APS Australasian Plant Society

PENTACHONDRA

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The APS goes to Hampton Court

AUSTRALASIAN PLANT SOCIETY

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

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APS NEWS

Welcome!

The APS would like to extend a warm welcome to new members Steve Austin, Richard Barley, Carl Behm, Mrs. Caroline Bodger, Mandy Burgess, Blake Chaplin, Barry Clarke, David and Jenny Collier, John Cooke, Victoria Cox, Wendy Curtis, Helen Denham, George Dunnion, Bernard Fernandes, Richard Gibbard, Eva Glendinning, Weerakit Harnpariphan, Gill Heavens, David Hobbs, Phillip Hughes, Jonathan Hutchinson, Maxim Kapralov, Wendy Koning, Rosie Loveridge, Nick Macer, Bronnie Mayho, Alastair McKie, Peter Niccol, Jenny Oldfield, Andrea Richter, Neil Smith, Bob Stevens, Mrs. G. Stokes, Tabitha Swann, Graham Sykes and Mrs Tamsin Taylor.

AGM 2017

The APS annual general meeting and get-together was held at Lullingstone Castle on November 18. About 25 of us got together to consider APS business, meet other members, talk plants, acquire new treasures, and get a conducted tour of Tom Hart Dyke's World Garden and undercover horticultural delights including the Cactus House, Cloud Garden and Australis. The minutes will be published on the website in due course, and in the May 2018 issue of Pentachondra.

Events: plans for 2018

Events were a major subject of discussion at the AGM. We hope that in 2018 visits can be organised to member David Cooper's eucalyptus (and other Australian trees) collection in Oxfordshire, and member Beth Smith's maritime garden in north Devon, as well as a special birthday celebration at Kew to mark our society's 30th anniversary. We will give the Wisley Specialist Plant Society Show a rest this year, and instead try for displays at the RHS Rosemoor Flower Show in August and the Great Dixter Autumn Plant Fair in October. As usual the AGM at Lullingstone Castle in mid-November will round off the year.

As soon as details are finalised event information will be posted on the APS website; included as appropriate in our e-newsletter 34° South which is sent out at intervals to all members who have provided the membership secretary with an email address; and of course published in the May 2018 issue of Pentachondra. If you don't use electronic communication and want to find out about events before the information appears in Pentachondra please contact Judy Clark who will ensure details are sent by post.

The committee would really welcome more help from members with organising events. We are very conscious that in recent years many of our meetings have taken place in the southern half of England, with far fewer in Wales, northern England and Scotland. One reason for this is that events often come about in response to members' suggestions, as we have found that local input - not only knowledge of the venue but also more mundane details such as parking - usually makes for a more successful event. For example, Robin Drodge initiated and helped organise the very successful excursion to Marks Hall arboretum earlier this year. He explains the process on page **XX**; it's neither difficult nor time-consuming.

On its own the APS committee does not have the resources to arrange meetings at venues where we don't

know the local area. All around the UK there are many wonderful gardens (both public and private), parks and nurseries where Australasian plants can be seen. As individuals we have visited some of them; others are on our wish lists; and others we have yet to learn about. We need your help to make APS visits to these places happen.

If you could offer help were an event proposed for your area, or you have a suggestion for a place to visit, please, please, contact event co-ordinators Gary and Maria at meetings@anzplantsoc.org.uk to get the ball rolling.

Subscriptions are due!

Subscriptions are due on **1st January 2018**. A renewal form is enclosed with this issue for those who pay by cheque. Please send it, together with a cheque payable to Australasian Plant Society, to APS Treasurer & Membership Secretary Jeremy Spon (his address is inside the back cover). Annual subscriptions are £15 for members resident in the UK and £18 for members resident elsewhere.

If you pay standing order or PayPal, or you have already paid for 2018, you do not need to anything, **unless** any of your details have changed. If so, please contact Jeremy directly.

If you would like to pay by standing order you can obtain a form from the Treasurer. Or you can set up a standing order yourself, using sort code 60-19-24 and account number 29872677. Please include your name as a reference for the Treasurer, and let him know that you have set up a standing order.

Xylella fastidiosa

Gary Firth attends RHS Plant Society meetings on behalf of the APS. The most recent included a presentation by Andrew Gaunt of APHA (the UK Animal and Plant Health Agency) about the spread of new plant pests and diseases. Plant societies such as ourselves have been asked to warn their members about the risks.

Of particular concern is the bacterium *Xylella fastidiosa*, currently considered to be one of the biggest threats to UK horticulture and the wider landscape. *Xylella* is native to the Americas where it affects many crops including citrus, coffee and grapes. It has yet to reach the UK but in 2013 it was found to be killing olive trees in Italy and has since spread to France, Germany and Spain.

One thing that makes *Xylella* so worrying is that not only is it known to have an extensive host range, but also it is thought that even more plants could turn out to be susceptible. Thus far it has been detected in over 350 species from 75 plant families (though some don't show disease symptoms). Species that can be infected include many commonly grown in gardens, such as cherry, hebe, lavender, oak and rosemary, as well as rarer plants like *Acacia dealbata*, *Dodonaea viscosa* and *Grevillea juniperina*.

Another problem is the way *Xylella* is spread, by insects such as froghoppers feeding on infected plants. Any insect that feeds on the xylem (tissue which transports water and some nutrients from a plant's roots to shoots and leaves) is a potential vector, something that would promote its local spread should *Xylella* get to the UK.

A third issue is that *Xylella* is difficult to diagnose. Not only may infected plants not show symptoms, but also

symptoms of *Xylella* infection such as leaf scorch, wilt and die-back are not unique to it; they can be caused by other diseases or environmental stress.

The most likely route for *Xylella* to enter the UK is through importation of infected plants. New regulations restricting the movement of plants that might host *Xylella* have been implemented, aimed at preventing its arrival via the nursery or landscaping industry. **Anyone** importing such plants into the UK **must** get them a 'plant passport' to certify that they are disease free.

In view of the threat posed by *Xylella*, what can gardeners do?

- Propagate your own plants from local material.
- Choose home grown over imported when buying plants.
- If you garden in the UK do not purchase plants online unless the supplier is UK based and/or you can be **absolutely certain** of the origin of the plant you are buying.
- Do **not** transport **any** plant material from *Xylella* affected areas to the UK, or to anywhere else that is not yet affected; this is prohibited.

Remember too that *Xylella* is not the only organism gardeners need to be wary of, which is why we should always be cautious about buying plants and bringing in plant material from abroad. It might be tempting to bring a cutting home in your pocket but it may well be illegal (there are other species besides those affected by *Xylella* that need to be certified as pest and disease free), and in any case it could prove unwise. For example, it is thought that the fuchsia gall-mite (*Aculops fuchsiae*) originally got to southern England, where it is now spreading rapidly, via someone bringing in *Fuchsia magellanica* cuttings from Chile.

The RHS website provides summary information about *Xylella* and other worrying pests and diseases; go to www.rhs.org.uk/ science/plant-health-in-gardens/ protect-your-garden/new-pd-risks. There is more detailed information, including about plant health regulations, on the APHA, DEFRA (Department for Environment, Food and Rural Affairs) and European Commission websites. The above has been compiled from these sources, and with help from Gary Firth, but neither of us are plant health experts. Please check things out for yourself!

Judy Clark

APS Library

The large collection of Australasian plant books bequeathed to our society by the late Brian Halliwell are being catalogued by David Cooper who hopes to finish the job soon after Christmas. If you would like to visit the library, housed in the APS Reading Room at Lullingstone Castle, contact Tom at president@anzplantsoc.org.uk giving him at least 24 hours notice.

Social media

Have you visited www.anzplantsoc.org.uk lately? If you haven't you might want to check out the members area for back issues of Pentachondra where you can access issues 40 to 51. Issues 52 to 54 will be added soon, as will earlier issues once they have been scanned. (For a password to access the members' area email Ben at webmaster@ anzplantsoc.org.uk.) There is also an APS Facebook group with 32 members (more activity would be good) and if you don't yet follow the APS on Twitter check out @GondwanaPlants.

Phyllocadus toatoa: can you help?

Benoît Klein, botanist gardener in France, is searching for seeds or plants of *Phyllocladus toatoa* for the Botanical Garden of Lyon It's a conifer with cladodes. If any APS member has an idea where to find it, or knows somebody in the north of New Zealand who could help me, it would be great. My email is benoitklein1234@hotmail.fr.

Seedlist

The 2018 seedlist should be ready by April, the date depending on when orders can be finalised. Southern hemisphere seasons run opposite to ours and early in the year suppliers may not know whether or not they will have certain species in stock.

Apologies to anyone who was disappointed not to get all the species they ordered in 2017. Unfortunately some of the 2017 introductions did run out, but it is really difficult to predict demand in advance and, especially with species whose seed is best sown as fresh as possible, we don't want to buy too much at a time.

As well as restocking species that proved popular in 2017, we will be adding some new species to the list, chosen primarily from members' requests. If you haven't already sent your wish list to Janet and there is something you would like us to stock, let Judy (editor@anzplantsoc.org.uk) know as soon as possible. However, please bear in mind that seed of some items that you lust after may just not be available. Some species are difficult to collect (for example *Correa* and *Grevillea*) while others often produce little viable seed (for example *Olearia*). The result is that seed of such species is rarely offered. Also, some companies will only supply seed in large quantities, at a cost that our budget can't accommodate.

Donations of seed are most welcome, including of species we already stock. Please send seed to Janet (address inside the back cover), and inform Judy at the same time so your donation can be included on the list as new stock or a new item. It would be helpful if you can tell us where your seed came from, and provide a collection date (or otherwise indicate its age). Donors are entitled to an extra packet of seeds from the seedlist for each species donated.

By sharing our experiences we can all improve our germination skills. So please consider writing something for Pentachondra about your adventures with raising plants from seed. What methods (for example, heated propagator, window sill, bog method) were successful, and with which seed? Did you try smoke treatment or hot water or scarification? How long did seed take to germinate? And did all the seeds you sowed come up?

Finally, did you try the seed challenge? I haven't yet heard that anyone has successfully germinated either *Ricinocarpus pinifolius* or *Siegfriedia darwinioides* but if you have there is a prize waiting: a Celia Rosser Banksia print or some free seed.

Pentachondra contributions

As always, many thanks to all those who have taken the time to contribute to this issue of our journal. Our mantra is 'by members, for members' and it wouldn't be what it is without your input. The deadline for the next issue is

31st March 2018. Please send contributions direct to the editor, Judy Clark, either electronically or as typed hard copy. Please **don't** compress photos, and please **do** contact Judy if you have questions of **any** sort about contributing.



THE TUBEROUS DROSERA

© Nigel Hewitt-Cooper

The tuberous *Drosera* represent surely the most scarcely cultivated group of the genus, which is a great shame as all are exquisitely beautiful and most respond well to the same growing methods. When one thinks of a Sundew, the immediate thought is of a bog plant, but this group of unusual perennial species exhibit a very different habit, in a very different habitat.

