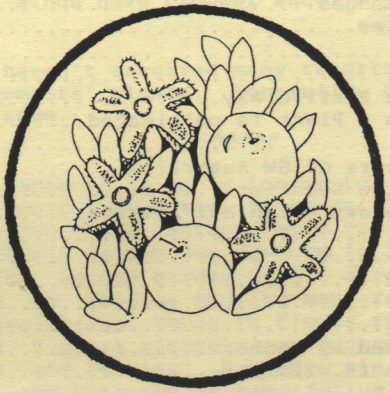
NEWSLETTER OF THE AUSTRALASIAN PLANT SOCIETY

PENTACHONDRA



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Many thanks to all those members who have contributed to the newsletter and seedlist. If you feel you have something to include in the next issue, please send to me, Sue Hyams (address inside back cover).

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EDITORIAL

Winter 97/98 has been exceptionally mild. There have been periods of snow but they weren't longlasting. The temperature never dropped below freezing for very long. I suppose the most notable weather feature of the winter was the gales over Christmas and the New Year. In my own garden I only suffered slight damage; parts of a eucalypt and two pittosporums needed lopping after they became unstable.

By the end of 1997, Indigofera australis, in the greenhouse, was starting to flower. The first half of January was unseasonably mild with temperatures upto 16°C. Snowdrops bloomed early, as did winter aconites. The mild weather continued in February, due to warm air travelling from North Africa. On several days, I recorded 19°C. The resident frogs in my pond woke up and starting croaking. Frog spawn was first noticed on March 4th, at the same time as a short-lived cold spell arrived. By the middle of March, in the greenhouse, the first pea-flowers on Kennedya rubicunda were opening, and Indigofera australis was a mass of racemes of purplish pea flowers - its best ever flowering. As I write this (Easter Sunday), the weather has cooled down; northerly winds have brought snow, frost and floods to many parts of Britain.

Surprisingly, I haven't received many reports of the effect of this mild weather on members' plants. Hopefully, they will appear for the end of the year issue.

*****

On April 5th, I happened to be in London to collect my mother-in-law from Heathrow Airport. With time to spare, I paid my first visit to Chelsea Physic Garden where, after a mild winter, there was plenty to see. Chelsea Physic Garden was founded in 1673 by the Society of Apothecaries. The walled garden of 3.5 acres shows the history of medicinal plants as well as housing many rare and tender plants. Amongst many Australasians, those in flower included Acacia terminalis and A. dealbata, Sophora microphylla, Fuchsia exorticata, Coprosma robusta (flowers and berries), Kennedya nigricans (in glasshouse), Corokia virgata and Pittosporum tenuifolium. Non-Australasians in blooms included Caragana sinica from N. China, Pawlownia lilacina ('Foxglove Tree' - beautiful downward-facing lilac trumpets) and Melianthus major.

*****

AGM 1998

This year the AGM will be held at Kew Gardens, on Saturday June 13th. Assemble at 2.30pm outside Victoria Gate, ie. the one you go to when arriving by 'tube' train. We will be given an opportunity to view the propagating areas not usually seen by visitors. The collection of Australian and New Zealand plants has changed in recent years and is now dispersed across the Gardens.

*****

In this issue you will find a review of a book co-written by Jeff Irons.

'Australian Plants : A Guide to their Cultivation in Europe'
Thomas Ross & Jeffrey Irons

It is well worth a place on every member's bookshelf. I had my copy delivered to my place of work and my lunch hour that day passed too quickly - I was so engrossed!

*****

HEBES HERE AND THERE

On the subject of relevant books, Graham Hutchins and Patricia Davies have produced a book called 'Hebes Here and There'. Introductory chapters describe the genus and its distribution. There is information on growing hebes in Britain, identification and descriptions of the species and cultivars plus black and white illustrations.

To obtain a copy, send your order to Mrs P K R Davies, 6 Blenheim Road, Caversham, Reading, Berks, RG4 7GS. Price £27.50. Postage is £3.00 UK, £5.00 Europe.

SEEDLIST 1997
Ozothamnus rodwayi var kingii

Seed offered under this name was not that species. It was from Ozothamnus ledifolius. Members who sowed seed will find that plants have grey hairy leaves. In 1998 the leaves will change. New leaves will curl under at their edges, and will be dark green on top and yellow underneath. Internodes will be yellow. These features are diagnostic for O. ledifolius.

SEEDLIST 1998

Thanks to Harry Brush and Tony Entwistle for donations to this year's seedlist.

MORE SEED INFO

STILL ON THE SUBJECT OF SEEDS, The Wildflower Society of Western Australia has decided that it will no longer sell seeds to its members or the general public. The reason for this decision is that seed bought in to supplement that donated by members of the WSWA, could not be guaranteed to have not come from bushland.

Seed is still available from the Eastern Hills Branch, which has a well established seed orchard. A seedlist is available for $1.00 from

Seed Sales Officer,
Eastern Hills Wildflower Society,
65 Swan View Road
Swan View
WA 6056

TREASURER'S REPORT

Mr. H A Fair, a member from Ormskirk, has kindly offered to examine the annual financial accounts of the Society and has done this for 1997. I am very grateful to him for doing this and sorting out my very imperfect accounts. A copy of the accounts for 1997 is enclosed.

Membership now totals 110. In the last year there have been 23 new members and 9 resignations and one death (Mr.D. Hyde).

The Society continues to advertise in the Hardy Plant Society's Journal and is about to be (maybe already is) on the Internet. We are also on the RHS Plantfinder CD.

Tony Entwistle.

AT LAST!

By Tim Longville

'Australian Plants : A Guide to their Cultivation in Europe'
Thomas Ross & Jeffrey Irons

Privately published, 1997. 312pp. Hardback. 18cms x 26cms. Price £25.00 + £4.00 post and packing. Available either from Markus Ross c/o CEROS, Lindenstrasse 37, D-60325 Frankfurt/Main, Germany or from Jeffrey Irons, 74 Brimstage Road, Heswall, Wirral, L60 1XQ, Great Britain.

