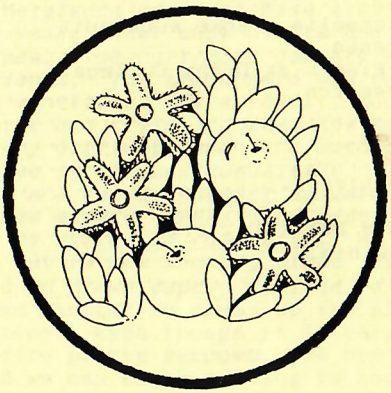
NEWSLETTER OF THE AUSTRALASIAN PLANT SOCIETY

PENTACHONDRA



ISSUE 16 MAY 1996

AUSTRALASIAN PLANT SOCIETY

Newsletter No. 16

May 1996

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EDITORIAL

At the time of writing, it is mid April and it still feels like winter. Eucalyptus debeuzevillei is bejewelled with greenfinches, blue and great tits busily munching their way through black sunflower seeds from the bird table beside it. Snowdrops have just finished flowering and the first daffodils are opening. Spring is 3-4 weeks late this year following a colder than usual winter. Most parts of Britain experienced temperatures lower than they have had during the same period in previous years. Freezing fog, frost, ice, snow, not forgetting the dullest January on record with an average of 48 minutes of sunshine per day (I'd like to know where my share was!) have all created difficult conditions for some of our favourite plants. Many may seem dead, many may be dead, but others are bound to surprise us as the weather warms up again. At present it seems as though I have lost all my Olearia scilloniensis and Olearia phlogopappa shrubs, as well as Hebe 'Great Orme'. The windward side of Bursaria spinosa is still completely leafless. All my Eucalyptus viminalis trees/coppiced shrubs look dead; the foliage is brown and the trunk of the oldest tree is split. Many other plants, which survived the previous winter outdoors, (Acmena smithii, Prostanthera rotundifolia, plus several Leptospermum and Melaleuca species) have also succumbed. Many of these plants spent weeks under snow drifts and the rest of the time facing cold east winds. The dull cold January made life in the greenhouse just as unbearable. The atmosphere was constantly damp so there was no incentive to ventilate. As a result, moulds quickly developed. Despite using a heater and trying to keep the temperature to at least 5°C (this proved very difficult when the outdoor temperature dropped to -11°C), there have still been casualties. Several plants such as Indigofera australis and Kunzea baxteri assumed wilted top growth, but are now putting on new growth. Melaleuca nesophylla is still completely defoliated as is Sterculia rupestris. M. armillaris had blackened branch tips but is now showing signs of regrowth. Kennedya rubicunda is covered in brown papery foliage, a really sad sight especially after I had managed to clean up the plant after a bad red spider mite infestation. Even though it is very disappointing to see some of your favourite plants succumb, we now have spaces to plant something else and we can enjoy getting to know other new plants. There are several other winter reports in Pentachondra, although none from the north of Britain, despite contacting members from all parts of the UK. Remember, its not just successes we want to hear about; failures are just as important.

THANK YOU

Many thanks to M. Courtois and other members for donating seed to the seedbank. Also many thanks for all contributions to the newsletter. Articles are now required for the December issue. Please do not send me your article on computer disk because I don't think my program is compatible with many others, and I'd probably delete all your hard work by mistake anyway!

KEEPING THOSE ACCOUNTS IN CONTROL

Mr. J.S. Buchanan from Denbigh has kindly consented to act as Society auditor and has agreed the 1995 accounts. This will keep Tony on his toes!

TREASURER'S REPORT

Membership now stands at 105 (Jan '96), after 6 resignations during the year. As you will see, we ended up with a small surplus this year because of the minimal expenses for the AGM at Wakehurst. Had we had AGM costs of previous years we would have had to have dipped into our reserves, which I have not been able to supplement this year.

Despite the increased cost of printing and stationery I hope we can hold the subscription rate at £6 until at least 1998.

Please note that the society is able to pay the basic costs of any regional meeting that members wish to arrange; the Northwest one seems set to become a twice yearly event.

REMINDER - subscriptions were due in January 1996 for this year and at the time of writing there are still 40+ members who have not paid. Members who have not paid their subscriptions by June 30th will be regarded as having terminated their membership.

Tony Entwistle (Treasurer)

NORTHERN MEET MARCH 1996

This early spring meeting brought a dozen members together at the home of Dennis (not forgetting wife Anne) Rowlinson in Stockport. Topics of conversation included hebes and Jeff Irons' recent trip to NZ/OZ.

* * * * *

A.G.M. AGENDA

One of the items on this year's agenda is the electing of committee members. Existing officers offer themselves for re-election. Other nominations are welcome and members can nominate themselves.

Another item is whether or not the APS should extend to S. American and S. African plants. This issue was raised at the '95 meeting, with attending members voting in the negative. However it has been decided to ask everyone else for their opinion. Let us know with your seed order.

A.G.M. MEETING 1996

This year's AGM is on the 15th and 16th June, in Devon. Meet at Marwood Hill, Barnstaple, at 1pm for a guided tour of the garden. Later move onto Woodside, Barnstaple, for a guided look round member Mervyn Feesey's garden. Overnight accomodation can be booked at the Barnstaple Hotel, Braunton Road, Tel: 01271 76221 (£40 room only, £50 room and breakfast; A possible cheaper deal may be available if we can make a block booking, so can you please let Jeff know if you are interested). It is intended that the AGM will be held in the hotel reception area at 9am, then its on to Rosemoor at 10am, with members dispersing afterwards.

The following details are from the 'Yellow Book' which has not yet become metric!

Marwood Hill (Dr J A Smart), 4m N of Barnstaple signed from A361 Barnstaple-Braunton Rd and B3230 Barnstaple to Ilfracombe Rd. In Marwood village, opp church. 20 acre garden with many Australian native plants.

Woodside (Mr & Mrs Mervyn Feesey), Higher Raleigh Road, Barnstaple. On outskirts of Barnstaple, A39 to Hospital and Lynton, turn R 300yds above fire station. Special interest in New Zealand flora. Despite Meryvn's anxiety that, after Marwood Hill, Woodside may seem an anti-climax, I'm sure its not true.

Rosemoor (RHS), (I'm sure needs no introduction), Gt Torrington. 1m SE of Gt Torrington on B3220 to Exeter.

* * * * *

A.G.M. 1997

Ideas for venues for the 1997 AGM are invited. Alice Moore, an Isle of Wight member, is prepared to organise hotel accomodation for a possible AGM and visit to Ventnor Botanic Garden in 1997 or 1998. If you are at all interested, enclose a note with your seed order.

To whet the appetite, here is a brief description of Ventnor Botanic Garden.

Ventnor Botanic Garden is one of the youngest botanic gardens in Britain. It commenced in 1970 as the Steephill Pleasure Gardens. The Late Sir Harold Hillier recognised the site's potential and he set about developing the 9 hectare (22 acre) site. Plants were carefully selected to cope with the shallow alkaline soil and salt laden winds from the south and west. So much interest was created that in 1972 the name was altered to Ventnor Botanic Garden.

The first 10 years' winters were exceptionally mild and the garden flourished. However in the 80's there were a series of hard winters which killed many of the tender plants. In 1985 Sir Harold Hillier died. Following the loss of key personnel the garden started to fail. Urgent action was required. It was decided to build a showhouse and nursery to help produce the large numbers of plants required. Also a full-time Curator was employed; Simon Goodenough took the post in August 1985. Misfortune continued however in the winter of '86/7, the hardest recorded on the Island for 150 years when nearly 40% of the garden was killed. In October 1987, the infamous storm virtually destroyed the garden and the next two years were spent clearing up. As a result the vast majority of plantings date only from 1989/90.

The garden is protected from the north and east by the chalk downs. The climate is more akin to the Mediterranean seaboard with a rainfall of 790mm (31"). This enables a wide variety of plants to be grown, many of which are considered too tender for much of mainland Britain.

Of particular interest to APS members are the Mediterranean Terrace, the New Zealand Garden and the Temperate House. The Mediterranean Terrace is southfacing backed by steep rocky banks. One section is full of plants from Australia. The New Zealand Garden started development in the spring of 1989. The Temperate House opened in 1987. Internally it has been landscaped to provide a display of mostly southern hemisphere plants.

Ventnor has two National Collections, both of these are predominantly NZ genera : Coprosma and Pseudopanax.

* * * * *

WHAT DO I DO WITH ALL MY OLEARIAS?

Some other plant societies have 'cutting exchanges' whereby members can find homes for those excess young plants/cuttings. I'm sure its not going to be detrimental to those members who are nurserymen/women, but we are open to comment from them. I suspect its one way of getting members in contact with each other and possibly experiencing a new plant only to lead to wanting more of the same genus possibly from our nursery members. With this thought, unless I receive adverse reaction, please feel free to enclose your list of available cuttings and requests.

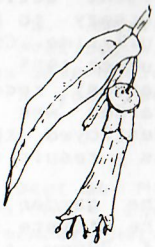
M. Courtois, a Corsican member, is eager to exchange plants or cuttings. He has acacias, Albizia/Paraserianthes, Leptospermum and hebes and is wanting a variety of Myrtaceae and Proteaceae. His address is: M. Courtois, Republica, St Jean de Pisciatella, 20117, CAURO, Corsica. NB: there are now no problems in sending plants within the EC.