Found predominately in Western Australia, the 50 or so species are divided in to three sections: Erythrorhiza, which contains the rosetted species; Ergalium, which has the climbing and erect species;, and Stolonifera, which perhaps unsurprisingly contains the Stolonifera complex and a few other semi erect plants.

One cannot fail to admire the environmental adaptations seen in the genus *Drosera*, and for me this group of plants takes the ability to survive just that one stage further. To endure the harsh Australian summer months, these plants re-absorb their moisture and nutrients, retreating underground to a stem tuber (photos page 7), a starch filled storage organ, which can be found in some wild plants to a depth of 60cm. This re-absorption takes place towards the end of the cooler winter months when the day length increases to a critical level. In cultivation in England, the first species turn brown around late February when the day length is approximately 11 hours, and the last to die back do so by mid to late May when the day length is approximately 15 hours.

Conversely, the emergence of these plants also happens over a long period, with the first appearing in September (usually *Drosera hugelii*, *D. macrantha*, and *D. pallida*), and the last as late as the end of February in the case of *D. fimbriata*, sometimes coinciding with those first species entering dormancy. Occasionally, an individual plant will fail to re-grow at all, instead producing a new tuber and transferring its energy source from the old one, which subsequently dies.

Moisture is another important factor with these plants. Obviously, in the wild they witness the kind of extreme temperature they will not see in cultivation in England, even when under glass, and their natural habitat becomes tinder dry. By retreating underground as far as they do however, they are at the level where even in the driest of summers, there is enough residual moisture within the soil to sustain them until the autumn rains. This condition needs to be replicated in cultivation and the easiest method to do this is by utilising extra deep pots. For all of my plants I use two litre deep containers which have a diameter of 14 cm, but a depth of 18 cm. There are various advantages to pots of this size. Firstly, while in growth the frequency of watering is reduced due to the capacity. Secondly, and more importantly, they allow the compost to dry slowly at the end of the growing season, rather than sudden desiccation following the cessation of watering. This allows the plant to fully

re-absorb into the tuber which it has been producing throughout the growing season, and ensures that there is the greatest chance of surviving until growth re-commences in the autumn. Thirdly, the extra depth allows the plant to find the level at which it is happiest. In standard depth pots the tubers can often be found at the end of the growing season outside of the drainage holes as there is insufficient depth, but with these containers I have only once found a plant which has managed this feat.

In the wild, plants are found in various substrates, from peat to loam to silica sand, and on granite outcrops. Thankfully there is one universal mix which seems to work well for all of the species. I favour a silver sand: moss peat mix to a ratio of 6:1. To prevent the soil falling or washing out of the drainage holes, I place a 1cm layer of peat in the bottom of the pots first.

When planting, I place the tuber approximately 2.5cm below the surface of the compost, and if re-potting, I prefer to do this in August, a short time prior to the plants breaking dormancy. Once potted, a good overhead watering is sufficient, repeated every week or so throughout the growing season. I tend to water in this way, allowing a thin film of water to remain in the trays, and only replenishing when the soil surface looks dry.

Once the plants start to brown, and this can happen surprisingly quickly, I cease watering. As mentioned above, the depth of the pots is such that the tubers do not desiccate. Over the dormant season, the plants receive water by the same method, but only every 4-6 weeks, and only enough to maintain a slight dampness in the lower portion of the pots. It sounds somewhat complex, but you soon get a feel of when and how much water to give.

During the hottest months of the year, I usually lay a double layer of shade netting over the top of the pots, as this further reduces the watering frequency, especially as I am busy with the summer growing plants in the nursery. A bi-weekly look at the pots lets me know when to remove this upon the emergence of the first plants.

Light is an important factor, and as with other *Drosera* they appreciate good levels of direct sun which unfortunately can be in short supply in England. However, despite the apparent paucity of this commodity, I find that the tuberous species still colour well and some flower most years.

Whilst on the subject of flowers, these plants are the only ones in the genus to produce perfumed blooms, with the exception of a few pygmy species. This doesn't apply to all of the species, but those that do can produce the most astonishingly powerful fragrance. Have several flower together and the greenhouse can be filled with a heady sweet aroma, with in some cases, undertones of cinnamon.

Tuberous *Drosera* flowers are predominately white, but a fair number produce yellow blooms. Two favourites are *D. bicolor*, which as the name suggests has white petals with a deep pink patch at their bases, indeed the only bi-coloured *Drosera* (except again a couple of pygmy species), and *D. browniana* which produces pale pink flowers to 2cm in diameter, each borne on a single stem.

There are a couple of methods of propagation. Firstly, and most easy I hasten to add, is division. Many

Tuberous *Drosera*





Tubers: left ***D. menzesii,*** right ***D peltata***





Leaves

D. rosulata, above

D. ***erythrorhiza*** **subsp.** ***erythrorhiza***, above right:

D. **aff.** ***bulbosa***, right



Tuberous *Drosera*





clockwise from above:

D. microphylla* subsp. *macropetala

D. salina

D. menzesii* subsp. *basifolia

D. macrantha





species produce daughter tubers each year, gradually changing from a single individual to a small colony of clonal plants. When this happens, empty the pot contents into a tray in July or August, and sift through. The tubers themselves are generally orange or pale yellow in colour, and vary from about 4mm in diameter to the size of a cherry tomato. Occasionally they are brown and even bright pink, but beware: some sheath themselves in the outer skins of previous year's tubers, which are usually a brown colour, and can be more easily missed. Pot them as mentioned previously, either individually, or as I prefer in small groups.

Not all divide readily. I have a *D. orbiculata* which is now about nineteen years old, and stubbornly refuses to replicate itself, simply producing a single rosette and a few white flowers each season. Seed is another method of raising these plants and needs a little more care, but isn't difficult. One first has to consider a plants natural life cycle, and how they thrive in the wild. I apply this mantra to all plants, and over the years I've had some good successes because of it. The natural temptation would be to sow the seed in the autumn, at the outset of the growing season, but to do so will result in little or no germination. Whilst experimenting a few years ago with some winter growing South African *Drosera* species, I instead considered when the plants naturally shed their seeds (dehiscence), which of course is at the end of the growing season. Any seed that germinates at the beginning of the summer dry period would have virtually no chance of survival, as it would have no time to produce a tuber, and would instead die very quickly as soon as its habitat dries out. Instead, the seeds sit on the baked soil surface in a state of dormancy until the arrival of the shorter, cooler days and autumn rains. With this change in conditions, germination occurs en masse.

Likewise, in cultivation this same rule applies, and seeds will only germinate after a hot, dry period of stratification; a further clever method by which the seed ensures its survival, in the same way that temperate plants such as *Sarracenia* require a cold stratification. By the end of their first season, the small seedlings will have produced their own small tubers, and are able to survive the same conditions as the adult plants.

As I mentioned, there are some 50 species of tuberous *Drosera*, but I will describe a few easy to grow and choice favourites.

Drosera erythrorhiza

This rosetted species, which as the name suggests is found in section Erythrorhiza, is divided in to four sub-species and a variety. The typical form var. *erythrorhiza* is a small green plant to 4cm in diameter and consisting of generally three leaves, pressed to the soil surface and each with a red suffusion to the petiole (leaf stem). There are a large number of red tipped sticky glands on the upper leaf surface. Sub-species *squamosa* is a stunning plant to 10cm across and with a distinct orange-red band around the outside of the upper leaf which is more intense in good light. The fragrant white flowers are rarely produced in cultivation.

Drosera fimbriata

A personal favourite, and one which in cultivation is always the last species to die back, often in late May. A rare plant, it produces small upright stems to only 8cm in height, and up to 12cm

if it produces its white flowers. The unusual feature of this species are the non carnivorous fimbriate leaves produced in 3-4 whorls at the base of the stem, which have been suggested as being either a barrier to prevent crawling, sap sucking insects climbing the plant, or barriers to prevent sand particles being splashed on to the carnivorous leaves by the action of rain.

Drosera hugelii

A free standing upright apple green plant to 45cm, this plant produces campaniform leaves unlike any other species, ensuring it could be confused with no other. The leaves face downward, with the sticky tentacles protruding out of their bonneted lamina. Once an insect has been caught, the hairs draw it up inside the leaf, thus ensuring it cannot be washed away in heavy rain. The stem is topped by a cluster of several white flowers.

Drosera macrantha

One of the easiest to grow section Ergalium plants, it is divided in to two sub-species. The subsp. *macrantha* is a scrambling plant climbing up to 150cm. As with most of the climbing plants, the leaves are produced in whorls of 3, with two on short petioles to around 1cm, and the third on one twice the length. This longer stemmed leaf acts as a grip, attaching to surrounding vegetation (or in cultivation a cane or similar), thus enabling the plant to climb and top its growth with white or sometimes pink flowers. Subsp. *eremaea* is a free standing plant to around 25cm, similar in all respects other than being completely glandular.

Drosera peltata

Undoubtedly the easiest species to grow, and also that with the widest distribution, being found in eastern Australia, Tasmania, New Zealand, and north into Japan and South East Asia. It produces a flat basal rosette, followed by an upright, glabrous stem to around 20cm and armed with shield shaped carnivorous leaved produced alternately. The rather small flowers are either white or pink, and produce copious amounts of seed freely. The plants themselves can be green, orange, or red and every shade in between. A forgiving plant, it is about the only species that doesn't seem to be harmed by over-enthusiastic watering, even in the summer months.

Drosera salina

Another favourite and rare species, tiny in stature and with an upright stem to only 5 cm in height. Another plant that first produces a basal rosette, bright green and with lamina folded noticeably inwards, followed by a red zigzag shaped stem with alternate leaves arising semi erectly. A cluster of yellow flowers are occasionally produced at the apex of the stem.

This group of plants has a reputation for being difficult to maintain well in cultivation, with various methods for success suggested by different authors over the years, but I have found that with a little consideration of their natural cycles they can be a rewarding, unusual, and long lived addition, and are in full growth at a time when most other carnivorous plants are dormant.

Editor's note

Nigel Hewitt Cooper is a multiple Chelsea gold medallist and the author of *Carnivorous Plants - Gardening with Extraordinary Botanicals*, 2016, Timber Press. He specialises in growing rare and interesting carnivorous plants (www.hccarnivorousplants.co.uk/) and he holds the Plant Heritage National Collection of *Drosera*.

ANIGOZANTHOS FLAVIDUS IN THE GARDEN?

Tim and Gillian Burr

Members who visited our garden in May 2016 were struck by the tall (2m) flowering stems of *Anigozanthos flavidus* (kangaroo paw) growing in our greenhouse (*Pentachondra* 57, December 2016, pp. 38-40). But Judy Clark, who grows it in her Hastings garden, suspected "that Pulborough gets too much frost for this species to succeed outside". Well, there's a challenge!

We acquired our *A. flavidus* (as two green and one red phase potted plants) at Parham Park's flower festival in summer 2014. They were being sold off by a stall-holder who perceived that the vogue for kangaroo paws as conservatory plants was on the wane, and would not be selling any more of them. We planted them in our new greenhouse, where they quickly established, and were flowering by the following April (2015). But other plants were flourishing too, and we were adding new ones, so we didn't have the space for all three large and expanding *flavidi*. One would have to go outdoors.

