AUSTRALASIAN PLANT SOCIETY NEWSLETTER



ISSUE 8 APRIL 1992

AUSTRALASIAN PLANT SOCIETY

NEWSLETTER NO.8

APRIL 1992

CONTENTS

	Page
Editorial	1
Plant Life In Australia And New Zealand	2
Haemodorum distichophyllum	3
Name Change	3
Grevillea rosmarinifolia	4
Grevillea rosmarinifolia 1876	6
Miniature Kiwis	6
Why You Should Not Mow Your Lawns	7
Growth Retardants	7
Vermiculite v Perlite	8
Nuytsia floribunda	8
Metrosideros excelsa	9
Avon Bulbs	9
Two Small New Zealand Conifers	10
Observations Made By A Devon Gardener	11
Acacia pataczekii	12
Olearia macrodonta	14
Leptospermums	16
Pseudowintera colorata	17
Proteoid Roots	18
Promotional Names	18
Blandfordia punicea	19
Gardening In Spain	19
Tasmanian Flags	20
Alien Weeds Run Riot in Australia	21
Wingham Brush	22
Bill Cane And His Banksia canei	24
Banksia canei	25
Clianthus puniceus	27
Horticultural Awards	28
Contacts	29

COPYRIGHT © AUSTRALASIAN PLANT SOCIETY

EDITORIAL

Dear Members,

First of all, welcome to all our new members, many recruited as a result of placing advertisements in 'The Garden'. We now number approximately 60.

Next, welcome to your new look newsletter, inside which you'll find many interesting accounts of plants from both Australia and New Zealand. The articles are a mixture of general information and member's own experience with a particular plant or species of plant. I, personally, find member's accounts the more interesting, especially when individual cultural information is supplied as well as the temperature range the plant is subject to. This helps to determine how a plant may fare in various regions of the British Isles which a general report can't cover.

I'd like to reiterate Jeff Irons' plea in a previous issue for members to send in details of their successes, and failures. When doing so, please mention whether the plant is growing outdoors, indoors etc. Other helpful information would be aspect, preparation of ground at planting time [if outdoors], compost and size of pot [if containerised], drainage, feeding regime, frost protection given [if any], age of plant or length of time in open ground, minimum temperature.

Winter 91/92 has been particularly cold here in North East England, compared with previous winters. January had 21 days when the night temperature dropped below freezing point, occasionally as low as -6°C. Unlike last winter, there was no protection from a layer of snow. *Eucalyptus globulus*, which had come through the previous two winters with only slight discoloration, has been badly affected by the cold this year. The leaves that remain, are tattered and reddish-brown. 3m [10ft] high specimens have now been pruned by half in the hope that it'll promote new growth.

This year's AGM will be held in Room 3, Church House Conference Centre, Dean's Yard, Westminster, London, at 2pm on Saturday June 27th. The brief meeting will be followed by an illustrated lecture about Australian plants, given by Dr. Philip Short, the current Australian Botanic Liaison Officer at Kew Gardens. Sources who know him well tell us that Philip is a very good and entertaining speaker. Please try to attend; the previous two AGMs have had very disappointing support.

Jeff Layman, one of our members with a great interest in the wildflowers of Western Australia, has been sent a batch of mixed *Verticordia* seed. He's not sure from whom, but suspects it may be Elizabeth George, an authority on the species. If anyone would like some of the seed, please contact Jeff, at : 27 Fenhurst Close, Horsham, West Sussex, RH12 1VX.

All articles and other information to be printed in the newsletter should be sent to me :
Sue Hyams, 100 Willowbank, Coulby Newham, Middlesbrough, TS8 0SP.

ADDITION TO SEEDLIST *Gahnia subaequiglumis*

PLANT LIFE IN AUSTRALIA AND NEW ZEALAND

Australia and New Zealand have floras marked by a high degree of endemism. At a casual glance New Zealand's flora is very different from that of Australia. It is green rather than greyish in leaf. There is a preponderance of white flowers. A closer examination shows that the difference is more apparent than real.

Both countries were part of the ancient continent of Gondwana, and they separated between 60 and 80 million years ago. At that time both countries had the whole Gondwanan flora. Since than New Zealand has remained generally cool and moist, but Australia has become warmer and drier. To get a true comparison we need to compare New Zealand's plants with the relict Australian rain forests and its fossil record. When that is done a remarkable match is seen. Even today both countries share families such as the *Winteraceae*, which have primitive flowers; and families with highly developed flowers, such as the *Asteraceae*.

Australia's flora has been affected by two changes. They are the continued leaching of its soils, and the onset of aridity. As a consequence of volcanic activity, New Zealand's soil fertility has been maintained. Its soil nutrients have been renewed. Another factor has been glaciation. Much of New Zealand has been glaciated, but in Australia only Tasmania has been subject to glaciation.

Australia's vegetation is dominated by *Acacias*. They cover much of the arid interior. Though present in New Zealand initially, and abundant in dry coastal zones, they could not withstand the Ice Ages. As a result they are absent from present day New Zealand. The *Proteaceae* family reaches its greatest development in Australia, and has proliferated on poor soils. New Zealand's two members of the family are found only in poor soils in forests of the North Island. This is in marked contrast to Australia, where *Proteaceae* have extended to cold mountain tops.

The list of families common to the two countries is long. A short selection includes: *Chenopodiaceae*, *Ericaceae*, *Goodeniaceae*, *Loranthaceae*, *Myoporaceae*, *Myrtaceae*, *Podocarpaceae*, *Proteaceae*, *Stylidaceae* and *Winteraceae*.

Alpine gardeners are aware of the links between the two countries. They grow *Arthropodiums, Celmisias* and *Chionohebes, Dracophyllums, Pernettyas* and *Wahlenbergias.* Some even manage to grow the coveted alpine buttercups, *Ranunculus anemoneus* from Australia and *R. lyallii* from New Zealand.

HAEMODORUM DISTICHOPHYLLUM

by Jeff Irons

The *Haemodoraceae* is a family of herbs which have a red bulbous root. It has about 20 members, all of them except one endemic to Australia. Most are deciduous and die back to the rootstock in dry weather. Tasmania has one representative of the genus *H. distichophyllum.* It is so named because its leaves are in two rows; and it is not deciduous.

Endemic to the western part of the state, the species grows in heathland and button grass plains. Unlike British heaths, Australian ones are wet, and button grass could be described as Tasmania's equivalent of our cotton grass. Thus in cultivation this plant requires a wet soil. I have found it to grow well in a mixture of equal parts of granite grit and peat.

The height is up to 0.1m [4 in], the rounded rush-like leaves being about 2-3cm [approx 1 inch] long. Usually a bright green they do turn black in the spring before dying. This sight need not cause alarm for they are replaced by fresh young leaves. The flowers appear from June onwards and are red, green and black with bright red anthers. They are carried in a dense cluster up to 10cm [4 in] high.

This is an unusual plant which is easily grown. Because of its small size and special requirements of sun, moisture and drainage it is best grown in a pot which is stood permanently in a tray of water.

