The APS and the Hebe Society put on a joint display and plant sale at the RHS Specialist Plant Societies Show held on the over the weekend of the 18th and 19th June. This was the first time in the history of the show that two specialist societies have collaborated. It was also the first show since 2019 and much was expected from the weekend.

The chairs of the two societies, Gary Firth and Steve Harding (see front cover), set up the show on the Friday, which turned out to be the hottest day of the year at that point. It was a very humid 31°C outside the marquee and even warmer inside. We shared a 1 m

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deep by 7 m long stand which had three tiers which gave some height to the plants. This sounds a lot but it was easily filled; spare plants for sale had to be kept outside the marquee.

Many thanks to everyone who helped on the stand. For the Hebe Society Sue Bosson came all the way from Wales, collecting plants from APS member George Smith on the way. Steve's daughter helped on the Saturday, handing out leaflets and filling carrier bags and Jason Millen turned up on the Sunday. For the APS Martin Krüger came all the way from Dresden. Michael Sullivan helped on the Saturday and Jeremy Spon was a stalwart on both days. Gary, Steve, Judy Clark, Jeremy Spon and George Smith (apologies if I have omitted anyone) provided plants for the display. Plants for sale came from several sources but in particular Steve had previously been to Lowaters Nursery and picked up a selection of hebes for the Hebe Society and 100 liners of Australian plants for the APS.

Judy Clark, APS

From my perspective the collaboration was a roaring success. With two societies it was much easier to fill the stand than if the APS had gone it alone and we were also able to display a wider range of plants (see photos of some of them on page 37). This meant a greater chance that there would be something to attract a visitor in the first place. The APS also benefitted

particularly in that Steve was able to collect our plants from Lowaters - thank you Steve.

I personally learned a lot more about hebes, which I was pleased about as my son who lives in Devon has taken a liking to them and as a novice gardener expects me to be able to advise him! I was able to obtain 'Nicola's Blush' for him, with flowers that open pink and fade to white. This cultivar, I found out later, is one of Graham Hutchins' introductions. Steve had brought a large specimen for display. It wasn't on our stand but was placed at the entrance to the marquee where it attracted a lot of attention.

One Australian plant that was much admired was a flowering *Eucalyptus leucoxylon*. Plants in flower are (presumably) one of the main things that attract the casual browser in the first place. It can be tricky to work out what might be in flower and it wasn't until the a week before the show that I was able to get a good idea of which plants would perform. The weather in Hastings had been pretty average until the beginning of June but fortunately some hot and sunny weather helped to bring on flowering in plants like grevilleas and *Solanum laciniatum*.

Nonetheless we were quite busy, especially on the Saturday, though visitor numbers seemed to be lower than at previous shows I had helped at. One area of particular interest was hardiness of Australian plants, especially callistemons and grevilleas. We gained one new member but this was a bonus; this show is much more about showcasing Australasian plants that can be grown in the UK and introducing them to a wider audience.

I have enjoyed all the plant shows that I have helped at. I was a little disappointed that this time round we didn't get more assistance from APS members, though one volunteer did have to pull out at the last minute due to illness. Please do consider volunteering at future events; it's great fun, you don't need special expertise, and you get free entry!

Steve Harding, Hebe Society

The problem with a display in a marquee is the lack of daylight. This resulted in the purple leaved hebes losing their pigment and turning green for the weekend. The variegated leaves were darker than usual. Many of the flowers had finished in the run up to the show as it had been hotter than usual for early June. We did look a bit like a green wall interspersed with the odd flower from the Aussie plants.

It was not as busy as previous shows had been and this was reflected in the visitor numbers to Wisley over the weekend, half those for a usual weekend. The low visitor numbers resulted in lower than expected plant sales and the lack of internet reception meant we could not use the card reader I bought for the event.

The two societies worked very well together and the shared interest in our respective genera was apparent. There did seem to be more interest in the non hebe plants on the day which surprised me as many of the visitors had been to the trials ground to look at the Hebe Trial. One lady was adamant that the RHS had called the trial by the wrong name. She said that "Veronica" was incorrect as they should be called "Virginica". I didn`t have the heart to tell her she was wrong.