Our back garden lies in a valley frost pocket, three miles from Pulborough (West Sussex, southern England). The only hope was a 1.5m^2 bed within the covered but open porch at the front entrance to the house. It faces east, so is shielded from the prevailing westerly rain, which is important as our climate does not give the evapo-transpiration that allows even well-watered soil to dry out in south-western Australia. The site is also protected to the north by a wing of the house. So one of the green-phase plants went in there.

The winter of 2015-16 brought its share of frost, with a mid-January low of -7°C, though perhaps a little less severe in the immediate area of the porch. The plant had already protected itself by trapping a lot of dry autumn leaves in its foliage, which provided a good layer of insulation. Nonetheless all its own leaves were killed apart from a few behind the plant, closest to the house. Come the spring, it began to grow back from the roots, and even threw up a couple of flower stalks. But these were damaged by mice, who take bites out of the juicy stems, as they also attempted to do in the greenhouse until we laid bait for them.

This year our problems have been with snails rather than mice, but first we had to contend with frost over the winter of 2016-17. This we did by laying sheets of clear bubble-wrap over the plant when frost was expected. It has the advantage of keeping frost out while letting light in, so can be left in place for several days if necessary. This time the plant only lost the outward-facing half of its leaves, while those facing the house survived. Spring recovery was much quicker too, in spite of superficial snail damage to the growing flower stems. By early June these had reached 1.8m , though the flowers did not open until July (see photos page 13). The plant has also put up new foliage beyond the limits of its existing crown.

We conclude that full-size *A. flavidus* can be grown outdoors, where a suitably free-drying and sheltered spot can be found, even without the advantages of a coastal or urban heat-island location. At no cost to the grower (the bubble-wrap was just recycled packaging), enough can

survive even a hard frost to allow normal regeneration in the spring. The kangaroo paw is an iconic Australian genus, so different from our own flora, and *A. flavidus* its largest and perhaps most spectacular species. Success in cultivating it could help get people excited about growing Australian plants. Yet as our stall-holder was finding, conservatories are already over-furnished (and perhaps roofed-over), and few gardens have space for a roomy glasshouse. But a suitable corner of the garden may be all that is needed.

The generic name *Anigozanthus* may be slightly daunting, suggesting an exotic and difficult plant. It is attributable to J-J. H. Labillardière, the French botanist who named and described a range of other Australian plants (*Novae Hollandiae Plantarum Specimen*, Vol. 1, 1804; Vol.2, 1806, Paris). His separate account of his voyage around Australia, during the French Revolution, on an expedition in search of a previous ship that had failed to return to France, is a riveting story (*Voyage à la Recherche de La Pérouse*). It was published to wide acclaim in 1800, and an English translation was published the same year (*Voyage in Search of La Pérouse*, London, John Stockdale), with a second edition in 1802. Of *Anigozanthos*, it says:

> "In those arid wastes, grows a fine plant which nearly resembles the iris, and which naturally classes itself with the genera dilatris and argolasia. It forms, however, a new and very distinct genus, principally by its irregular corolla.
>
> I have designated it under the name of *anigozanthos*."

Without further explanation, he goes on to describe the species, concluding:

> "I have denominated this species *anigozanthos rufa*."

He dates this find to the *première année de la république, Frimaire* using the French revolutionary calendar. He was a republican sympathiser, which was to get him into trouble later in the voyage. The ship's log shows the date as 18 December 1792 (mid-summer), anchored at 33° 55' south and 119° 32' east, though this position is actually inland. Longitude was then difficult to measure accurately. Increasing it to where the stated latitude crosses the coast gives 119° 58', close to the present town of Hopetoun near Esperance, itself named after one of the two ships with which Labillardière sailed (*Recherche* and *Espérance*). *Recherche* gives its name to the archipelago south of Esperance, and the commander of the expedition, Bruni d'Entrecasteaux, to the Pointe d'Entrecasteaux, at the southwest tip of Australia.

The specific names *flavidus* and *rufus* are just colours, Latin for yellow and red respectively. But the generic name is explained by the Australian National Botanic Gardens (www.anbg.gov.au/gnp/) as the Greek *an-isos* (not-equal) plus *anthos* (flower). So why not anisosanthos? Labillardière's original description reads:

> "La corolle présente la forme d'un tube divisé sur ses bordes en six parties inégales."

Perhaps after a year or so of voyaging far from home, he conflated *anisos* with its French equivalent *inégales* to give *anigos*. But that still doesn't explain the 'z'!



Anigozanthos flavidus, flourishing in Pulborough in 2017; by early June the stems had reached 1.8m (left), though the flowers (below) did not open until July







Wittsteinia vacciniacea, the Baw Baw Berry, an unassuming plant

Melaleuca squarrosa growing in Northern Ireland - the flowers don't open fully





WITTSTEINIA VACCINIACEA

Peter Kohn

About twelve months ago Trish and I went to Felley Priory to sell plants at a Rare Plants Fair and whilst there, as always, we looked around the other stalls. On the Edrom stand we found a plant labelled *Wittsteiniana vaccinifolia* which was marked as being Australian. Inevitably we bought one.

When I got home I googled it and got nowhere but, using the Plant List, decided that it was almost certainly *Wittsteinia vacciniacea*, the Baw Baw Berry. The Plant List shows three species in the genus, all as 'Unresolved' names. Going back to Google at the time I found very little information though, interestingly, a year later there are several entries including a Wikipedia entry describing the genus as part of the Alseuosmiaceae family (en.wikipedia.org/wiki/Wittsteinia), According to the RHS Dictionary there are only three genera and eight species in thus family. I wasn't sure that this was correct given that the dictionary lists five species in Alseuosmia alone (all evergreen shrubs from New Zealand) and the Plant List gives three species of *Wittsteinia*. So, back to Google and Wikipedia (en.wikipedia.org/wiki/Alseuosmiaceae) which lists five genera and eleven species, still a rather small branch of the evolutionary tree.

The actual plant is rather unassuming. As the name implies, it looks not unlike a *Vaccinium* even to the flowers and berries, although our plant, despite flowering nicely, presumably didn't get pollinated as it produced no berries this year. This is another of those fascinating examples of evolution where plants having similar requirements end up looking remarkably similar, even when they are unrelated.

The Baw Baw Berry was discovered by Ferdinand von Mueller when he first ascended the Baw Baw Plateau in the Australian Alps. Putting together various sources, it is a plant of high ground on the edge of forest or in open woodland and is probably best grown in a peat bed where it should run around. The flowers are greenish but rather attractive open bells (see photosopposite) and it would be a welcome addition to any peat garden provided it does not rum too readily. So far ours is still in its pot but we hope to let it loose this winter when we reorganise the garden,

As an aside, looking for information using Google showed up the problems of what is on line. The first 'Image' I saw under Baw Baw Berry was a totally different small shrub (unnamed) on the Baw Baw Plateau and one website (Plants for a Future), despite giving other details correctly, puts the plant in the Epacridaceae family.

Editor's note

According to the newly on line online Flora of Victoria (vicflora.rbg.vic.gov.au/) *Wittsteinia* comprises 3 species, 1 endemic to Australia, the others in Papua New Guinea and New Caledonia, and the Alseuosmiaceae family has 3 genera with c. 12 species occurring in Australia, New Caledonia, New Zealand and Papua New Guinea; 2 genera in Australia." However, according to the Angiosperm phylogeny website (www.mobot.org/MOBOT/research/APweb/welcome.htm) the family Alseuosmiaceae has four genera and 10 species, five of those in the genus Alseuosmia. No wonder information elsewhere is contradictory! I suppose it's one of those families that isn't that well known and where taxonomists are still arguing.

Australian Plants – A Guide to their Cultivation in Europe by **Thomas Ross and Jeff Irons**

APS members can purchase brand new copies of this exceptional book, co-authored by our late President Jeff Irons, at the very special price of £10 plus postage. With detailed profiles of over 140 plants and a plant reference list providing information about the characteristics and cultivation requirements of another 500 or so, it's a book you can't afford not to have on your shelf. To get your copy contact Judy at editor@anzplantsoc.org.uk.

MELALEUCA IN CULTIVATION IN NORTHERN IRELAND

© Gary Dunlop

The genus *Melaleuca* is a member of the Myrtle family (Myrtaceae). It contains almost 300 species, the vast majority being endemic to mainland Australia, but with two species endemic to Tasmania, one to Lord Howe Island, seven to New Caledonia and several to Malesia[1]. The genus comprises small shrubs, mostly from about 1m high, and trees of various heights with a few reaching 35m (100ft) or more[2].

Surprisingly the first *Melaleuca* species to be discovered and described was not from Australia but from Indonesia. The German born botanist Georg Eberhard Rumphius was once employed by the Dutch East India Company. In 1652 he became a merchant on Ambon (now called Amboina), one of the Maluku Islands of Indonesia (better known as the Spice Islands at the time), which lie to the north and east of the main islands of Indonesia, then called Batavia by the Dutch. In his spare time he studied the botany of the island and compiled a Herbarium Amboinense, which covered 1,200 different plants. Despite going blind in 1670, with help from others he finally completed the manuscript of the book in 1690. He died in 1702. His manuscript, originally written in Dutch, was eventually translated into Latin and finally published in 1741[3]. He apparently used many binomial names before the introduction of binomial system by Linnaeus. The plant he called *Arbor alba* is now known as *Melaleuca leucadendra*. Linnaeus, when re-classifying the plant names given by Rumphius, and providing a formal description for it in 1754, initially named the plant as *Myrtus leucadendra*. He subsequently realised that this new plant was sufficiently different from *Myrtus* to warrant a new genus name. He described *Melaleuca* in Systema Naturae in 1767[4].

In 1814 Robert Brown established the genus *Callistemon*[5], though he noted the similarity to *Melaleuca* and the overlap between the two genera and suggested that the difference might be artificial. In 1867 George Bentham was ambivalent in his Flora Australiensis; he maintained *Callistemon* but also commented that "C*allistemon gradually passes into Melaleuca, with which Ferdinand Mueller proposes to reunite it*"[6]. In 2006 Lyn Craven, based on DNA sequence studies[7], proposed that *Callistemon*, along with a number of other genera, should be placed in

Melaleuca. This proposal has not yet been fully accepted.

Despite the Plant Finder listing 21 species as available, the late Jeff Irons assured me that only two species can be considered to be reliably hardy in the British Isles, *Melaleuca squamea* (swamp honeymyrtle) and *M. squarrosa* (ccented paperbark)[8]. Both species occur in Tasmania and in several mainland Australian states so hardiness may vary depending on the original source location of plants in cultivation. I've briefly tried growing a couple of other small wiry branched species but they did not survive for long. *M. gibbosa* (slender honeymyrtle), which has slightly thicker branches, has survived in a reduced state of one lone branch for several years, but this is all that can be said to its credit. It was in flower when I bought it but has not flowered since. Melaleucas, especially some of the smaller species might grow and flower better in the hotter and sunnier parts of the British Isles, but how much frost they will tolerate is another matter.