Finally it's arrived. Let the rejoicing begin. No longer will you need (well, at least not as much will you need) to rummage in back issues of Pentachondra and in our Secretary's letters for obscure bits of information about obscure species. Here it all (or a very full and representative selection) is. And what a handsome and imposing as well as useful volume it has made - one which is a magnificent tribute both to the memory of the much-missed Thomas Ross and to the wide and thorough practical knowledge and experience of each of the authors.

Let me deal, first with the book's presentation, then with its contents, and finally - what every reviewer always feels he has to provide in order to justify his existence -, with a few indications of areas of relative weakness.

I happen to love books as physical objects. If you don't, skip this paragraph. However, I do think it's worth saying that the production of this book is of a quality which nowadays commercial presses, at least in Great Britain, rarely reach. The size of the pages, the quality of the paper and print, the thoughtful elegance of the design, all reinforce the impression of a book in which quality of production and quality of information have been combined to create something of lasting value, while, like all good pieces of design, making the product easier and more pleasurable to use. (Page-layout, type-size, margin-size, are all magnificently spacious. As a result, eye, hand and mind all have room in which to stretch. Bliss!) You may already have guessed : designer and printer are both German.

The contents, arrangement and verbal style of the book, however, are severely practical. There is no attempt here to charm or to entertain, simply (not that it's simple) to convey the maximum of information with the maximum of efficiency.

The book falls into four main sections. An initial section deals with general issues. These include : the varieties of the Australian climate; the soil requirements of the Australian plants; the propagation requirements of various genera; sources of plants, seed and information (this last supported by the book's impressively proportioned Bibliography); and, perhaps most importantly since most innovatively, the concept of 'Danger Zones.' The authors use these instead of USDA zones of hardiness since they feel they give a more accurate notion of the range of temperatures between which, at the upper end of the Zone, a specific plant is likely to suffer at least sone damage or, at the lower end, to be killed outright.

These introductory chapters are followed by the main body of the book: detailed profiles of a selection of something over 140 plants. Each plant has a page or more devoted to it and the text follows a standard format throughout : general description; description of flowers, fruit and foliage; distribution and habitat in the wild; cultivation (including, under separate headings, cultivation in pots, in North West Europe and in the Mediterranean); propagation and diseases; and a final section of notes, on related species, problems peculiar to the species under discussion, and similar matters. The description of most plants is accompanied by a very useful line-drawing showing flowers, foliage and fruit. A section of colour photographs towards the end of the book (20 pages with four illustrations to a page) adds further attractive information about something like half of the species covered in the section of plant profiles. The plants dealt with reflect the Australian flora in that they are predominantly shrubs and trees but there is also a sizeable sampling of suitable herbaceous and bulbous specimens; as a result, no reasonable gardener is likely to feel that the book simply doesn't cater to his or her special interest.

This is followed by some sixty pages of similar information about some 500 species - but in compressed tabular form. A numbering system, 0-4, is used to indicate levels of light, water, alkalinity, salinity and ocean winds required or withstood in each case and also to indicate the degree of ornamental value, in and out of flower, and suitability for cultivation in Mediterranean or cool temperate climates. I am constitutionally appalled and terrified by tables and the 'conventional' use of symbols and numbers but, after an initial moment of panic, this one proved quite easy to use. Although it involved turning the book round into a 'landscape' page lay-out, the book's blessedly large pages and spacious design made this perfectly straightforward. The tables also provide information about each plant's likely eventual height and width, flower colour, distribution in the wild, flowering time, soil and humidity requirements and its hardiness level in terms of the authors' 'Danger Zone' concept.

A final section deals with specific plants for specific situations. These include nominations for 'Top Ten' plants for cool temperate, Mediterranean and container use; plants for beginners, for home use and for seaside gardens; and plants which are particularly hardy or

which will stand lime or which will stand salt.

Conveying this quantity of information has clearly involved formidable feats of organisation and compression. It has also, of course, involved a continuous and difficult process of selection. What sort of reader is the book to be aimed at? Is it to attract beginners or to titillate the jaded palates of hoary old-timers? Unsurprisingly, it wants and tries to be both - and, by and large, it succeeds. Beginners will be offered much to tempt them while even the most knowledgeable enthusiast is likely to find information which is new and useful.

Impressive though all this is, the book is not of course perfect. Here are a few blemishes which caught my own eye (though none of them significantly damages the book's essential value). The English, as might be expected from an Anglo-German collaboration, particularly when there was revision at the German end after the German contributor's death, is sometimes awkward. The selection of plants to discuss from time to time seems either unbalanced or perverse. For example, enormous numbers of eucalyptus and acacia are dealt with (these were of particular interest to Thomas Ross). This accurately reflects their predominance in the Australian flora, of course, but does it accurately reflect the proportions of Australian plants most likely to be grown in most European gardens? More grevilleas, leptospermums, callistemons and prostantheras, for example - to choose genera more or less at random -, might have been more useful. (Incidentally, isn't it slightly odd that there is no National Collection in Great Britain either of prostanthera or of callistemon?) ((Ed : John Angrave has recently been awarded the National Collection of Callistemon for the NCCPG)). Then, the plants already dealt with in the plant profile section reappear in the section of tabulated information. Wouldn't it have been a better use of space to have dealt with 140 or more different species? Finally, the section of colour illustrations is, despite its initial attractions, ultimately disappointing - and in several ways. In the first place, four illustrations to a page means that individual illustrations are small and hence that detail doesn't always come through clearly. In the second place, too many of the photographs are simply close-ups of flowers (though admittedly of very attractive and striking ones) and give no indication of the foliage, size or growth-habit of their subject. In the third place, it seems odd, when so many of the profiled species aren't illustrated at all, that some, such as Eucalyptus coccifera, E. pauciflora ssp. niphophila and Podocarpus lawrencei, should be indulged with the luxury of two or even three illustrations each. In the fourth and final place, most of the illustrations are taken from plants in Australia. Couldn't examples have been found in Europe? That would surely have been much more convincing as propaganda to persuade European gardeners of their possibilities, even if the plants were less impressive and mature than their Australian big brothers and sisters. I imagine that most of these colour illustration weaknesses are the result of financial considerations but, since everything else in the book is produced with such style, the cliche about ships and ha'p'orths of tar comes irresistibly to mind.