We offer seed from garden stock of known origin; on Scotts Peak. Plants should flower in their third or fourth year.

NAME CHANGE

Calocephalus brownii [Cass] F. Mueller is now *Leucophyta brownii Cassini.*

GREVILLEA ROSMARINIFOLIA

by Willie Wood

A robust ornamental evergreen shrub with dense deep green, needle-like foliage, which points upwards in a crowded fashion. Flower colour varies from rose pink to deep blood red with green tips in pairs which form a subulate bract. Flowers are often seen with a creamy white blotch which occurs from late autumn - mid spring in Australia.

Grevillea rosmarinifolia varies in growth but approximately will grow to 1.5 - 2.5m [approx 5-8ft] high and 1.5 - 2m [approx 5-6½ft] wide. There are various forms of *G. rosmarinifolia*; red form, green form, dwarf green, dwarf pink form, etc. as well as a few cultivated hybrids such as 'Rosy Posy' which unfortunately to the best of my knowledge is not on the market in the U.K.

In Australia, *G. rosmarinifolia* at one time was one of the few Grevilleas grown in home gardens. These days there are more spectacular flowering Grevilleas on the market but *G. rosmarinifolia*, as well as being of great botanical significance, is still a very worthy and attractive shrub. All forms respond very well to pruning, thus one can produce a very tight, compact and balanced shrub.

In parts of England and Scotland where frosts are very severe, *G. rosmarinifolia* has proved to be one which is most hardy outside. There has been only limited research undertaken on frost tolerance of Australian plants but it seems that -4°C is an important temperature, because many plants will suffer damage only below that mark. Hardy Grevilleas it is said can usually tolerate -7°C but *G. rosmarinifolia* can survive temperatures below -7°C.

Like most Grevilleas, *rosmarinifolia* is adaptable to a wide range of soils which have a well draining structure. Some of the dwarf forms though are fussier and have varying requirements for water, light and shade.

G. rosmarinifolia was discovered by the famous plant hunter Allan Cunningham, born in 1791, son of a Scot from Renfrewshire but brought up in Wimbledon.

It is said Allan Cunningham by chance met W.T. Aiton who was at that point Superintendent at Kew. It was he who offered Allan Cunningham his first step to plant hunting by helping Aiton with Volume 2 of Hortus Kewensis which was at that point going to press in 1814.

By 1816 Allan Cunningham was off to Australia from the recommendations made by Joseph Banks. Along with him went Charles Fraser. The first 10 years Cunningham and Fraser spent most of their time travelling and exploring the Lachlan and Macquarie river areas as well as the Blue Mountain region of NSW. In Cunningham's journals he gave detailed direction of travel, co-ordinates of encampments etc through the Blue Mountains. On one trip, after 21 weeks with shortage of provisions and water, Fraser and Cunningham had reported their specimen collection might exceed 400 with over 150 seed papers of many new and beautiful plants.

Near the Prison Building by Cox's river on the old Bathurst road in NSW, *Grevillea rosmarinifolia* was discovered in 1822. It would have been introduced back to England shortly afterwards as a weak specimen is figured in 'Loddiges Botanical Cabinet' as having flowered in the celebrated Hackney Nurseries at that period.

At the Botanic Gardens Edinburgh you can check the record log books where seed and specimens were logged in, on delivery from all over the world. The original logs are still there from the early 1800s. Allan Cunningham himself never sent seeds or specimens back to Edinburgh but it is clearly shown that Governor Macquarie sent 131 different native species of seed to Edinburgh and Charles Fraser sent 37 species in 1822 but no mention of *Grevillea rosmarinifolia* in the listings. It is possible specimens/seed of *rosmarinifolia* arrived at Kew rather than Edinburgh.

Edinburgh Botanic Gardens played a very important part in the cultivation of Australian native plants in the early 1800s but the Gardens played an even greater part in the conservation of Australian native plants.

It was thought that *Grevillea rosmarinifolia* was extinct in its native habitat and this clone was not lost to science but in 1979 it was rediscovered by Don McGillivany growing in the Royal Botanic Gardens, Edinburgh. Cuttings from the mother plant at Edinburgh were then re-introduced back into Australia, saving a very important and significant native species, which shows in one respect the importance of Botanic Garden collections.

*****

GREVILLEA ROSMARINIFOLIA 1876

EXTRACT FROM 'GARDENERS CHRONICLE' APRIL 22, 1876

'In the garden of Mr. T.B. Stow, which is situated in the highest and most exposed part of the town of Tonbridge, I have just found a fine bush of this plant, which he turned out of a pot in the autumn of 1872. It is planted on a bank of stiff clay, raised about 2 feet above the level of the lawn. At the back of the bank there is a screen of evergreen shrubs, which protects the plant from a northerly and easterly winds, but it is fully exposed to the south and west. About 40 feet distant there is a fine Oak tree, from the foliage of which during the summer the plant would be in shade, as nearly as I could guess, from 11 until 1 o'clock. The stem at the base is nearly an inch thick. The habit of the plant is that of a low spreading bush; it is fully 5 feet wide, and would probably have been as thick as it is wide, but for the evergreens behind it. The height is about 2 feet. Shoots made last year at the ends of the branches are from 12 to 15 inches long, and most of these have immature racemes of bloom on them. Frost has slightly touched these more exposed inflorescences, but there is a profusion of open and opening flowers on the shorter growths, nearer to the stem of the plant, where the dense foliage has protected the blossoms from any ill effects of this long-continued winter.'

MINIATURE KIWIS

Dutch nursery Rosbergen of Boskoop has bred a smaller version of the Kiwi fruit we are used to seeing in our supermarket. The new 'Mini-Kiwi' [*Actinidia arguta* 'Issai'] has fruit the size of a plum. Described as being 'hardy in Sweden' and also being self-fertile, requiring only one plant to produce fruit,' its got to be well worth a try.

WHY YOU SHOULD NOT MOW YOUR LAWNS

Until now the only reason for not fertilizing a lawn has been that adding fertilizer makes the grass grow, and that makes it need cutting. New scientific evidence against the use of fertilizer will please lazy gardeners.

Papers published in the journal Nature show that soil contains micro-organisms called methanotrophs. They use the potent greenhouse gas methane as an energy source. Nitrifying bacteria then convert it to a form usable by plants. When nitrogenous fertilizer is applied to grassland and cereals the amount of methane absorbed from the atmosphere is reduced by about a third.

Studies such as these are made as part of a programme to increase agricultural production, while minimizing its effect on the atmosphere. They do have spin-offs for the amateur, both trivial and serious. Many Australian plants have evolved in old, highly leached soils. They are able to use soil nutrients very effectively, and their fertilizer needs are minimal. Soil absorption of methane is a particularly important effect, for ruminants are believed to produce 66 - 90Tg of methane a year, and rice paddies another 60 - 140Tg.

[Note : 1 Tg = 1 million tonnes].

*****

GROWTH RETARDANTS

The use of growth retardants to produce compact pot plants is established practice. Florists' chrysanthemums and poinsettias being among those for which treatment with growth retardants is now normal practice.