CORREA CULTIVATION AND CONFUSION

By Paul Allanson

Drawings by Paul

Correa named in honour of Jose Francisco Correa de Serra, 1750-1823, a Portuguese botanist. A genus of 11 species, with many sub-species and varieties, which may change if subject to botanical revision. Correa belong to the plant family Rutaceae along with such plants as Boronia. Correas are endemic to Australia mainly in the south east and Tasmania, occurring from coastal to mountainous areas. Correas vary in form and habit and natural hybridisation in the wild is common leading to identification confusion. All are evergreen, flowering from late summer throughout the winter, if mild in to spring.



C baeuerlenii

Correas are easy to cultivate as pot/conservatory plants or garden shrubs if a few simple rules are followed. Most important is an open well drained soil, sunny if possible or light shade for situation. As far as soil acidity goes Correas are more tolerant (my experience) than most Australian plants are. Correa reflexa and C. pulchella are best for limy soils followed by any hybrids from them. Strongly acid soils are best avoided, in fact C. pulchella has a strong dislike for such soils. Generally slightly acid soils are best. For difficult clay soils try C. baeuerlenii or C. lawrenceana. For sandy soils try C. alba, C. pulchella or C. reflexa. For coastal areas with salt-spray C. alba. For damp shady places try C. lawrenceana and C. reflexa.

Collar rot (Phytophthora cambivora and P. cactorum possibly P. cinnamomi) may be a problem for plants in wet situations or if over watered. Control is not easy for the gardener as good chemicals are only available to commercial growers. Bordeaux paste around the stem at an early stage will help or a good sprinkling with lime dolomite or calcified seaweed around the stem is a partial prevention. Scale insects is the most common problem especially for indoor plants, but easily controlled with soapy water or chemical spray which will need to be repeated two or three times.

Species and varieties most likely to be found in the UK should be almost hardy. Hardiness is not a problem for anyone who lives along the west coast or similar mild areas, though an occasional cold winter will kill any unprotected plants if the temperature drops below -10°C for long. However Correa are quick growing and not too expensive to purchase again, or as a precaution easy to root from a cutting. Try C. alba, C. lawrenceana and C. backhouseana for hardiness.

Pruning, this is one of the most important aspects of growing Correas. They benefit from regular pruning (less so for C. decumbens). To prevent tall leggy plants that break in the wind and rock at the stem, which may break surface roots and damage the stem (may in turn lead to infection of Phytophthora), they need regular pruning to form strong dense plants which can take lots of wind and exposure.

As far as house/conservatory plants go, use any average potting compost mixed with sharp sand or grit, pinch out the growing tips regularly, water from a saucer underneath the pot, do not feed much unless you wish a very large specimen for your conservatory. Position in good light. And most of all enjoy an abundance of flowers from autumn until spring. Suitable types C. alba 'Pinkie', C. 'Dusky Bells', and C. 'Marian's Marvel'. And unlike most house/conservatory plants when they are too big, plant them out in your garden.

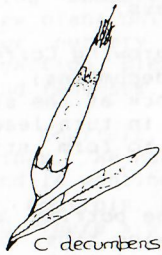
Now the confusing bit, IDENTIFICATION. Species/varieties likely to be encountered in the U.K.

Correa alba. This one is easy yet most nurseries/garden centres still sell any Correa with white, cream, yellowish to green flowers as C. alba. This is a much-branched, compact plant which grows not much more than 1m in height. The white flowers, sometimes cream or pink tinged, are always 20mm or less in length; because the petals are reflexed, the flower width is similar to length. The corolla tube is split upto 80% of its length giving it a star-like appearance. The flowers are always on short stalks, found only at the terminal points on each branch and generally point in the direction of growth of that branch, usually in groups of 2 or 3; singles or groups of 4 can occur. The flowers never hang down like bells unless old or withered. Leaves 20mm up to 40mm on mature plants, oval, obovate to orbicular shaped, green glabrous above, pale underside not whitish.

Correa alba 'Pinkie' has petals pink on the inside only, more compact growing and smaller flowers only 15mm, and smaller leaves. (This is an unfortunate choice of name, because in Australia there is a hybrid Correa which is called 'Pinky'. Imagine the confusion if that ever gets into Britain!)

Correa backhouseana. This is more difficult and without flowers it can resemble some forms of C. alba and C. lawrenceana. A larger plant growing to 2m in height. The greenish to cream-white flowers are usually 25mm long and only half as wide, stamens protrude, the corolla slightly reflexed at the end. Spent flowers sometimes reveal a green fleshy calyx after the petals have fallen. All forms of C. backhouseana have alternate stamens flattened for a third of their length (4 are not, 4 are); you will need to split a flower to verify this, the stamen flattened is the one on the inside of each petal, stamens between petals are not flattened. All stamens are equal length, and

protrude from the flower. Flowers in one, two or threes, and always hang down like bells when mature. Leaves oval to obtuse slightly leathery and underneath creamy, pubescent with a rusty mid rib and edges. The leaves can be 3cm long and often convex.


C decumbens

Correa baeuerlenii, again easy to identify. Shiny green leaves always pointed, lanceolate in shape. Flowers are green, lime green or greenish in colour, 20 to 30mm long. The calyx is the give-away, shaped like a chef's cap, hence its common name Chef's Cap Correa. Flowers sweetly scented.

Correa decumbens, another easy to identify species, spreading in habit. Leaves dark shiny green, narrow-oblong, obtuse 15 to 35mm long, 3 to 6mm wide. Flowers point upright like Christmas candles on a cake, narrow-tubular red with green tips about 25mm long.


C lawrenceana hybrid

Correa lawrenceana, this is the most difficult to identify, several naturally occurring forms exist which may also hybridise naturally. The largest growing, a mountain species can grow up to 4 or 5m in Australia. The true C. lawrenceana in Australia and Tasmania has stamens of unequal length but not flattened at the base. Flowers of much longer length than width, and occurs in green and red flowered forms. The calyx-cup has four small teeth. The flowering period can be six months or longer. (Possibly not in cultivation in the UK). The form I have is probably a hybrid of C. lawrenceana as with several other nurseries in the UK. When fully opened, stamens slightly protruding of slightly uneven length. Flowers in one, two or three's hang down like bells when mature. The calyx-cup has four very small teeth. Leaves elliptic-oblong, slightly leathery above and whitish, pubescent with a rusty mid-rib and edges. Large older leaves convex in shape. (May be C. lawrenceana x C. alba).

Correa pulchella, (pulchella means beautiful) not as easy to identify as it appears; the parent of many hybrids. A small growing shrub to 1m high, or more wide, occurs naturally on limestone rocks. Flowers tubular reflexed at the ends 15 to 25mm long slightly less in width, usually single, hanging bell-like. Flowers are pink on plants in the UK but orange, red, vermillion and white occur in Australia. Stamens of unequal length just protruding beyond the petals. Leaves up to 25mm long, less in width, oval-elliptic, green above, pale green underneath and slightly undulate in appearance.

Correa reflexa, extremely variable in flower and form, at least four types are in cultivation in the UK. Most can be identified from the leaves, but as C. reflexa is the parent of many hybrids it can be unreliable. Leaves are ovate-cordate to oval-oblong, obtuse, always downy or rough textured but sometimes flannelly. They are almost stalkless clasping the stem but not always. Flowers tubular 20 to 40mm long, slightly reflexed and only found at the ends of the branches. Stamens all flattened at the base only protruding slightly past the petals. Flowers, green or coral-red with pale yellow to green

tips, are the usual colours, but pink and red flowered forms exist in Australia.

Hybrids - Correa 'Marian's Marvel' (most beautiful in my opinion) has half rose pink and half yellowish coloured tubular to bell-like flowers. A hybrid with C. reflexa as one parent.



C reflexa

Correa 'Mannii', red flowers pale pink inside, tubular to bell-like. Also similar is C. 'Harrisii'.

Correa 'Dusky Bells', pale carmine to pink flowers, tubular to bell-like in profusion. A compact strong and fairly hardy hybrid which flowers for a long time.

Correa 'Dusky Maid', similar to 'Dusky Bells' but pale pink in bud, possibly larger growing as well.

PSEUDOPANAX AT PARADISE PARK

By Stephen Coone

Paradise Park is situated on the north coast of Cornwall, about 13km (8 miles) North-East of Penzance. We enjoy a mild maritime climate and only occasionally suffer from frost. During the recent winter more nights of frost were recorded than in the previous three years combined but the coldest recorded air temperature was only -4°C. Although the frost alone caused no severe damage the combination of sub-zero temperatures and strong north easterly winds was the worst enemy of the more tender plants.

The main casualties were a collection of 4 year old Echium scillonien-sis hybrids which were completely wiped out by the wind although 2 specimen Washingtonia filifera palms, which are in the same part of the garden, remained untouched.

On a happier note, almost all the large collection of Australasian plants have survived unscathed. My favourites are without a doubt the many species and hybrids of Pseudopanax. In common with many New Zealand plants Pseudopanax seem to exhibit a remarkable ability to burst into growth during the briefest of warm spells in autumn and winter

I have recorded upto 15cm of new growth during a mild spell in the winter of 1994 while growth was almost non-existent in the summer of 1995. This ability to respond to small changes in climate makes Pseudopanax ideal for the ever changing climate of West Cornwall.