Both *M. squamea* and *M. squarrosa* have small leaves and form large shrubs or small trees. The conspicuous parts of the flowers are the substantial tufts of coloured stamens, which protrude well beyond the small petals, and the flowers are arranged in either small terminal clusters, radiating out around the in a single row surrounding the base of new young growth, or in a cylindrical configuration, similar to a bottle brush, which not surprisingly is the common name for such flower forms, especially in the genus *Callistemon*. Unfortunately, I've found both species to be shy and sparse flowering in the mostly cool summers in Northern Ireland, though they would probably flower better in warmer conditions, but at best they can be considered curiosities rather than ornamental assets in the garden.

The flowers of *M. squamea* are small lavender coloured and grouped as a single row surrounding the end of the previous year's growth, which start to open as the new growth extends the branch. When my plant eventually first flowered, I checked the identity with the best book I then had, the first edition of the Flora of Tasmania[9]. It gave the maximum height as 3m, whereas my plant was already over 5m tall, which naturally made me doubt if it was correctly identified. However, when I queried this with Jeff Irons he assured me that the book was wrong. My small tree is now about 7m tall, but still flowers rarely and sparsely.

The pale yellow or cream flowers of *M. squarrosa* are rather more impressive, as they are of the bottlebrush form, though not so large as is typical for species of *Callistemon*. In coolish conditions mine does not open all the flowers to form a full bottlebrush at the same time (see page 14). It has only flowered well once with me, in 2005, despite reaching over 5m high with a broad spread. Rather than produce a single trunk, it developed two main branches close to the ground, which divided again and continued to branch further. However, the branches proved to be rather more brittle than those of *M. squamea*. Over the years since its first and only good flowering, successive side branches have been snapped off in the wind, despite being relatively sheltered by surrounding plants. The last main branch snapped off during the winter of 2015-16 leaving only several short stumps. I intended to dig out the stump but it was deferred by other more pressing work to do in the garden. Whilst there had been no sign of life in the stub branches before the last one

was snapped off, I was surprised to subsequently discover that all three remaining stubs had sprouted a mass of small shoots. Unfortunately I did not photograph a fully open flower in 2005 and subsequent sporadic flowering has not resulted in fully open flowers.

In contrast to the two larger species, the small plant of *M. gibbosa* was in flower when I obtained it, with small clusters of lavender flowers, similar in size to those of *M. squamea*. It has never flowered since and is considerably smaller than when I obtained it, so it is not a plant for the majority of gardeners, though I obtained it from a local garden centre. Unfortunately, with the apparently insatiable demand for new plants, there are an increasing number of such tender plants being sold in garden centres, which have little chance of growing well or even surviving in most gardens, though might grow better in gardens in the south and south-west of England. However, such plants are more likely to remain curiosities than worthy garden plants.

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THE GENUS CALLISTEMON AND ITS CULTIVATION IN NORTHERN IRELAND

© Gary Dunlop

The status of the genus *Callistemon* has been in doubt since Lyn Craven (2006)[1] proposed that, based on DNA sequence studies, it, along with a number of other genera, should be placed in the genus *Melaleuca*. However a 2012 paper by Udovicic and Spencer[2] pointed out that there was an almost 50-50 split amongst Australian botanists as to whether they accepted *Callistemon* being transferred into *Melaleuca*. The state herbaria of New South Wales, Victoria, South Australia and Western Australia still recognise *Callistemon*, whilst those of Queensland, Northern Territory, Australia Capital Territory and Tasmania accept the transfer to *Melaleuca*. Udovicic and Spencer also noted that if all the genera that it was proposed to transfer into *Melaleuca* were included, there would be no one set of characteristics common to all species in the enlarged genus.

Apart from a few species endemic to New Caledonia the genus *Callistemon* is wholly Australian. *Callistemon* found mostly near the eastern coast and in the south-east though there are a few species on the west coast and two species in Tasmania. Joseph Banks and Daniel Solander, who were on Captain Cook's first voyage around the world, discovered and named two species near Botany Bay in 1770, though they were placed in the genus *Metrosideros*, as *Metrosideros citrina* and *M. viminalis*. Both are illustrated in his Florilegeum[3], though it was only eventually published over 100 years later. Robert Brown subsequently placed them the new genus *Callistemon* in 1814.

Under the original name *Metrosideros citrina*, it was first illustrated in the Botanical Magazine published by Curtis in 1794 as tab 260[4] (see page 21). The illustration of this new red flowered species had been painted the previous year when the plant, grown from a small root ball, first flowered for Lord Cremorne. The small rootball was said to have been 'sent back' from Botany Bay, whereas the Wikipedia entry for the species[5] suggests that the small rootball was brought back by Sir Joseph Hooker. This seems unlikely as such a plant would have first been grown at Kew, and would have flowered much earlier, even if Sir Joseph Hooker had only brought back seeds.

The text in the Botanical Magazine goes on to mention that before the flowering of Lord Cremorne's plant it had already flowered at Kew and Sion House, and '*as it is without difficulty raised both from seeds and cuttings, young plants are to be seen in most nurseries near town; it would seem that they do not flower until they are at least five or six years old.*' The name of a red flowered species as 'citrina' may seem puzzling, but as the text goes on to mention that '*the leaves on the old wood feel very hard and rigid to the touch, and when bruised give forth an agreeable fragrance*.' This is presumably a citrus scent.

Whilst there is no record of Sir Joseph Hooker bringing back live plants, there is another more likely source of introduction of the plant. Several years after arriving home, Sir Joseph Banks, started to advocate that Australia should be colonised, and in 1779 gave evidence to a committee of the House of Commons, and suggested that Botany Bay was the most suitable place for the reception of convicts[6].

Nothing came of this proposal at the time but it was later taken up again, in 1783, by James Matra. He had been a junior officer on Captain Cook's first voyage, during which he had become friendly with Joseph Banks. His first suggestion of colonising Australia was with American loyalists, Chinese and Pacific Islanders but this was rejected. It was subsequently modified the following year, to propose that convicts should be used as colonists instead. The convicts were not hardened criminals, but often skilled trades people or farmers who have fallen on hard times and had committed minor offences. They were sentenced to 7 years, the time estimated to properly establish a settlement, after which they would be granted parcels of land to settle on and farm. In May 1787 the first fleet of 11 ships set off, with over 1,000 convicts and a total compliment of over 1500. Within a few days of arriving at Botany Bay the fleet moved to the more suitable Port Jackson, and established the first settlement was established at Sydney Cove, (one of several harbours in Port Jackson[7]. It

seems likely that the returning ships would have brought back seeds of various plants, including *Callistemon citrinus*, as well as some small plants. The timing of their return would just closely match with the record of the plants in cultivation.

Whilst the Wikipedia entry for *Callistemon* transfers all species to *Melaleuca*, and this is apparently accepted by Kew[8], the genus name *Callistemon* is still accepted by the Plant List and the RHS Plant Finder. According to the latter there are about 20 different species commercially available and nearly the same number of named forms or cultivars are also available. The flowers of *Callistemon* are distinctive and are generally referred to as bottle brushes, for their obvious resemblance to them. The cylindrical display of the stamens of *Callistemon* are conspicuously longer than those species of *Melaleuca*. The leaves of most *Callistemon* are quite short and narrow though broaden midway before tapering to a point. The length of the leaves and degree of broadening varies between species, or even some named forms of species.

The majority of species would seem to have red coloured flowers, judging from the photographs that a Google image search turns up, with variations towards orange and shades of purplish pink, as well as some having white or pale yellow or cream flowers. The shrubs clearly need a reasonable amount of direct light, otherwise the foliage and lower branches will die back. When grown amongst other plants it is not unusual for all the lower branches to eventually die. When the flowers dieback, and have been fertilised, a cylindrical cluster of small hard seed capsules form around the thin end of the branches, but flowering does not always terminate the branches as in many cases as well as branching, they start to grow on past the seed capsules, to eventually flower again, usually several years later.

I have grown *Callistemon citrinus* (crimson bottlebrush) for many years. It can apparently can reach 5m, but about 3m is more common in cultivation and the highest branches tend to cascade over towards the main source of light, thus limiting much further upward growth. When grown under trees, the shrubs do not grow so high, as the branches tend earlier to cascade out towards the primary light source. It flowers in mid July here, but no doubt earlier in warmer parts of the British Isles. One of the forms of the species is *C. citrinus* 'Splendens', which I also grow, has broader leaves and the flower are shorter in length but greater diameter, as the stamens are longer. It flowers a week or two earlier than the species (see photos opposite).

The pale yellow flowered species *C. pallidus* (lemon bottlebrush) blooms about mid June (photo page **22**). In its natural habitat in eastern Australia it is variable with some tree forms reaching about 8m high, whilst those in cultivation are usually smaller growing shrubs to about 4m tall and 3m wide, though there is a distinct columnar form which is less than 1.5m wide. Whilst the normal form was planted in open conditions, unfortunately my plant with a columnar habit was partially shaded by another shrub, and has lost much of it lower branches. The basic species is more solidly growing, and does not have longer branches cascading out towards the light, but instead the whole body of the plant will lean towards the light, if it is predominantly from one direction.

Despite their origin, at least some species of *Callistemon* are remarkably





clockwise from top left:
Metrosideros citrina illustrated in Curtis Botanical Magazine;
Callistemon citrinus; ***Callistemon citrinus* 'Splendens''**



right:
Callistemon pallidus growing in Northern Ireland



below:
Callistemon rigidus*/*linearis growing in Oxfordshire,
a single totally green specimen surrounded by others with the foliage yellowing in the upper part of their stems





left: ***Callistemon rigidum*** illustrated in The Botanical Register



above: flower of plant purchased as ***C. linearis***

below: shoots of ***Callistemon*** from left to right
purchased as ***C. rigidus***
grown from seed as ***C. subulatus***
purchased as ***C. linearis***





Two wattles for smaller gardens:

above
Acacia amblygona

right
Acacia gunnii



hardy, as the few I grow have not suffered at all with temperatures down to as low as –14°C for three consecutive nights with daytime temperatures not rising above -7° C during the day. They provide a good colour show when few other brightly coloured shrubs are in flower.

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A TALE OF LOST LABELS

Graham Sumner

Two of the hardiest and most resilient bottlebrushes in my former Welsh garden in Ceredigion were *Callistemon* (*Melaleuca*?) *linearis* and *C. rigidus* (narrow-leaved bottlebrush and stiff bottlebrush respectively). My entire stock had been grown initially from seeds acquired from Chiltern Seeds back in the 1980s, and then propagated on from home-grown seeds. I therefore made sure that on moving to Oxfordshire in early 2015 I took with me seeds that I had harvested in Wales in 2013 and 2014. These two species came through the twin cold snaps of 2010, January (-10°C) and December (-12°C), with barely a mark on them, whether in the soil or in large pots, so I reasoned that of all my *Callistemon* species these should be the best equipped to cope with the potential severity of central England's winter frosts. The other species I brought with me were *C. citrinus* and *C. pallidus*.