Many antipodean plants have potential for sale as pot plants if treated with growth retardants. In the past we have suggested *Correa* and *Prostantheras* to nurserymen - but with no noticeable effect. Recently we have read of further trials on plants ranging from clematis to rhododendrons. Interestingly some *Hebes* have been included among the plants trialled. An early application of growth retardant delayed and reduced flower formation. Overall there was no reduction in the total number of branches.

Members could advance knowledge here by carrying out their own trials. Bonzi and Cutlass are two growth retardants which are readily available.

VERMICULITE v PERLITE

Vermiculite is made from natural rock which, when heated rapidly to over 500°C, expands like a concertina to more than 10 times its original volume. The large total surface area of the granules makes them highly absorbent.

Perlite is made from volcanic lava which expands to more than 10 times its original volume when heated to over 1000°C. The white granules of expanded Perlite have an internal structure like a honeycomb and an external surface covered with tiny fissures which creates an extremely absorbent surface area.

Vermiculite and Perlite have many similar properties, the most important being that they improve aeration and drainage in any growing medium to which they are added. They also make it easy to rewet compost mixes. Other similarities include good capillary action aiding uniform irrigation, and good insulation, reducing temperature fluctuations. Both stimulate root initiation and vigorous growth.

Vermiculite provides magnesium, potassium and traces of other minor elements; it has a pH range 6.0-8.5. It also has a high cation exchange range capacity, like humus and clay, which enables it to retain added nutrients making them available for roots to take up, slow release. It holds more water than Perlite, and is more resistant to drying out. Perlite is chemically inert, virtually neutral in pH [6.5-7.5], neither providing nor absorbing any nutrients. It holds more air but less water than Vermiculite.

The majority of Australian plants grow best in slightly acid soils from pH 5.5-7.0, so it would seem that Perlite is the more favoured.

NUYTSIA FLORIBUNDA by Sue Hyams

Nuytsia floribunda is named after the Dutch navigator Pieter Nuyts who first discovered the part of Australia in which it grows. Its common name of the Western Australian Christmas Tree gives a clue to the fact that this tree is to be found in West Australia.

Nuytsia is one of those plants that cannot be grown; rather it grows. It is a root parasite, of tree-like proportions; the largest parasitic plant recorded in the world. It has no means of feeding except through the roots of established nearby host plants with which it has grown to maturity.

Found growing in large numbers in limited areas of sandy bushland, where it spreads by suckers from its own underground stems, it battens on, and feeds from, every plant in sight from grass to tree.

The tree grows upto 8m [27ft] high with leaves upto 100mm [4in] long and 7mm [0.3in] wide. From November to January, golden-coloured flowers occur in groups of three with upto 50 in an inflorescence. Each flower has a tubular calyx and 6 to 8 club-shaped petals with the 6-8 stamens fused to the base of the petals. The 3-winged fruit becomes brown when mature. The seeds [included in our seedlist] can be sown and they will germinate, but without the host plants to feed from, the *Nuytsia* seedlings will remain small.

METROSIDEROS EXCELSA Myrtaceae

by Sue Hyams

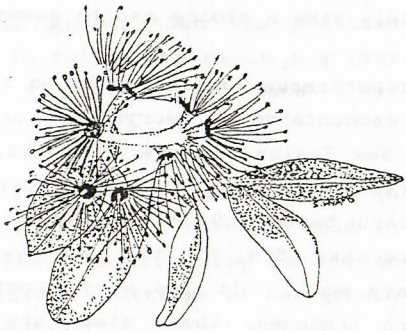
Metrosideros means heart of iron, a tribute to the red heartwood which was used for idol-making in the pagan days, weapons and boat building.

Metrosideros excelsa [syn *M. tomentosa*], is called Pohutukawa by the Maoris, meaning 'sprinkled with salt spray' because of its habit of clinging to sea-washed cliffs or growing with its roots actually in salt water.

Wide spreading, gnarled grey-barked specimens to 15m [50ft] or more flourish on at least part of every headland, cliff and beach shore of the North Island as far south as latitude 30°, resisting wind and salt spray. One such tree at Cape Reinga is, in Maori legend, where spirits of the departed slip away into the afterworld. Pohutukawa grows inland around central North Island lakes but otherwise is very much a feature of the sea-coast.

Its dark leathery leaves 10cm [4in] have silver reverses, which help to control the loss of moisture from wind and heat in exposed places.

In December [in New Zealand] small white clusters start to split revealing curled red stamens. Later they unfold into a rich covering of scarlet nectar-rich flowers favoured by birds and bees. They are often called 'Christmas trees' because of their flowering time.



Metrosideros excelsa

This Pacific Ocean genus has representatives as far east as Tahiti and Hawaii and as far west as Sumatra and the Island of Guam.

Although hardy only in the mildest parts of Britain, plants will flower in the cool greenhouse while still small.

Chiltern Seeds offer seeds of *M. excelsa*.

*****

AVON BULBS by Jeff Irons

A new addition to the Avon Bulbs catalogue is *Arthropodium milleflorum*. The firm's stock originated from Mt Tomah in the Blue Mountains of NSW, where it is found on the moister southern side. This particular stock grows to 45-60cm [18-24"] and, in England, flowers outdoors in August and September. It has proved hardy in my garden. One plant does not make much of a showing, but seed sown in spring will flower the same summer so a drift can soon be obtained. The first year plants will be only about 22cm [9"] high at flowering time. The best way to grow this member of the *Convallariaceae* is through something else. I have found *Campanula rotundifolia, Dryas octapetala* and *Olearia frosti* to be effective. Since this form has long stems, many slightly higher plants could be tried.

TWO SMALL NEW ZEALAND CONIFERS

by Brian Halliwell

Most conifers chosen for a rock garden are small cultivars of normally large forest trees. These can be slow-growing or remain small if their roots are restricted in a pot. Eventually they grow away to become over-large shrubs which are a nuisance. There are naturally occurring species which are slow-growing and which remain small even when they have reached great age. From these, rock gardeners can safely make a choice and be assured that they have true dwarfs.

Lepidothamnus laxifolium known in New Zealand as Pygmy Pine may still be encountered as *Dacrydium laxifolium*. This conifer which is endemic to New Zealand occurs in North, South and Stewart Islands. In the North Island it occurs on mountains upto 1524m [5000ft]; in South Island between 915-1220m [3000-4000ft] and on Stewart Island at no more than 152m [500ft]. The Pygmy Pine is found on moist, even boggy, peaty soil. It has wiry prostrate stems upto 1m [3ft] in length. Much branched, these stems are clothed with tiny scale-like leaves which can be green or glaucous. In winter there is a change of colour with the green becoming brownish and the glaucous plum-coloured. Male and female flowers are produced on separate plants. When both are present and the female is pollinated, fruits develop which are similar to those of yew, composed of a red fleshy aril from which a black seed protrudes. Grow it in full exposure in a peaty soil which is never allowed to dry out. This is a conifer which is much better in gardens that experience high annual rainfall.