The following list is of the best species and hybrids growing in the park.

P. 'Adiantifolius' - Thick, shiny, dark green leaves with 3 to 5 lobes, irregularly serrated in the upper half. Branches erect. Grows in either sun or shade and survived last year's drought with no obvious signs of stress.

P. 'Cyril Watson' - A low growing, compact hybrid up to 2m. Thick leathery, light green leaves which often show both ovate and palmate forms on the same plant. The young growth can be slightly damaged by late spring frosts but the plant soon recovers.

P. laetus - A small tree or large shrub with large, bold leaves which look distinctly tropical. In normal conditions this plant grows to 3m but it can reach over 5m in deep rich soil. The fleshy branches can be damaged by the occasional frost but the thick leaves make it very wind hardy. It can be grown in full sun or shade and will withstand quite dry conditions.

P. lessonii - A quick growing species with glossy, green, 5 lobed leaves; those of juvenile plants larger than the adult stage. Reaches upto 5-6m. This species has suffered the most frost damage of all the species at the park with almost all the growing tips blackened but I do expect them to make a quick recovery. It is happy on poor soils and I have found it reacts less favourably in deep rich soils.

P. lessonii 'Gold Splash' - The dimensions and characteristics are the same as the species but the leaves are heavily variegated with yellow splashes. This is a particularly effective plant for tub culture although it seems to revert freely which must be closely monitored. It also appears to be slightly hardier than the species.

P. 'Linearifolius' According to Metcalf's "Cultivation of New Zealand Trees and Shrubs" this is a result of a cross between P. lessonii and P. crassifolius. A fastigiate shrub with leaves made up of 5 narrow leaflets which are irregularly serrated and dark green above, pale green beneath.

P. 'Sabre' - A quick growing hybrid with long, narrow leaves up to about 30cm long. They are dark green with almost a bluish appearance and they each have a reddish midrib. Suitable for very poor soils and the rapid growth rate makes it ideal as a shelter belt plant.

P. 'Trident' - A narrow, upright shrub with distinctive foliage. The leaves are of two kinds on the same plant, both three-lobed and simple. As it ages the lobed leaves seem to become fewer. This hybrid branches well from the base and makes an effective screen or hedge. It is fully wind hardy and will tolerate dry shade.

Cultivation Notes

Pseudopanax are tolerant of a wide range of soils and situations but it is my experience that they are happiest when grown hard. A shallow, hungry soil seems to provide all their requirements. Plants on deep soils which are regularly fed and watered will be more prone to frost and wind damage. I feed only once a year in late spring with a very light dusting of fish, blood and bone around the base of the plants. In colder areas they can be grown in containers in a soil based compost which again should be fed only once a year.

Propagation Notes

I propagate most plants from semi-hardwood cuttings which can be taken any time between November and March. Although I have had some success with softwood cuttings almost 90% of cuttings will root if taken when growth has hardened.

The propagation compost has proved to be an important factor with good drainage being the main requirement. After many different trials I feel I have discovered a compost recipe which gives a high percentage of rooting. It consists of 2 parts sphagnum moss peat, 1 part vermiculite, 1 part propagation grade bark and 1 part sharp sand.

Cuttings are inserted around the edge of a 3" pot with 4 or 5 per pot. They are then placed on the mist propagation bench which keeps humidity levels high and is bottom heated to 21°C. They should root in 8 to 10 weeks.

HAKEA MICROCARPA

By Jeff Irons

Are you looking for a light airy shrub 1 to 2m high which can be grown through lower shrubs or perennials? If so, look no further than Hakea microcarpa, which festoons its branches with clusters of creamy white scented flowers every May. If you like unusual foliage it is also for you, because the widely spaced leaves are narrow and needle-like, ending in a point. This is not a shrub to put where young children can get close to it.

According to books this species is found in wet areas and on stream banks. I confused it with H. epiglottis and put my seedling in a dry part of the garden where the sandy, stony soil turns to dust in the summer. That was in 1987, and the shrub has never been watered. I always tell people to tip prune their shrubs every year, from an early age. Not wanting to do anything to harm a scarce plant I did not follow my own advice with H. microcarpa. The consequence has been a shrub with a few widely spaced branches. Making a virtue of the disaster I grow Olearia phlogopappa under and through it, cutting the latter back hard after flowering.

Flowering is prolific every year, but the seed set is usually very low. In 1995 it was good, and with some discomfort I harvested 743 fruits each containing 2 seeds. Unlike those of some other hakeas the fruits open without fire and the seed is released in the August after flowering.

The genus is named after Baron Christian Ludwig von Hakea, a German patron of botany and a councillor in Hanover. I used to pronounce the name in the Australian way, with the 'a' as in take; then one day a plant collector could not at first understand what I was talking about, but suddenly she said "Oh you mean Harkee-a". At Wakehurst they said the 'a' as if it was in cat.

Stearn is quite definite on this point. He says that when a plant is named after a person it should be pronounced in a way as near as possible to that used in the person's country. Since von Hake was German I am sticking to Hark-ee-a.

Seed from my plant (ex Guildford, Tasmania) is in the 1996 seed list. Alternatively Paul Allanson will sell you a plant.

✓ seed (1) 96.

AN AUSTRALASIAN PERENNIAL BORDER

By Brian Halliwell

Herbaceous borders introduced into English gardens during the second half of the 19th century reached a peak of excellence during the inter-war years. Following the Second World War, their future was in doubt for they were labour intensive but like all good garden features they survived but in modified form. Herbaceous borders looked their best on the grand scale as informal arrangements of plants in a formal setting. Long relatively narrow rectangular beds often backed by hedge, fence or wall were meant in the main for viewing from one direction. Island beds which replaced them were intended for all round viewing. They could be of any shape or size that would fit into a garden or part of it. The same kind of perennials were used in island beds that had been in herbaceous borders but the sturdier kinds were chosen that needed no staking and by closer planting there was less earth for weeds to colonise; if this was mulched with bark fibre, weeding ceased to be a chore.

Perennials for herbaceous borders had originally come from Europe and the mid-west of North America. As the fashion expanded, plants from Asia began to be used and later even some from the African continent. Australasia has provided very few. Members of this society who are growing an increasing number of new plants should be assessing them to see if any can supplement the better known denizens of herbaceous borders or island beds. In this article I am going to list those which I have tried.

Arthropodium cirratum - rock lily or renga-renga is a clump-forming evergreen perennial with soft green rather fleshy leaves, 3cm x 60cm. In late summer an inflorescence to 1m develops in the form of a panicle which carries masses of starlike flowers each 2cm in diameter which are white often flushed pink. In New Zealand some improved selections have been made and given cultivar names but these do not seem to be available in this country.

Bulbinella rossii - Captain Ross' onion has broad lax leaves 5cm x 45cm from amongst which in early summer rise flower stalks to 50cm or more in the form of a dense raceme of golden yellow or orange star-shaped flowers each 1cm in diameter. Plants are dioecious (with males more impressive) and unless both sexes are present, fertile seed will not be produced.

Carex buchananii - brown rush is perhaps the best known of New Zealand rushes which are becoming increasingly popular in this country. It forms a dense tuft of reddish brown leaves to 50cm. Flowers are not showy so this plant is grown for its foliage. It prefers a moist soil and benefits, as do all rushes, from being sheared off at ground level in the spring as new growth commences. This results in tidier plants with more richly coloured leaves.

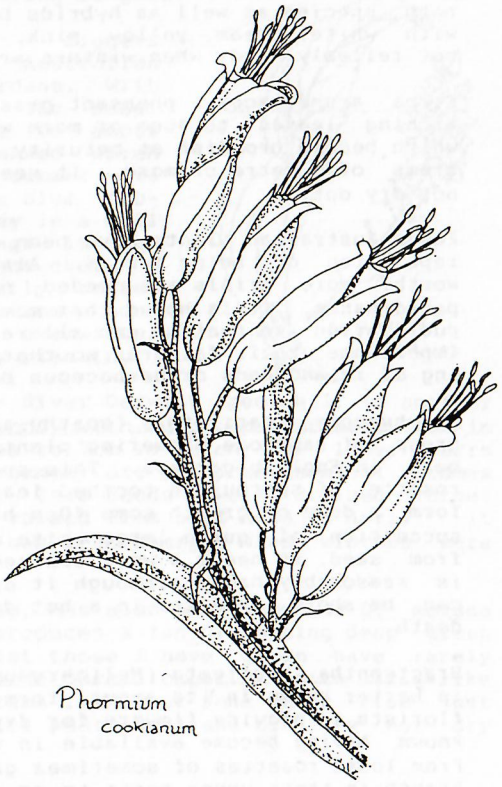
Carex comans - longwood tussock, is densely tufted with grass-like leaves to 30cm which are dull greyish-green. More popular is a plant known as Bronze Form in which leaves are a rich brown without any trace of grey. A recent introduction from New Zealand, is Frosted Curls in which leaves are pale greyish-green almost white; this is an

excellent plant for contrasting with dark green, brown or red foliage. It needs a moist soil and is better in light shade for in full sun, in a hot dry summer, leaves can burn.