These are minor blemishes on what is a genuinely new, permanently valuable and splendidly produced contribution to horticulture in Europe - and indeed to the horticulture of other regions in which it is possible to grow Australian plants. Bear in mind that this remark-

able book is a privately produced and financed venture; that it is, I imagine, produced in quite a small edition and is unlikely to be reprinted; that the asking price for a copy is quite absurdly low: then rush to order your copy at once, pausing only to thank the gods of gardening for their beneficence in sending to all of us this quite exceptional gift.

SOME AUSTRALIAN PLANTS IN THE SEEDLIST

Clematis aristata, also known as Traveller's Joy or Austral Clematis, is, in its native habitat, a woody climber to 15m. The leaves are opposite, divided into 3 leaflets with irregularly toothed margins. The flowers are white and star-like with 4 narrow, pointed lobes and many stamens, arranged in a panicle on a long stalk.



Clematis aristata

Dianella revoluta, commonly known as the Spreading Flax Lily, is a spreading plant; a rhizomatous root system produces new plants away from the parent plant. In height it can reach 1.2m. Leaves can be as long as 70cm and upto 15mm wide. Flowers, arranged in a terminal panicle 30-90cm long, are purple to blue, open, 7-12mm across with 6 rounded lobes and 6 long thick yellow-brown anthers. They are followed by blue to purple berries about 1cm in diameter.

Sowerbaea juncea, the Rush-lily or Vanilla Plant, is a perennial upto 60cm in height. It produces a tuft of rush-like, blue-green leaves, 20-30cm long, from a woody rhizome. The pink-lilac flowers, with a vanilla perfume, are in a densely clustered umbel at the top of a long, slender and leafless stem; it resembles the flowers of many ornamental onions. Each bloom is 15-20mm across with 6 pointed lobes and protruding yellow stamens.

KINGS PARK WILDFLOWER FESTIVAL 1997

By Jeff Layman

Last September, I returned to Australia for the first time in 11 years. Apart from trips out to the South-Eastern states, I wanted to go to the Kings Park Wildflower festival, which I had last seen in 1982.

This was a much bigger affair, with numerous stands and displays, particularly of flower arrangements, and a display of local botanical art. There is considerable assistance from the Wildflower Society of Western Australia, who had a stand selling books, seeds, and odds and ends relating to WA wildflowers. Kings Park also had tens of square metres of Anigozanthos manglesii and Lechenaultia biloba in full flower in the show area, which was a magnificent sight (unfortunately I didn't have time to revisit the wildflower areas of Kings Park, although I'd seen them on the previous visits).

There were 3 nurseries exhibiting and selling plants. How I wished I could have brought those plants home! I was particularly interested in the Lullfitz Nursery stand. They had dozens of Macropidia fuliginosa (the Black Kangaroo Paw) for sale at just a few dollars each! This is a plant I have tried to germinate from seed on at least 6 occasions, and never had any success. I asked if the plants were from divisions, but was told that they were from tissue culture. I asked if they would export young plants still in the culture medium, but was told they would only do it "in quantity" (what quantity was not disclosed. However, I would be interested in importing if anyone else is, and we could get together enough interest. Even though in sterile tissue culture, the plants would need inspection by the Australian Quarantine Service, and a phytosanitary certificate would be needed before MAFF would allow them into the country. This costs Aus$39 per shipment inspection - or at least it did last October).

There were many other wildflowers on display, including Swainsona formosus (Sturts Desert Pea), which always makes for a stunning display. Guided bush walks were available for those who had the time.

I came away clutching several books, calendars, mugs, fridge magnets, and goodness knows what else, wondering how much excess baggage costs I'd have by the end of the trip, which still had another 4 weeks to go.

GROWING IN POTS

By Jeremy Greenwood

Many of the plants that I grow are cushion plants from many parts of the world. After some years of experimentation I have arrived at a procedure which works for me and which is independent of the underlying soil.

I use raised beds constructed of 15cm high concrete bull-nose path edging to form beds about 1.3m across. These are filled with cheap compost. All my plants are grown in a medium consisting of John Innes, grit and multipurpose compost in varying amounts depending on the original habitat of the plant. Clay pots (minimum size 10cm diameter) are crocked with broken bits of polystyrene foam to about a quarter of the depth and the plant and its growing medium inserted. The pot is then plunged into the raised bed leaving about 25mm of pot showing. Finally a top dressing of 10mm gravel is spread between the pots.

Using this method, alpines can be successfully grown on a south facing

slope in full sun with a minimum of watering. By this means there is an adequate but never excessive supply of water as well as good weed suppression.

B&Q is a good source of cheap peatfree compost and they sell 25cm diameter clay pots for £1.00. 30cm pots are £3.00!

MAINTAINING POT GROWN PLANTS

By Jeff Irons

Instructions about pot plant maintenance usually tell how a plant should be transferred from one pot to a larger one. On the rare occasions when one is told what has to be done to keep a plant in the same size of pot the methods given are time consuming and messy. Usually they involve scraping away the outer roots, or perhaps the upper part of the root ball; or the lower part. There ought to be a quick and simple method. I think that I've found it.

Three years ago an Australian friend suggested that I try slicing off half the root ball, with a vertical cut close to the main stem. The method leaves half the root ball with untouched roots, and new roots grow into the fresh compost placed in the 'empty' side of the pot. By removing alternate sides in alternate years the plant is encouraged to produce new roots continuously. It occurred to me that the method would leave a slice of old woody roots the width of the trunk, so in year 3, I made the cut at 90° to the original direction. This year (the 4th) I'll take off the opposite half, and next year will move round 90° again. That way no root will ever be more than 4 years old. So far I've used this method on Correa and Prostanthera. This year I intend to try it on some other genera.