Podocarpus nivalis has common names of Mountain Totara or Snow Totara. Another New Zealand endemic, this species is widespread on mountains of the South Island between 762-1524m [2500-5000ft]. It is variable in habit: suckering and producing upright shoots, prostrate or sprawling. There is also an upright slow growing form which can grow to 2.7m [9ft] which has been given the varietal name of *erectus*. Commonest amongst alpine scrub, it can occur along the upper margins of forests and on old screes or moraines. In this latter location, it is usually the suckering form which occurs for its habit of growth results in further stabilisation of rock debris. From the stems of all the different forms develop prominent leaves.

Upto 18mm [0.75"] in length these are leathery, narrow and pointed and can be olive, yellowish or bronzy green with a prominent white mid rib. Upright male flowers which are pink and spiky, produced in fours at the end of branches are about 12.5mm [0.5"] in length. Occasionally male and female flowers are produced on the same plant but it is more usual for them to appear on different ones. Following fertilisation, the female produces a fruit as with the Pygmy Pine with a red fleshy aril with a brownish or green seed embedded in its end.

In any of its forms this is a stronger grower than the previous conifer and so needs more space. Plant in full exposure in a gritty well drained soil. Once established it will stand much drier conditions than the Pygmy Pine.

Both species can be raised fairly easily from seed as long as this is fresh. Old seed germinates poorly and erratically. Although cold is not essential for germination it does seem to stimulate it and so following sowing, plunge the seed pot outside. Cuttings of new growth taken in December will root over bottom heat.

*****

OBSERVATIONS MADE BY A DEVON GARDENER
by Roger Stuckey

It is interesting to note that the common red Callistemon [I call it common because in Exmouth in Devon it is very hardy and is never killed by frosts] [we think that this is probably *C. citrinus* - editor] flowered superbly in the summer of 1991. I have never seen such a magnificent show, both in my own garden and in other Devon gardens. They always flower reliably but this was exceptional compared to previous years. I have no doubt that the dry hot summers of 1989 and 1990 contributed to the display by ripening the wood, but I also wonder if the colder-than-usual winter of 1990/91 following on from the hot summer had any added bonus.

In Exmouth, the *Leptospermum scoparium nanum* varieties like 'Kiwi', 'Kotuka', 'Kea', 'Nichollsii' and 'Nichollsii Nanum' are sometimes touched and cut back by frosty weather conditions, but are very rarely killed outright, even in the open. However a large 10 year old 1.7m [5.5ft] high bush of 'Nichollsii' was killed in the prolonged cold spell, which was severe enough to freeze solid the pipes in the house. As soon as the weather improved, seedlings of this shrub were turning up all over the garden, whereas in previous years there were never any naturally-occurring seedlings around the plant. Obviously the conditions which killed the parent plant were the same conditions which were needed to allow the dormant seeds which had accumulated in the garden to germinate. Presumably Nature's way of ensuring the survival of the species in different climatic conditions.

ACACIA PATACZEKII

by Brian Halliwell

The specific epithet commemorates Mr. W. Pataczek of the Tasmanian Forestry Commission who discovered it as a new species as recently as 1970. Mr. Pataczek's forename has been used also, in the vernacular : Wally's wattle.

There is local distribution on hills in north eastern Tasmania as an understorey in mixed *Eucalyptus* forest. Most usually it occurs as a much branched medium sized evergreen shrub although aged specimens can make small trees up to 6m [20ft] in height. It is prone to infestation by a moth which lays eggs in seed pods and the resulting caterpillars feed on developing seed which severously limits natural regeneration.

As with many species of *Acacia*, the juvenile stage of growth is different from the adult. Following germination, the first few alternate leaves are soft and pinnate but these are soon replaced by phyllodes [expanded modified leaf stalks]. Thick and leathery, these are green sometimes slightly glaucous and elliptical about 50mm [2in] in length and 12mm [½in] wide tapering to a point. Flower buds in groups of 15 can be seen in early autumn in leaf axils but they remain undeveloped until the following spring. On opening these are spherical, fluffy, mid yellow and have a slight but curious fragrance. Narrow pendent brown pods develop following pollination.

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

The first flowers appeared in 1985 and there has, in successive years, been regular flowering in ever increasing profusion. In April or May the mass of bloom almost totally obscures branches and leaves. Three stems originally selected for training are now trunk-like, some 150mm [6in] in diameter and 6m [20ft] in height. In most years seed is set but as it finally ripens and disperses quickly collecting can cause problems. Because good seed is difficult to find in the wild, the Tasmanian Forestry Service has requested samples from the Kew tree.

There is every indication that in Great Britain this is the hardiest species of *Acacia*. It is certainly more reliable than the florists' mimosa *A. dealbata* which is the most widely planted. The florists' mimosa which in the wild can make a tree in excess of 20m [65ft] is too big for all but the largest garden and is only successful when free standing in the mildest parts of the country. It will succeed in colder areas if trained against a south facing wall. This must be high and when flowers are produced they can be difficult to see and may be out of reach. Wally's wattle is considerably smaller and better suited to present day smaller gardens. When it becomes more widely available it is hoped that enthusiasts will try it in their gardens up and down the country either trained against a wall or free standing. As with most species of *Acacia*, it needs a well-drained lime-free soil.

So far the only successful method of propagation is by seed. Pour boiling water over Tasmanian seed and allow it to soak for 24 hours in the cooled water before March sowing in a warm glasshouse. Seed if available from British sources should be soaked for 24 hours, but in cold water, before sowing. Pot the seedlings as soon as large enough to handle in an open acidic soil based compost. Pot on as roots fill pots; do not allow plants to become rootbound. Plant out in May.

References :
Curtis W.M. & Morris D.I. 'The Student's Flora of Tasmania' Part 1 [second edition], published by Tasmanian Government Printer 1975.
Curtis W.M. 'The Endemic Flora of Tasmania', pub. by Ariel Press 1978.

Plants for Sale
Jeff Irons has just 3 1991 seedlings of *Acacia pataczekii* for sale. Price £3.00 each, inc p&p.

OLEARIA MACRODONTA

Following Jeff Irons' request for member's experience of *Olearia macrodonta*, we have several accounts of the plant.

In the garden of the house in East Devon where we lived from January 1986 to January 1990 there was a very large *Olearia macrodonta*. I would estimate it at over 10ft [3m] tall and at least 12ft [3.5m] through. I have no idea of its age.

The garden stood at about 650ft [200m] above sea level sloping southwest, the *Olearia* was in full sun completely sheltered from north and east winds and the conformation of the land caused the worst of the south and west winds to rise over the top of it. I could not give a pH for the soil but it was definitely acidic as the surrounding trees and shrubs were rhododendrons, eucryphias and magnolias. The soil was normally moist with water seeping through it down the slope.

In February 1986 we had frost in the ground for a full month, though temperatures were not remarkably low. In February 1987 on two consecutive nights the temperature fell to -12°C; this was sufficient to cut to ground level a 60 year old fig tree a short distance from the *Olearia* and was understood to be the coldest ever recorded in the area. The summers of 1988 and 1989 were both very hot and dry. In the normal way the humidity in the garden was high and it was often enveloped in fog/low cloud for days on end.