Geranium traversii - Chatham Island geranium, has a stout rootstock which produces prostrate stems and sometimes offsets or runners. There are orbicular hairy leaves on long stems, maybe lobed which are greyish to some extent. In summer there are white or pale pink small flowers. The usual, perhaps only form in cultivation is cv 'Elegans' which has greyer leaves and larger pink flowers in which petals are lined with darker pink. This has hybridised with the European G. endressii to produce G. x riversianum of which Mavis Simpson is the finest cultivar. This is more spreading and I have not seen it produce runners. Handsome grey leaves are more prominently lobed and it produces a succession of pink flowers from June to September.

Libertia grandiflora - tukauki, produces fans of soft yellowish-green leaves to 50cm. In May stems rising above leaves carry lax panicles of quite large white cup-shaped flowers to 3cm in diameter. In some years globose or pear-shaped capsules develop which are reddish green becoming black.

Libertia ixioides - mikoikoi, has more handsome foliage but is less generous with smaller flowers. There are fans of stiff leathery brownish leaves to 30cm with prominent yellowish midribs; leaf colour is best on new leaves. Shorter peduncles which do not overtop the leaves are stiffer with smaller (1cm) white cup-shaped flowers produced in early summer which maybe followed by ovoid long-lasting yellow capsules.



Linum monogynum - rauhuia, can with age become woody at the base. It produces upright stems to 60cm with narrow alternate leaves to 2cm. Corymbs of white cup-shaped blooms reaching 2.5cm in diameter are produced in succession throughout the summer.

Phormium cookianum (colensoi) - mountain flax, forms substantial clumps with lax leaves, 5cm x 1m or more. In some years a stout panicle develops on old plants which extends well above the foliage. On this are pendulous roundish green flowers, tinged with yellow or

reddish-brown. Grown for its foliage, this makes a handsome focal point in a bed where there is plenty of room. Two reliable and hardy cultivars are : Variegata with marginal yellow stripes and Tricolor with the same yellow stripes but these are edged with red.

Phormium tenax - New Zealand flax, has stiff leathery angular leaves, 10cm x 2m or more. This very substantial plant which needs plenty of room will, with age, produce a stout panicle which overtops the leaves to carry bunches of upright angled tubular flowers about 5cm long of a dull reddish brown. This architectural plant will make a focal point in any border. If the border is too small it can be overpowering. Most reliable of its cultivars for hardiness are : Alpinum Purpureum with its dark red narrow leaves up to 45cm; Purpureum of the same dark red but with broader leaves which can reach 1.5m and Variegatum upto 2m with broad leaves which are green with creamy yellow margins. In recent years there has been an influx from New Zealand of cultivars of both species as well as hybrids between them, with leaves patterned with white, cream, yellow, pink, red and maroon. Many of these are not reliably hardy when winters are colder than average.

Stipa arundinacea - pheasant grass, is a handsome grass with narrow arching leaves to 40cm or more which are dull green when young but which become brownish at maturity. Impressive flowers are produced on stems of a metre or more. It needs a good deep rich soil which does not dry out.

Fewer Australian plants have been tried because so many of them have a reputation of being tender. Although one or two have proved their worth, more trials are needed, not only for hardiness but also for performance. It is hoped that members will record their findings for publication so that we can all read of their successes or, of equal importance, their failures so that we can enrich and extend the planting of island beds or herbaceous borders.

Brachyscome scapiformis (spathulata) - tufted daisy, is but one of a group of handsome flowering plants which need trying in greater numbers in English gardens. This species which is rhizomatous, forms a rosette of spathulate toothed leaves from which arise many stems to form a dome of growth some 40cm high. During the summer there is a succession of quite large white or mauvish daisies. Easily raised from seed, it needs a well drained rather poor soil in full sun. It is reasonably hardy although it dislikes cold wet winter soils. It can be short lived for in a hot dry summer, it will flower iself to death.

Bracteantha bracteata (Helichrysum bracteatum) - everlasting flower, is better known in its annual form as a plant raised by gardeners and florists to provide flowers for drying. A perennial form is less well known having become available in this country only in recent years. From loose rosettes of sometimes grey leaves arise stems to 60cm which branch in their upper parts to produce terminal flowers almost globose in bud but when they open to 4cm are hemispherical; slightly incurving petals are a shining golden yellow; in variety albidum, petals are shining white above but flushed pink below. Both are easily raised from seed, best sown in April in heat and planted in a garden in a well drained soil in full sun in late May. Better known is Dargan Hill Monarch which is somewhat taller with larger golden yellow flo-

vers: Skynet, more pointed in the bud, has petals which are cream flushed with pink. Divide these two cultivars as they start into growth in April.

Bracteantha dealbata (Helichrysum dealbatum) - white everlasting, produces in late summer from a loose rosette on stems to 30cm flowers which are 2cm in diameter having a dull white eye surrounded by petals which are white above and flushed pink below. This species prefers a moister soil and dislikes prolonged summer heat.

Craspedia alpina - Billy buttons, produces a loose rosette of narrow leaves which are covered with white cotton. In summer stems arise to 30cm to carry subglobose white flowers. Like so many Australian perennials this dislikes cold wet winter soils. Plant in full sun in a well drained not over rich soil. Plants can be short lived especially after a hot summer when flowering is good.

Derwentia (Parahebe) perfoliata - diggers speedwell, is the best known Australian perennial which we grow in our gardens. With age this plant becomes woody at the base. Somewhat spreading, it stems rise to about 60cm having widely spaced grey leaves which encircle the stems. In late summer are produced terminal racemes of pale blue flowers. This plant seems fully hardy in a well drained soil in full sun. With age it becomes untidy and scruffy so replant every 3 or 4 years. New plants are easily raised from seed or cuttings taken from non-flowering growth in late summer; overwinter rooted cuttings in a frame for May planting.



Derwentia (Parahebe) derwentiana - River Derwent speedwell, is another perennial whose base can become woody with age. Upright stems to 1m have opposite lance-shaped leaves to 7cm in which the lower pairs often encircle the stem. In late summer are produced terminal racemes of white, lilac or blue flowers. This needs a well drained rather fertile soil in full sun. Easily raised from seed sown in April. It is reasonably hardy although it has been damaged when winters were colder than average.

Diplarrhena latifolia - alpine flag, has also been known as D. moraea alpina and D. moraea 'Nana'. It produces a fan of shining deep green leaves 1cm or more wide and whilst those I have grown have rarely exceeded 20cm in length they can be much longer. White iris-like flowers are produced on short stems in May or June which rise just above the leaves. It needs a moist peaty soil and dislikes hot dry summers.

Linum marginale - Tasmanian flax, sends up slender stems to 50cm which are branched in their upper parts; there are alternate narrow leaves, more crowded on the lower parts of the stems. An inflorescence in the form of a cyme opens blue cup-shaped flowers in succession over most of the summer. Easily raised from seed, this needs a well drained soil, preferably with some lime, in full sun. It seems hardy but is not long lived.

Lotus australis - austral pea, can become woody at the base with age. It produces upright stems to 30cm with alternate pinnate leaves of 5 leaflets. A raceme of pink, red, white or bicoloured 1cm pea flowers are produced in late summer. Before sowing the seed in April, soak for 24 hours in cold water; if seed does not swell, replace with boiling water and allow seed to soak in the cooled water for 24 hours. Plant in full sun in a well drained soil to which a little lime has been added. It has survived for me through mild winters but not one which was extremely cold.

SOME UNUSUAL MINTS

By Jeff Irons

We all know what mint is but not all gardeners realise that many common, and not so common, plants are relatives of the garden mint.

Look at a piece of mint and you will notice that the young stems have a square cross section, with leaves in pairs, on opposite sides of the stems. The leaves have small oil glands in them which emit a pleasant smell when crushed. Botanists call the whole family of such plants the Lamiaceae after Lamium - the Dead Nettles. Stinging Nettles are different and belong to the Urticaceae.

Lamiaceae is a very important family, with many members grown for their culinary or medicinal properties. Herbs in the mint family include mint, rosemary, basil, catmint, oregano, sage, thyme amd lemon balm. Medicinal plants include pennyroyal, horehound and self-heal. Perfumers use lavender and rosemary.

The flowers too are characteristic. Usually they face sideways, with the petals forming an upper and a lower lip. This was recognised in the former botanical name of Labiatae which came from a Latin word meaning lipped. Often the bottom petals make a landing platform for insects, while the top ones arch over and protect the stamens. Look at dead nettles, salvias and bergamot and you will see this arrangement.

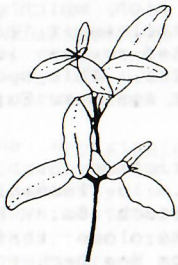
Another group of 'mints' is the shrubby evergreen Australian genus Prostanthera. It too has lipped flowers. Many of its members need the winter protection of a cool glasshouse. Some can be grown outdoors in the milder parts of Britain, and one can be grown outdoors in even the coldest places. I cannot find any information about their lime tolerance, but think it unlikely that it will be high. There are about 100 Prostanthera, and the 1995-96 Plant Finder lists 11 of them, along with a couple of hybrids. All are worth growing.