What I had underestimated, however, was the impact of a switch from acid to alkaline soils. The late winter following the move saw me sprinkling *Callistemon* seeds into numerous small pots and germinating them in the airing cupboard. Of course, they responded to this with vigour, and I soon found I had more than I could cope with to pot on. Now, three summers on, some have been planted on into larger pots, but most have ended up in the garden proper as test plants. I had so many!

The least-hardy *C. citrinus* seems happy with the switch, though it will be much less happy with any temperature below the -7°C already experienced 90m up on the edge of the North Wessex Downs. *C. pallidus* is distinctly unhappy with the Harwell soil, though, and is better in large pots than in the open garden soil, where it just sulks and shows signs of chlorosis, with mostly yellow, or at best, yellowy-green leaves.

Now for *C. linearis* and *C. rigidus*. The large pot specimens which I had brought from Wales in the move mostly stayed in their large pots. These are thriving and have flowered profusely since the move. The only

one that I did sink into the garden soil flowers only very perfunctorily, however, producing buds, but then giving up half way through their opening. This may be in response to high summer temperatures and a drying out of the clay soil in which it sits. This near quagmire in the winter dries to something resembling concrete during the summer months. The plant's label had disappeared during the move, so, although the narrow leaves show it is clearly either *C. linearis* or *C. rigidus*, I am not sure which.

As for the newly emergent seedlings, well, I seem to have thoroughly mixed up or lost their labels too! What has proved interesting, though, is that some of the new plants planted in the garden soil have grown on quite normally, whilst others show the yellowing foliage which I assume is evidence of chlorosis. The photograph (page 22) shows a single totally green specimen surrounded by others with the foliage yellowing in the upper part of their stems. This yellowing only started once the plants had been moved into the soil from their first-year pots. Some turned, others did not. Roughly one half of my *C. linearis*/ *rigidus* plants now in the garden soil show this symptom, which fits with an assumption that I have more or less randomly selected plants from each batch of seeds.

So, now, three summers on, I have no idea whether I'm looking at *C. linearis* or *C. rigidus*! A quick check of the Wikipedia entries for them[1] ends up on the same page; *Melaleuca linearis*. According to this entry *M. linearis* includes both *C. linearis* and *C. rigidus*, along with *C. pinifolius*. The Australian Native Plants Society (Australia), ANPSA, in the short guide to *Callistemon linearis* on its website[2], acknowledges this merger, but also adds that the Australian Plant Census (APC) has not adopted it. The ANPSA follows the guidance of the APC and does not accept this reclassification.

Assuming they are separate species, which of my plants is which? At this point the mystery deepens significantly. I have some plants with apparent chlorosis and others showing no signs of this condition. The two groups are of the same age and are in the same soil. The ANPSA lists only *C. linearis*, but makes no reference to alkaline-tolerance. The New South Wales Flora Online[3] shows maps for both species. The two are native to largely different parts of eastern NSW. The leaf descriptions are similar, although NSW Flora Online states that *C. rigidus* leaves are slightly broader than those of *C. linearis*, and that the former is an erect shrub. The only notable difference otherwise appears to be that the leaves of *C. rigidus* have glands on their underside. Neither of my sample sets show glands, although the yellower leaved plants have some orange spots on both surfaces. None of these young plants has flowered, but, based on the flower descriptions provided by NSW Flora Online, it would probably be of no help anyway, as the descriptions given seem virtually identical in size range, etc. for both species.

I also have numerous older reference texts on Australian plants, acquired mostly in the 1980s during my numerous study leave/sabbatical visits there in that decade. These offer no help to speak of. The Australian Plant Study Group publication *Grow What Where*, published in 1984, lists both species as 'very lime-tolerant'. Glen and Peta Hayne, in their *Australian Plants for your Garden* (1985), list both, but simply suggest that *C. rigidus* will tolerate poorly-drained soils.

More recently, John Mason's *Growing Australian Natives* (2nd. edition, 2007) lists both separately, but with no indication of lime tolerance. Thomas Ross and Jeffrey Irons' most useful 1997 book *Australian Plants. A Guide to their Cultivation in Europe* lists *C. rigidus* only, and then only in their Plant Reference List, as possibly tolerating 'extreme' alkalinity. I have used this book to select Australian plants which are alkaline tolerant, and it is so far proving a totally reliable guide. The RHS Plant Finder[4] currently includes both, but suggests only that *C. rigidus* is marginally hardier than *C. linearis* (H3 rather than H2) and will tolerate clay soils better. My back garden soil is a particularly nasty, sticky, alkaline clay when wet, and this is where the larger specimen plant, brought live from Wales, is located. It flowers only very sulkily, as referred to earlier, but its leaves have not yellowed; perhaps this is *C. linearis*. The front garden soil is on the edge of the Lower Chalk, is shallow, and is exceptionally well-drained, producing near prairie-like conditions during the summer months if there is little rain. The plants in the photograph are in this chalky soil.

To my eyes the foliage of both groups of new plants is identical, apart from the yellowing in some; none has yet flowered, they are too young. If the two species are indeed separate then perhaps one is more tolerant of alkaline soils than the other. But which is which? If such tolerance is different between the two then there can surely be no justification in combining them. Is there anyone else out there who has had a similar experience with *C. linearis/ rigidus*, or can help clarify whether these should be two separate species, please? I am up the proverbial creek without a paddle!

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WHAT BOTTLEBRUSH IS IT?

Judy Clark

Bottlebrushes make terrific garden plants. Find one that likes the conditions in your garden and, as long as you prune it after flowering, it should reward you with many years of splendid displays in spring or summer. But over the years I have become more and more perplexed when it comes to naming and identifying them.

In an ideal world each taxon (plant or group of plants) would have only one correct scientific name that is accepted everywhere. There are international rules for naming plants[1] and provided taxonomists agree on what plants constitute a taxon then if there are competing claims these rules determine which name applies. But taxonomic and botanical research can result in changes to ideas about, for example, what actual plants belong to a species, or what species belong to a genus. If the results of such research are uncontroversial, any consequent name changes are presumably adopted without fuss. But if they are controversial then it may take quite some time for arguments to be resolved. And this may not just be a matter of botany and taxonomy; there

can also be commercial and cultural ramifications to debates about plant names. Meantime some authorities may adopt a new name while others stick to the old one.

So it is with *Callistemon* and *Melaleuca*. In Australia there is not yet agreement over which is correct. Currently *Callistemon* is accepted by some states and territories and *Melaleuca* by others. As there is no consensus regarding transferring *Callistemon* species to *Melaleuca* in the Australian Plant Census[2] (APC) *Callistemon* remains the accepted name and *Melaleuca* is considered a synonym. At least, that's how I understand it, as someone with no taxonomic training. But I do believe that as Australian botanists and taxonomists are the experts here we in the northern hemisphere should follow their lead in naming Australian plants. So we should not be too hasty to transfer *Callistemon* to *Melaleuca*.

But there is a further complication. Again, as I understand it, for many of the species Craven's revision of *Callistemon*[3], involves a straightforward transfer to *Melaleuca*. For example, *Callistemon pallidus* becomes *Melaleuca pallida* and these names (nomenclatural synonyms) refer to the same plant. However, for some species more seems to be involved than just changing the name. Of the three species, *C. linearis* (Schrad. & J.C. Wendl.) Colvill ex Sweet, *C. pinifolius* (J.C. Wendl.) Sweet and *C. rigidus* R. Br., the first two are accepted as correct names by the APC but the latter is not. Rather, it is considered a taxonomic synonym for *C. linearis* (Schrad. & J.C. Wendl.) Colvill ex Sweet[4]. So, if one agrees with Craven real plants of *C. rigidus* R. Br. and of *C. linearis* (Schrad. & J.C. Wendl.) Colvill ex Sweet belong to the same species.

Which brings me to identification. One of the first Australian species I planted in my garden in Hastings came as *C. rigidus*. It blooms fantastically every year and it is clearly different from a red-flowered bottlebrush I obtained a few years later, which came as *C. linearis* . The latter's leaves are longer and narrower and further apart on the shoots than the shorter more crowded leaves of the plant that came as *C. rigidus*, and its inflorescences are larger. Their habits are also different: the one that came as *C. rigidus* is more upright with stiff shoots; the other has more flexible branches. **If** these two plants are correctly named I find this evidence difficult to reconcile with the idea that they are the same species. My third red-flowered narrow- leaved bottlebrush I grew from seed (from AustraHort) labelled *C. subulatus*. This plant is much more similar to my '*C. rigidus*', although the two plants are subtly different in habit and flower, and the leaves of '*C. subulatus*' are further apart on the shoot.

The shoots of these three plants are shown on page 23, along with a photo of '*C. linearis*'. Unfortunately I haven't any close-ups of the inflorescences of the other two plants. However, The Botanical Register (1819)[5] provides an illustration of the plant from which *C. rigidus* R. Br. was named (page 23). My '*C. rigidus*' looks different to this. It also looks closer to the illustration of *Melaleuca subulata* (*C. subulatus*) in Brophy et. al. (2013)[6].

Where does this leave me? There are other red-flowered narrow-leaved bottlebrushes that I haven't considered here, notably C. *viminalis*, though this typically has a weeping habit, and *C. pinifolius*, though this has even

narrower leaves, not to mention cultivars and possibly hybrids. I also need to take a closer look next time they flower. I do have doubts as to whether my '*C. rigidus*' is that plant, but possibly my '*C. linearis*' is right. Really I'm still not sure as to the correct identification of any of them, or even whether I have two taxa or three. I would like to know which is which, for the same reason that I like to name all of my plants: it means I can find out what conditions they like and (hopefully) grow them better. But remaining perplexed won't stop me enjoying my bottlebrushes when they flower next summer.

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6. Brophy, J.J., Craven, L.A. and Doran, J.C. (2013) *Melaleucas; Their botany, essential oils and uses*. ACIAR (The Australian Centre for International Agricultural Research) Monograph Series No.156. Canberra. p. 351

TWO WATTLES FOR SMALL GARDENS

Warren and Gloria Sheather

Acacia gunnii

The ploughshare wattle, *Acacia gunnii*, is one of the many wattles that occur on the Northern Tablelands of New South Wales. It is a small, erect shrub reaching a height of one metre. The phyllodes are dark green, triangular and crowned with a sharp point. The phyllode shape gives rise to the common name.

The flowers (photo page 24) are held in globular clusters of from 20 to 30 individual flowers. They are usually cream to pale yellow or sometimes yellow. The specimens observed on the Northern Tablelands, have cream flowers. One inflorescence is carried in the axil of each phyllode and appears in spring. The pods are straight and constricted between the seeds.

This wattle is probably small enough to be considered for inclusion in rockeries and cottage gardens.