Overall it was a quiet weekend but I do feel it is important to attend these events to get our name out there. We



Flowering at Wisley Specialist Plant Societies Show

(clockwise from below)

Eucalyptus leucoxylon

***Hebe* 'Nicola's Blush'**

***Grevillea* 'Robyn Gordon'**

display showing *Brachyscombe multifida*







Abbotsbury Subtropical Gardens





clockwise from above
Pachystegia
Melaleuca armillaris
(unusually with coloured inflorescences)
Araucaria heterophylla
Melaleuca fulgens





are affiliated to the RHS and there is no point in joining if we do not take these opportunities to put on a free display.

For me, the positives were being able to bring our plants to the public, being able to put on a display with like minded people and passing on plenty of advice about all things gardening. The negatives were the lack of visitors, poor sales, not being able to display our information boards and two and a half hours stuck on the M25 on the Friday evening as the motorway was shut near Sevenoaks!

Abbotsbury Subtropical Gardens, Dorset

Nine members of the APS and the Hebe Society gathered on a very hot Saturday in early July for the eagerly awaited guided tour of Abbotsbury Subtropical Gardens, one of Judy's favourite places to see Australasian plants (see opposite and the back cover for photos of some of them). We met in the car park and introduced ourselves while we waited for our host, Sean Boast.

Around the corner came Sean, bearing unexpected gifts, a wheelbarrow full of plants for us. Thank you Sean! With that car boots were opened, and more trays and pots produced. The plant exchange had begun! Judy was very pleased to get a young *Casuarina cunninghamiana* to donate to her local park. Before starting the tour, Gary Firth presented Sean with a copy of *Australian Plants: A guide to their cultivation in Europe* as a thank you for showing us round.

Sean has worked at Abbotsbury for 10 years and is now assistant head gardener. There are only four full time and one part time gardener for this 8 ha garden, and each of them is responsible for about 5 acres. Sean explained that the gardeners can propagate anything in their section of the gardens and the small nursery is full of young plants.

Abbotsbury is home to plants from all over the world, including many that are tender elsewhere in the UK. The gardens lie about 30m below the cliff tops and are sandwiched between sea and a range of hills on the landward side. This provides a unique microclimate.

Our tour started after lunch. The first plant to catch our eyes was a Madeira tree dandelion (*Sonchus fruticosus*). with bright yellow flowers standing a metre tall. Then Sean pointed out various *Pseudopanax* (a genus endemic to New Zealand). He is looking for the cultivar 'Chainsaw' - can anyone help?

Eucalyptus nitens in the Jungle Glade has a habit of shedding its bark in long strips. The gardeners have given up trying to grow anything beneath it as plants just get crushed. Later in the Himalayan Glade we saw a large specimen of *Eucalyptus dalrympleana* towering above the oak trees. It has to have its head reduced every few years; definitely not one for a small garden.

Kalopanax septemlobus (tree aralia) stood out on the Jungle Ride, with its trunk covered in spikes. This plant is surprisingly hardy, down to -15°C. *Woodwardia radicans* (European chain fern) stands at the end of an old wall and is 2 metres tall and nearly as wide. Moving on we saw *Musschia wollastonii*. Some of us had earlier gained small plants of this monocarpic native of Madeira, one of the species Sean brought to the plant swap. It has bell like flowers and comes in yellow and red forms. It is attractive to wasps.

Of all the treasures in the gardens that people steal cuttings from, a purple hydrangea is the winner, or loser for the thieves as it is the soil at Abbotsbury which keeps it purple. When people plant out their cuttings at home they flower blue.

One of Sean's favourite plants is a rather fine *Pittosporum illicioides* var. *angustifolium* (native to China and Japan). It has long glossy leaves and this specimen is about 2m tall. It is extremely slow growing.

Streamside planting includes some fine tree ferns. *Dicksonia squarrosa (*rough tree fern or wheki, endemic to New Zealand) sends up suckers if damaged and has started sporing onto the stream bank in the shade. *Cyathea cooperi* (synonym *Sphaeropteris cooperi*, native to Queensland and New South Wales) is tender for most. Here it was planted outside two years ago and is thriving.