The hardiest species is P. cuneata, named thus because of its wedge shaped leaves. Though small they cover the low spreading branches so effectively that the shrub makes a weed-proof ground cover. In May and June the whole plant erupts into a sheet of flower. I think that the actual hue depends on one's soil. This opinion is held because when it was first put in my plant had flowers of a definite lavender hue. Over the years they have become paler, and now are almost white. Sometime I must try giving the plant a feed of aluminium sulphate, to see whether it restores the lavender colour. Further flowers, though

not so profuse appear right through the summer and into November, or even December.

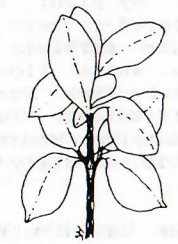
Ten years ago this species was almost unknown, and could be bought only from a few specialist nurseries. Now it has an Award of Garden Merit. Many garden centres sell it. The change has come about because of the Dutch nurseryman G.C.J. van Stolwyck. While on a visit to England he saw Prostanthera cuneata, liked it, and took four cuttings back to the Netherlands. Four years later he exported 1000 plants to Britain. That would have been around 1990 or '91. In 1994 he sent us 5000 plants.

In 1981 I imported a form of P. cuneata called 'Alpine Gold'. It is a selection from the wild made, I believe, by the late Bill Cane of Clearview, Maffre, Victoria. A further importation was made by Blooms in 1987. This form differs from the usual one in that it has a gold edge to its leaves. A few leaves are almost entirely yellow. As with many other plants, the colour is more prominent when light levels are high, and it almost disappears in winter. Under glass it disappears altogether. The plant is more upright, and less vigorous than the 'all green' form. Both of them benefit from a clipping over with shears when flowering has finished. A form called "Fastigiata" is listed in the 1995-6 Plant Finder. Most gardeners will want only one of these three forms.



Prostanthera walteri
usual form

Prostanthera walteri is not quite as hardy as P. cuneata. I guess that except in the south and west it probably needs a sheltered spot. It is described as having aromatic leaves, but neither of the two clones that I have can be described as anything other than slightly fragrant. The large, long flowers which appear in early summer and continue through to autumn are greenish, and streaked with violet, so that they appear grey. Colour forms do exist and it would be nice to see one, for the greyish flowered plants are not really very striking and I would describe them as curious rather than beautiful. I think that the usual commercial form probably originated in the Chelsea Physic garden and the known wild origin Mount Imlay form was imported by me. Paul Allanson stocks it.



Prostanthera walteri
Mnt Imlay

Prostanthera saxicola var montana has a very restricted occurrence in the Blue Mountains of NSW and on the neighbouring (and colder) Oberon Plateau. Green Farm Plants brought it into England after a holiday in Australia. This small species reaches up to no more than 50cm. It grows in peaty soil in an area which gets heavy summer rainfall and can be cold and dry in winter. Its flowers are violet to lavender in colour. I think that this species would need protection in cold parts of Britain.

Prostanthera incisa var 'Rosea' was also brought to England by Green Farm Plants. When in bloom, in early June, its slender upright stems

are covered with delicate pale pink flowers. This is a delightful plant which lends itself to pot culture and revels in a peaty compost. The leaves are very fragrant. I have not seen the more typical forms of this species, but they are described as having pale mauve to lilac flowers.

Some nurseries list P. sieberi but nowadays this is included in P. incisa.

P. rotundifolia needs wall protection in all except the very mildest parts of Britain. Even then I believe that it needs protection around the base for the first couple of years to help the plant get established. In cultivation it is not easy, especially in S.E. England. There is rarely lasts for more than 3 years. Under glass the dark purple flowers are seen in April, outdoors they appear in May.

As the name tells us P. melissifolia has leaves like those of Melissa (Balm). Thanks to Tim Longville I have the variety parvifolia - with small leaves. In a cool greenhouse large purple flowers appear in early April. Unpruned this species will reach 2m in height but like most prostantheras it can be kept compact by pruning after flowering, and will live happily in a pot. The leaves are fragrant.

Prostanthera nivea gets its name from the snowy whiteness of the flowers. In the wild it is a slender shrub up to 2m high, which grows on south facing (ie cool) cliffs and slopes. Nevertheless it cannot be considered hardy in Britain, and should be treated as an indoor plant. With a little heat it will bloom in late winter. This species grows outdoors on Tresco and should be considered for southern Europe, as should all the species except P. cuneata.

The giant among prostantheras is the Victorian Christmas Bush, P. lasianthos, so called because of its flowering time. In Tasmania I saw it only 2m high, but in Victoria plants can reach 8m. Brian Halliwell saw it growing at 900m in Tasmania, but the clone that we have comes from much lower levels. My plant came from Ken Beckett and under glass showed signs of wanting to reach at least 3m before it even considered flowering! Ken keeps his plant in a sheltered open porch and moves it under cover during severe weather. My plant spent the 1994-5 winter outdoors against a wall, in a sheltered corner. The lowest 30cm or so were protected with a mulch. If it survives the 1995-6 winter I anticipate being able to enjoy large white flowers, spotted purple in the throat during June. Pleasant View Nursery offers a variety called subcoriacea which has smaller, thicker leaves and white flowers. Since it comes from Victoria's Grampian Mountains I asked Christine Yeo whether the shrub is hardy. Unfortunately she has not tried it outside.

P. 'Poorinda Pixie' (P. incisa x P. rotundifolia) is definitely an indoor plant. The massed pale lavender flowers appear in early summer amid small grey leaves. It pays to be cruel and after flowering the bush should be cut back hard. This will encourage vigorous new growth which, with feeding, will reach 75cm or more by autumn. This hybrid is sensitive to Phytophthora and death after flowering is, unfortunately, common.

P. 'Poorinda Ballerina' is a seedling from 'Poorinda Snow Queen' which

is a hybrid between P. phylicifolia and P. lasianthos. It is a small shrub with large flowers tinged lilac and a very long lower lip. The non-aromatic leaves have edges which turn up, causing the tip to turn down. After flowering it needs to be cut back in the same way as 'Poorinda Pixie'.

Some other prostantheras listed in the Plant Finder are:

P. aspalathoides - A small heat loving plant from arid parts. It is very aromatic, with needle-like leaves about 6mm long and flowers in various shades of red. White and (very rarely) yellow variants are found in the wild. This should be an ideal species for Mediterranean areas and for those 'hot-box' conservatories which heat up to 50°C in summer.

P. ovalifolia - The 'Thousand Flowered Mint-bush'. I have not seen this variable shrub from eastern Australia. Graham Hutchins said that the form grown at County Park Nursery has purple flowers and slightly crenate leaves. At Kew it is found to be one of the easier species.

* * * * *

Prostanthera seed has a very short life, and plants are usually grown from cuttings. Plants often have a short life in cultivation, sometimes only one flowering. Because of this it is advisable to take cuttings every year. Their life is extended if they are grafted onto a Phytophthora resistant rootstock such as Westringia rosmarinifolia. In my experience P. 'Poorinda Pixie' is very susceptible and should always be grafted. P. aspalathoides will not take directly and needs a nurse stock of P. nivea.

The Westringia can grow so vigorously that it pushes off the scion. This problem can be alleviated if both stock and scion are growing vigorously in the greenhouse before grafting. I find that plants grown outdoors are much less prone to infection that those under glass, so prefer to keep pots outdoors in summer and under cover for the minimum possible time. P. cuneata is still healthy and vigorous after 14 years in the ground on its own roots.

SOME NZ/OZ PLANTS IN THE EXOTIC GARDEN

By Paul Snowden

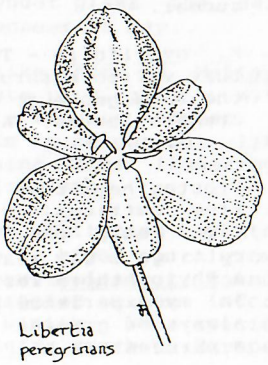
Over the last few years I've experimented with a number of exotic (= reminiscent of far-away places) plants that I hoped would be hardy enough to grow outside in a south-facing garden, (JUST) south of Watford.

The effect I was trying to create was essentially Mediterranean : and even if some of the plants that I've used successfully, eg. Callistemon, are not ideally suited to the increasingly dry conditions, they look good. They even thrive with a few precautions to suppress weed growth and aid moisture retention. I am after 'architectural qualities' but I must have flowers in the garden as well. I've had particular success with Correa harrisii (or mannii?), C. x backhousiana, Lomatia myricoides, Callistemon subulatus, Olearia phlogopappa and O. nummularifolia, Grevillea 'Canberra Gem', leptospermums, Carmichaelia

monroi? and Acacia pravissima!

All these have come through this winter (min. approx -9°C) virtually unscathed. The correas leaves were 'bronzed' rather than scorched and C. mannii is very late to flower compared to the previous 2/3 years. My big success this year has been Acacia pravissima (ex Celyn Vale) - very limited new growth damage on close inspection, growing against my south-facing wall. It has many buds on it which have yet to open as at 2.4.96. This is what makes this pastime worthwhile. I reckon this Acacia would be the second choice (after A. pataczekii) for colder areas - it was suggested by Jeff Irons. Acacia dealbata subaplina has been extensively defoliated and I think I'll replace it with A. pataczekii.