The ploughshare wattle is found in all eastern states, including Tasmania, as well as South Australia. The species is considered rare in Queensland and South Australia. There are also records of two collections made in southwest Western Australia. The species name honours Ronald Campbell Gunn (1808-1881) a pioneer botanist and scientist in Tasmania.

Acacia amblygona

The Fan Wattle, *Acacia amblygona*, is a variable species that ranges in height from a ground covering growth habit to a shrub about 1.5 metres tall. Phyllodes are usually ovate to elliptical up to one centimetre long crowned with a sharp point. Bright yellow

flowers (photo page 24) are carried in globular clusters in the phyllode axils. They cover plants from late winter to spring and are both profuse and conspicuous. Seed pods may be curled or twisted and often coiled.

There is a prostrate form known as 'Winter Gold'. This form is usually grown from cuttings to ensure that the prostrate growth habit is maintained. The photo (**page XX**) is of our prostrate specimen.

A. amblygona is found in coastal and western areas in New South Wales as well as Queensland. The species name means obtuse angle but the significance to this wattle is not clear.

Editor's note

Thanks to Bill Aitchison for permission to use this information which comes from Newsletter 138 of the ANPSA Acacia Study Group. Seed of both these species is available on the APS seedlist.

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NAMING OLEARIA

Jan Michalak

Olea-ria:¨*Olea, Olive: in allusion to the resemblances of the leaves of some species to those of the olive.* (RHS Dictionary of Gardening, 1956)

The received view of the origin of the word 'Olearia' is commonly claimed as that of Hooker, though in researching this article, the evidence for that seems largely anecdotal. It is a fact, however, that Conrad Moench (b. 1744, d. 1805) who named the genus was felt to be unreliable, particularly in his specific names, and that may have led to his generic labelling being overlooked by later authorities.

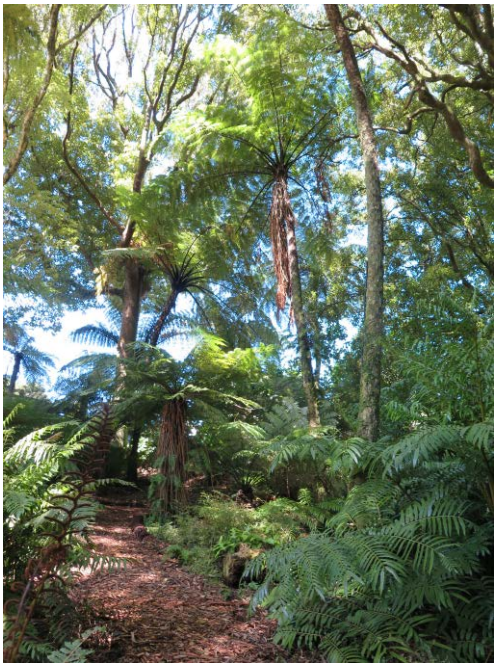
Fairly recently there has been a move away from the 'Olive' allusion towards recognition of the name Olearius. There are several issues here that cause confusion.

- There was an extensive family using the surname Olearius in sixteenth and seventeenth century Germany, many sharing the same names or variations of Johann and Gottfried. They all seem to have been polymaths, making names for themselves in Theology, Philosophy, Botany, hymn composition and musicianship. The name is probably not a Latinised German name, but a Latin name chosen to make up for the lack of family surname.
- Despite possible choices within that family, the man now often cited is one Adam Ölschlager (b. 1599, d. 1671), who Latinised his surname as Olearius. He was a German scholar who travelled with diplomatic missions for Frederick III, and wrote about his experiences. There is no link with matters botanical in his life or work.
- Moench is described as a member of a group of botanists rebelling against the growing support for the new classification criteria of Linnaeus. Although he keeps to the Linnaean system of naming genera (many retained as in *Bergenia*, *Echinacea*, *Olearia* and *Kniphofia*), he continues to use the traditional specifics, and to create multi-worded epithets, fairly quickly regarded as superfluous within the binomial system.
- Even when the various elements of the naming of the genus are brought together, it is not immediately clear why they are relevant in the context of rules laid down by Linnaeus in his *Critica Botanica* of 1737.

Otari Native Botanic Garden and Forest Reserve

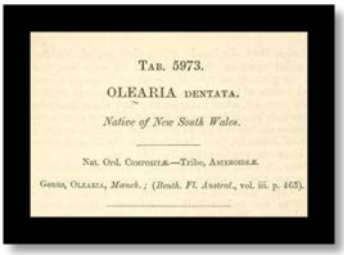






The Fernery: Otari Native Botanic Garden and Forest Reserve





TAB. 5973.

OLEARIA DENTATA.

Native of New South Wales.

Nat. Ord. COMPOSITÆ.—Tribe, ASTEROIDEÆ.

GENUS, OLEARIA, *Moench.*; (*Benth. Fl. Austral.*, vol. iii. p. 465).

Above: ***Olearia dentata*** illustration and title from Curtis's Botanical Magazine 1872

OLEARIA.

Calyx imbricatus: foliolis inferioribus ſubpatulis. Corollulae radii femineae tridentatae, ſteriles, disci hermaphroditae fertiles quinquefidae. Stamina quinque. Stylus unus. Stigma bifidum. Receptaculum ſcrobiculatum. Pericarpium oblongum. Pappus plumoſus baſin connatus.

— *dentata*, foliis ovatis dentatis, ſubtus tomentoſis, caule fruticoſo, floribus terminalibus, pedunculatis erectis.

Aſter tomentoſus. *Wendland ſertum Hanover.* IV. p. 8. *icon.* t. 24.

Caulis teres tomentoſus ramoſus, ramis patulis caule brevioribus. Folia alterna petiolata, groſſe den-

dentata obtuſa, ſupra lucida ſcabra, infra tomentoſa. Pedunculi teretes tomentoſi. Calycis foliola lanceolata viridia, apice tomentoſa. Corollulae radii 10—20 albae, oblongae tridentatae, dente intermedio minimo: disci luteae.

h. in caldario. Frutex.

In memoriam *Joannis Gotbofredi Olearii*, auctoris ſpeciminis florae halenſis ſive deſignatio plantarum hortuli ſui, quibus is inſtructus fuit 1666—1668. Halae ſaxonum 1668. 12.

Excerpt from **Moench's *Supplementum***, above and right

Moench

Conrad Moench, of Kassel in Germany was responsible for the creation of a new botanical garden at the Philipps-Universität at Marburg in 1786. He was returning home after being educated, and subsequently teaching, at various universities around Germany. He represents a move away from the religion-based polymath



generally associated with universities at that time, being a scientist, and primarily a botanist. The Marburg gardens were developed from the old plant collection started in the 1527, and augmented with the plant collection of Kassel's Landgrave.

In 1794 he published his *Methodus plantas horti botanici et agri Marburgensis a staminum situ describendi*, a detailed catalogue of 674 species grown in the Marburg gardens or wild in the Marburg region. His descriptions and observations are considered unusually fulsome and exact, especially in descriptions of habitat:

> 'The coverage of the literature is remarkably complete it is for these reasons that, even though we can not count Moench among the great taxonomists, his book remains of general interest for the history of taxonomy.'

In 1802, Moench published a second book, *Supplementum ad Methodum plantas* (Stern 1966), which covered 634 more flowering plants acquired by the gardens. Here is the first reference to *Olearia dentata* (see opposite) as a replacement for the basionym *Aster tomentosa*. The name is dedicated to one, Johannes Gottlieb Olearius:

> *In memoriam Joannis Gothofredi Olearii, auctoris speciminis halensis sive designatio plantarum hortuli sui, quibus is infructus suit 1666–1668. Halae saxonum 1668.* ('Johann Gottfried Olearius wrote the book … called 'Specimen florae Hallensis' about plants in 1666-1668 ….. in his own (small) garden, in Halle, Saxony').

Olearius

Born in Halle, and completing his extensive education at a number of German universities, Olearius (b.1635, d.1711) was typical of the learned masters of his day – religiously inclined and master of many disciplines. His very considerable output of books and papers is mainly comprised of discussions of religious or philosophical matters, but, importantly, includes two botanical publications, '*Hyacinth-Betrachtung darin die Hyacinth-Blum fürgestellt wird*' and the above-mentioned '*Specimen florae Hallensis*' in which he records and discusses his observations of plants in his own garden over a three year period.



Most of his life was spent in his birth town of Halle, but he also studied for a period before 1660 and retained links with the university at Marburg.

Conclusion

In his *Supplementum*, Moench describes a plant he calls *Olearia dentata*. The name is retained for a time, but like so many of Moench's epiphets is discarded in favour of *O. tomentosa*, and eventually *O. rotundifolia*, with the consequence that Moench's part in the process recedes, and with it the name of the man to whom it is dedicated. I think this research has gone some way towards reinstating them both; what may never be fully explained is Moench's choice of Olearius as dedicatee, but there is room here for some conjecture.

Both men spent time at Marburg; although they could not have met, Olearius's work was clearly available to Moench. Moench's own work is valued for its unusually comprehensive coverage of his subject, especially his attention to habitat and habit over time. Olearius too left a very closely observed record of plants and habitat over time – perhaps a model for Moench?

Moench may have been resistant to Linnaean rules of taxonomy, but in his naming of genus he follows the fashion that is rapidly being accepted by the botanists of his time. Here we see him obeying clause 221 of Linnaeus's *Critica botanica*:

> "Generic names formed from two complete and distinct words are to be banished from the commonwealth of botany."

And perhaps clause 238:

> "Generic names formed to preserve the memory of a botanist who has deserved well of the science I retain as a religious duty" (Linnaeus 1737).

Author's note

The above piece was a response to questions about the origin of the genus name and the correct pronunciation. It was printed by the New Zealand Plant Conservation Network.

Olearia is correctly pronounced o-le-a-ri-a, with the stress at the first a.

Even before undertaking this project I have always advised students that there were no plant hunters called O'Leary. So, with apologies to Edward Lear:

> Oh Dearia!
> I think my work would be wearier
> And my life as a whole be much drearier
> If this plant was made famous
> By someone called Seamus
> And we all had to call it O'Learya



OTARI NATIVE BOTANIC GARDEN AND FOREST RESERVE

Finn Michalak

Greetings. Kia ora. I would like to take this opportunity to introduce everyone at APS to my workplace, Otari Native Botanic Garden and Forest Reserve (photos pages 31 and 32) in Wellington, located in the south of the North Island of New Zealand. Officially opened in 1926, Otari was, and still is, the only botanic garden in the world that is solely dedicated to growing native New Zealand plants. We hold, I believe, the largest collection of New Zealand plants being grown in cultivation. Numbering nearly 1400 species, this amounts to almost half of the known New Zealand vascular flora.

As the name suggests, Otari is two places. The 'Botanic Garden', comprising just over 5 hectares of plant collections representing a wide

range of flora found throughout New Zealand, and the 'Forest Reserve'.