Trees frequently succumb to honey fungus and can be severely affected by strong winds off the sea. In spring 2012 a large *Cupressus macrocarpa* (Monterey pine, synonym *Hesperocyparis macrocarpa*) fell across a largish pond. There was so much rain that the roots were washed clean of soil before it fell. It was decided to leave the trunk in the pond and plant *Fascicularia* on it. A group of *Sarracenia* are content living on a floating tray under now the trunk. Behind it is a stand of *Dicksonia* with filmy ferns growing on them, an amazing sight that one would never have thought to see in the UK.

Sean looks after the Southern Hemisphere Garden and there we were taken 'off track' to the middles of the beds to see some very special items. *Pseudopanax crassifolius* was flowering (for the second time) and *Pseudopanax ferox* actually sets seeds. Steve loves these plants and he was envious of Sean's babies, three young seedlings at knee height already.

A Norfolk Island pine (*Araucaria heterophylla*), discarded by the plant centre because it had a damaged top, was kept in a pot under cover and then planted out. It has survived two winters in the ground unscathed. Nearby a 3m tall Kauri (*Agathis australis*, a New Zealand endemic now considered threatened in the wild) was thriving. It has grown well after being kept in a pot for years, and survived the 'beast from the east'. Both get some shelter from adjacent vegetation.

Dacrydium cupressinum (rimu, another New Zealand endemic) has soft, tactile bark and drooping branches. *Eucalyptus nicholli* has dainty foliage and is a good garden specimen as it can be kept relatively small by pruning. *Eucalyptus regnans* is the world's tallest flowering plant (angiosperm). It can reach 90 m or more in its native habitat and while unlikely to do so here it certainly needs some space.

Both *Melaleuca armillaris* (bracelet honey-myrtle) and *M. fulgens* (scarlet honey-myrtle) were in flower. The former had pinky lavender flowers, something that surprised Judy as she had believed that the flowers of this species were always white or cream. Checking when she got home, Judy found that very occasionally it has pinkish-mauve flowers. It responds well to pruning. *M. fulgens*, as its common name suggests has bright scarlet flowers. It is native to south west Western Australia and will only flourish in the mildest places in the UK. Eucalypts with coloured flowers

are similarly tender; here one with bright pinky red blooms was in full flower. There was some debate as to its identity - I should have counted the buds!

Of all the hebes (*Veronica* spp.) in the Southern Hemisphere Garden, Sean's favourite is *Hebe cuppressoides* with its small grey-green leaves. Among other New Zealand species, he showed us a *Phyllocladus* with red cones, and a *Pachystegia* in full flower. This plant has very few seeds in the seed heads which makes it difficult to bulk up. Various hop bushes (*Dodonea*) raised from seed were all looking good and we were treated to the beautiful sight of a *Metrosideros* (labelled *Metrosideros robusta*) in full flower.

The day ended with a close up view of hummingbird hawk moths dining on a salvia nectar. By the end of the day we were all flowered out, as you might say. We had to leave because they wanted to close. but there was still much more to see. It would be easy to spend a whole day at Abbotsbury with so many plants to explore and admire.

This is a must see garden and we urge you all to make the effort to visit. Thank you again Sean for your time.

Steve Harding and Judy Clark

Steve Bridger's garden, Mid Sussex

It is always a pleasure to see members' gardens and Steve Bridger's Burgess Hill garden certainly lived up to its billing. This small but stunning plot, which ten of us visited on September 17th, contains a huge range of species for its size, including many rare plants, both Australasian and otherwise.

Australian species include a wollemi pine (*Wollemis nobilis*) and lots of the tree ferns *Dicksonia antarctica* and *Cyathea cooperi* (synonym *Sphaeropteris cooperi*). Steve grows his from spores; the photos on page 22 show some of his babies and a five year old specimen.

Many of the non-Australasian plants, at least at species level, were new to me, but it is not just the variety that impresses. Equally impressive is the way Steve has combined them. Real jungles (well the ones I have visited) are not full of flowers and the range of foliage at various levels, with bright flowers dotted here and there really captures a jungle ambience. Steve grows a lot of his plants in pots and this makes it easy to move them around so they can be displayed to their best advantage. It also means he can move the ones that need protecting during winter, like *Cyathea cooperi*, to his garage or cool greenhouse.

At the end we were offered cups of tea and delicious home made cake. Thank you Steve for your hospitality!