CARMICHAELIA - NAME CHANGES

More name changes in Carmichaelia - see Pentachondra No.16, May 1996.

Carmichaelia aligera, cunninghamii, egmontii (egmontiana), flagelliformis, hookeri, ovata, rivulata, robusta, silvatica, solandri, and violacea are now all C. australis.

C. grandiflora is now C. arborea.
C. angustata, glabrata are now C. odorata.
C. ramosa, virgata are now C. petriei.

PLANT REPORT

By Nick Andrews

HOVEA SPECIES - I have had varying success. Hovea sp 'R' has been slow and straggly. It has yet to flower even though several years old. It has not been hardy in Mid Wales. Hovea montana has been painfully slow and is now a small neat little bush some 15cm high. This is at least 5 years old and has not flowered. It is however hardy! Hovea chorizemifolia - sown August '96, it grew to 5cm high over its first season and has 4 leaves. This autumn all my seedlings have flower buds!! The impatient gardener's Hovea!!?

ACACIA SPECIES - I have plants of both A. pataczekii and A. obliquinerva in my garden. The A. obliquinerva is about 4 years old. I had grown it in a greenhouse until it was too tall. During the winter of 96/97 it stood outside against a wall still in its pot. The rootball was frozen on a number of occasions but the plant was unharmed. It is now planted out against a wall along with A. pataczekii. In October we experienced a sudden frost to -7°C. A small A. pravissima was browned but both A. obliquinerva and A. pataczekii were untouched.

Xeronema callistemon and Dietes robinsonia; I have flowered neither. Jeff Irons informed me that the Dietes has flowered at Ness. The one at Kew does not appear to flower along with Xeronema. Speaking to Mike Salmon who has grown both - he has never flowered the Dietes and has recently thrown it out as it was a favourite of red spider mite. He has however flowered Xeronema - his seed came from a Californian source. Do other members have experience with these two species?

BANKSIAS - I continue to sing the praises of this genus and find them very amenable. Two dwarf gems are Banksia blechnifolia and B. gardneri. They are compact plants with splendid foliage and would fit into anyones collection, unlike a lot of acacias! I also love Dryandra formosa - wonderful form, foliage and flowers - what more would you want?



Dendrobium Speciosum

Dendrobium speciosum - orchids always die with me, but this species has been the exception. I grow it in a very loose mix of perlite and charcoal in a clay pot. It hasn't flowered yet (I believe it needs good winter light) but it looks good and survives frost free conditions unlike many species. Having seen pictures of it in flower it is definitely worth the wait! I believe that there are numerous forms from dwarf to giant. Does anyone else grow it? Have they flowered it?

I also love South African plants and grow a lot of bulbous species. Can any knowledgeable botanist explain to me why Australia has such a dearth of showy bulbous plants?

PS. I have tried to germinate seed of Stackhousia huegelii - having seen an illustration and read of its scent. Has anyone had any experience with this plant. I also have 2 seedlings of the very slow Elingameta johnstonii. The plant at Kew is always smothered in fat red fruits when I visit. How long before mine flower?

This report was written last November.

Can you write an article to fill a page in the next issue?

SMOKE WITHOUT FIRE

By Jeff Layman

Many people are now aware that pretreatment with smoke improves germination. The question of how to actually produce the smoke seems to occupy many minds. I must say that I hadn't thought of joss sticks, as noted in Pentachondra, but it seems a nice and simple way of going about things.

To produce a reasonable amount of smoke without fire, in a fairly confined space, brought out a distant memory. Many years ago, when it was still legal, I used to make a few of my own fireworks. One of the prerequisites for this was decent "touch paper". I used to make this by soaking tissue paper in potassium nitrate solution. This "burnt" without flame, and produced a fair amount of smoke, so it set me thinking. What if that could be repeated with leaves?

The first requisite was a supply of dried leaves. Although there may not be much logic in it, I thought that leaves from Australian plants might produce better smoke, or at least smoke with something the seeds might need, rather than European leaves. I had plenty of fallen dry Eucalyptus and Dryandra leaves, and some Grevillea and Banksia leaves.

I had some potassium nitrate that I'd obtained from Chempak a few years ago (I couldn't find any in my local garden centres recently - is it no longer available? If so, you'll have to get some at an exorbitant price from a local pharmacy). I then boiled up about 500ml of water, put it in a glass bowl, added, stirred, and dissolved as much of the potassium nitrate as I could, and left a little undissolved to form a saturated solution. I then added the leaves. First problem was that they floated. So an old terracotta flowerpot was used to hold them down. Next problem was that they didn't seem to take up much solution, so instead of a few minutes (as with paper) I left them for several days. After that, I removed them from the solution and let them dry. Surprisingly, although the dried leaves were covered in a powder of potassium nitrate, they were still reluctant to burn and went out after a few seconds. The next stage was to soak some kitchen towel in the remaining solution, let it dry, and wrap the leaves in that to aid burning. That solved the problem - vast amounts of smoke appeared within a few minutes.

To do the actual smoking, I put about a dozen leaves wrapped in paper in an old can, and place that in an old terracotta flowerpot (the can gets very hot, even without flames). That is placed in an old cardboard box, big enough to take the pots with the seeds you want to smoke, and is then surrounded by those pots (they can be stacked base-over-edge if you want - the smoke will get everywhere). Next, the inside is given a good spraying. That not only stops any possible problems with the cardboard, but helps get the smoke into the soil. Next, as they say "Light the blue touch paper and retire". But do not retire before closing the lid of the box or covering it with a piece of wood or something non-flammable. The smoke will appear very quickly, billowing from gaps in the box, and the leaves will burn out within 5 minutes. Do not open the box for at least an hour! The atmosphere inside will stay smoky for a long time, and by opening early you will waste the smoke. Waiting also allows the can and pot

to cool. After that, remove the pots and let nature do the rest. If you have room, it might be of use to put some dishes of water in the box. That way you'll end up with some "smoke water" to keep and use for the watering of newly-sown seeds, and save the leaf-burning rigmarole for just the odd occasion.