None of this weather appeared to have any effect whatsoever on *Olearia macrodonta* which remained almost indecently healthy throughout. Indeed it gave every indication of being one of those totally indestructible plants.

Cuttings struck readily; the only problem being moving them as the roots were so prolific.

I did not bring cuttings with me to Norfolk as *O. macrodonta* can take up a lot of space and it does not really appeal to me.

From my contact with *O. macrodonta*, I was rather surprised to learn that it does not do well in N.W. England. I would suggest that the reason might be :-

[1] The presence or absence of some trace element, perhaps phosphorous; OR

[2] Perhaps the majority of plants are of the same original stock which is less hardy that the original stock in use in the rest of the country.

by M. Hammond

*****

We have two trees/shrubs of *Olearia macrodonta* growing here at Lochgilphead. One is grown on a SW facing aspect and is approximately 4.5m [15ft] high, very free flowering, every year in July and August. The other is protected from the west winds by a hill but has the east winds to contend with. It too is very free flowering and is about 5m [16ft] high. We live right beside the sea and are affected a lot by very high winds from the north, west and south west. Both *Olearias* are at least 30 years old. We do get snow [but it never lasts long] and are affected by frosts. There is a high rainfall in the area. The garden is mainly on the acid side and the *Olearias* are only mulched with leaf mould. There are several other varieties of *Olearias* growing around the garden. We grow quite a number of other Australian, New Zealand and South American plants outside.

by Jane Lambie

*****

I bought my specimen in May 1986, in Cornwall for 50p, along with *O. scilloniensis* and *Cistus corbariensis*; all three are planted in an island bed facing south, along with heathers and conifers. My soil has a pH of 6.5 and is heavy clay. Grit and peat were incorporated into the soil at planting time. *O. macrodonta* hasn't grown as fast as *scilloniensis* which is now 1.5m [5ft] in height. Being about 1.2m [4ft] tall, and sheltered from the east and north winds, it produces flowers each summer.

Incidentally, when visiting Edinburgh three years ago, I noticed that *O. macrodonta* is used extensively in their large raised-container planters along the streets.

by Sue Hyams

LEPTOSPERMUMS

At last we have been able to obtain a copy of the 1989 revision of Leptospermum, by Joy Thompson. It will be very useful to us, for many of the Leptospermums grown in Britain are named incorrectly. A good example is the shrub which a nurseryman was selling as *L. obovatum hypericifolia*. A customer had given it to him under that name. *L. obovatum* and *L. hypericifolia* are two different species! Joy Thompson identified the plant as *L. lanigerum*. Apparently not all *L. lanigerum* are woolly. Possibly genes from *L. nitidum* have crossed Bass Strait and invaded *L. lanigerum* to produce what is known locally as 'Green Teatree'. This is what the nurseryman was selling.

The paper has much to say about *L. scoparium* and the extract given below is of especial interest:

'*L. scoparium*, very variable in Tasmania and the only representative of the complex there, may have differentiated there and subsequently re-invaded the mainland forming scattered populations showing different facies. It appears the least specialised of the pungent-leaved species. Some collections from southern Victoria seem to represent a breakdown of *L. scoparium* and *L. continentale*, perhaps as a result of recent trans-Bass Strait migration of propagules of *L. scoparium*. *L. scoparium* has been very successful in Tasmania and has migrated across the Tasman Sea to New Zealand. In New Zealand it is the only species of *Leptospermum* [the species previously known as *L. ericoides* is now considered a *Kunzea* [Thompson 1983]], and, being a far from primitive *Leptospermum*, cannot be an ancient Myrtaceae plant of the New Zealand Palaeocene as has been assumed in that country [Fleming 1975]. It must be a relatively recent arrival by long-distance dispersal. It is likely that on arrival in New Zealand *L. scoparium* became established in limited edaphically suitable areas until the arrival of Polynesian man whose fire and forest-clearing brought about those low-nutrient-status conditions for which it had been pre-adapted in its homeland. Burrell [1965] reports fruit of *L. scoparium* opening within an hour of passage of a fire. The continued deterioration in the fertility of its habitat in New Zealand has been much to its advantage [Ronghua et al. 1984] allowing it to become a significant part of that country's flora. The occurrence of variants, of much interest to horticulture, in New Zealand suggests a small gene pool and expansion into new areas, and there is already indication of regional divergence.'

PSEUDOWINTERA COLORATA

by Brian Halliwell

Sometimes known as *Drimys colorata*, this New Zealand endemic with the Maori name of horopito is usually referred to as pepper or red pepper bush. It is an upright much branched evergreen shrub with alternate thick leaves, broadly oval or elliptical, varying in length from 25-75mm [1-3in] and in width from 12.5-25mm [0.5 - 1 inch]. Mature leaves are yellowish green blotched and edged with red. In spring on new growth leaves can be almost totally red as in *Pieris forrestii* but colour partially fades as they mature. The underside bisected by a prominent midrib is glaucous. Leaves which are aromatic have a hot peppery flavour hence the common name. This strong taste protects from grazing animals such as hares, rabbits, squirrels and deer. In summer there are a few flowers some 12.5mm [0.5in] in diameter produced in leaf axils even on older stems or nodes where leaves have fallen. Fragrant flowers with 5 greenish petals are self-sterile so isolated plants will not produce fruit. Fruit, usually produced in pairs is a dark maroon or black berry rather less than 12.5mm [0.5in] in diameter.

Size makes the pepper bush suited to a small garden and is a striking addition to collections of shrubs grown for foliage effect. It is surprisingly hardy if given protection from cold winds. Mulching around young plants with straw in their first winter will reduce frost penetration of the soil so aiding establishment. Whilst it prefers a lime-free soil, I have been told it will tolerate one which is neutral as long as it too is constantly moist and well enriched with organic matter. It grows well in areas of high rainfall. Plant in full sun.

Cuttings of semi-mature growth taken in late summer can be rooted over bottom heat. There is improved rooting if the base of cuttings are wounded : remove a narrow sliver of bark upto 25mm [1in] in length and dip exposed cut surfaces into No. 2 rooting hormone.

Seeds if available after extraction from its fruit should be sown immediately in gentle heat for there is short viability. When plants are wanted to produce fruit, plant three or more seedlings in a group. Groups of cutting raised plants will not produce fruit. This is because plants are self infertile.

PROTEOID ROOTS

From time to time the expression 'proteoid roots' crops up in the Newsletter. What are they? The southern family *Proteaceae* has evolved in areas which have very poor soils. The species have developed the ability to extract every possible bit of nutrient from those soils, and they do it through specialised roots [sometimes seasonal] called proteoid roots. Only 3 genera in the family do not have these roots. If a well grown specimen of the family is tipped out of its pot, a mass of short white roots will be seen. They are the proteoid roots. A consequence of the specialised root system is that some members exhibit phytotoxicity, and are susceptible to phosphorus. This phytotoxicity is very specific. The popular pot plant *Grevillea robusta* [a sub-tropical timber tree] is not affected at all, but *G. 'Poorinda Firebird'* is very susceptible. The houseplant *G. 'Poorinda Pixie'* exhibits a grey necrosis on the tips and margins of older leaves. In other plants the discolouration is rusty. As the condition develops leaves drop off, and in bad cases the plant dies.