Other plants to survive outside this winter with no obvious sign of damage so far include the following: Cordyline australis - leaves tied up as a precaution, Hakea lissosperma, Callistemon pityoides/viridiflorus/pallidus, Pittosporum 'Abbotsbury Gold' and 'Tom Thumb' seedling, Griselinia 'Bantry Bay', Richea scoparia and R. dracophylla, Libertia peregrinans, Pachystegia insignis, Phormium tenax, P. 'Variegatum' and P. 'Thumbelina', Telopea mongaensis, Aciphylla aurea, Carmichaelia, Eucalyptus pauciflora 'Pendula', E. gregsoniana (2.5m with flower buds - a good plant for the small garden), E. debeuzevillei and E. approximans (some leaf discolouration but the plant has a pleasant willowy effect).


Libertia peregrinans

One plant in a tub worth a mention is Cordyline banksii, overwintered underglass is beginning to form a trunk and is sending up a flower spike. Lastly a mention for a plant raised in New Zealand - Photinia x fraseri 'Red Robin' - covered in glowing red buds, presumably encouraged by last year's hot summer, should flower this year.

POTTERING IN PLYMOUTH

By Geoff Boyer

Here in Plympton St Maurice we have been very fortunate in having a very mild winter. About 2 days of snow which never settled. We did however have a fair bit of frost and about 2-3 days of icy cold winds which went down to -2 to -5°C. Now that is cold for us here in Plymouth.

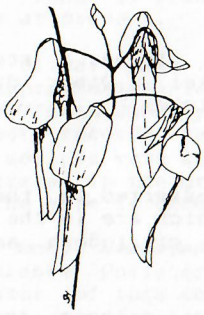
My garden is walled in and I have only one Australian plant growing in the ground and that is Callistemon violacea about 3 years old and is doing fine. About 2 years ago I put a Melaleuca species in there. It grew to approximately 2.5m tall and then this winter it died. I think I'll put a M. squarrosa in there now.

The garden tends to be ignored till the warmer weather comes because its overgrown with brambles, which I have cut back drastically and the reason for not going in there is because its about 200 yards from the house, and we can't see it because there's a cottage right in the way!

So all of my plants are grown in containers, like clay pots, plastic pots, old metal buckets etc. until I get the garden shipshape.

The following are a list of my plants and their progress.

Beaufortia sparsa. 2 plants kept in the house, but leaves have turned brown and papery.



Kennedia rubicunda

Callistemon citrinus. 1 plant unscathed.
C. citrinus 'Slendens'. 1 plant unscathed.
C. 'Candy Pink'.3 plants; 1 fine, 2 badly damaged.
C. 'Austraflora Firebrand'. 4 plants unscathed.
C. sieberi. 2 plants unscathed.
C. phoeniceus. 5 plants slightly damaged.
C. polandii. 4 plants dead.
C. violaceus. 1 plant (garden) unscathed.

Calothamnus validus. 3 plants in workshop. 2 badly damaged, 1 fine.

Casuarina sp mixed. Approx 12 seedlings doing fine. 20 plants of which 5 are dead. The remaining plants have a sort of white powder all over them. These plants are kept in my workshop.

Eucalyptus eximia nana. 2 plants dead; both kept outside in pots.
Eucalyptus rubida. 1 plant doing fine.

Kennedya rubicunda. 10 months old. Kept in unheated house for 7 months but moved to workshop. Leaves going brown and looking not too healthy.

Kunzea parvifolia. 4 plants. 2 dead. 2 unscathed.
Kunzea sp mixed. 2 plants unscathed.

Leptospermum scoparium 'Nicholsii'. 2 plants in containers, both fine.
Leptospermum scoparium nanum. 1 plant dead.

Melaleuca armillaris. 5 plants. All badly damaged.
Melaleuca decussata. 4 plants. 2 dead. 2 slightly damaged.
Melaleuca laterita. 1 plant dead.
Melaleuca squarrosa. 3 plants all unscathed.

Paraserianthes julibrissin. Red. 2 plants, containers outdoors. Both plants are doing fine.
Pittosporum phillyraeoides. 1 plant in container. Lost a few lower leaves, otherwise fine.

Xanthorrhoea resinifera. 1 seedling approx 2.5cm high.

Non-Australasian Plants
Feijoa sellowiana and Cupressus cashmeriana. Both doing well in tubs.

New seedlings
Anigozanthos flavidus, Paraserianthes julibrissin, Hakea bucculenta, Callistemon salignus, C. subulatus, C. viridiflorus, Melaleuca bracteata, Callandra eriophylla (non-Australian), Diplolaena angustifolia (non-Australian).

NAME CHANGES

Carmichaelia has long been recognised as a problem area among New Zealand plants. Recent clarification of the genus has resulted in a few name changes. They are:

C. compacta var procumbens - now merged into compacta.

C. juncea - replaces C. fieldii, C. lacustris, C. nigrans and C. floribunda.

C. nana - replaces C. enysii and C. orbiculata.

C. uniflora - now includes C. suteri.

C. vexillata - a new species split from C. monroi. It has a standard which is equal in length to or longer than the keel. Other differences are a glabrous calyx, long and acute calyx lobes.

* * * * *

The 'Bloodwood' group of Eucalypts has been transferred to the new genus Corymbia. The change affects two species which are in the 1995-6 Plant Finder. E. citriodora is now Corymbia citriodora and E. ficifolia is now C. ficifolia..

THE PROBLEM OF WINTER LOSSES

By Tony Entwistle

This has nothing to do with the past winter but with what I am sure is a general problem - the loss of so many Australian plants under glass over the winter. All grow well until about mid-November, and from then until the end of February they succumb - whether from sudden collapse or lingering death - to what I am sure are fungal diseases; whether you call them damping-off, stemrot, root rot, botrytis matters not; I am sure I have got them!

This susceptibility to fungal infection is connected with four factors : low temperature, poor ventilation, high humidity and poor light. The problem is that these are incompatible for most of us; we seal our greenhouses with bubble-glaze and shut the windows to save our heating bills. Extra light is at least possible - I give seedlings 10 hours a day under flourescent tubes, which are cheap to buy; I also keep a small 20 watt fan running. I have not got an expensive dehumidifier.

Antifungal treatment is obviously desirable; now that Benomyl has gone I use Nimrod-T, which does seem to help, though one needs to use it as a spray regularly, at least every 2 weeks. It does not seem to have adverse effects on anything, which is always a problem. I shall experiment this year with etridazole in the compost; the instructions say 'do not use on Escallonia or Pyracantha'; now I am sure that if one wrote to the manufacturers to ask, for example, what about Banksias?, the reply would be 'try it and see, we don't know'!

So reports from members on any effects of any chemicals on Australian plants would I feel be useful research.

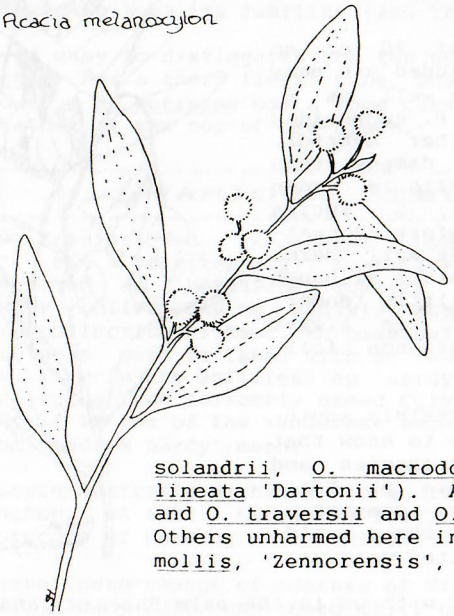
SOUTHERN HEMISPHERE PLANTS AT DUCHY COLLEGE

By Marshall Hutchens

I am a Lecturer in Horticulture at the Duchy College based at Camborne, Cornwall. My own specialities when it comes to plant species are Southern Hemisphere orientated and to this end, we have tried a wide range of plants over the years many of which are in cultivation here at present.

The climate here is very variable but mainly maritime. The rainfall is approximately 1000mm (40") per annum and average temperatures range from 7°C in January to 16°C in July. To date this year (26.2.96), the lowest recorded temperature was -4.7°C which is exceptional for us! The soil is very stony and has a pH of 6.5. There are high levels of minerals in the ground as a legacy of tin and copper mining and much of the site is undermined with old workings.

The most important collection of plants here is the National Hebe Reference Collection run in conjunction with the Hebe Society. I am curator of this collection which comprises at present about 220 different species and cultivars, some of which are extreme rarities. There are two parts to the collection, an outdoor planted area of about 0.3 hectare (3/4 acre) and a large polythene holding tunnel.



This winter, the only plants to have suffered damage are H. ligustrifolia, H. macrocarpa var brevifolia and the very tender H. insularis. The main aims of the collection are to establish a facility for correct naming purposes open to both trade and amateur alike. At present the genus Hebe is very incorrectly named in cultivation.