One of the advantages of using this method is that I would expect the smoke to contain quite a lot of particles rich in potassium and nitrogen, as well as those important germination factors.

VIREYA RHODODENDRONS

By Tony Entwistle

This large species (400+spp) of a vast genus is essentially Australasian, as apart from a few spp on the Malayan mainland, most are distributed across the East Indies, Borneo, Papua New Guinea with a 2 ssp extending into N. Australia.

They are distinguished by having little tails at the end of the seed. Their cultivation is by no means recent as in Victorian days they were very fashionable in conservatories, and Messrs Veitch of London produced dozens of named cultivars, mostly from Rhododendron javanicum. But they fell out of fashion (as did the Australian Epacris) and none seem to be left now.

Over the past 20 years extensive hybridisation, using many species, has taken place in Australia, New Zealand and California, and hundreds of cultivars have been produced mostly from the subseries sections Phaeovireya, Solenovireya and Javanica, which have the largest flowers.

The Vireyas show enormous variability, ranging from large shrubs or even small trees, often epiphytic or semi-epiphytic, to tiny rock-hugging 'alpines', and extend from sea level to over 3000m on Mt Kinabalu in Sabah and Mt Wilhelm in Papua; most are montane, from 100m up. Flowers vary from tiny and tubular to large and flared trumpets, often scented. The colours are renowned for their intensity and combinations of shades of yellow, orange and red seldom found outside the series. Unfortunately they do not seem to cross with spp. from other series.

In cultivation here they need cool greenhouse or conservatory treatment. Flowering time is usually spring to early summer, though some will flower the year round, especially if grown warmer. They do well in an acid epiphytic compost - I use a mixture of crushed bark, grit, perlite and ericaceous peat compost. They are often by nature of straggly habit, but can be pruned. They do not like nitrate fertilisers, but do well with sulphate of ammonia and occasional magnesium sulphate.

My favourite, of those I have seen, is R. zoelleri, which has trumpets of yellow shading through orange and pink to a red rim. The Australian R. lochae makes a fairly compact pot plant to around 1m with smallish red flowers, looking from a distance like a Fuchsia.

They are not grown much in the UK - the best collections are at Edin-

burgh B.G. and in the Temperate House at Kew. Glendoick and Burncoose Nurseries have a small selection.

They can be raised from seed, but this seems to have a short viability, 6 months or so.

GERMINATING SEEDS THE FERTILE WAY

By Dennis Rowlinson

For a few years I have felt that the percentage of seed I was managing to get germinated was very low. Then I read the germination notes written by Jeff Irons and decided that my technique was wrong, and I was not allowing enough light onto the seeds.

My original general method was to use very gritty compost and then cover the seeds with a light covering of 'Chicken Grit' to avoid the compost and seeds getting overwhelmed by moss.

For my new method I decided to use 'Fertile' horticultural mat, a layer of biodegradable material, with a special absorbent gel attached to the reverse. This is made by Datesand Ltd. 'Fertile' mat comes in various sizes - I used the Seed Propagation Kit (2 x seed tray size). There is also a granule version of Fertile for adding to composts.

I thought that the mat would allow me to try the different technique of getting light to the seeds whilst providing them with moisture.

The seeds were from the AGS seed distribution - Australasian seeds must be at least 6 months old from these collections and should be a good test of the technique.

I decided to sow all my AGS seeds this way as a general test.

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Using the instructions that come with 'Fertile' is very simple.
Cut your 'Fertile' to size - with only small amounts of seed it looked to be a good idea.
Place in an airtight plastic or glass container, add set amount of water (this swells the gel).
Place seeds on 'Fertile' and cover. My lids were only laid on top of the containers.
Keep containers to the temperature required. I put 3 containers in a heated propagator and the rest on a window sill. After one week all were left at approx. 20°C on the sill.

****

I decided early on that heat was drying out the gel too fast and removed all heat that was under the containers. Later it turned out that it didn't matter as you can easily add more water as needed.

As I only deal in a few seeds at a time the containers were only 10cm x 10cm square (Lakeland Plastics specials!). This allowed the containers to stack, and made it very easy to move the various containers into shady or cooler areas if needed.

The results were very encouraging for someone whose previous germination rate had been pathetic.

****

RESULTS

My 'lots' means more than 20.

Seeds sown 2.1.98	Germinated
Arthropodium strictum (lots)	2 on 8.2 & 10 on 11.2
Blandfordia punicea (lots)	11 on 8.2 & 5 on 11.2 - most by 15.2
Carmichaelia aligera (5)	1 on 11.2
Grevillea robusta (8)	3 on 11.2 & 3 on 15.2. 2 non viable.
Kennedya prostrata (4)	1 on 11.2
Pelargonium australe (8)	1 on 20.1 & 3 on 27.1 & 1 on 2.2.
Poa alpina nodosa (5)	1 on 3.2 & 1 on 13.2.
Roscoea alpina (5)	3 on 27.1. All 5 potted on as test.
Stylidium graminifolium (lots)	1 on 27.1 & 20 on 11.2 - most by 18.2
Wahlenbergia sp (Akora Heads)(lots)	some on 23.1

Apart from Blandfordia punicea and Stylidium graminifolium, which have been left in their containers and watered with dilute feed, the small batches of germinated seed are potted on (still in the mat) into lean, gritty compost and are growing away. They are watered with a very dilute feed.

'Fertile' instructions suggest you leave the seeds growing in situ and give them dilute feed - it will be interesting to see if there is a major difference in results from the two methods.

****

Seeds sown on 11.2.98	Germinated
Ipomea hederacea (19)	
Ipomea purpurea (14)	6 on 13.2 & 8 on 15.2
Ipomea sicculus (10)	10 on 15.2

Same treatment as above, but some were removed from the mat and placed straight into compost to see if this would give different results.