When feeding affected plants straight phosphates should not be used at all; blood and bone is also inadvisable. The safest slow release fertilizers are low phosphate synthetic formulations with a release time of 140 days or more. Hoof and horn is also suitable, it releases nitrogen and has only a low phosphorus content.

PROMOTIONAL NAMES

A great problem in Australia is that if a plant which differs, however slightly, from a known named one, turns up, it will be given a new varietal name. This is done without checking to ascertain whether it has been named earlier by some other person. Many plants are named after the locality in which they were found, or where seed was collected. The predictable consequence is that the same plant may turn up under different names. The small growing white flowered form of *Callistemon citrinum* affords a good example. The original was marketed under the name of *C. citrinum 'Alba'*. It is now sold under 10 different cultivar names, such as *'White Anzac'* and *White Ice'*. The Australian Cultivar Registration Authority tries to keep abreast of names, but not all promotional names are registered. As far as we in Britain are concerned, some Australian plants sold here have been raised in New Zealand and imported from that country. It is almost impossible to keep check on them. A plant to beware of is *Callistemon 'Captain Cook'*. It should be propagated vegetatively, but seed raised plants have been sold under the clonal name.

BLANDFORDIA PUNICEA

Did you watch the Channel 4 gardening programme on January 31st? It finished with a close up shot of a fine *Blandfordia punicea* in a Dublin garden. We do have seed of this Tasmanian endemic in the seed list.

This Australian genus *Blandfordia*, named after George Spencer-Churchill, Marquis of Blandford [1766-1840], consists of four species collectively known as Christmas Bells. They are restricted to the east coast of Australia and Tasmania.

A perennial with tough, narrow leaves 15 to 45cm [6-18in] long curving out from the base of the flowering stem. The numerous flowers appear on a stout erect stem up to 1m [39in] long. They are bell-shaped and pendulous, brilliant red with the inside of the flower and the reflexed tips bright yellow. Occasionally the whole flower is yellow.

They may be lime intolerant but that does not matter, for they make ideal pot plants. They need a deep well-drained but moist growing medium. The seedlings need to be kept growing through their first winter and it is advisable not to divide them until they are 1 or 2 years old.



Flowering takes 5 to 7 years. The specimen in the alpine house at Kew blooms every June and is a centre of attraction then.

*****

GARDENING IN SPAIN

by Thomas Ross

I have found a solution for a few bad corners of the garden belonging to a property I have near Barcelona in Spain. These bad corners happen to be the ones you first see from the street. The problem is a combination of shade, salinity, drought in summer and occasional sea winds, and root competition from trees - not quite an ideal spot you can imagine. Most Australian plants failed except *Acacia saligna* [thrives in the face of every imaginable adversity], *Melaleuca nesophila, M. hypericifolia* [this did not survive in the worst spots though], *Acacia caerulescens* [flowered 1991, fragrant, very light yellow ball flowers, but not really showy]. The result so far is not beautiful, and I'll try a groundcover of *Asparagus sp.* [it grows wild in the area]. *Acanthus* grows well there too, but dies down in the summer leaving bare earth.

TASMANIAN FLAGS by Brian Halliwell

Flag is one of the many common names for species of *Iris*. The genus *Iris* does not occur in Australasia except where introduced. Because of a visual similarity between the flowers of *Iris* and *Diplarrena morea* this latter has been given the names of white flag, white iris or butterfly iris.

Diplarrena morea is a plant of sandy heaths and lowland rocky places. The species which is widespread over much of Tasmania occurs also in Victoria and New South Wales. From a short rhizome develop a few narrow lax leaves some 10mm [0.4in] wide and upto 1m [3.2ft] long, depending on altitude and surrounding vegetation. There are sparsely branched flower stems which have terminal upward pointing lance-shaped sheaths from which emerge one, occasionally two flowers. The outward pointing falls are pear-shaped, slightly cupped and white; the inner upright narrow standards are yellow. Following pollination an erect slightly angled seed capsule develops. In cultivation this grows well in a wide range of lime-free soils that are well drained. As a garden plant its parts seem to be out of proportion for its flowers seem too small for the height of the plant. At Kew it was not reliably hardy for it survived only the mildest winters outside and was too ungainly for an alpine house. Jeff Irons has a different experience for he grows it outside successfully on Wirral.

Diplarrena latifolia has long been considered as a mountain form of *D. morea* and is sometimes even now referred to as an alpine form or as *D. morea* var *alpina*. Confined to Tasmania, the mountain [alpine] flag is described as only local at low altitudes but more common above 800m. At sea level it has the same habit as *D. morea* from which it cannot be identified when not in flower. Falls on *D. latifolia* are more round than in *D. morea*; standards much smaller than on *D. morea* are purple, sometimes marked with yellow whereas in *D. morea* they are all yellow. In cultivation it forms a fan of deep green shining leaves 10-15mm [0.4-0.6in] wide and 100-200mm [4-8in] long. Flower stems are short with larger blooms opening just above the leaves. These are plants for a peat/rock garden for either full sun/partial shade, producing a spectacular floral display in April/May. Flowers are larger than in *D. morea* and all proportions of the plant seem right. It proved fully hardy at Kew surviving the cold winters of the early 1980's unscathed.

Both are easily grown from seed if sown fresh.
County Park Nurseries has a wide collection of *D. latifolia* forms.

ALIEN WEEDS RUN RIOT IN AUSTRALIA

Exotic weeds are choking out Australia's native plants. Scientists say that unless steps are taken to control the weeds, within 20 years the country's landscape will be transformed completely. Although not considered 'weeds' in their native habitats, they are spreading out of control in Australia.

Of current concern are those garden plants, cultivated in Australia for decades, that are only now going feral. Dense thickets of the garden plant called Asparagus Fern *[Protasparagus densiflorus]*, an import from South Africa, are obvious in the heaths, coastal dunes and rainforest margins in coastal NSW and southern Queensland, the seeds carried by birds.

The Camphor Laurel *[Cinnamomum camphora]* of China and Japan is also spreading. Saplings are now common along Sydney streams and it is reckoned that within 15 years are likely to choke out native trees.

Lantana camara introduced to Australia as an ornamental plant now infests an estimated 4 million hectares of bushland and pasture. *Crytostegia grandiflora* [rubber vine], also introduced as an ornamental, is spreading rapidly throughout NE Queensland.

Mimosa pigra [giant sensitive plant] is one of the best known weeds in Australia. Introduced in the late 19th century, the prickly invader has converted open plains into impenetrable thickets. It has infested 30,000 hectares of wetland in the Northern Territory alone, despite attempts to control it, and is threatening Kakadu National Park.

Ulex europaeus [Gorse] introduced to Australia from Europe as a hedge plant and ornamental. It had become a weed in Victoria by the 1880s and was declared noxious in 1908. An acre of Gorse plants can produce 15 million seeds, some of which stay dormant for up to 25 years.