Afterwards some of us paid a brief visit to Gary and Maria Firth's garden in Haywards Heath. It too is crowded with goodies and the Australian plants were clearly enjoying the warm weather. They hold Plant Heritage National Collections of Myrtaceae (tribe Myrteae) which includes the New Zealand endemic *Lophomyrtus* (**see photo**), and *Gongora*, an epiphytic orchid genus found in wet tropical forests in South America. *Gongora* plants fill one of Gary's greenhouses and have to be kept at a minimum of 10°C.

Judy Clark

The APS at Great Dixter

The APS was pleased to be offered a place at the Great Dixter Autumn Plant

Fair, which took place on October 8th and 9th this year (2022.) We took lots of plants to sell, plus posters and leaflets promoting the Society, and the stall was a great success. Our Chairman, Gary Firth, joined by Judy Clark and Jeremy Spon, set up the stall on the Saturday morning, under one of the rustic shelters provided by Great Dixter, ready for the opening of the Fair at 11.00. Members of the public were actually admitted from about 10.30 onwards, and we had a steady stream of people throughout the day, buying plants, asking advice, and reading our leaflets. The Saturday was busier than the Sunday, but the weather was fine on both days, and the Fair lived up to its reputation for attracting people seriously interested in unusual plants.

We sold well over £400 worth of plants (a mixture of donations from members and those left over from the Wisley Specialist Societies Show earlier in the summer, which had been bought from a wholesaler) and 4 new members joined on the spot, with a fifth joining online later having picked up a leaflet. In addition, Judy Clark gave a short talk about Australian plants which visitors to the Fair could grow.

Sales were undoubtedly boosted by the use of a card payment machine, which I as treasurer had acquired for the APS in advance of the event; about half our takings were via credit card. We had to pay £65 for the stall, and also donated 10% of our plant sales to the Christopher Lloyd Bursary, which supports student placements at Great Dixter. But we still made a significant profit, and raised awareness of the APS, so it was well worth the effort involved.

Jeremy Spon

RHS Wisley Hilltop Display

This event, held at Hilltop, RHS Wisley, was another joint effort with the Hebe Society. Unfortunately it fell on the same date as the Great Dixter Autumn Plant Fair so the APS is very grateful to Steve Harding for taking on setting up and running the display stand for both organisations. Steve reported on this event as follows:

We were given two trestle tables and I arranged the plants in a single row along the length of the two tables with all of the information boards, postcards and membership leaflets in front of the plants along both sides of the tables (see photo page 23). This meant that people were able to look at everything easily and read as many of the info boards as possible. We had a steady flow of people through out the day and several leaflets were taken so hopefully some new members will result.

I had been asked by the RHS to give a talk on 'Gardening With Hebes' which was scheduled for 15 minutes, but after talking about not just hebes, but Australasian plants in general, I finished 45 minutes later! Many questions about pruning, *Eucalyptus* for small gardens, and general soil conditions were asked and Lullingstone should be getting a few more visitors to APS president Tom Hart Dyke's collection.

A tour of the Hebe trial followed with a dozen keen visitors in tow. I was fortunate to have help from a Hebe Society member but sadly no help from the APS membership. The plant fair at Great Dixter clashed with the day which probably explains this.

The RHS media team had promoted the day highlighting the 'Gin and Tonic plant' (*Philotheca myoporoides*) and a

couple of hebes which drew a lot of attention. If we get the chance to exhibit there again it will be worth considering.

Steve Harding

Plant Heritage National Collections: update

APS members James and Katie Treseder now hold the National Collection of *Prostanthera* (mint bushes) at their nursery in Cornwall. It comprises 15 species and 16 cultivars and viewing is by appointment only. If you want to buy a mint bush from them visit www.treseders.co.uk/.

New in 2022 is a collection of *Byblis*, a little-known genus of carnivorous plants native to warmer parts of Australia and New Guinea. This collection of 8 species is held at Birmingham Botanical Gardens in the West Midlands

There are now 6 National Collections of *Eucryphia*, a genus found in Chile and south west Argentina as well as the Australia states of Queensland, New South Wales, Victoria and Tasmania.The newest, comprising 7 species and 20 cultivars, is held at RHS Wisley where it grows throughout the woodland area on Battleston Hill. Other national collections open to the public can be found at Wakehurst Place (West Sussex), Bodnant Garden (Conwy), Mt Usher Gardens (County Wicklow) and Seaforde Gardens (County Down).