****

6 species of Clematis and Cyclamen graecum have been placed into a dark, cool area after being given light for 4 weeks.
Alyogyne huegelii, Carmichaelia monroi, Dianella tasmanica (?), Hardenbergia violacea, Hypoxsis tasmanica (?), Patersonia glauca, which were also sown, the the rest of the Wahlenbergia sp. are still in containers on the mat. I have great hopes that they will germinate soon.

****

After the seeds had germinated it became clear that when cutting up the 'Fertile' mat it would have been best to have cut them to a size that would fit onto one of your standard pots easily and spread the seed onto these sections. It would be easier to lift with a spatula.

'Fertile' can be obtained from :-
Datesands Ltd
67 Louisa Street
Openshaw
Manchester
M11 1AF

Tel 0161 231 7676

(Ed - Dennis is now starting to panic - 'What do I do with all these seedlings?')

Patersonia glauca has now germinated.

WHAT DOES HAPPEN WHEN A PLANT IS POLLINATED?

By Jeff Irons

My brief book review (Pentachondra Nov. 1997) has prompted a member to ask what happens when pollen lands on a stigma. Here is the answer to that question.

A tube grows down from the top of the stigma to the ovary. At its end are two gametes (sex cells). After the tube pierces the ovary wall one of the gametes combines with an ovarian gamete to form the endosperm, or nucleus of the new plant. The other combines, to grow and create the food store for the endosperm. In large seeds the food store can be substantial. As an example a Grevillea seed contains sufficient nitrogen to last the seedling for a whole year. There is a minute hole in the seed coat where the tube passed through it. This allows ingress of water, and, I guess, some other substances such as smoke chemicals.

THE SEED GUILD - A WARNING

By Tony Entwistle

You may have seen advertisements for this. You will receive a list of some 4000 spp (but very few Australasian) but you will then find you pay £5 to join and for another £5 you can get 20 packets of entirely random seed! - this is said to be (I quote) 'one of the best gardening offers available'! Even if you pay £25 you can still only get a proportion of a chosen genus, and never a chosen species. The seeds are said to come from Botanic Gardens worldwide. Now it is certainly true that B.G.s in eastern Europe and the old USSR are very short of money : I know this from my experience in organising a botanical seedlist for Tatton Park (NT), and they may well want to sell any surplus, but I have doubts about freshness and viability. But I cannot see many plantsmen paying for 'pot luck'!

BOOK REVIEW

By Tony Entwistle

Wildflowers of southern Western Australia
Corrick, Fuhrer & George, Five Mile Press, Monash University.

Another book of coloured photos of selected WA plants (over 700).

This book supplements well my other WA books - Flowers of WA (Erickson, George, Marchant and Morcombe) and C.A. Gardner's Wildflowers of

WA. The quality of the photos is excellent and the brief descriptions give the areas in which to find the species. I wish there was a new edition of Beard's catalogue of WA plants, published by SGAP - my copy is thirty years old!

SOME N.Z. PLANTS IN THE SEEDLIST

Aciphylla pinnatifida has wide-spreading leaves with a yellow-orange midrib, arranged in a rosette. The inflorescences (male and female are borne on different plants) are eye-striking because of the large, colourful orange sheaths on the bracts that they bear. The leaves are upto 20cm long and deeply divided. A pair of leaf-like stipules on each leaf gives the leaf the appearance of being trifoliate. Aciphylla require a well drained deep soil that receives plenty of moisture. They have long taproots so if grown in a container a deep one must be chosen. The sunniest situations will best show off the colour of the foliage.



Aciphylla pinnatifida

Bulbinella hookeri is upto 60cm tall. Erect leaves with blunt ends and ribbed undersides are bright green or glaucous depending on provenance. The flowers are buttercup yellow.

Celmisia semicordata is the largest Celmisia. It is a tufted plant often with several in a clump. Large, leathery sword-shaped leaves, 20-60cm long x 2.5-8cm wide, are greyish to silver green above with dense white tomentum beneath. The flower stems, upto 40cm, are also covered in white tomentum. The daisies, 4-10cm across, have white rays and yellow discs. A well drained deep and moist soil, enriched with plenty of humus, is preferred.

Chionohebe ciliolata. Chionohebes are alpines, previously known as Pygmea. C. ciliolata forms a pale green cushion, the leaves having a

hairy margin. A member of the Scropulariaceae, the flowers are white.

Dolichoglottis scorzoneroides. If you are a very patient gardener then this is the plant for you. In cultivation D. scorzoneroides has a habit of growing well for the first season and then fading away. It is a plant of a moist habitat. When growing well it can easily reach 50cm. Leaves are 20cm x 2cm and rather fleshy. The white daisy flower heads, arranged in a corymb, are 4-6cm across.

Donatia novae-zelandiae is a dark green cushion alpine, often reaching upto 1m across in the wild. The leaves are small, thick, glossy and pointed, 5-10mm x 1mm. In mid-summer it is covered by single white starry flowers, 8-10mm across. Each flower, sunken amongst the leaves, has 5 rather fleshy petals. Being a plant of cushion bogs it needs a moist soil well enriched with peat.

Gingidia montana is a highly aromatic tufted plant of the umbellifera family, upto 50cm tall when in flower. Flowers are white, about 5mm in diameter. It is easily grown in any good, moist soil.

The South Island Edelweiss, Leucogenes grandiceps, is a semi-woody alpine with a sprawling habit. The short rounded leaves, 5-10mm long x 2-4mm wide, are covered with a soft whitish tomentum. Clusters of flowerheads are up to 2cm across. Woolly white petal-like leaves surround the yellowish florets. It grows best in a gritty, well drained soil, but it can be difficult to get it to flower in cultivation.

Swainsona novae-zelandiae has a stout deeply buried rhizome which each spring produces loose patches of grey-brown foliage. The leaves are alternate, pinnate, with 6-10 pairs of small oval leaflets. Flower stalks develop in the axils of older leaves and carry upto 8 purplish pea flowers. 5-10cm in height, it is best grown in a pot in an alpine house as it doesn't like winter wet. A favourite of slugs and snails!