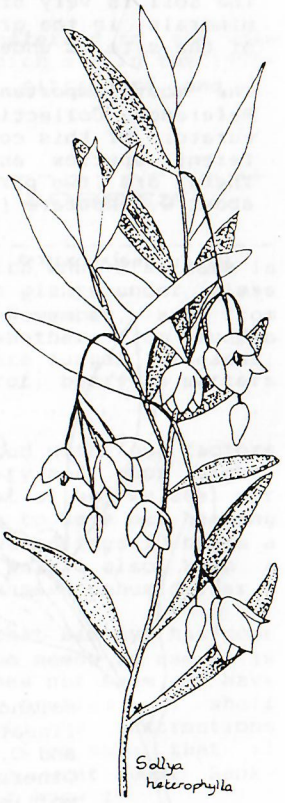
Another collection being built-up at present is Olearia. We have about 45 different species many of which are planted outside. Several make excellent windbreaks here, especially O. traversii, O. solandrii, O. macrodonta and O. virgata (or is it O. lineata 'Dartonii'). All are unharmed in normal winters and O. traversii and O. virgata grow quickly to 4 metres. Others unharmed here inlude O. avicennifolia, paniculata, mollis, 'Zennorensis', arborescens and x oleifolia.

Other plants that have not been harmed this winter are varied. A large 3m specimen of Acacia riceana and a smaller A. verticillata are in full flower as I write. A. melanoxylon is also fine except that the wind does cause scorch. Our Eucalyptus collection is also looking very good. We have a collection of 15 species that are approximately

7.5m high, the legacy of inheriting a cut foliage plot that had been allowed to develop naturally. E. perriniana is at present in flower as is E. cordata. Others include E. gunnii, unigera, rubida, nitens and nicholii.

Also outdoors unharmed are to be found, Hoheria sextylosa, Astelia nervosa 'Silver Spear', Cordyline australis - many of which flowered last summer, Callistemon rigidus and C. 'Mauve Mist', Sophora microphylla and Senecio (Brachyglottis) reinoldii. In my garden which is 11km (7 miles) west from Camborne are to be found Coprosma x kirkii 'Beatons Gold' and Sophora tetraptera which has got over 2500 flower buds on about to burst. Sollya heterophylla and Billardiera longiflora are both thriving and a Melaleuca gibbosa is about to flower. A 3m high specimen of Pittosporum crassifolium also has buds on it.

Back at the College, in an unheated glasshouse, we have large specimens of Araucaria heterophylla about to lift the roof off as is Myoporum laetum. Pride of place must go to a 3m Mertya sinclairii. This is extremely fast growing having attained this height in 15 months from a 30cm specimen. Another rampant plant in the cold glasshouse is Pittosporum undulatum. This produces its very scented flowers over a long period of time and is followed by orange berries.



Outside again, a collection of 20 or so Pittosporums are thriving. Included are many cultivars of P. tenuifolium as well as P. tobira and its variegated form, P. eugenoides and its variegated form and other hybrids. All are more prone to dry wind damage than cold alone. Griselinia littoralis is grown here as a salt-hardy windbreak; G. lucida only survives for a few years before succumbing. The genus Pseudopanax does well here. Most are hardy during normal winters although P. lessonii 'Gold Splash' is a little tender. P. crassifolium does very well, its always attracting attention with its strange foliage.

Not perhaps Australasian but certainly southern hemisphere, readers may like to know that there is a collection of over 70 species and cultivars of the genus Escallonia at Rosewarne. This is probably the most comprehensive collection anywhere in the world. Material is available to interested parties.

Another surprisingly hardy plant with us is the palm Phoenix canariensis. 2m high specimens here survive unharmed temperatures of -5°C. There is no doubt that they would survive even lower temperatures and perhaps this plant should be tried in more parts of the country. It is certainly wind-hardy.

SMOKE GERMINATION RESEARCH

By Tony Entwistle

I have a research register to send to Kings Park, Perth, and I would like members to send me their results on germination. I need to know:

1. previous methods and successes.
2. soil mix used, any fertiliser.
3. any viability test first.
4. date sown, species tested, no. of seeds sown, no. emerging.
5. dates of sowing and seedling count.
6. method of smoke used eg bonfire, instant smoke
7. duration of smoke treatment (exposure time).

RHODODENDRON LOCHAE

Rhododendron lochae has been split into two species, R. lochae and R. notialae. The name notialae means 'from the south' and has been given because the species is found in the southern part of the R. lochae occurrence. Interestingly R. lochialae is the plant which was first called lochae. However a rigid application of the rules of botanical nomenclature would cause confusion in the horticultural trade, because it is the other species which is common. Consequently it has been allowed to keep its familiar (and incorrect) name.

It is easy to distinguish the two species when they are in flower. R. lochae has a short floral tube, and its stamens are spaced round the flower. R. notialae has a long curved tube, with the stamens grouped together at the top of the bloom.

VARIOUS SEED SUPPLIERS

New British firm - 'Aus-seeds', Maes Fron Hall, Trewern, Welshpool, SY21 8EA. Limited list, Aust-packed pictorial packets; not cheap. Described as 'botanical quality' - what on earth does this mean? Mostly collections eg. Banksia, Acacia but just to confuse you there is a collection of American passionflowers mixed in! Descriptions of hardiness need to taken with at least a kilo of salt (unless perhaps you live in the Scillies) eg 'hardy' Banksia and Acacia collections, Eucalyptus (now correctly named Corymbia) ficifolia 'quite hardy' - in fact it is one of the tenderest eucalypts. And what does the expression 'medium hardy' mean?

Western Australia Bushland Flora, 17 Trotman Crescent, Yanchep Lagoon, Yanchep, WA 6035. Extensive list, A$1.30 pkt. I can send anyone a photocopy of catalogue if wanted.

Please note change of address of Nindethana Seed Service; now PO Box 2121, Albany 6330, WA. Seed still only 90c pkt.

If you are sending for seeds from Australia quite often only Bank drafts are acceptable, and as these cost you £7-£10 each it is much better to buy some Australian dollars from your bank and send these. Their charge is around £2.50 for any amount, so buy as much as you can

afford at a time! If you do send an ordinary cheque you will need to add £2.50 for bank charges in Australia.

Tony Entwistle

Another source for Australian seed is the American seedsman, J.L. Hudson, discovered by Tim Longville.

'The 96 pages of the 'Ethnobotanical Catalog' are dense with detailed descriptions of plants - and also with a running political and moral commentary. Imagine a hippy-anarchist version of Chilterns!

As for the seeds:
'Well, there are of course plenty of acacias and eucalypts and some melaleucas and grevilleas. But there are also items such as Dillwynia juniperina, Crowea angustifolia var dentata and Crotalaria cunninghamii. To me there was at least one previously unknown genus which sounds as though it might be of considerable interest. The genus is Wrixonia, the specific plant is W. prostantheroides. The description, infuriatingly and predictably, is about the most brief and least specific in the whole catalogue. To wit: "Wrixonia. Labiatae. Two Australian species. W. prostantheroides. 'Youanmi Mint-Bush.' Aromatic Australian plant, unknown in the U.S." That's it! Does any APS member have more knowledge? Has any member tried to grow it? Is it, indeed, 'known in the U.K.?' If so, what does it need? Presumably, similar conditions to Prostantheras? How big does it get? What colour are its flowers? I take it it's a close relative of the Prostantheras? How does it differ from them? Any information would be gratefully received (though try not to be too off-putting since of course I've already sent for the seed).'

Seed is US$1.25 a packet, about 80p. J.L. Hudson, Seedsman, Star Route 2, Box 337, La Honda, California 94020, USA.

LEMON-SCENTED BORONIA

By Brian Halliwell

High up on Tasmania's sub-alpine and montane moors there is a small much branched evergreen shrub. Sometimes it is prostrate, at others it reaches up to 70cm. There are opposite pinnate leaves with usually 5, but sometimes 3 or 7 narrow leaflets which are strongly lemon scented. In late spring or early summer single flowers stud the branches, appearing in the upper leaf axils of the previous year's growth. They have 4 petals which open flat, and though usually pink, can be white. The underside is always pink.

In my experience this, Boronia citriodora, is the hardiest of the Boronias. A plant which I had collected in 1977 survived outside at Kew for several years, until killed by one of the very cold winters experienced in the 1980's. Jeff Irons grows a plant of different origin in his Wirral garden. Boronia citriodora needs soil which does not dry out, and at Kew it was grown in a peat bed.

The species is endemic to Tasmania. B. citrata, found in Victoria, was at one time confused with B. citriodora.

Propagation is from seed which has been stratified (but not frozen), perhaps for several years. Cuttings root easily in both spring and autumn.

WINTER DAMAGE IN CHESHIRE

By Tony Entwistle

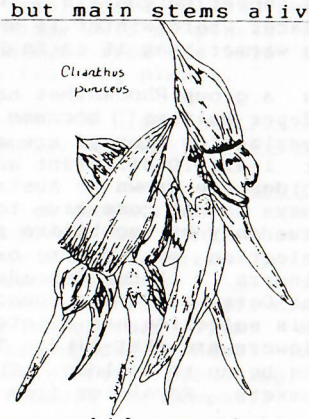
The following notes are provisional - the damage may be worse than currently apparent!

Location : N. Cheshire, alt 90m (300'). Min temp -13°C, 28.12.95.