The origin of Otari was a 7 hectare forest remnant that was set aside by farmer Job Wilton in the 1860s as a picnic site for locals and tourists when the original forest was being removed fast from all that surrounded. The now significantly larger Forest Reserve (about 100 hectares of remnant and regenerating forest) mostly represents the typical forest flora of the Wellington City region. The forest type is known as podocarp broadleaf. The dominant tree species are *Prumnopitys taxifolia* (matai), *Dacrydium cupressinum* (rimu), *Beilschmiedia tawa* (tawa), *Knightia excelsa* (rewa rewa) and *Dysoxylum spectabile* (kohekohe). I believe that only 1% of the original Wellington City forest still exists, and 90% of it is in Otari. There are about 150 vascular plant species naturally occurring in the forest, 52 of these are ferns or fern allies. Of course, in abundance is the infamous *Cyathea dealbata* (silver tree fern or ponga).

The 'Native Botanic Garden' officially started life in 1926. Dr. Leonard Cockayne, on behalf of the Wellington City Council, began the extensive planting of the garden collections. Born in 1855 in Norton Lees, near Sheffield, Dr. Leonard Cockayne would become the honorary botanist to the New Zealand government. He was an ecologist and a pioneering conservationist of his era. He produced a scheme for the management of the gardens that was so beautifully succinct that we have not deviated much from it to this day. The gardens under Cockayne were named 'Otari Open-Air Plant Museum' and his scheme for their development was published in 1932. This was only one year before Cockayne's death at the age of 79. Leonard and his wife Maude are both buried at Otari.

There are many fantastic books and papers published by Dr. Leonard Cockayne. They are wonderfully written and very informative and I very much recommend finding them. Leonard left us a fine legacy, the first major concern of his scheme for Otari being "*In the management of the species and the general design of the Museum, the first consideration must be Beauty*."

Otari today is about celebrating the unique flora and natural heritage of New Zealand, and to tell their story. Our vision is to conserve the native forest, cultivate plants from all over New Zealand, teach people about native plants and advocate their use in horticulture.

The gardens are laid out to allow visitors to appreciate a range of plants collected from as far north as the Kermadec Islands and as far south as the Sub Antarctic's, and many from in between. Here are a few examples of the diverse garden collections here at Otari.

Divaricating Plants

A fascinating vegetative form that is very much a feature in the New Zealand flora, divaricating plants are small-leaved shrubs and low growing trees with interlacing stems that spread apart at wide angles. There are two theories for this growth habit: defence against large browsing birds (I suggest you look up the infamous now extinct moa), or an adaptation to cold, dry, windy environments. Divaricating plants are found within 16 families. with roughly 20 different genera and over 50 species. You may know *Muehlenbeckia astonii*. This is a classic divaricating shrub, and a plant

with the conservation status of Nationally Endangered.

38 Degrees Garden

38°S Latitude refers to the southern limit of the kauri tree (*Agathis australis*). This is the iconic singular species of araucaria found in New Zealand. Tane mahuta found in Waipoua Forest is a spectacular 2000 year old kauri with a girth of 13.77m. Although kauri has been planted throughout New Zealand, its natural distribution is only the far north of the North Island. The earliest plantings in Otari are from 1926, This forest garden has a very different feel to that of the local forest. There are various other species growing here that are naturally confined to the far north like *Beilschmiedia tarairi, Toronia toru, Vitex lucens, Litsea calicaris* and *Ackama rosifolia.*

The Fernery

Perhaps most synonymous with New Zealand are ferns and lycophytes. There are about 200 species of native ferns and lycophytes, about 90 of them endemic. We have 104 species in cultivation at the Otari Fernery. This includes all of the tree ferns: *Cyathea dealbata, C. smithii, C. cunninghamii, C. milnei, C. medullaris, C. kermadecensis* and *C. colensoi* and *Dicksonia fibrosa, D. lanata* subsp. *hispida, D. lanata* subsp. *lanata* and *D. squarrosa.*

Author's note

This is very much an introduction to Otari and its fine collection of native plants, of which I am Collection Curator. I am to happy answer any queries APS members may have on the cultivation of the plants mentioned above. We grow many other plants, including various *Dracophyllum* spp., nearly 50 *Coprosma* spp., 87 *Veronica* spp. (the majority formerly *Hebe*) and all of the *Melicytus* spp. as well as plants from sub alpine and alpine areas and epiphytes. I can be contacted at Finn.Michalak@wcc.govt.nz).



A STRIKING NATIVE PLANT COMBINATION IN NEW ZEALAND

Jeremy Spon

From time to time members of the committee receive queries from the general public concerning plants they have seen, and back in September I had a call from someone who had seen a very attractive combination of plants in New Zealand, and wanted to try and replicate it in a garden in England where he worked. My caller, Barry Atkinson, emailed me a photo of the planting, at Perfume Point, Napier on North Island, NZ. The combination of two native plants, *Chionochloa flavicans* and *Libertia grandiflora*, was very striking, and Barry has kindly allowed us to reprint his photograph (opposite). Both plants are reasonably hardy here in the UK, (if actually in cultivation – see below) so Barry, and anyone else who wants to replicate this planting, should be able to do so.

Initially I thought that the *Libertia* must be a form of *L. ixioides*, as I did not know of any bronze-leaved forms of *L. grandiflora*, but Barry got in touch with the Napier Council Garden Maintenance department, and they confirmed that it was the latter. They said that they thought the richer than usual colouration of the leaves might be due to the 'very harsh' Hawke's Bay sun – the plants preferring partial



clockwise from left

Perfume Point planting

***Eucalyptus glaucescens* doing well at Marks Hall**

APS stand at Wisley, with *Rhodanthe* flower heads

***Wollemia nobilis* at Marks Hall, showing male and female bits**

















the APS do Hampton Court
Have we got all the plants? (top left)
Can we we fit them all in? (above)
Yes we can!

shade. *Libertia grandiflora* is a new addition to our seed-list, and should be straightforward to grow from seed. One of the reasons for adding it to the list is that it may well not currently be in cultivation in the UK, the name being widely mis-applied to *L. chilensis*, according to Julian Shaw of the RHS, in his article for The Plantsman in June 2015[1]. So if you buy plants from nurseries in the UK, be aware that you may not be getting the true plant! Having said that, the bronze-leaved forms of *L. ixioides* such as 'Taupo Blaze' and 'Taupo Sunset' would make a good substitute. *Chionochloa flavicans* is not on our list, but plants are available from a few nurseries, according to the RHS Plant Finder Ffinder, including one of our own members, Binny Plants.

Reference

1. Shaw J. (2015) An overview of *Libertia*, *The Plantsman* (New Series) 14 (2), pp 104-113.



NEWS FROM SHEFFIELD

Peter Kohn

It is over two years since the APS visit to Sheffield, and in the intervening period much further growth has occurred both inside and out. In the pavilions in Sheffield Botanical Gardens almost all sections, not least the Australian portion, are reaching the stage where replanting is needed. This should have been under way, but for the past two or three years the Curator has been heavily tied up as a senior manager in the Parks and Countryside Department of Sheffield Council, and thus able to devote very little time to the gardens. However, a Head Gardener is now being recruited who hopefully will start to tackle the replanting soon. A few plants that were really sickly have been removed, notably *Prostanthera cuneata* (alpine mint bush). Meanwhile our plant outside in our own garden has grown really quite large (having swamped several neighbours) and is flowering well for the second time this year. The *Myosotidium* plants in the pavilions got overwhelmed. They had never really looked happy, but we have great hopes for a plant that has recently been planted outside in the nursery beds.

Clianthus puniceus (kaka beak, glory pea, lobster claw) has also been removed from the pavilions having failed to flower there. In contrast, the plant on the south wall of the formal entrance to the gardens continues to thrive - so much so that it is repeatedly being chopped back when it reaches 3 to 4m and blots out the windows of the office inside. It flowered prolifically in January, was cut back, and yet was in flower again in April. Our plant at Kerrachar followed a similar pattern, flowering in January and then again later in the year. Neither plant has shown slug damage.

Outside on the Australian Bed in the Mediterranean Garden there has been prodigious growth with shrubs now almost completely dominating and the large spaces which I reported in 2015 having largely vanished, All the correas are in good heart and continue to provide colour over very extended periods. *Correa* 'Marian's Marvel' is the star performer over the whole of autumn and winter and well into spring. Our own plant at home has been equally successful.

The largest plants are two acacias, *Acacia retinoides* now 6m tall and *A. longifolia* at 5m. Both flowered really well this year as did *Hakea nodosa* and

H. teretifolia (back cover). *Banksia marginata* (silver banksia) plants (grown from wild-collected Tasmanian seed and therefore not strictly Mediterranean) have reached 4m and are once again coming into flower whilst *Kunzea recurva* (grown from seed from the APS seedlist) continues to prove hardier than expected and has reached 1.5m so far.

New additions which have not yet been fully tested are a plant of *Bursaria spinosa* (sweet bursaria), a present from long-time APS member Sue Kohler, and a senna grown from seed from Judy Clark which has already managed a few tentative flowers.

My attempt to sort out *Orthrosanthus* species (Iridaceae), at least to my own satisfaction, has not been a success. Last year I sowed four species using seed from Plant World as well as seed from the plant in our own garden (which emerged from a sowing of what was nominally *Tulbaghia violacea*). The latter has previously germinated readily but in 2016 germination was poor for all species except that labelled *O. multiflorus*, which was clearly different from the others in growth. What was labelled *O. laxus* looked pretty similar to our own plant and that labelled *O. polystachyus*, whilst *O. chimboracensis* failed to germinate. The plants of *O. multiflorus* look really healthy but have not flowered whilst *O. laxus* looks fairly unhappy. I plan to sow again this winter.

Recently, the historian of the Sheffield Botanical Gardens has published a first volume of the history of the garden[1], covering the period 1826-1844 (the garden opened in 1836). I think we had the illusion that we had introduced *Clianthus puniceus* to the garden but it turns out that it was in the garden from the very start. When John Claudius Loudon visited the garden in 1839 he mentioned:

> "we observed the largest plant of *Clianthus puniceus* we have ever seen (perhaps 7ft high and as much in diameter) , and which was covered with an amazing quantity of bloom."

He also mentioned that:

> "In the open air we found various green-house plants which had stood the winter, among which *Melaleuca squarrosa* and some leptospermums seem to be the hardiest."

Wattles were also grown from the start and in 1840 the Sheffield Independent specifically mentions eight species: *Acacia affinis, A. alata, A. armata, A. cunninghamii, A. diffusa, A. floribunda, A. pendula* and *A. stricta*. *A. verticillata* is not listed but when J.C. Loudon made a second visit to the garden he picked out

> "*Acacia verticillata,* the finest plant I ever saw, 24ft high, with branches covering a space of 10ft diameter, and gradually tapering to the top; it is now full of buds all over it. *Acacia affinis,*, 30 ft high full of flower buds."

He also mentioned that there were 8 or 10 banksias, picking out

> "*Banksia speciosa,* in fine flower, 8ft high. *Banksia grandis,* a good specimen".

I have only just started to look through the history so there may be other Ausralasian plants mentioned in the early documentation. However it seems we are currently well behind our predecessors in some aspects of what we currently grow.