More information about all these collections can be found at www.plantheritage.org.uk/.

BITS AND PIECES

Letter: Genetic variation in Wollemia nobilis

I am not sure when Malcolm Pharoah's article [issue 68, p. 12] was first published but it mentions an absence of genetic variation in *Wollemia nobilis*. Indeed in 2003 when they tried to find variation in individuals, they couldn't. This explained the low seed viability even though the species should be able to reproduce both sexually and by selfing. About 5 years ago, however, a complete chloroplast genome analysis was done for the species and 3 genetically distinct chlorotypes were discovered. That is still really low variation but is already informing conservation efforts such a seed banking and stocking levels of each type. I wonder if there will be some mutations at some point as an escape from the genetic bottleneck?

Our Wollemi pine, which is now almost as tall as the house, has been shedding seeds all over the garden. It will be interesting to see if we get any natural regeneration.

Ben Ram

Letter: Hebe x franciscana

I was intrigued by your mention of *Hebe* x *franciscana* [*Veronica* x *franciscana*] appearing in your garden [issue 67 p. 34]. When we lived in Assynt we noticed that many crofters' gardens had a Hebe which I am pretty certain was this hybrid (often in largely untended gardens in tiny isolated communities). The local tradition was that many crofters from the parish went to New Zealand during the Highland Clearances and some later returned and brought back the Hebe. Maybe only a single plant came back and the rest were seedlings which either moved around by themselves

(unlikely since the distances are huge) or self-seeded in a garden and then were passed on to neighbours or friends.

The plant has a lovely flower colour and is certainly very hardy and adaptable.

Peter Kohn

Indigenous knowledge

Brett Summerell, chief scientist of the Australian Institute of Botanical Science wrote an interesting opinion piece in Guardian Australia. He argues that for too long indigenous Australians' knowledge of the natural world has been dismissed, and outlines things that are being, and could be, done to remedy this. To read it go to www.theguardian.com/commentisfree/2022/oct/01/slave-traders-names-are-still-stamped-on-native-plants-its-time-to-decolonise-australias-public-gardens?CMP=Share_iOSApp_Other.

Albany Pitcher Plant

The unique Albany pitcher plant (*Cephalotus follicularis*) is endemic to Western Australia where it grows in pockets along the southern coast. According to a report by ABC Great Southern botanists are concerned that it is under threat from poachers. For more information about this weird and wonderful plant, and about other carnivorous species from WA go to www.abc.net.au/news/ 2022-07-01/carnivorous-pitcher-plant-poachers-scientists/101197086

Plant name changes

The *Plant Review* (June 2022, pp. 55-6) reports that the RHS Nomenclature and Taxonomy Advisory group has agreed to name changes in the genus *Cyathea*. Some species have been transferred to *Sphaeropteris* and henceforth *Cyathea cooperi*, *C. medullaris* and *C. tomentosissima* (among others) will become *Sphaeropteris. cooperi*, *S. medullaris* and *S. tomentosissima*. These species are native to Australia, New Zealand and some Pacific islands, and New Guinea respectively.

It appears that the new names have not (yet) been adopted in Australia and New Zealand (https://biodiversity.org.au/nsl/services/search/names and www.nzflora.info/factsheet/Taxon/Cyathea-medullaris.html, accessed November 2022).

Kew Plants of the World online

Kew Plants of the World online (https://powo.science.kew.org/) aims to make freely available digitized information about the world's flora gathered from the past 250 years of botanical exploration and research. It was launched in March 2017 and new material is added all the time, now including images and information about herbarium specimens. It is easy to access and it's not necessary to know a plant's scientific name. Common names can also be used, and work as long as it's a common name that POWO recognises.

Illustration acknowledgements

Alan Bryan: page 8, above

Judy Clark: page 8, below; page 13 below; page 22; page 23 below; page 37; page 38; back cover

Tim Darrington: page 14; page 21; page 24

Gill Groombridge: front cover

Steve Harding: page 23, above

Peter Kohn: page 13, above

Maya Nedeva: page 7

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Metrosideros in flower at Abbotsbury Subtropical Gardens