Mesembryanthemum crystallinum [Iceplant], a native of South Africa, and introduced deliberately because of its ornamental appeal, has become a serious weed of pastures in southern Australia. Crowded along its leaves and stems are glistening cells of intensely salty water [up to 12% of its dry weight is sodium chloride]. When an

Iceplant dies this salt leaches onto the soil surface forming a miniature salt desert in which nothing can grow. It may take years before rains remove enough salt for new plants to survive, and those first seedlings are inevitably more Iceplants.

We are all familiar with the case of the prickly pear [*Opuntia*]. Originally imported as hedge plants and as food for a beetle used in the process of making dye for soldiers' uniforms, it eventually came to infest 31 million hectares [120,000 square miles] of outback southern Queensland and northern NSW. The infestation was so bad that some homesteads were surrounded by impenetrable barriers of prickly pear 2m [6ft] high. In 1925, as a form of biological control, a moth from Argentina [*Cactoblastis cactorum*] was introduced. About 3000 million eggs were distributed to landholders. The hatched larvae gradually killed the plant by boring through the plant tissue. Within a few years, the prickly pear was beaten.

Concerning botanical specimens, the Australian Government policy is to allow in anything not known to be a weed, or closely related to a weed. No field of nursery tests is required. Unknown plants are merely checked against commonwealth and state weed lists. Occasionally overseas weed texts are consulted to discover their habit and habitat. But this has not stopped many of Australia's worst ornamental bushland weeds.

Strategies for containing the spread of ornamental plants are urgently needed. At present, the country's tight quarantine regulations apply only to animals.

*****

WINGHAM BRUSH

Regenerating a Rainforest

Wingham Brush is a remnant rainforest in New South Wales on the Manning River 250k north of Sydney.

Today the rainforest retains 70 indigenous tree species and at least 120 species of native rainforest plants, one of which is *Ficus macrophylla* [giant Moreton Bay Fig] believed to be over 1000 years old and the largest examples of their genus in Australia.

But thirty years ago, it was a different story. Alien weeds were gradually destroying the rainforest. *Macfadyena unguis-cati* [Cat's Claw Creeper], a native of South America, had become a real menace. An ornamental vine that had entered the Brush in garden refuse or was planted for beautification had spread rapidly both with the help of an extensive root system and being a prolific seeder with long pods of winged seeds.

One native, *Dendrocnide excelsa* [a Giant Stinging Tree], measuring 1.5m [5ft] in circumference had 560 vines climbing on it, when photographs were taken in the early 1960s.

Anredera cordifolia [Potato Vine], another South American native was also well established within the Brush by the 1960s. As Cat's Claw continued to destroy the canopy, Potato Vine penetrated deeper into the forest. The heavy weight of fleshy leaves and rampant growth rate accelerated weed invasion and tree mortality. As larger trees collapsed, the understorey was swamped by vines, resulting in an impenetrable thicket one to two metres [3-6ft] high.

In openings, the vines themselves were eventually smothered by a 1m [3ft] layer of luxuriant *Tradescantia albiflora]* Wandering Jew, also originally from South America. Natural seedling regeneration was totally impeded by this ground cover plant, representing the final stage of South American weed invasion.

The National Herbarium of NSW recognised the threat to the Brush posed by exotic vines in the 1960s but attempts by the managing authorities to shade out the infestation by intensive plantings on the edges of the Brush were unsuccessful. By the late 1970s, as the older trees continued to collapse under the exotic blanket, it became obvious that the Brush was dying.

In the spring of 1980 the Wingham Brush Regeneration Team was formed, marking the first attempt to regenerate a rainforest anywhere in Australia. In November 1980 glyphosate was chosen to remove the weed infestation. Today, Wingham Brush oozes life again, this time from native species.

Excerpt from Victoria SGAP Newsletter

BILL CANE AND HIS BANKSIA CANEI

by J.H. Willis

I first met Bill Cane in the 1940s, at the National Herbarium of Victoria where he was an occasional country visitor, always bringing some plant of interest for inspection.

He once mentioned that he'd seen specimens of Hairy Boronia [*Boronia pilosa*] ten feet in height near Bengworden, south-east of Bairnsdale. Intimating that we knew this heathland species only as a low bush up to knee-height, it was tactfully suggested that perhaps he was confusing it with some other taller plant at Bengworden; but Bill stuck to his guns.

A few weeks later, herbarium staff were amazed to see, through their library windows, what appeared to be an uprooted tree moving slowly of its own accord across the Domain lawns - one recalled the Shakespearean episode of Macbeth's Birnam Wood 'removing to Dunsinane'. In truth, it was tiny Bill Cane carrying, and quite obscured by, an enormous ten-foot specimen of undoubted *Boronia pilosa*, thereby proving his point! How he ever manoeuvred it into a Melbourne tram remains a mystery.

Bill delighted in refuting popular tradition that this or that plant could not be cultivated. Few gardeners have essayed to grow native cherries [*Exocarpos* spp] because of their part-parasitic habits; yet I have a magnificent Cherry Ballart [now 40 ft tall] that began as a tiny seedling in Bill's 'Clearview' nursery at Maffra. As an apiarist he supplied us for years with delicious Yellow Box honey from his local hives.

Throughout eastern Victoria, Bill Cane was constantly on the lookout for ornamental native plants to enhance the garden. Those having unusual growth forms, variegated foliage, deviant flower colours, superior blooms etc were introduced into his nursery from cuttings, and he also collected much seed for propagation. In his wanderings among the mountains, Bill made several new records for Victoria [eg. *Eriostemon virgatus* at Mt Kaye] and extensions to the known range of other plants.

Twenty years ago, it was my pleasure to name a remarkable and undescribed banksia species in honour of this enthusuastic, tough and nuggety, lovable plantsman; the formal description of *Banksia canei* appeared in Melbourne Herbarium's journal *Muelleria* Vol. 1, pp118-120 [July 1967].

My type material came from Wulgulmerang, far north-east Gippsland [Nov. 1962], but Bill had simultaneously seen and collected the same shrub in the Wellington River region, noted its distinctiveness from *B. marginata* and supplied me with ample field notes. *Banksia canei* is always a subalpine plant, first noted in the Mitta Mitta watershed by Ferdinand Mueller in January 1854; it was a scattered range in eastern Victoria, reappearing on sandstone bluffs of the Tuross River heads in far south-eastern New South Wales.

*****

BANKSIA CANEI

by Jeff Irons

Banksia pollen is plentiful in Australia's Paleocene deposits, but the first specimens to be seen by Europeans were not collected until 1770. They had to wait until 1782 for description and naming. In that year Carl Linnaeus named the genus in honour of Sir Joseph Banks. However J.R. and J.G. Forster had already named a genus in honour of Banks; that had been in 1775. Banks renamed this latter genus *Pimelea*, but Linnaeus' name had to wait until 1940 for official conservation.

Because they produce an abundant supply of nectar, *Banksias* are often known as 'honeysuckles', though their cone shaped flowers bear no resemblance at all to the blooms of *Lonicera.* They are all woody, and vary from prostrate shrubs to tall trees.