BOOK REVIEW By Jeff Irons

Comtemporary Botanical Artists - The Shirley Sherwood Collection
Weidenfeld & Nicolson

ISBN 0-297-82270-5 paperback £20
ISBN 0-297-83600-5 hardback £40

One of the most interesting afternoons I have ever had was spent at the home of the botanical illustrator Celia Rosser. I saw how her paintings progress, from concept through to the finished work. Afterwards we leafed through folios covering 30 years of Celia's work. It was fascinating to see how her style has developed.

Naturally on noticing a book called Contemporary Botanical Artists I looked to see whether Celia Rosser was included, for I had decided that she must be one of the world's best ever artists and illustrators. She is included, along with APS member Margaret Stones. This book was bought immediately. Coffee table sized, it contains over 200

pages or botanical pictures. In a wide range of styles, they represent the best of hodiernal botanical painting. The only direct relevance to the interests of this society are the three pages which bear pictures of a kangaroo paw and a Banksia. The remainder of the book is an indulgence.

TRESCO REVISITED

By Tony Entwistle

A visit in October 1997 revealed a full recovery from the disastrous winter of 1988.

The replanted Proteas had grown well and were in flower. There were few Australasian plants in flower, except Hebes, at this time of the year, but there was one olearia (in their extensive collection), O. ramulosa which had graceful striking wands of the brightest blue though smallish flowers.

The NZ Meryta sinclairii (from Three Kings Is.), very old specimens, were looking fine and palmlike; I have not seen this in flower but its more tropical relative M. denhamii (from New Caledonia) I have seen in the Canaries, with handsome heads of pure white.

The new Mediterranean Garden has now been finished, very attractive with its terraces, water and olive trees. It had been planted up this year (1997), as a temporary 'filler', with Argyranthemums and Osteospermums, but it is intended to plant more permanently with dwarf items from Australia and S. Africa as well as the Mediterranean itself.

Another new venture is the Eucalypt field, now full of rapidly growing seed-raised spp. Tens years ago this plot contained only a few large Eucalyptus ficifolia (I should say Corymbia ficifolia nowadays!) which were all killed in 1988. E. kybeana seemed one of the most vigorous in the collection.

It was interesting to see that on the hill above the Garden, where new pines have been replanted after the severe gales of 1990, there is now an extensive spontaneous growth of Leptospermum, in a variety of colours, Acacia, Eucalypts, Pittosporum and Oxylobium lanceolatum. Originally this had been colonised by Solanum laciniatum but this had been deliberately eradicated because its large 'egg' fruits of bright yellow were poisonous and attractive to children.

PLANT THERMOMETERS

By Tony Entwistle

I have an old hardy hybrid Rhododendron (I think it is Mrs. C.E. Pearson) opposite my study window and I find it much more convenient just to look at it rather than go outside and read the thermometer. At precisely -1°C it rolls up its leaves which hang down, giving a very dead effect: within half an hour of temperatures rising above freezing it has restored itself. Does anyone know of any other useful 'thermometer' plants?

A RED FLOWERED WATTLE

Four years ago, a 'new' Acacia was discovered by bushwalkers 40km north of Melbourne. They described it as having flowers of "a spectacular crimson colour". 12 cuttings were subsequently collected from the site, which was very fortunate, since the original tree, a 1.9m form of the Cinnamon Wattle, Acacia leprosa, has since died.

This red form of Acacia leprosa is probably the result of a genetic mutation, so the only way to propagate successfully is from cuttings or micropropagation.

STILL ON THE SUBJECT OF ACACIAS.....

PHYLLIS AND DEMOPHON

By Jeff Irons

There are several stories about the way in which Phyllis, daughter of the King of Thrace met her death. All include her lover, Demophon. The one I like best is that on death she was metamorphosed into a leafless almond tree. Stricken with grief, Demophon clasped the tree with his arms - after all, it had been his girlfriend. The tree responded by putting out leaves.

Has this story strayed into Pentachondra by mistake? No, it is very relevant, and the link is with acacias. In many Australian Acacia the seedling leaves are replaced by phyllodes, leaf stalks which function as though they are leaves. The Greek word for leaf used to be petalon. After Phyllis' death it was changed to phyllon, and the botanical term phyllode is derived from phyllon.

EUCALYPTUS GLOBULUS

By Tony Entwistle

Scientists at CALM's Forest Resources Services in WA have produced a genetically improved strain of this for commercial use for pulp production, and have called it the 'western blue gum' as distinct from the Tasmanian blue gum. Eucalyptus globulus is grown extensively in the Mediterranean (Spain, also Portugal) and Chile totalling over 1.8 million hectares world-wide, and increasing yearly.

NCCPG Collections owned by Members

By Tony Entwistle

Congratulations to members Doug and Linda Smith of Wickham, Hants on achieving NCCPG status for their Eucalyptus collection.

We have done well in having so many NCCPG collections in our membership. Apart from myself (Tatton Park, Inula) there is Dr. R. Law (Gatehouse of Fleet, also Eucalyptus); G. Dunlop (Newtonards, - Celmisia, Crocosmia, Euphorbia); P. Lewis (W. Wratting - Adenophora, Campanula); R. Stuckey (Exmouth, - Helichrysum), G. Hutchins (Hornshurch, - Crocosmia, Parahebe); S. Goodenough (Ventnor B.G., - Pseudopanax); Mrs

C. Yeo (Newton Abbot, - Salvia, Abelia); P. Hunt (Torbay B.C., - Carya), D. Inch (Tresco, - Acacia); N. Marshall (Mt. Stewart, Newtonards, - Phormium).

Have I omitted anyone?

*****

A NOTE FROM J.B. ANGRAVE, Oxonhoath, Hadlow, Tonbridge, Kent TN11 9SS.

'We have finally been awarded the National Collection of Callistemon for the NCCPG, although we still lack Callistemon acuminatus, C. montanus and C. brachyandrus. If any member can help by sending seeds or cuttings, John would be most grateful.