OUTSIDE

Killed completely to ground level (at least)
Acacia dealbata
all Coriaria
Pseudopanax crassifolius
Phormium 'White Wave'
Olearia phlogopappa (white form)
Callistemon robustus
Cordyline australis

All young growth killed, defoliated, but main stems alive
most larger Hebes, and some smaller ones.
Phormium tenax purpureum



Some branches killed but mostly OK.
Grevillea 'Canberra Gem'
Prostanthera cuneata
Hakea lissosperma
Callistemon subulatus
Senecio 'Sunshine'
Eucalyptus gunnii

Unharmed
Callistemon pityoides
Richea scoparia
Eucalyptus niphophila

IN POLYTUNNEL

lined, small oil heater but still froze solid one night.
Killed
Anigozanthos
Chorizema ilicifolia
Eucalyptus macrocarpa
Prostanthera rotundifolia and P. walteri
Meryta sinclairii

Unharmed
Acacia and Melaleuca seedlings
Clianthus puniceus

FOOTNOTE: the only casualties of the 1995 summer drought (both after the hosepipe ban!) were Telopea oreades and Eucryphia 'Pink Cloud'.

RHODANTHE ANTHEMOIDES

By Jeff Irons

Rhodon = rose, anthos = flower, anthemoides = leaves like Anthemis.

Are you looking for an easy going evergreen small perennial which can be used in the alpine garden, a container or a hanging basket? If so, then you should grow Rhodanthe anthemoides.



Known commonly as the Chamomile Sunray R. anthemoides has leaves which smell of chamomile when they are crushed. It has a wide distribution in eastern Australia, from Tasmania to southern Queensland and from the coast to the alpine areas. With such a wide occurrence we should expect to find several different forms, and we do. Some have straight unbranched stems, others do not; some have red flower buds, others have brown ones; some flower in the winter, others in the summer. Only those from high levels are hardy in Britain. Low level plants have to be treated as annuals or as tender perennials. They should be hardy in places where winter is short and the winter sun is warmer than it is in Britain.

As a group Rhodanthes have the common name of 'Paper Daisies', because the 'petals' of their everlasting flowers are actually papery bracts. At least 10 different selections of R. anthemoides are grown in Australia, and two of them have registered names. They do not come true to type from seed, so named forms can be kept true only by vegetative propagation from cuttings. 'Paper Baby' is a selection of obscure origin which has rounded red buds and cupped flowers. 'Paper Cascade' is registered in England, the Netherlands and Germany. It was found in Northern New South Wales by Esma Salkin. This selection has pointed ruby-red buds which hang down, and the open flowers are star-like. The blue green foliage is on branchlets which can be up to 1m long. This cv. is excellent in containers and hanging baskets. Royalties from it go to daisy research.

I grow a hardy alpine form. Seed from it is in the 1996 APS seed list. It is a compact bushy little plant about 20cm high, with unbranched stems clad with grey-green foliage. Snowy white everlasting daisies appear at the stem ends from high summer onwards. In a mild year they continue to appear right through autumn and up to Christmas. New stems begin to appear in February or March and then I cut off the old ones. In my garden it is a reliable perennial. Since the origin is Sawyer's Hill, at the northern end of the Kosciusko National park, that is what one would expect. County Park Nursery sells a different form.

Rhodanthe anthemoides can be dried by picking flowers in their prime and then hanging the bunches upside down while they dry. The fragrant leaves can be used in pot-pourri, and fresh blooms make excellent cut flowers.

Seed is ready for harvest when the flower centre spreads out, and the papery bracts bend back. Usually there is only a little viable seed in each head. It is easily recognisable because viable seed is dark in colour, and plump. When tested with a finger nail it is firm.

Finally I come to the botanical details. Until recently Rhodanthes were called Helipterums. Botanists all over the world agreed that the Australian 'Helipterums' were different from the South African ones, so in 1992 they were given 'new' names. In many cases these were actually the original names. Helipterum anthemoides became Rhodanthe anthemoides, which is what the botanist Kurt Polycarp Joachim Sprengel (1766-1833) has called it.

AWARDS 1995 - FROM AGS BULLETIN, DECEMBER 1995

Trochocarpa thymifolia received an Award of Merit. T. thymifolia forms a dwarf much branched evergreen shrublet upto 90cm tall in its native montane and subalpine habitat in Tasmania; cultivated specimens are usually half this size. Pendant flower spikes appear in summer. The corolla is bell-shaped, 5mm long, pinkish red, divided into 5 triangular lobes, with internal beards. White flowered forms do occur; indeed Jeff Irons showed me a slide of a white flowered seedling growing in his garden. In its native home, pale bluish-purple fruits appear in late summer and autumn. Since Jeff's plants have never fruited, he will be sowing some of the seed from the 1996 seed list which he hopes will ultimately give him fruiting plants.

Plants receiving Preliminary Commendations include Clematis petriei, Clematis 'Craigton Comet', Coprosma cheesemanii, and Davallia tasmanii.

Clematis petriei is a New Zealand clematis which can scramble extensively through trees and shrubs. The male plant has the showiest flowers with masses of pollen-laden anthers over narrow green petals. Clematis 'Craigton Comet' is a product of a cross between C. marmoraria and C. x cartmanii 'Joe'. This compact clematis has flowers midway in size between the parents on branches no longer than 15cm. Best grown in a deep plastic pot in the cold greenhouse. Repot twice yearly: in late September and again immediately after flowering; as New Zealand clematis are hungry and quickly exhaust the compost.

Coprosma cheesemanii occurs on both North and South Islands and also on Stewart Island, typically on tussock grassland at montane or subalpine levels. The cultivar 'Red Mack', given the P.C. was introduced to cultivation in 1985 from Mackenzie Pass near Lake Tekapo on South Island by Graham Hutchins of County Park Nursery. In the autumn bright red translucent berries, 7mm in diameter are produced.

Davallia tasmanii. This fern was found by Cheeseman on Three Kings Islands, off the northern tip of Auckland, where it is said to be abundant growing epiphytically on trees and shrubs but also as a terrestrial under the shade of Leptospermum and other scrub. Members of this genus are popularly referred to as the hare's foot ferns. This fern is easily recognised by its long, thick rhizome, densely covered with chestnut-brown scales, and its short, broadly triangular fronds.

PLANT PORTRAIT – DARWINIA

By Tony Entwistle

A Myrtaceae genus of some 35 spp of small shrubs all native to Western Australia. There are two distinct groups in the genus; in the first group the bracts are short or inconspicuous, the flowers arranged in terminal heads or clusters. In the second group known as 'mountain bells' the bracts are large and bell-shaped, completely hiding the flower cluster inside. Foliage varies from thin Melaleuca-like to thicker Beaufortia-like.

In the first group the best known is Darwinia citriodora with orange clusters of flowers, rather spiky in appearance because of the long styles. D. oldfieldii is similar but red. Even better is the 'rose Darwinia', D. purpurea, which does resemble miniature double red roses and is very beautiful. Both are cultivated in gardens extensively. D. neildiana is similar, with slightly larger fringed bracts. D. vestita has white 'pompoms'.

The second 'mountain-bell' group are nearly all confined to the Stirling Range, many species being restricted to a particular mountain peak. D. meeboldii (Cranbrook bell), D. macrostegia (Mondurup bell) and D. wittwerorum all have bicoloured or blotched red and white bells. Even more handsome, in my opinion, are the self-coloured bells such as D. oxylepsis (Gillam bell) - red, D. leiostyla - pink and D. collina - yellow.

I have seen quite a few of these in the Stirling Ranges and there are several in the endangered species garden at Kings Park in Perth. I have had no success with seed to date and I do not think they are obtainable in the UK.

SHE-OAKS AND HE-OAKS

By Jeff Irons

Casuarinas and Allocasuarinas are known commonly as 'She-okes'. The origin of the name has always intrigued me and at last I have found it. The answer to my query was in the book "Notes and Sketches of New South Wales" by Mrs Charles Meredith, 1814.

She wrote "The trees called by the Colonists 'he-oak and she-oak' (Casuarina stricta and C. torulosa) form a remarkable feature in Australian scenery.... The he-oak has much shorter tresses than the she-oak, which may perhaps have given rise to the absurd Colonial distinction of the species....

She-oak is especially liked as fuel. It is said that this name has been borrowed from the sheac or cheoak of America, in consequence of some resemblance in the wood.

Ed- C. stricta is now Allocasuarina verticillata and C. torulosa is A. torulosa. I wonder what has happened to the name he-oak, is it still used? The Flora of Tasmania does not mention it, but calls A. verticillata she-oak.

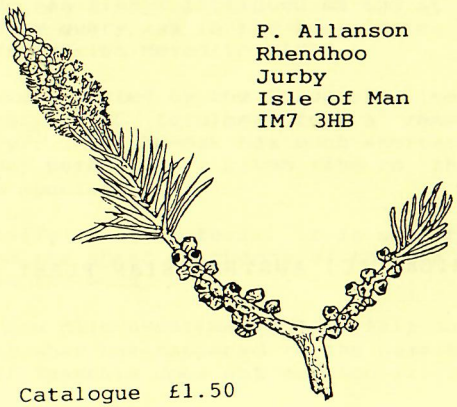
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