Reference

1. R. Alison Hunter and Daniel Q. King (2017) *Sheffield Botanical Gardens: a history: Volume 1 (1826-1844)*

COOKSCROFT

Jeff Layman

Cookscroft (www.cookscroft.co.uk) is a 5 acre garden which opens under the National Garden Scheme. It is located south-west of Chichester, about a mile from the sea, on land which eventually ends at the south-east as Selsey Bill, and to the west as the National Trust's East Head. To the south-west is Bracklesham Bay, and to the north Chichester Harbour, so it has a very favoured climate as it is effectively surrounded by sea on three sides. Although it can get frosts, these are usually mild and do not penetrate.

The owners have been developing it for nearly 30 years, and it is described as having "*... a particular emphasis on southern hemisphere plants*". There are many other fine plants there, and I was very surprised to find, on a visit in mid-May, a blue *Meconopsis* in flower. I was unaware that anyone could grow and flower these successfully in the south-east, as it is usually considered too dry.

There are over 40 species of eucalyptus trees growing there. Many of these trees are original plantings from 1988 and as such are fairly tall. They also provide good shelter for shrubs growing under them. One plant I was particularly surprised to find growing under the eucalypts was *Boronia heterophylla* (red boronia). The plant was about 120cm high, and 60cm wide. I assumed it was growing in a pot, which was then sunk into the ground when all chance of frosts had gone. But I was amazed to be told that it had been growing there for some time, and was so well-sheltered by the trees it did not generally suffer from frosts. However, if cold weather is forecast it is covered with fleece. In my experience, West Australian shrubs and trees are extremely unlikely to survive even an average winter on the UK mainland, and those that do would usually be in very favoured locations on the western side of the UK.

There were many corokias, correas, coprosmas, callistemons, grevilleas, and hakeas. One grevillea I hadn't seen before was *Grevillea semperflorens*. It has interesting deepish pink and cream flowers, and I was able to buy one in the nursery there. On checking after returning home, I was most surprised to see that it was a hybrid (so its name should be *Grevillea* x *semperflorens*). It is a hybrid of *G. thelemanniana* and *G. juniperina* f. *sulphurea*, and was first discovered in Plymouth in the 1920s. The RHS Dictionary of Gardening describes its flowers as "*yellow-orange and re*d", which they are not! Oddly, an ANPSA webpage also describes the flower as "*orange-red*" (austplants.com.au/ plant-profiles-base/from-our-cold-climate-garden-sorted/134-grevillea-x-semperflorens.html), although directly below is a photo showing a plant with somewhat pink and cream flowers! My plant is reddish-pink and cream; perhaps growth conditions can affect flower colour.

Editor's note

The owners of Cookscroft, John and Jill Williams are APS members. When I contacted them they added:

"*We are lucky to have had this opportunity to create something which we feel is rather special and just enjoy keeping it going. At the moment* [December 8th], *of course, there are many of the "southerners" looking at their best, sufficientlyso for us to win the Christmas table decoration this week ay our local Horticultural Society meeting with correas, grevilleas, westringia and prostranthea, all making a colourful display!*"

APS EVENTS 2017: REPORTS

RHS Plant Society Show, Wisley

After a successful display at the 2016 Specialist Plant Society Show at Wisley Gardens we decided to exhibit there again in 2017. This time Gary Firth and I were to supply all the plants. I was nervous as to whether my plants would be up to it and my trepidation was not reduced by a last minute hiccup: could we fill some extra space as someone had pulled out?

Fortunately Gary has lots of experience of showing. Plants don't need to be in flower he told me; it's more important that they are in good condition, and interesting foliage makes up for lack of flowers. As it turned out the extra space meant we could show the plants better, and Gary's idea of sprinkling *Rhodanthe* flower heads (see photo page 37) added a lovely touch.

This year the show marquee was located on the main lawn so we had more visitors than in 2016. There was lots of interest in the plants and we welcomed two new members. Thanks to Gary for organising everything, and to Jeremy Spon and Kathy King for helping with the display.

Judy Clark

Thoughts on the RHS Hampton Court Flower Show

It would be the first time I'd ever been involved in such prestigious plant show and I was incredibly excited. I watched with amazement, trying not to get in the way, as a bare expanse of grass was transformed into a stunning circular garden, Australian plants on the one side, New Zealand plants on the other, separated by a sinuous ribbon of annuals (photos page 38 and front cover). Many of the plants came from nine APS members who hold Plant Heritage National Collections and every plant in the display was grown by members.

These included a flowering specimen of *Lambertia formosa* (mountain devil) grown by Robbie and Ben. This plant was in danger of being lost to cultivation until a Plant Guardian stepped in. On behalf of the APS Nicola Downer AM (wife of The Australian High Commissioner) presented several plants of *Lambertia formosa* to the RHS for their gardens.

Once the show opened to the public the days whizzed past. It was very hot, I met lots of interesting people and talked lots about Australasian plants, and I think I even signed up a couple of new members. But most of all I enjoyed myself and I learnt a great deal .

Many thanks to everyone who helped make Hampton Court such a success: those who designed and organised the display, those who provided plants, those who assembled everything, those who spent time running the stand, and those who helped pack it all up afterwards. Special thanks are due to Gary for dealing with the RHS administration, to Robbie for taking on the publicity, and to Melcourt Industries for providing great peat free compost and mulch .

Judy Clark

My memories of helping on the APS stand at Hampton Court this year are the heat, the humidity and the long queues for the drinking water stations, but mainly meeting so many interesting plant enthusiasts. However, the best moment for me was signing up

a new member from New Zealand, a really friendly man called David Hobbs who has a 3.5 ha private garden – Broadfield Garden in Rolleston, Christchurch - which is a part of the New Zealand Gardens Trust. He was impressed with our display and happy for me to take a photo of him in front of it but I stupidly managed to wipe it off my camera before saving!

Broadfield Landscape Garden is open to the public on Wednesdays and some Saturdays (best to check it's not closed for a wedding or other event) and at other times by arrangement; David would be pleased to welcome any fellow APS members. Directions and other details are on the website and it is also on Facebook.

Hilary Spon

It filled me with such pride and joy arriving first thing on 'Judging Day' Monday 3rd July. I am honoured to be part of such a super society, rich in knowledge and oozing enthusiasm for antipodean delights. The Hampton Court highlight for me was observing the 'great and good' of the plant world curiously perusing the delightful APS stand . I could tell that many of them had never seen or heard of some of the plants displayed. Such a buzz! Well done everybody!

Tom Hart Dyke

Marks Hall Gardens and Arboretum, Essex

I like to think I can be useful and come up with a good idea now and again.

Last November my wife and I were on our annual pilgrimage to our local arboretum just near Coggeshall in Essex, when, strolling through the site, it dawned on me that the Australasian trees were getting to a reasonable height and that perhaps some APS members would appreciate seeing them. Living near London I was able to attend the meeting at the Linnaean Society in January and at an opportune moment I mentioned Marks Hall and suggested that maybe APS members would be interested in visiting. On receiving a positive response I made contact with the venue, got all the necessary information and passed it on to our APS event co-ordinator, Gary Firth.

On Saturday Aust 5th a group of about fourteen intrepid APS members had a thoroughly informative and enjoyable exploration of all that Marks Hall Arboretum has to offer. We were guided round the southern hemisphere exhibit Gondwanaland with its plantation of over fifty Wollemi pines (*Wollemia nobilis*), thought to be the largest such planting in Europe, and several mature eucalypts including *Eucalyptus niphophila* (snow gum) *E. gunni* (cider gum), *E. glaucescens* (Tingiringi gum) and *E. dalrympleana* (broad-leaved kindling bark). plus the odd plant from South America (photos page 37). From there we were escorted to the walled garden and taken time travelling through their themed gardens from birth to death and beyond, a journey which included some Australasian shrubs. After lunch (and a massive downpour) some of us explored the remainder of what was on offer, including a Japanese *Betula* avenue, American pine forests and the memorial to World War II airmen.

If in your area, any of your favourite places of interest have a collection Australasian plants then other members of the APS may enjoy a visit, as they did to Marks Hall Arboretum. All you have to do is make contact with a committee member, and an official APS excursion can be organised.

Robin Drodge

Hastings: Judy Clark's garden and Alexandra Park

September 30th started fine and sunny, and although it did go downhill a bit in the afternoon, with cloud and drizzle moving in from the west, on the whole we were lucky with the weather. In the morning a dozen or so members made their way down the steps from the road into Judy Clark's front garden, to immediately be confronted by a whole range of unusual and clearly Australian plants – you could not confuse Judy's garden with any other in her road!

Down the side of the house and into the back garden, and rare and tender (and often very large) Australian plants everywhere gave testimony to the very mild climate in Hastings, and to Judy's skill in, and enthusiasm for, growing them. The National Collection of Correas, which Judy holds, was flowering well (with a much admired display of *Correa reflexa* var. *angustifolia*, with deep red flowers and furry feeling leaves), a huge silver banksia (*Banksia marginata*) was festooned with large honey-coloured candles, and equally eye-catching was a large clump of *Anigozanthos flavidus* (kangaroo paw) with many flower spikes. The lawn has almost disappeared, and paths are kept narrow, as Judy crams more and more unusual plants into her garden. The bottlebrushes (*Callistemon* or *Melaleuca* species depending on your preference) have even overflowed into her allotment, handily situated just beyond the end of the back garden. Here a conveniently placed bench was the perfect place to sit in the sun and enjoy the spectacular view across to Hastings' East Hill.

After much friendly chat, and exchange of news and cultivation ideas among members, we adjourned for lunch. Afterwards, a further treat was in store as Owen Johnson, the Registrar for the Tree Register of the British Isles, took us round Alexandra Park, where he advises on tree planting and maintenance. We were shown champion trees (none Australian, admittedly) and exciting new plantings, including the extremely rare *Eucalyptus scoparia* donated by the late John Purse, in what is one of the most interesting public parks in Britain as far as trees are concerned, and managed to arrive at the tea rooms just in time to shelter from the approaching rain. Many thanks are due to both Judy and Owen for a very enjoyable day.

Jeremy Spon

Illustration acknowledgements

Barry Atkinson: page 37, top

Biodiversity Heritage Library: page 21, top left; page 23, top; page 32, top right

Tim Burr: page 13

Judy Clark: page 21, below; page 23 top left and below

Robin Drodge: page 37, below right

Gary Dunlop:, page 13, below; page 21, top right

Tom Hart Dyke: page 38, below right

Hathi Trust: page 32 (excerpt from Moench's *Supplementum*)

Gary Firth: page 37, below left

Maria Firth: page 37, centre left

Nigel Hewitt-Cooper, pages 7, 8

Peter Kohn, page 14 top, back cover

Finn Michalak: page 31; page 32, top right

Ben Ram: page 38, top and right, front cover

Warren and Gloria Sheather, page 24

Graham Sumner: page 22, below

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Dagger hakea, *Hakea teretifolia,* Sheffield Botanical Gardens