SOME PEA-FLOWERED PLANTS I'VE GROWN

By Jeff Irons

In 1988, while visiting County Park Nursery I saw an attractive slender weeping broom. Its small pea flowers formed a violet-coloured cascade of bloom. I was impressed and next year bought a specimen for my own garden. The plant was Chordospartium stevensonii, and Graham Hutchins distinguishes 3 horticultural varieties of it. I think that only the enthusiast will want all of them. Chordospartium is an unusual plant, and the uninitiated need to be aware of its characteristics. Young plants are leafless. Their stems are brown, and even though they continue to grow it takes several years for them to put out leaves and stop looking dead. "Kiwi" seems to be the best provenance. It flowers earlier in life than the other two, and has the most flowers. My plant is "Duncan". By the end of 1997 it was still leafless, brown, unflowered, and less than 1.5m high. This provenance is the slowest to bloom.

I bought some Carmichaelia at the same time as the Chordospartium. All died in their first winter. Subsequent attempts with my own seedlings have been equally unsuccessful. In fact I've been able to persuade only one Carmichaelia to survive in my garden. It grew rapidly to make a 2m high shrub, which bloomed profusely in the May of its 3rd year. Unfortunately individual blooms had a short life, and the shrub's period of glory was brief. Being unable to key it out I got a visiting botanist to send specimens to the expert in NZ. Back came the question "From where did it come?" Apparently the geographic area of origin is important in the naming of Carmichaelia. My answer of "Kircaldy, Scotland" didn't help. One year a strong wind from an unusual direction blew the shrub over, so, having removed it I still don't know whether the plant was C. flagelliformis or C. ovata. The seed colouring is the reverse of that described for C. ovata! Anyway it doesn't matter now because both species have been absorbed into Carmichaelia australis. Members familiar with the treatment of Carmichaelia in Wilson & Galloway's "Small-leaved S hrubs of New Zealand" will not be surprised by this.

An Australian friend sent me seed of Sophora "Gnome", which at that time was thought to be a New Zealand garden plant of unknown origin. Nowadays we know that it is the Australian S. howinsula. All of the seeds germinated after nicking, and one was kept for my own garden. After 6 years it flowered, and each succeeding year has seen more of

the unusual yellow blooms. About 8cm long, they hang down like the blades of an unopened pair of scissors. In the cold climate of north-west England seed is never set. This shrub always attracts attention when in flower. Being sparsely branched it fits easily between other shrubs, and at 1.5m in height is not too tall.

Oxylobium ellipticum is another Australian legume. The APS seed was collected on Mount Franklin, in the ACT., at 1500m. So far my 3 seedlings appear to be winter hardy. Their attractive hairy young leaves are margined with red. The first flowering of this, the Golden Rosemary, should be in 1998. Ultimately each plant should be somewhere between 20cm and 2.5m high. Present indications are that they are all of a low growing form.

MOSQUITO REPELLENT

FROM the Newsletter of the Melaleuca Study Group Jan. 1997.

Austraflora Nurseries have released plants of Leptospermum liversidgei to the market under the name of "Mozzie Blocker".

The following information is supplied on the plant label: -

"Mozzie Blocker": The natural way to keep mozzies at bay.

How it works. Mosquitoes really hate this plant and will do their level best to keep away. The active oil in Mozzie Blocker is constantly dispersed into the atmosphere but it really gets busy during warm weather, when mozzies are at their bitiest. The active oil, Citronella, is a turn off for mozzies, and just by brushing against the plant, you'll release even more of the repellent oils.

Leptospermum liversidgei is a fine leaved upright shrub with pale pink summer flowers. It requires a well drained but moist soil. For maximum protection, arrange containers of the shrub around the barbie!

Both Graham Hutchins and Paul Allanson sell L. liversidgei.

THOUGHTS ON TAXONOMY

By Tony Entwistle

We gardeners are always irritated by name changes; it often takes long enough for the experts to agree to them, and then a few years to get used to them; even more irritating is when they change their minds and go back to the status quo, as seems to have happened with Chrysanthemum.

I grew up with the knowledge that Angiosperms were divided into Dicotyledons and Monocotyledons, which seemed easy and logical - at least you could tell them apart when germinating! Now, it seems, we have Magnoliophytes devided into Magnoliates and Liliates (or is it Magnoliopsids and Liliopsids?)

It now appears that we have to learn a new word - the culton (pl. culta) to replace the phrase 'cultivar-group', which in turn replaced

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'grex', now only used with orchids, goodness knows why. There still seems dispute as to whether F1 and S1 hybrids can be called culta.

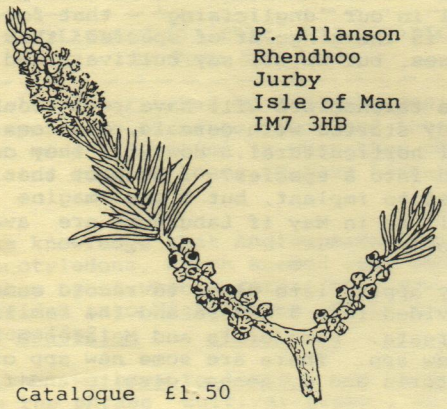
I was of the generation that had to learn Latin for 6 years at school but I still have difficulties with botanical Latin, and can never remember the 3rd and 4th declensions! It is hardly surprising that we are not very logical in our 'anglicising' - that for example, so many think that specie is the singular of species; that most of us say genera and not genuses, but we all say cultivars and not cultivaria.

I suspect that the taxonomists will have real trouble when genetic engineering, already started with cereals, tomatoes etc, gets really going in ornamental horticultural. How will they cope when strange genes are introduced into a species? I suspect that genes for colour will be the easiest to implant, but I can imagine what a horrible sight suburbia will be in May if Laburnums are available in every colour of the rainbow!

This is an entirely appropriate place to record some name changes:- Baeckia has been divided into 5 genera and the familiar B. virgata is now Babingtonia virgata. Pomaderris and Melaleuca have been 'recognised' with many new spp. There are some new spp of Eucalyptus - E. macmahonii from Victoria and E. aenea, dissita and fracta from NSW.

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