Banksia canei is the species most likely to be hardy in Britain. It was found in 1854, by von Mueller, but was not described until 1967. An account of that event is reprinted elsewhere in this Newsletter. The species occurs in subalpine areas of S.E. Victoria and in southern NSW. It is found there on rocky slopes in woodland and heath.

It is a rounded to spreading shrub which can be up to 3m [10ft] high. Like those of some other *Proteaceae* the leaves can vary between

populations; leaves on individual plants are alike. Commonly they are up to 50mm [2in] long, linear to obovate, and they may have serrated edges. They are mid-green on top, and silvery underneath. The flower spiles are very attractive, up to 15cm [6in] long and they appear from summer through to the onset of winter. Though pink in bud, they open to yellow. As with all *Banksia* the fruiting cones are attractive, and can be used in dried flower arrangements.

Of all the Australian *Proteaceae*, *Banksias* are probably the most difficult to grow. However if their requirements are appreciated even a beginner can succeed with them. They must have really good drainage, and if this cannot be provided naturally they need to be planted in a mound of sand or gravelly soil. This should be large enough to equalize temperature fluctuations. Wide swings in soil temperature or water content can encourage disease.

The 1992 seedlist includes *B. canei* seed from four different provenances. It has been stratified in a domestic refrigerator for 3 months. Even so, some seeds may take up to 2 years to germinate, and good germination cannot be guaranteed. Nevertheless the availability of this seed is a rare opportunity. The species grows outside at Wakehurst Place and has been offered by Noël Kingsbury.

Propagation of *Proteaceae* seed was described in the April 1991 Newsletter. I surface sow seed on a mixture of 2 parts perlite and one part peat. The pot is either covered with clingfilm and placed on capillary matting in a sunny part of the greenhouse, or it is stood in a tray of water which is placed in a propagator. The propagator is stood outside in the sun. Both of these methods ensure high temperatures on the day, and wide diurnal fluctuations. As soon as germination is seen, I transfer each seed to a 12.5 or 15cm [5 or 6"] pot which has been filled with an open lime free compost. A little [eg 6 granules] 140 day Ficote 16:10:10 fertiliser is placed in each pot. Supplimentary foliar feeding is given with Chempack No. 9 [3:0:1] fertilizer. In their second year I put one plant out into the garden, and transplant the others into large pots, ready for planting out in their third year.

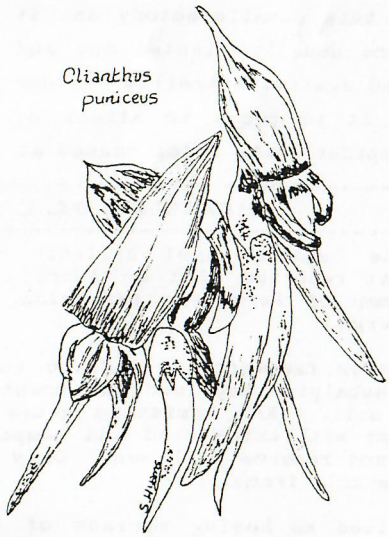
CLIANTHUS PUNICEUS

by Brian Halliwell

Clianthus puniceus is native to the southern part of the North Island of New Zealand. It is now rare in the wild and is said to be down to 12 plants in two different localities. Long cultivated by the Maoris, apparently wild stands occupy land which has been sites of old villages or homes. Today it is one of the commonest shrubs found in New Zealand gardens so although scarce in the wild, its future is assured.

Sir Joseph Banks is said to be the first European to see this plant in 1769 but seed did not arrive in this country until 1831. The first bush raised from this seed flowered in a garden at Ryde in the Isle of Wight in 1833.

Aged specimens can reach 5m [16ft] but it is more usually seen as shrubs less than 3m [10ft]. Young branches are lax with a sprawling habit so it is usual to grow against a wall for support which allows flowers to be seen to better advantage. On its young green stems are alternate pinnate evergreen leaves made up of opposite pairs of round leaflets. In upper axils, flowers are produced in large pendent clusters. These are most usually scarlet but there is a form 'Albus' in which flowers are pure white and others in varying shades of pink all which are referred to as 'Roseus'. This member of the pea family has flowers with a large keel reminiscent of a parrot's beak which is one common name; Kaka [a kind of New Zealand parrot], beak is another and a third is lobster's claw: all names which are aptly descriptive.



Following pollination, pods are produced which become woody and black as they age. These pods which are freely produced, if left will weaken the plant and can result in a shorter life. After the spring flush which is usually in April, prune off all

shoots which have flowered. This results in strong new shoots which will flower in the following year. Propagation by seed is easy. Soak for 24 hours in cold water before sowing in March in a warm glasshouse; flower colour forms come true from seed. Cuttings of new non-flowering growth taken in late summer are easy to root.

Clianthus puniceus is usually grown in a glasshouse without heat or perhaps better when frost-free. It can be grown as a pot plant but its sprawling habit makes this unsatisfactory and it is more usually planted out and trained against a trellis. Under glass it is prone to attack by red spider mite which causes at first mottling along the veins on the underside of the leaf but quickly spreads all over and in bad attacks can cause leaves to turn yellow or even fall. Frequent spraying of the plant with water will reduce infestations.

It seems to be fully hardy outside in the south of England against a south-facing wall. I have seen it in the Midlands and in parts of Yorkshire growing outside although it could be damaged when winters are severe. The white flowered form is more tender than the pink or red. When planted outside, bushes escape infestations by red spider.

HORTICULTURAL AWARDS

In the December 1991 Bulletin of the Alpine Garden Society, Ken Beckett reported that an Award of Merit was given by the RHS to a specimen of *Pernettya tasmanica*, shown by Mrs. E.A.G. Armistead of Edinburgh.

Pernettya tasmanica is endemic to Tasmania where it locally inhabits open subalpine moorland and mountain summits in sparse but moist and acid soil. Mrs Armistead grows her plant in a pot of ericaceous compost with extra sand and keeps it in a cool position outside that does not receive full sun. Only during very frosty spells is it put into a cold frame.

Described as having myriads of tiny dark green leaves providing a backing for the many white urn-shaped flowers and later the flattened globose pea-sized berries, which can be red, cream or white.

Jack Drake, Inshriach Alpine Nursery, Aviemore, sells both red and white berried forms.

On May 21 1990, a Certificate of Cultural Commendation was awarded to Miss Fiona Crumley of Chelsea Physic Garden for a specimen of *Prostanthera walteri*. The same plant was also given an Award of Merit for being ideal as an ornamental plant for the cool greenhouse.

Honorary Secretary

Jeff Irons,
'Stonecourt',
74 Brimstage Road,
Heswall,
Wirral, L60 1XQ

Telephone 051 342 1703

Treasurer

Dr.A.J. Entwistle,
'Ophrys',
113 Station Road,
Delamere,
Cheshire, CW8 2HZ

Telephone 0606 882306

Newsletter Editor
and Producer

Sue Hyams,
100 Willowbank,
Coulby Newham,
Middlesbrough, TS8 OSP

Telephone 0642 599181

Copyright © AUSTRALASIAN PLANT SOCIETY